

Change Management: Developing a Tool to Foster Adaptive Collaboration

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ABSTRACT

This paper provides an overview of the theoretical underpinnings being used to develop an adaptive collaboration tool that can be used to assess and influence individual behavior and group performance. The tool is being developed using a variety of theories and conceptual models taken from the Organizational Psychology literature that may shed light on how individuals organize for a common purpose. Drawing on these theories can help to better understand many aspects of human behavior at an individual level as well as at a group or team level. More importantly, these theories can be applied in a more agile and adaptive approach, resulting in a quick assessment of behavior(s) and flexible application of techniques to influence behavior, which can prove to be beneficial for leaders or change agents in any stage of decision making. The tool is being developed within an organizational change context, but ultimately, could prove highly beneficial for a plethora of applications. Being agile and adaptive is essential when dealing with a dynamic and uncertain operational environment.

KEYWORDS: Adaptation methods & techniques, dynamic role/task assignment, group performance models, role-based collaboration, role/task models

1. INTRODUCTION

Adaptive collaboration aims to enhance group performance and therefore offers a useful set of methodologies and mechanisms that can be applied to a variety of organizational needs. Recent research into computer-supported collaborative learning indicates that adaptive support is more effective than more traditional fixed, scripted support for learners [1,2].

This research offers guidance for larger, more dynamic organizational needs, such as the implementation of large-scale organizational change. Researchers estimate that approximately 70–80% of all organizational change initiatives fail to reach their strategic objectives [3]. Additionally, some barriers to change [3] are related to lack of collaboration, including employee resistance, forced technology, and poor implementation. Many change efforts fail because such barriers are insufficiently addressed or not at all when planning and implementing organizational change.

Adaptive collaboration methods and techniques may provide support to organizational leaders and personnel to aid in problem solving and decision making in the midst of dynamic change situations. For example, when new technology is introduced into an organization, adaptive techniques offer support for individuals to learn and more readily embrace the technology [1,2].

This paper will discuss theories and conceptual models taken from the Organizational Psychology literature that shed light on how individuals organize for a common purpose. These theories can help to better understand aspects of human behavior at an individual level as well as at a group or team level. More importantly, these theories can be applied in an agile and adaptive way, resulting in a quick assessment of behavior(s) and flexible application of techniques to influence behavior, which can prove to be beneficial for leaders or change agents in any stage of decision making.

The following sections explain the environment or context for which the model was developed, followed by a deeper discussion of the facets that the agile and adaptive model incorporates. Last, the authors discuss the agile and adaptive tool being developed.

2. APPLIED RESEARCH CONTEXT

As a result of the 2005 Base Realignment and Closure Policy and other initiatives, a new organization called the Fusion Center was stood up within a larger military logistics organization. The directive stated that the Fusion Center must include transportation-specific organizations (i.e., air, ground, sea) by co-locating personnel. In 2007, the Fusion Center stood up by co-locating a subset of personnel from each transportation-specific organization.

The premise assumed that co-location would result in collaboration of the newly located personnel along with personnel from the larger logistics organization. However, initial research results indicated that not only was collaboration not occurring, but that personnel were frustrated by the relocation and lack of change in the process. At this point, the authors continued with a traditional approach to change management and process improvement in order to increase collaboration and overall organizational effectiveness.

During the course of this project, traditional survey-based organizational assessments were deemed too intrusive and time-consuming within this environment. Recent research has shown that participation in traditional organizational assessments has decreased due to the lack of follow-up or action based on the feedback [4]. By adopting a more agile and adaptive approach, change management can be applied more effectively and quickly, and with minimal disruption (vs. taking a survey or taking a lot of time in meetings to gather data) to organizational operations and personnel. This agile and adaptive approach was developed as a means to continue the study of a large-scale organizational change effort, which included the study of human to human collaboration, in a matrix-structured, no fail, and high tempo operational environment in an unobtrusive manner.

The model described in this paper is the theoretical underpinning of a tool to foster adaptive collaboration. The ultimate outcome of the use of this tool is to offer change agents the ability to manage change such that they engender loyalty to a change, encourage leaders to behave in ways that support the change, enhance team and individual performance, and allow mechanisms for personnel to engage in collaborative efforts to implement a change. The design and development of this tool within a software application will be part of the next phase of this project and is therefore not discussed in detail in this paper. The next section outlines the model for the agile and adaptive approach in more detail.

3. MODEL FOR AGILE AND ADAPTIVE APPROACH TO CHANGE

Four key facets of the approach are discussed in this section: the Transtheoretical Model of Change (TTM of Change), Trust, Change and Transformational Leadership, and change facilitation. These facets are pulled from the Organizational Science literature and have been applied mainly in the organizational change management realm. While each facet has been studied by other authors, this paper examines them within one applied setting using single- and multi-observer methods.

The first facet, the TTM of Change, has been employed to study the process of behavior change [5,6]. It is a model of intentional change that focuses on the decision making of the individual along a continuum of stages in the change process. At each stage, the individual shows a different level of resistance to change, awareness of the consequences of not changing, and efficacy beliefs that engaging in behaviors will lead to success.

The second facet, Trust, is defined as the willingness of a person(s) to be vulnerable to the actions of another based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party [7].

The third facet, Leadership, is examined based on two constructs: Change Leadership and Transformational Leadership. Change leadership has evolved in the change management literature [9] and examines prescriptive behaviors that leaders should use within the context of specific change efforts. A basic assumption of this stream of research is that any leader can learn to exhibit these behaviors [8]. Transformational Leadership has been developed over the past twenty years as a construct through the leadership literature [9,10,11]. While change leadership is associated with specific behaviors that can be used within the context of change-related situations, transformational leadership relates to broad characteristics

and behaviors of a leader that influence followers beyond their own self-interests. For example, transformational leaders are those who demonstrate charisma, inspire others to think beyond their current situation, stimulate the intellect of follows, or give individual consideration to followers [10]. Recent research indicates that both types of leadership show an impact on followers' commitment to participate in change but in different ways.

Change facilitation is the fourth facet. Change facilitators are responsible for ensuring that a change is implemented in a useful manner and therefore they are the tactical support for the change leaders. Effective change facilitators generally have a thorough grounding in group process [12,13] and theories of change management [5,6,14,15] as well as operational knowledge and experience. They generally fulfill this responsibility by aligning with leadership's intent for the change and encouraging others to participate, understand, and support the change by surfacing concerns, reinforcing the change vision, coaching those who may not understand the change, and facilitating group discussions about the change. Facilitators work with leadership to identify appropriate roles/tasks and encourage role-based collaboration.

In summary, using these theories as a guide, the researchers are examining the degree to which the following facets are demonstrated behaviorally in the applied research context as indicators of change management success (e.g., collaboration, change readiness, acceptance of change):

- Personnel's progression through the TTM Stages of Change
- Positive indications of trust among stakeholders
- Appropriate use of Change and Transformational Leadership behaviors
- Effective change facilitator behavior

3.1. TTM of change

According to TTM, people in organizations adopt novel behaviors predicted by one of five stages of change: pre-contemplation (PC), contemplation (C), preparation (P), action (A), and maintenance (M). TTM suggests that the organization can take actions at each of the five stages to align the organizational change efforts to the readiness stage of personnel [16,17]. TTM has been studied in a variety of applied health settings, including smoking cessation, diet, weight control, and medical compliance as well as other applied topics such as financial money-management behaviors [18]. By understanding the TTM of Change, a person can quickly assess which stage an individual is in based on observable behaviors. Once that assessment is made, interventions can be applied to the

specific stage of change readiness. Leadership behaviors can be applied in conjunction with the interventions to influence an individual and get them to progress from one stage to the next, thus promoting behavioral change.

The authors have integrated the TTM model into the applied research study in an effort to better understand not only the behaviors associated with moving through the continuum of change readiness but also behaviors that change agents and leaders can use to stimulate this shift. Figure 1 shows the five stages along with behaviors demonstrated by people going through each level of change and associated interventions that leaders or change agents can use to encourage movement across the stages.

Stage	PC	C	P	A	M
Definition	No intent to change	Considers a change	Makes small changes	Engages in the change	Sustains the change
Example	<i>Ignores meetings</i>	<i>Asks about the change</i>	<i>Tries a new process</i>	<i>Uses a new process</i>	<i>Gets others to use the new process</i>
Intervention	Visioning	Confidence Building		Behavioral Facilitation	

Figure 1. TTM Stages And Associated Interventions And Behaviors

3.2. Trust

Trust is important in understanding the context of the relationship among the individuals involved. For example, if individuals trust their leader, then leaders can gain buy-in from individuals more easily by applying the appropriate leadership behavior(s) [5]. However, this facet is also the hardest to observe through behavior.

Trust can be studied as it relates to the relationship between two parties. In studying trust within an applied context, the authors have examined the relevance of trust in terms of engendering support for the changes taking place in this organization. Four aspects of trust which are being examined, including:

- 1) Trust as a general construct, defined earlier in this paper.
- 2) Trust as it relates to Ability; defined as a group of skills, competencies, and characteristics that enable a party to have influence within a specific domain. For example, a trustee may be highly competent in a

particular area affording that person trust on tasks in that area.

- 3) Trust as it relates to Benevolence; defined as the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit/motive.
- 4) Trust as it relates to Integrity; defined as the degree to which a trustee adheres to a set of principles that the trustor finds acceptable (e.g., based on the trustor's perception). This suggests that a set of principles is being used that has been deemed acceptable by the trustor.

Markers have been developed for each of the above aspects of trust. For example, speaking freely about his/her opinions is a marker for the general concept of trust while asking for advice on matters that draw on a person's area of expertise is a marker for trust-ability. Only two markers have been identified as yet for trust-benevolence (e.g., helps out even when it is not required) but several have been identified for trust-integrity (e.g., follows through on what he/she said they would do).

The authors think that by identifying appropriate markers for trust, the agile, adaptive change tool can act as a guide for change agents to more readily recognize how to exhibit behaviors that engender trust. Similarly the tool may also allow users to identify behaviors that show signs of trust during an organizational change.

3.3. Leadership

To better understand how leadership can best be used within the context of change, the authors are unobtrusively observing meetings and conversations within the applied research setting. Using a pre-existing list of Change and Transformational Leadership behaviors [8], behaviors that align with this list are noted. For example change leadership behaviors are categorized as developing a clear vision for what was going to be achieved by the work unit/team/group, clearly explaining why the change is necessary, and making a case for the urgency of the change before it is implemented [8, p.357]. Examples of Transformational Leadership behaviors include painting an interesting picture of the future, leading by doing rather than telling, and fostering collaboration among work groups [8, p. 356].

Other leadership behaviors have been identified that do not fit within the above categories. Examples include advocating for resources to support a change, identifying and eliminating barriers to the success of a change, and providing resources in support of a change.

3.4. Change Facilitation

Facilitating change requires knowledge and expertise in the areas of organizational dynamics, operations, group performance, and process consulting. Effective change facilitators apply their knowledge in these areas as they work with clients to successfully implement change. As the researchers develop the agile, adaptive model to change they are observing a team of change facilitators and identifying behaviors that are linked to successful support of the change. The team consistently relies on their knowledge of organizational dynamics and process consulting as well as their operational expertise. Organizational dynamics is a broad term for the study of topics related to the organizational psychology literature and includes the consideration of variables such as culturally accepted behavior within the organization, roles and responsibilities, and similar topics regarding individual, interpersonal, and group dynamics and processes discussed in organizational behavior texts [19]. Process consulting is a concept introduced by Edgar Schien [20] which has application for any expert who seeks to successfully implement a change.

Process consulting is a set of activities on the part of the consultant that help the client to perceive, understand, and act upon the process events that occur in the client's environment in order to improve the situation [20, p. 11].

Change facilitators who apply process consulting provide insight to a client (e.g., leader, organizational personnel) regarding what they observe in the organizational environment based upon their knowledge of individual, interpersonal, group and organizational behavior.

Other models of consulting affirm Schein's premise and reinforce the importance of building relationships in order to meet the needs of stakeholders [21, 22]. For example, in Peter Block's consulting model he suggests that the primary goals for a consultant are to establish a collaborative relationship with the client(s), solve problems so they stay solved, and attend to both the business problem and the relationships [21, p. 344].

The change agents being observed in the applied research study, while not formally trained in all aspects of organizational dynamics, are using keen observation consistent with some of models of organizational dynamics. Additionally, building and maintaining relationships are indeed a critical element to success in their roles as change agents.

4. OVERVIEW: AGILE AND ADAPTIVE CHANGE MANAGEMENT TOOL

As the applied research study progresses, the authors have developed a preliminary framework of an agile and adaptive tool that may allow users to assess and influence behavior based on the facets included within the model. Currently the tool is being developed as an Excel spreadsheet with worksheets that align with the facets discussed in this paper. Unobtrusive observations across multiple meetings and one-on-one discussions have been noted and coded by a three independent observers.

The tool will be honed down from a list of hundreds of observations to a manageable heuristic for managing change. It may be useful as a simple Excel spreadsheet or it may become integrated into another software program to allow for collaborative use of the tool in virtual or multi-site organizations. This determination will be made in the next phase of this study in which the tool will be tested by change agents in the applied research setting.

Because these facets have not previously been examined within the context of one study in other research, the authors can only postulate on how they might relate within a context of change. Figure 2 shows relationships that may be examined in the next phase of this study:

Examples of outcomes:	Collaboration	Change Readiness	Structure & Organization	Enhance Productivity	Gain support for change
TTM		X			X
Trust	X				X
Leadership	X	X		X	X
Change Facilitation	X		X	X	

Figure 2. Potential First-Order Relationships Among The Facet

The researchers expect that the Agile and Adaptive Change Management Tool can be integrated into a new IT tool to be used by virtual teams. It may also be used to develop new processes to support adaptive collaboration or to institute an organizational change. The authors envision its use by change agents and leaders to facilitate a variety of situations, including:

- Allowing for quick identification of personnel at risk for falling behind the adoption of a change initiative;
- Identifying personnel most likely to be significant change agents in support of a change effort;
- Enabling leaders to choose behaviors and interventions that will likely result in a successful adoption of a change; and

- Readily identifying barriers to a particular aspect of a change effort.

5. CONCLUSIONS

Conducting any type of change in an organization, whether it is introducing a new IT system, process improvement or a strategic change, is difficult. Most changes within organizations do not reach their full potential due to poor change management. The authors plan to continue developing the Agile and Adaptive Model resulting in an Agile and Adaptive Change Management tool that will facilitate organizational change and increase the success rate of such changes.

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