Initial Implementation of Organizational Change

Development of a Methodology to Minimize Tactical Barriers and Maximize Strategic Focus

by

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ABSTRACT

As global competition continues to grow more disruptive, organizational change is an ever-present reality that affects companies in all industries at both the operational and strategic level. Organizational change capabilities have become a necessary aspect of existence for organizations in all industries worldwide. Research suggests that more than half of all organizational change efforts fail to achieve their original intended results, with some studies quoting failure rates as high as 70 percent. Exacerbating this problem is the fact that no single change methodology has been universally accepted.

This thesis examines two aspect of organizational change: the implementation of tactical and strategic initiatives, primarily focusing on successful tactical implementation techniques. This research proposed that tactical issues typically dominate the focus of change agents and recipients alike, often to the detriment of strategic level initiatives that are vital to the overall value and success of the organizational change effort.

The Delphi method was employed to develop a tool to facilitate the initial implementation of organizational change such that tactical barriers were minimized and available resources for strategic initiatives were maximized. Feedback from two expert groups of change agents and change facilitators was solicited to develop the tool and evaluate its impact. Preliminary pilot testing of the tool confirmed the proposal and successfully served to minimize tactical barriers to organizational change.

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Chapter 1

INTRODUCTION

Introduction

As global competition continues to grow more disruptive, organizational change is an ever-present reality that affects companies in all industries at both the operational and strategic levels (Hamel and Breen, 2007; Todnem, 2005). In order to succeed, organizations must contend with rapidly evolving business strategies, operations, markets, and products, in addition to larger competition from a growing crop of successful startups (Burnes, 2004; Hamel and Breen, 2007; Judson, 1991; Todnem, 2005). In this environment, organizations worldwide are impacted by an accelerated pace of change that has never been greater (Hallencreutz and Turner, 2011). Organizational changes occur in many forms, including restructuring, reengineering, mergers and acquisitions, downsizing, and the introduction of new technologies (Armenakis *et al*., 1999; Walker *et al*., 2007).

Powell Jr. (2002) noted that organizations that simply maintain their current state of existence and do not seek to change inevitably fall behind as their competition pursues the goal of constant improvement. For this reason organizational change is no longer a secondary option that is only exercised in response to threats from market competition; more recently, it has become a commonplace practice employed by leading companies to sustain continual improvement in organizational performance (Blair and Meadows, 1996).

Organizational change has therefore become directly congruent with organizational strategy, and the effectiveness with which organizations manage change has become a critical element in their ability to maintain a long-term competitive edge. Many authorities agree with this assessment and argue that the future of business will be determined by management innovation and adaptability to change on the organizational scale (Burnes 1992, Hamel & Breen 2007, Collins 2001).

In light of this fact, successful change management practices are rapidly becoming a required skill of managers in all industries (Todnem, 2005). Change management is the practice of addressing change efforts via a structured approach to plan, implement, assess, and refine organizational strategies. The topic of change management is subject to much research and debate – Organizational Change (OC) has developed into an entire field of research with numerous theories regarding many different aspects of changes in business environments.

Challenges in Achieving Organizational Change

Although the need for organizational change has never been greater, implementing change is a difficult task and is often met with failure. Many sources suggest that more than half of all change efforts fail to accomplish their original intended purpose (Choi and Behling, 1997; Kotter, 1995; Maurer, 1996; Pascale *et al*., 1997; Self and Schraeder, 2009). Balogun and Hope Hailey report the failure rate for change initiatives to be as high as 70 percent (2004).

The reported high failure rate of change management efforts appears to suggest a lack of an established structure that has been tested and proven to successfully initiate, implement, and institutionalize long-term organizational change efforts. Since it is understood that the strategies and processes implemented during change management efforts directly influence the extent to which organizations are able to successfully navigate change (Holt *et al*., 2003), the development of tested organizational change models is of high value.

Change Management as Organizational Strategy

In today's constantly changing business environment management practices require redesigning. Hamel & Breen (2007) claim that even the world's "most advanced" companies simply "aren't as adaptable as they need to be, as innovative as they could be, or as much fun to work in as they should be." They further assert that the "future of business will be dictated by innovation and adaptability." In other words, the ability to successfully implement planned changes within organizational settings has is rapidly becoming a key strategic goal of businesses across all industries.

Those companies who are more skilled in managing change will be better positioned to improve their performance and therefore maintain their competitive advantage. Within this environment, the role of managers is shifting to emphasize the creation of "structures and practices necessary to operate effectively" under a wide range of conditions (Burnes, 1992). Yet a challenge in realizing this goal is that "most managers have been trained and work in organizations whose

structures and cultures still owe much to the work of Taylor and the other Classical theorists. As a result, many managers, whilst recognizing the need for change, are extremely reluctant to give their staff additional flexibility, autonomy, and skills" (Burnes, 1992). Hamel & Breen (2007) nevertheless state that it is an "inescapable conclusion" that companies who are able to overcome traditional barriers and strategically shift their management practices often gain significant competitive positioning and therefore "often confer long-lasting advantages."

Designing appropriate business and management structures requires strategic vision to understand the big picture goals for organization performance. An emphasis on strategic management is critical in enabling flexible learning organizations to develop and excel. Individual activities within the change process are equitable to the smaller-scale, technical details of how to work towards the change. Strategic management is more concerned with larger scale goals and internal structures that enable organizations to continually evolve towards the goal of fulfilling its strategic intent (Burnes, 1992). Kinicki and Kreitner (2006) argued the importance of maintaining a strategic focus during organizational change efforts when they stated "organizations tend to commit resources to counterproductive or conflicting activities when organizational changes are not consistent with its strategic plan." When change initiatives become too caught up in the technical pieces of a change effort, the view of the overall purpose may be obscured, which can in turn reduce the success of the change effort.

Introduction to Organizational Change: Two Approaches

Although individual change efforts can vary widely, all change programs generally strive to accomplish one of two different goals: near term economic improvement (Theory E) or advancement of organizational capabilities (Theory O). Beer and Nohria, two professors in the Harvard Business School, developed these two theories (2000).

In Theory E, the economic approach to change, the goal is to "dramatically and rapidly increase shareholder value" (Beer & Nohria, 2000). All other notions take a backseat and the ultimate precedence is placed on improving the factors of cash flow and share price. This approach primarily focuses on short-term actions to improve these factors, often including personnel reductions, performance bonuses, and sales or restructuring of businesses and assets. This type of change is generally driven from the top down as upper management views individual departments, groups, and employees as "pieces on management's strategic chessboard" (Luecke 2003).

Theory O, on the other hand, emphasizes an approach to change that revolves around improving organizational capabilities. In pursuing this goal, the Theory O approach focuses on developing "dynamic, learning-oriented cultures and highly capable employees." In order to accomplish this goal, organizations encourage high levels of employee participation, emphasizes culture, and aim to reduce the bureaucratic structures. Theory O change relies more on bottom-up direction as frontline employees, or at least employees and managers who are

more directly involved in day-to-day operations, are encouraged to use their experience and expertise to participate in the drive towards success.

This research focuses on achieving results that meet the principles of Theory O, where organizational change has been defined as any effort to alter the business philosophy, structure, or operations of an organization with the purpose of improving performance and efficiency. The end goal of change initiatives is for the new processes, practices, or strategies to become institutionalized within the organization. Institutionalization is the process of transitioning from the change initiative in such a way that the desired change becomes an "accepted, permanent, and stable" component of the organization's future operations (Armenakis *et al*., 1999). In other words, institutionalization has been achieved when the change initiative becomes "the way we do things around here."

Initiating Organizational Change

Organizational change is a complex process with many individual components. For this reason, this research will focus on a single phase of the change process: the startup and initiation change implementation efforts. As Kotter (1995) stated, organizational change efforts rarely even progress to an institutionalization stage since they typically fail during initiation, planning, and early implementation. Determining an effective methodology for initiating and implementing change is therefore a critical component in achieving successful organizational change.

For the purposes of this research, change initiation was defined to include all activities related to identifying, planning, and implementing the change on a trial basis. The approach and resulting success of activities in the initial stage of the organizational change process set the stage for much of the later change activities. Emphasis was placed on determining the best methodology to educate organizational members on the changed practices, minimize resistance, efficiently implement the change, and achieve success in the initiation stage such that the probability is increased of successful long-term institutionalization

Problem Statement – Static Friction Analogy

The initial phase of change is difficult to implement due to the impact of resistive barriers to change. An analogy may be appropriate to illustrate the phenomenon of initial resistance to organizational change. Initiating change within an organization may be modeled by the simple concept of static friction in elementary physics. Static frictional forces resist the motion of one object against another; for example, the traditional (and simplified) case of a box being pushed along a surface with frictional forces interlocking the two (Figure 1.1). As a force is applied to push the box, the friction existing between the box and the surface it is sitting upon will prevent any relative motion from occurring up until some threshold. Until the applied force is of great enough strength to overcome the frictional force, the box will not move. Physicists refer to the upper limit of frictional force as the coefficient of static friction, which defines the amount of

force required to initially move an object from rest. The coefficient of static friction is typically larger than the coefficient of kinetic friction, which is the amount of force needed to maintain constant movement of the box once it has overcome static friction. Once the box is in motion, it is still resisted by frictional forces, but a constant pushing force can be applied that is just strong enough for the box to remain in motion at a constant velocity.

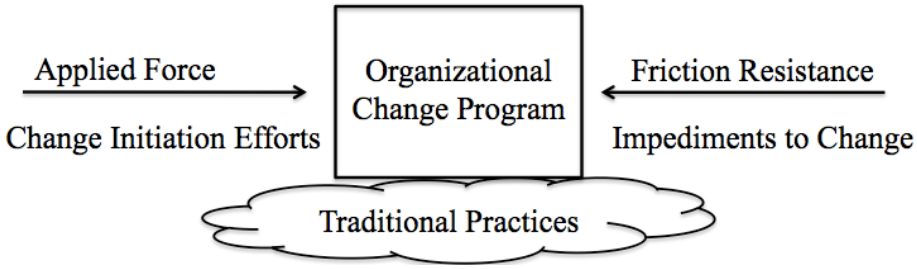

Figure 1.1 Frictional Force Impeding Motion

This concept may be easily visualized via a friction plot. Figure 1.2 shows a typical friction plot where the applied force matches the static friction force in order to overcome the initial resistance to movement. The plot also demonstrates how the applied force may be reduced to match the kinetic frictional force in order to maintain motion once the force of static friction is overcome (HyperPhysics 2011). Note that if the force applied to push the box is decreased to a level lower than the kinetic frictional force, then all the previous work that went into starting and maintaining the motion will be lost as the movement is overcome by resistance and grinds to a halt.

This concept from elementary physics provides a relevant comparison to the startup activities of organizational change. For example, the case of the box as

shown in Figure 1.2 represents an organizational change effort being pushed along a surface (traditional organizational practices) with significant frictional forces resisting the change. The change management effort can be likened to the force of pushing a box – frictional resistance to change will always exist, and the greatest strain will be during the initiation stage to get the change in motion. Once the initial barriers have been overcome, a lower force may be required to sustain the change.

The frictional plot shown in Figure 1.2 provides a visual representation of the difficulty in initiating organizational change. This research theorizes that the initial force of resistance (or simply the amount of effort, planning, and education) required to accomplish initial implementation may be greater than the force needed to sustain it. Addressing the initial resistance and other impediments to starting and implementing change efforts can potentially reduce the amount of effort required and thereby make the change process more efficient.

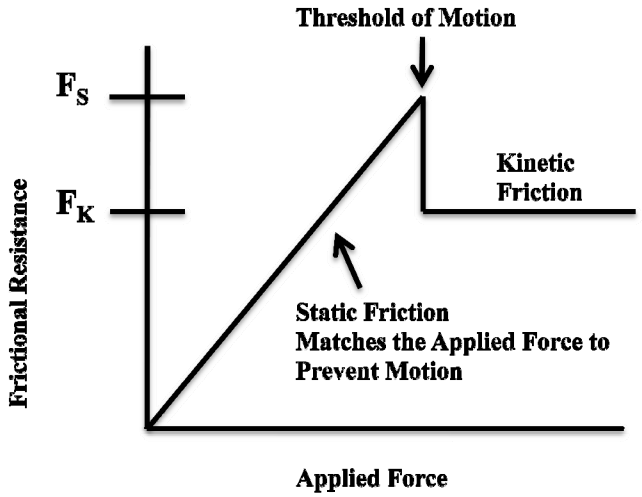

Figure 1.2 Friction Plot for Static and Kinetic Forces of Friction

The effort required to initiate organizational change may similar to the concepts modeled in this type of friction plot. However, the exact behavior of resistance in organizational change programs is not fully known, and may not be linear but could manifest itself in various manners. Figure 1.3 presents theoretical curves depicting the required change effort and related resistance plotted over time of the change initiation effort. Plot A represents a simple version where resistance steadily increased up until a critical point is met and the change effort becomes more established, reaching a plateau where the change management effort remains constant but less forceful to maintain and expand change over a longer period of time. Plot B is similar to A, with the difference of multiple additional (yet steadily decreasing) hurdles following initiation. Plots C and D represent other potential alternatives; Plot C depicts a certain critical point occurring during initial efforts before the main hurdle of startup is overcome, wherein the initial change encounters extremely high levels of resistance that then subsides in magnitude until a maximum is later reached. Plot D, on the hand, represents a series of multiple hurdles or milestones that must occur to progress from startup activities to actual implementation and expansion of the change effort. Whatever the correct depiction of the resistance encountered in the early change processes, these plots serve as a helpful analogy in explaining the importance of properly addressing the initiation and implementation phase of organizational change.

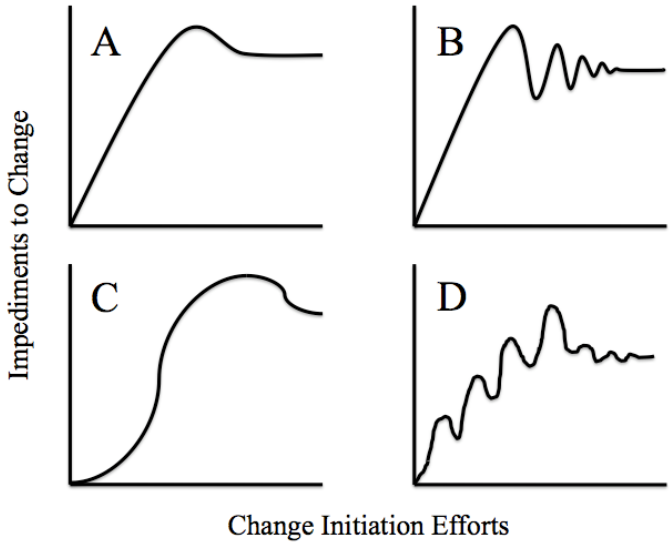

Figure 1.3: Potential Modells for Overcoming Initial Barriers to Organizational Change Implementation

Research Hypothesis

The purpose of this research was to develop a methodology to assist any organizational change minimize initial barriers of implementation and facilitate greater strategic success. The first hypothesis was that the initial implementation stages of organizational change encountered the greatest amount of resistance and resulted in a high failure rate.

This research also proposed that a pre-change planning tool could be developed to standardize the change implementation process. During the initial stages of change, this resource can be applied as a change implementation tool to improve success rates. In order to develop a change implementation tool, the researchers' proposed the existence of two major aspects of any change effort:

tactical and strategic processes. Tactical aspects of change were defined as the technical details of how to carry out the day-to-day tasks needed to enact change. Strategic aspects were defined as value-added activities of implementing new business principles on an organizational level, such as addressing opportunities and risks to the adoption of the new philosophies, pursuing optimal effort to achieve results, and measuring success indicators of the overall change program.

The second hypothesis was that providing a tool to facilitate the implementation of tactical aspects of the change will serve to reduce internal resistance, improve education and training, increase comfort levels with adopting the tactical changes, and thereby minimize the major barriers to initial change implementation.

The third hypothesis was that by minimizing the need for change agents and recipients to focus on the initial tactical barriers to change implementation, the attention and resources devoted to the strategic aspects of the change could be maximized.

Research Objectives

This research intends to contribute to the literature and general knowledge base regarding organizational change management strategies and aims to establish a methodology to assist organizational change efforts improve the initial implementation process.

The research has the following objectives:

1. Supplement a better understanding of how to initially implement change within organizations.
    - Perform a literature review of the current research and theory behind organizational change.
    - Review models of organizational change that document steps for implementing change.
    - Document performance data regarding the application and success rates of organizational change models.
    - Combine the literature knowledge base with findings from the researchers' experience and findings while working with the Performance Based Studies Research Group.
    - Document the need to improve the process of initiating change and confirm new strategies to do so.
2. Develop a methodology to act as a change implementation tool to overcome tactical barriers to change.
    - Use the Delphi Method to compile the knowledge and experience of multiple groups of experts.
3. Determine whether better facilitation resources relating to the tactical aspects of change are able to reduce barriers to implementation.
    - Quantify the impact achieved through the application of the tactical change implementation tool.

4. Establish if minimizing tactical barriers enables change agents and recipients to shift their focus more towards strategic initiatives.

Research Methodology Summary

The research was conducted using the Delphi process. The Delphi process incorporated the expert opinions and experiences of change agents and change recipients to develop a methodology for improving the initial implementation of organizational change. The Delphi process for this research was designed to include four rounds, where each round iteratively built upon the feedback and output of the previous round to converge upon a change implementation tool.

Round One of the Delphi process was to confirm the need for a tool to improve the initial process of implementing organizational change. A group of change agents compiled performance information regarding success rates during the initial stages of actual organizational change efforts in industry. Change recipients provided feedback regarding the perceived need to improve and standardize the tactical implementation process.

Delphi Round Two developed the first draft content of the tactical change implementation tool. Preferred approaches for presenting the content were also identified to best minimize tactical barriers.

Delphi Round Three functioned to develop a full pilot version of the tool and incorporate the content within the optimal delivery platform. Both expert groups provided feedback on the expected impact the tool would have to minimize tactical barriers, reduce internal resistance, and increase available time

to address strategic initiatives. Preliminary pilot testing was also conducted for specific components of the tool. Results of these tests were documented as case studies.

Delphi Round Four has yet to begin, but is planned to consist of full-scale pilot testing of the change implementation tool. Change agents will document the resulting performance and change recipients will provide feedback on the impact of the tool. These results will be compiled to make a final revision of the tool, and then minor adjustments will be made continuously throughout its future use.

Research Environment

The research for this thesis was conducted in the context of organizational change implementation efforts run by the Performance Based Studies Research Group (PBSRG) at Arizona State University. The researcher worked for this research group as a project manager. In an organizational change context, project managers for the PBSRG functioned as change agents to assist external research sponsor organizations to implement the business philosophies developed by the PBSRG. Research sponsor organizations held the role of change recipients and worked with PBSRG change agents to implement organizational change. In essence, the theories in this thesis were developed with input from change agent and change recipients who were currently involved in implementing organizational change, and the resulting tools developed were applied to real-time organizational change efforts.

The Performance Based Studies Research Group (PBSRG) was founded at Arizona State University in 1993 by Dr. Dean Kashiwagi. The researchers and educators at the PBSRG are worldwide leaders in best value systems and organizational efficiency. The PBSRG has developed a Best Value Business Model that can be implemented on individual projects or on the scale of entire business groups, departments, and organizations.

The PBSRG offers education and training in best value business philosophies to its many research sponsor organizations, who operate in a wide range of industries and in locations all over the world. The goal of the PBSRG's research efforts is to assist organizations increase their overall efficiency by altering their basic, philosophical approach to executing project management systems, creating organizational structures of measurement and accountability, and implementing best-value procurement systems.

In providing these services, the fundamental purpose of the PBSRG is to operate as an educator, mentor, and researcher of within the field of organizational change. Within this role, PBSRG has achieved 98 percent customer satisfaction in more than 900 projects totaling more than $4.6 billion in procured services (www.pbsrg.com). Yet in its research the PBSRG is continually striving to improve the best value approach to maximize the value delivered to its research partners.

Historically, the Best Value Business Model has been most frequently used within the procurement of construction and services. An entire procurement

process, called the Performance Information Procurement System (PIPS), has been developed by the PBSRG to identify and select expert vendors. The PBSRG assists its research clients in implementing the PIPS process to select vendors for their own projects. In order to improve the delivery of the projects themselves, the PBSRG has also developed formal pre-planning methodologies in addition to project management structures focused on risk minimization.

In this manner, organizational change efforts run by the Performance Based Studies Research Group became the laboratory for testing organizational change hypotheses.

The area that this project aims to improve is the efficiency with which change agents within PBSRG are able to apply concepts of the best value business model within research sponsor organizations. Currently, the PBSRG has an established and standardized set of business philosophies; however, the application methodology of these philosophies is non-uniform. Each change agent works with different change recipient organizations to provide hands on training to implement best value practices. The researchers observed that much of the work time spent by PBSRG project managers is from in-person education sessions, trainings, and hands on guidance to assist clients through the tactical implementation of best value, which involves tasks that are more technical in nature.

Unfortunately, when the focus is placed – whether consciously or unconsciously – on the tactical affairs of day-to-day operations, the change

program as a whole ultimately becomes distracted from the organizational-level goals and strategies of the intended paradigm change in business philosophy. This presents an important problem for change programs because the people involved may lose sight of, or place a lesser precedent on, the big picture objectives of what the effort intends to accomplish. When too much emphasis is placed on smaller technical details of how to implement specific processes, the larger effort to secure the change and build support for it to become a traditional practice within the organization. In other words, centering upon the technical details of *how* to implement the change fundamentally hinders the ability to accomplish *what* was originally intended.

Research Scope

Research for this thesis focused specifically within the scope of the initial implementation of organizational change. As it was defined in this thesis, the period of initial change implementation did not include any of the early steps of change processes described in the literature, such as feeling the need to change or creating the change message. Instead, this thesis focused specifically on actual implementation of change within an organization during. The initial period of change encompassed all pilot tests and the first handful of projects that research organizations ran under new business philosophies.

This research did not include full-scale change programs. Alternatively, this research encompassed the initial pilots and small-scale implementation of

change. Furthermore, processes for achieving long-term institutionalization of change were not included in the scope of this research.

This research mainly centered on minimizing barriers to tactical implementation of change, and did not address barriers that are specific to strategic issues. The goal of this thesis was only to minimize tactical issues with the intent of enabling greater focus on strategic initiatives. The process for enacting strategic initiatives, however, was out of the scope and is a highly recommended topic of future research.

PBSRG Project Kit

The tool developed in this research was specifically geared towards implementing the tactical aspects of the best value business model. The purpose of this tool was to include all the documents, resources, and templates needed to run a best value project. Therefore, this tool was referred to as the best value "Project Kit" in practice. The greater intent of this research, however, was to present a methodology for developing and applying such a tool to any organizational change program. Therefore, the Project Kit will be referred to by a more generic name throughout this thesis, the "tactical change implementation tool."

Summary of Thesis

This thesis documents the research and testing of the hypothesis via the Delphi method, in the context of the Performance Based Studies Research

Group's implementation of the Best Value Business Model within various change recipient organizations. The summary of this thesis is as follows:

- Chapter 2 presents a literature review of organizational change theory including resistance to change, psychology of change, and analysis of proposed step-by-step models for implementing organizational change.
- Chapter 3 describes the methodology employed in testing the hypotheses. The Delphi method was utilized to develop a tactical change implementation tool with iterative feedback from expert groups.
- Chapter 4 details the data collection processes employed within each round of the Delphi process.
- Chapter 5 reviews the raw data and results collected within each round of the Delphi process.
- Chapter 6 describes the analysis of the data. Results included confirmation of the research problem, expert feedback on the minimization of tactical barriers and the expected impact on resources available for strategic initiatives, and preliminary case study testing of the change implementation tool. Key lessons learned were also documented.
- Chapter 7 concludes the data analysis, identifies benefits of the results, and identifies opportunities for future research.

Chapter 2

LITERATURE REVIEW

Introduction

This literature chapter is intended to review existing research into methodologies for achieving planned organizational change. The chapter starts by discussing barriers to change implementation, which is commonly referred to in the literature as sources of resistance to change. Common strategies to overcome resistance, as presented in the literature, are also discussed. A survey review of the major psychological components that impact the people involved organizational change efforts was also conducted. Finally, a critical review of organizational change models was performed. This analysis focused on step-by-step methodologies to implement planned change as proposed by leading organizational change researchers and consultants. These methodologies were evaluated to determine the level of consistency across the research and identify the most commonly suggested strategies for implementing change. Furthermore, these models were analyzed according to the data sources and related performance information they were based on to understand the extent to which they have been applied and validated in organizational change efforts in industry.

Resistance to Change

Achieving organizational change is generally understood to be a difficult task due to the amount of planning, effort, and skill that are required to move people and structures existing within an organization from one state to a desired

level of performance. Change efforts always encounter some force of resistance that will to act to hinder the change effort or even cause it to fail. In fact, Judson (1992) stated that resistance from those impacted by change is regularly the "single most formidable obstacle to its successful realization." Self and Schraeder (2009) also reflected this sentiment and declared resistance to change to be "the most significant threat to the successful implementation of change initiatives."

Planning the implementation strategy to account for resistance is thus an essential component of the change management process. Tichy and Ulrich (1984) stated getting the change "written down and communicated is the easy part; getting [it] implemented is the challenge" When significant levels of resistance are encountered these forces often contribute directly to the demise of the change effort. The stakes are high in implementing change, as failed change efforts do not simply result in the organization's ability to return to the previous status quo with little to no impact on the company. In truth, failed change efforts are extremely costly because they not only absorb much time, resources, and money, but failure can also result in decreased employee loyalty, a weakened ability to achieve company goals, and other unexpected residual effects (Kinicki & Kreitner 2006).

Organizational Dynamics of Change

Tichy and Ulrich (1984) outlined the organizational dynamics of change, within which resistance of organizational members is a key component. Tichy and Ulrich's theory is dependent upon four assumptions:

Assumption One. Trigger events are required to create a "felt need" in organizational leaders.

Assumption Two. Introducing a change unleashes mixed feelings among the organization's members, typically resulting in resistance.

Assumption Three. Leadership strategies must be focus on the big picture. Quick fix, "defensive, transactional managers who are in search of the one minute quick fix" are detrimental to overcoming resistance to change.

Assumption Four. Revitalization requires transformational leadership, which is composed of three identifiable activities. Transformational leaders create a vision of the desired state ("give direction to the organization while being congruent with the leader's and the organization's philosophy and style"), mobilize commitment (of a "critical mass" of the leader's followers), and institutionalize the change (work to get "new patterns of behavior adopted").

Common Reactions to Change

In addition to organizational dynamics, the human elements in resistance to change must also be considered. In general, leaders of a change initiative will encounter three types of people when first attempting to implement the change: those who buy in whole-heartedly, those who outright oppose the effort, and those who are unenthusiastic, indifferent, or wait before choosing a side. Change management experts at Pritchett & Associates, a change management consulting company in Dallas, found that "20 percent of employees tend to support a change

from the start, another 50 percent are fence-sitters, and the remaining 30 percent tend to oppose the change" (Luecke, 2003).

Luecke (2003) referred to those employees who are passionate about the change effort and eager to work towards new goals as "originators." Originators are keen to challenge the current structure and its assumptions and rules, and generally favor rapid and sweeping change approaches. "Conservers" have the opposite disposition and instead prefer the status quo to change propositions. Predictability, routine, and conventional procedures are supported by conservers. In between these two cases are the "pragmatists" who are neither inclined nor reluctant to follow change efforts; rather, they will support change as it becomes more established or when they perceive the need and results affect them in a positive manner.

It is important to remember that resistance stems from all types of people regardless of their rank or position within the organization. Oftentimes executives and managers who are determined to make a change will tend to blame resistance among lower level employees when outcomes are less than desired (Self and Schraeder, 2009). Frontline employees, conversely, commonly hold the belief that a lack of executive seriousness and support halts change efforts. The fact is that resistance can occur at any level within an organization because all people are apt to resist change for much of the same reasons (Self and Schraeder, 2009).

Yet although many people may initially react in a negative, tentative, or indifferent manner when faced with change, most will eventually adapt to accept

the change in the long-term. During this adaptation process, researchers suggest that people progress through four stages in their reaction to the change. These four stages are described below (Jick, 1996; Luecke, 2003):

1. Shock: The very first reaction most people have when presented with change is to feel threatened, often to the point of short-term denial. This is because they feel unsafe and unsure of potential outcomes, which results in timid reactions that typically lead to lower levels of productivity in this stage.
2. Defensive retreat: After overcoming their initial shock, people generally become more angry and defensive about the change. Their behavior manifests itself by holding on to past practices and resenting the fact that change has occurred.
3. Acknowledgement: Following a stage of denial and defensiveness, people will eventually admit that the past is no longer the present, and the changed process or behavior begins to take precedence in their minds. However, people will still mourn their loss during this stage.
4. Acceptance and adaptation: Finally, most people will "internalize" the change and proceed to make the required adjustments to move forward into a post-change future. Some of these people will even become full-hearted supporters of the change, viewing themselves as refined individuals who have accepted change.

It is important to note that nearly all individuals will progress through these stages at different rates, and change agents are best served by remaining patient in favor of attempting to rush progress. Research has shown that progression through these stages is typically linear, and change agents are not encouraged to push people to skip steps or advance at a faster pace than they are comfortable (Luecke 2003).

Tichy and Ulrich (1984) provided also addressed the individual dynamics of change in their Three Phase Model:

1. *Endings.* Employees must first accept the fact that traditional behaviors have ended before they can adopt new behaviors. This requires four steps: (1) Disengage, (2) Disidentify ("individual self-identity is often tied to a job position"), and (3) Disenchantment (recognizing that positive feelings associated with past situations will not be possible to replicate in the future), and (4) Disorientation (experience work and recognize loss of familiar trappings.)
2. *Neutral Zone.* Once individuals recognize that the traditional process has changed, there is a seemingly unproductive period where individuals feel disconnected from people and things of the past and emotionally unconnected with the present." This phase is actually productive in the sense that it allows people to reorient themselves.

3. *New Beginnings*. Employees eventually become accustomed to the change and work with new enthusiasm and commitment. Employees ultimately learn from the past rather than reveling in it.

Sources of Resistance

Resistance to change is a human issue because organizations are first and foremost social networks. People within organizations have various relationships, identities, teams, emotions, and senses of comfort. These aspects are all impacted by change efforts, and how employees perceive the change affects them plays a large role in their emotional and behavioral response. Kinicki and Kreitner (2006) listed the top ten leading reasons for resistance to change, in no particular order:

1. Individuals are predisposed to react to change in different manners.
2. Shock at the change and fear of the unknown.
3. Feelings of mistrust between employees and managers.
4. A fear of failure.
5. The loss of some form of status, power, influence, or job security.
6. Social pressure.
7. Negative impacts on group culture or traditional relationships.
8. Conflicting personalities and political agendas.
9. Poor timing of the change effort.
10. Lack of perceived positive rewards.

This list reveals, perhaps predictably, that many of the reasons people resist change are simple human social and psychological reactions. When faced

with change, people are understandably concerned with whether it will impact their job security, social relationships, or conflict with the traditional workplace environment they have grown accustomed to. Initial reactions to change produce emotional behavioral responses to "real or imagined threats to an established work routine" (Kinicki & Kreitner 2006).

Perhaps the strongest resistance comes from the people who have a large stake in the status quo operations and conditions. In fact, Armenakis, Harris, and Field (1999) suggest that resistance to change can be viewed as "commitment to the current state" of affairs within the organization. One reason for this trend is that when organizational change is initiated, individuals who are engrained in the traditional processes may have their experience and skills become invalid (Armenakis and Bedeian, 1999). Luecke (2003) supported this view and stated that people's negative reactions to change are commonly associated with some form of a "loss of control – over their incomes and influence, their sources of pride, and how they have grown accustomed to living and working."

Hamel & Breen (2007) further suggest that the people who have a higher stake in the current system are never the ones who originate or initially embrace change efforts; instead, those who are on the periphery and have little to gain by the status quo are more likely to be interested in pursuing change. The idea that those people who are most deeply ingrained in the benefits of the traditional system will be the most fervent resistors to change is not a new principle. In the

16th century Machiavelli warned “The reformer has enemies in all those who profit by the old order.”

Tichy and Ulrich (1984) grouped resistances into three categories:

Technical System Resistances include habit and inertia, which “cause task-related resistance to change.” Individuals become used to doing things one way and may have difficulty changing their behavior patterns for technical reasons.

Political System Resistances consist of powerful coalitions, limited resources, and the indictment quality of change. Coalitions are a common threat that boils down to a conflict between the old guard and the new guard. Allocation of resources is much more politically difficult as resources become ever scarcer. Leaders who have to indict their own past decisions and behaviors to achieve change will often resist the new ideas.

Cultural System Resistances involve selective perception, security based on the past, and a lack of climate for change. Selective perception essentially refers to cultural filters that make it difficult for members to “conceive of other ways of doing things” that are not in line with traditional culture. Transitioning to a new state of affairs requires people to give up the old ways of doing things, which is difficult when they were comfortable operating in the traditional manner. Finally, different organizations will “vary in their conduciveness to change” based upon their culture (cultures that require higher levels of conformity may lack receptivity to change.)

Strategies to Minimize Resistance

Helping people adapt to change is a critical aspect of the change manager's role. Kinicki and Kreitner (2006) suggest that change managers should, at minimum, employ the following techniques to prepare employees for change (and thereby build commitment):

1. Provide as much information as possible to employees about the change.
2. Inform employees about reasons and rationale for the change.
3. Conduct meetings to address employees' questions regarding the change.
4. Provide feedback mechanisms so that employees have the opportunity to discuss how the proposed change might affect them.

Yet of all the forces involved in minimizing resistance, change managers may only have significant impact on two components of the conditions within the organization: the extent to which people may be apprehensive about the change and the manner in which the change is introduced and implemented (Judson, 1992).

In overcoming the negative reactions to change, Luecke (2003) offers recommendations as to how the four stages of reactions to change are best handled. In these recommendations, Luecke agrees with Galpin (1996) that the overarching key to reducing resistance is through effective management of the human side of change. Among the recommendations for handling the initial shock of change, change agents are advised to help employees manage the stress of change and provide outlets so that people can vent or provide to feedback.

Promoting "small group cohesion" is a known tactic used by the military to connect individuals with other who are undergoing the same transition. This strategy is employed to overcome people's defensive feelings.

In order to reach acknowledgement, acceptance, and adaptation, change agents are suggested to focus on group dynamics since people are "generally less concerned with the tasks they are given than how they fit in with the group" (Luecke, 2003). This advice may appear to be too simple since it emphasizes the need for change managers to listen and be supportive of all individuals involved in the change. However, these simple actions are often neglected as change managers may focus on the outcomes they desire and attempt to accelerate the change in a more top-down manner.

Luecke (2003) also suggests three conditions that can be easily assessed to determine whether an organization is ready for change:

1. Leaders are respected and effective.
2. Employees are motivated to change.
3. The organization is non-hierarchical and employees are used to working in collaborative environments.

It is also important to note that resistance to change itself has been critiqued as a topic that should not receive much research focus (Piderit, 2000; Maurer, 2000). The reason for this contention is that some researchers feel as though resistance is merely a residual effect of "bad change processes" (Maurer, 1996, Self and Schraeder, 2009). As research into successful change management

practices has continued to grow, more and more change processes emphasize the need to generate employee support and enthusiasm for change initiatives (Piderit, 2000). Processes that center on identifying and mitigating resistive forces may be seen as ineffective due to the fact that they spend so much time and resources addressing the wrong goal. The goal of enlisting willing support of those involved in the change process is often viewed as opposite of "merely overcoming resistance" (Piderit, 2000). If employee support is more successfully gained, resistance naturally fades into the background. However, understanding the sources and implications of resistance is still a valuable resource for change managers in determining how to best approach the change process.

Psychology of Change

Psychological factors play a large role in worker performance. The manner in which change agents address these factors also largely dictates how change initiatives are received and viewed by employees. Successful change management practices increasingly rely upon generating employee support rather than simply trying to overcome resistance (Piderit, 2000). The more effectively change agents can generate a favorable reception of the change effort, the more likely change programs are to be successfully implemented. In generating enthusiasm, much literature research has been conducted in how to address the psychology of change. Tichy and Ulrich (1984) summed up the significance of psychological responses to change when they stated, "Major transitions unleash powerful conflicting forces in people. The change invokes simultaneous positive

and negative personal feelings of fear and hope, anxiety and relief, pressure and stimulation." Research shows that "when the appropriate cognitive state is attained through the development of the relevant attitudes, beliefs, and intentions," those affected by the change will begin to behave in a manner that is more consistent with the goals of the change effort (Holt et al., 2003).

Motivation

Motivation is closely related to employee engagement since it represents the "psychological processes that cause the arousal, direction, and persistence of voluntary actions that are goal directed" (Kinicki and Kreitner, 2006). The foundation of motivational theory is that people generally change what they care about (Hamel and Breen, 2007). Therefore, change agents must address this fact by thoughtfully analyzing how change programs impact others, how other people are likely to view the program, and what motivation exists for people to devote themselves to implementation. Understanding the psychological processes behind motivation is therefore critical for managers who aim to guide employees towards accomplishing organizational goals (Kinicki and Kreitner, 2006).

The origins of motivation theory come from organizational psychologists who began to show how management structures could be created to enrich the job experience in an attempt to motivate workers. Early research centered on need theories of motivation. Need theories focused on the needs that employees have, and concluded that employees operate most effectively when their needs are satisfied (Williams, 2005). Need theories are concentrated on "physiological or

psychological deficiencies that arouse behavior" among individual people (Kinicki and Kreitner, 2006). Various human needs exist and they vary depending upon the time and place.

One of the most well-known need theories is Abraham Maslow's hierarchy of needs, which was published in 1943. Maslow proposed that five basic needs govern human motivational behavior: physiological, safety, love, self-esteem, and self-actualization (arranged according to increasing hierarchy). The key principle of Maslow's hierarchy is that as a lower need is satisfied, the next highest need is activated (Kinicki and Kreitner, 2006). This theory has been utilized in change management to motivate employees by designing processes that enable employees to satisfy unmet needs. To accomplish this, managers can offer "targeted benefits" to meet the specific needs of its employees (Kinicki and Kreitner, 2006).

David McClelland developed another popular need theory that focused on three needs: achievement, affiliation, and power (McClelland, 1961). The need for affiliation encompasses desires such as the need to accomplish difficult tasks, master skills and ideas, overcome obstacles, and generally excel as an individual (Kinicki and Kreitner, 2006). Employees that are motivated by achievement tend to prefer working on tasks of moderate difficulty, prefer to be accountable for their performance, and are eager to receive feedback on their efforts. Workers that tend to possess a high need for affiliation place precedence on social relationships and activities with an overall desire to be liked. Those employees with a need for

power tend to pursue positions and activities wherein they can influence, teach, or mentor others. From McClelland's theory, managers may strive to identify the type of motivation that drives different individuals and create the necessary structures and programs to enlist employee motivation.

Further research has shown that the condition of active disengagement can be directly related to an individual's levels of meaningfulness, safety, and psychological availability (Thayer, 2010). Productivity may be lost if organizational structures or management processes fail to meet these needs. Participants within change efforts desire a feeling of significance that their individual efforts are important or meaningful, strive for a feeling of community and unity of encouragement, and excitement that engages their energy in enacting the change (Kinicki and Kreitner, 2006). Another suggestion for creating complete motivation and buy-in from employees was suggested by Jim McNerney, CEO of 3M: "My experience is that if people are convinced they're growing as they pursue company goals, that's when you get ignition" (Kinicki and Kreitner, 2006).

Positive Reinforcement

The philosophy behind positive reinforcement is similar to motivational theory in that it incorporates rewards for actions taken by individuals (or consequences for inaction). B.F. Skinner pioneered this theory when through his research that showed people to improve their performance when they were rewarded for their accomplishments (Powell Jr, 2002). Directly linking rewards to

certain behaviors reinforces those behaviors and causes them to be repeated. Skinner stated that positive reinforcement could be used to effectively control behavior in a positive manner (in contrast to the mainstream view that controlling behavior most commonly comes in the form of punishment) (Powell Jr, 2002).

Participative Management

Participative management is widely regarded as an essential component of an effective change management process (Burnes, 1992; Judson, 1991; Kanter *et al*., 1992, Kinicki and Kreitner, 2006; Powell Jr, 2002). Participative management is generally defined as a process in which employees are directly involved in setting goals, making decisions, solving problems, and making changes within the organization (Kinicki and Kreitner, 2006). Employees who are able to participate in planning and implementing change processes often have increased job satisfaction, commitment to the effort, and performance within the change (Kinicki and Kreitner, 2006). Employees often responds to the opportunity to participate with open arms; for example, a survey of 2,408 employees in the US revealed that nearly 66 percent wanted more influence or decision-making power in their jobs (Delaney, 1996).

For this reason, participative management is one of the most popular strategies utilized in the change process. By involving those who will be most affected by the change is one of the most common tactics by which to minimize resistance to change efforts (Burnes, 2004; Self and Schraeder, 2009). Employee involvement is expected to increase motivation to partake in the change because it

is consistent with fulfilling employee needs of autonomy, meaningfulness, and interpersonal contact (Kinicki and Kreitner, 2006). Research has found that changes that are dictated by management, rather than providing employees with a change to discuss and contribute to the planning and execution of the change, are naturally the least successful (Holt et al., 2003).

Participative management is beneficial in another capacity when used as a change management strategy: employee participation facilitates learning. Employees that adopt the change via direct participation gain firsthand experience that results in a better understanding of the change than if they simply observed the change. As stated by an old Chinese proverb: "Tell me and I'll forget; show me and I may remember; involve me and I'll understand." Following this principle, a participative management approach acts as an extremely useful education tool for change managers seeking to long-term internalization of a change effort.

Judson (1991) noted a risk with participative management by examining by applying Maslow's hierarchical needs. Judson stated that participation meets employee needs for self-esteem and self-actualization but does not satisfy more fundamental physiological and safety needs, which have a greater prominence in their thinking. According to Maslow's proposal, these lower-level needs must be met first, before higher needs come into play. Judson recognized this inconsistency in many participative management strategies and encouraged managers not to overlook these more basic considerations.

The Change Message

A crucial aspect of initiating organizational change is the message that the leaders of the movement convey to all the people who will be involved. There are in fact two major components of the change message:

- The initial message that introduces the change on high-level terms. This early message establishes the various aspects regarding the goal of the change, why the change is being done, and how the change will help the organization.
- A more detailed message emerges as the effort moves towards implementation. After the change has been introduced, change managers must educate employees on how to execute the change.

The reviewed literature stated the importance of a carefully crafted change message to the success of the organizational change program (Armenakis *et al*., 1999; Burnes, 1992; Hunsucker and Loos, 1989; Judson, 1991, Kanter *et al*., 1992; Kotter, 1995). In general, the research proposes that an effective change message plays off psychological theories to generate motivation and buy-in (and thereby functions as a part of the strategy to minimize resistance.)

There was general consensus within the literature that crafting a valuable change message centered upon understanding the factors of human motivation. As Powell Jr. (2002) stated, when individuals within the change process believe the change is "necessary to accomplish something of value that they desire they are more inclined to agree with the change and react in a favorable manner." The key

in achieving this motivation, Powell Jr. says, requires change agents to fashion the change message such that it convinces people of the following three factors:

1. They will be rewarded for their behavior acting in compliance with the change message.
2. The reward they stand to receive is of specific value to the individuals.
3. The individuals involved believe they have the ability to perform to the level required to receive the reward.

Armenakis *et al*. (1999) provided even greater detail on the strategy of constructing the change message and what content should be included within it. In their change message model, Armenakis *et al*. proposed that the core purpose of the change message is to build commitment for the change program as a whole. The model they use to understand the entire change process is as a message that is "sent" to organizational members, who are then supposed to act upon the message. For such a change message to be successful, they propose that it must answer the following five key areas:

1. Discrepancy: Is the change really necessary? The message must build sense of urgency to create the desire to change the gap that exists between current and ideal state within the organization's operations.
2. Appropriateness: Is the specific change introduced an appropriate reaction to the discrepancy? The specific change that is proposed must be deemed as suitable to accomplish the stated goal.

3. Efficacy: Can I (and we) successfully implement the change? The change message should provide information that builds confidence among the individuals and groups involved such that they believe they are capably of implementing the change.
4. Principal Support: Convey that leaders are committed to successful implementation of the change. This will communicate to people that the change is not a "program-of-the-month" endeavor that will soon be reversed or forgotten.
5. Personal Valence: What's in it for me? Clarify the benefits of the change on an individual and organizational basis.

The degree to which organizational members receive adequate answers to the above questions is a large determinant of ultimate commitment to change according to Armenakis *et al*. (1999). When creating their vision and message, change managers must continually think about the change recipients and how they are affected by the change, how they will perceive it, and what actions must be executed to achieve successful change. The role of the five components within the change message as proposed by Armenakis *et al*. is to generate positive support to drive the initial efforts forward into implementation.

Luecke (2003) also stated the importance of communicating the change message in such a way that it is used as a tool to give employees a personal stake in the process and thus generate positive motivation. In communicating this vision, Luecke advised the change managers must be clear in addressing how the

change will not only improve the operations of the business as a whole, but also how the intended improvements will benefit the employees themselves. To accomplish this, Luecke (2003) offered eleven tips for communicating the message:

1. Specify the nature of the change.
2. Explain why.
3. Explain the scope of the change, even if it contains bad news.
4. Develop a graphic representation of the change project that people can understand and hold in their heads.
5. Predict negative aspects of implementation.
6. Explain the criteria for success and how it will be measured.
7. Explain how people will be rewarded for success.
8. Repeat, repeat, and repeat the purpose of change and actions planned.
9. Use a diverse set of communication styles that is appropriate for the audience.
10. Make communication a two-way proposition.
11. Be a poster-boy or poster-girl for the change program.

Yet it is important to remember that simply presenting people with the correct information of why change would be beneficial to them is not a complete methodology through which to motivate employees to change. Collins (2001) argued that people cannot be motivated by showing them the "brutal facts" behind the change program nor from a compelling vision. Although motivation plays a

large role in employee engagement and productivity, it is still an individual issue that cannot be dictated from management. No amount of management control can force people to be more motivated, and "expending energy trying to motivate people is largely a waste of time" (Collins, 2001).

Organizational Change Models

Organizational change models presented in the literature over the past 25 years were reviewed to understand the current methodologies for achieving planned change in an organizational setting. Eleven prominent literature models of organizational change – proposed by prominent organizational change researchers and consultants – were reviewed to understand the current base of change management knowledge. These models represented step-by-step process methodologies suggested to improve the success rate of organizational change efforts. Included among the models reviewed were those proposed by: Bullock and Batten (1985), Nutt (1986), Hunsucker and Loos (1989), Judson (1991), Burnes (1992), Kanter *et al*. (1992), Kotter (1995), Galpin (1996), Armenakis *et al*. (1999), Moran and Brightman (2001), and Luecke (2003). These individual models were also analyzed in an effort to create a single consolidated model of organizational change that was reflective of the current knowledge base in planned change research and literature.

Consolidated Literature Model of Organizational Change

Each of the literature models reviewed presented a series of process steps to systematically initiate, plan, and implement organizational change. The process

steps and sub steps proposed in these models were identified to facilitate direct comparison of the literature models. For example, Kotter's Eight-Stage Process (1995), which was based upon his consulting experience with more than 100 companies, was broken into the following process steps:

1. Establishing a sense of urgency
    a. Convince management that the status quo is totally unacceptable and emphasize potentially unpleasant facts to stimulate urgency.
2. Forming a Powerful Guiding Coalition
    a. Senior managers form the core of the group, and the overall guiding coalition may include non-senior managers.
3. Creating a Vision
    a. Clarify the direction and strategies to achieve that vision.
4. Communicating the Vision
    a. Use every possible vehicle to communicate the new vision and strategies.
5. Empowering Others to Act on the Vision
    a. Eliminate barriers (structural and individual)
6. Planning for and Creating Short-Term Wins
    a. Advertise compelling evidence that expected results are being produced.
7. Consolidating Improvements and Producing Still More Change
    a. Expand to larger problems and programs

8. Institutionalizing New Approaches

This methodology was repeated for all eleven change models. The results were aligned side-by-side in tabular form, a gap analysis was performed to identify the similarities and differences between models. Specific categories emerged once the models were aligned, and these emergent categories were organized into the process steps that made up the consolidated literature model of organizational change. These process steps are listed in Table 2.1.

Each of the process steps within the resulting consolidated literature model was analyzed to determine the total percentage of models incorporated that specific step. For example, it was found that 64 percent of the change models reviewed emphasized the need for a core team to lead the change effort. The individual process steps and their consistency across organizational change models in the literature are shown in Table 2.1.The consolidated literature model of organizational change resulted in a comprehensive change management model composed of twelve individual process steps within three broader phases of change implementation: Planning and Initiation, Implementation, and Institutionalization. Each of the individual process steps represents a component of the organizational change process. The scope of each step was defined along with a summary of literature model recommendations on how to best carry out the different components of the change management process.

Table 2.1

Consolidated Literature Model of Organizational Change

Consolidated Literature Model of Planned Organizational Change	Literature Consistency
Phase 1 - Plan & Initiate	
1. Actively Create Motivation for Change	64%
2. Analyze Status Quo Problems & Needs	82%
3. Identify Desired Solutions, Goals, or Vision	91%
4. Establish a Core Team to Lead Implementation	64%
5. Secure Executive Support	45%
6. Convey the Change Message	64%
7. Identify Readiness and Manage Resistance	55%
8. Plan the Implementation Strategy and Tactics	64%
Phase 2 - Implement & Measure	
9. Implement on a Test Basis	55%
10. Implement Full Change Program	91%
Phase 3 - Institutionalize	
11. Transition to Institutionalization	82%
12. Long-Term Measurement	36%

Phase 1: Initiate and Plan

1. Actively Create Motivation for Change

The first step in the consolidated model for planned change was to create a sense of urgency among employees and produce a general desire to change. In creating the initial motivation to embark on a planned change effort, change agents may examine the internal and external conditions of the organization and realize the need for change exists. The focal point of this stage is to recognize the need to change in such a way that it acts as a catalyst to motivate the pursuit of change. This step does not involve an in depth analysis of current practices or set a specific vision of change, but rather aims to create a broader sense of urgency within the organization to recognize the need to support change efforts.

2. Analyze Status Quo Problems and Needs

The purpose of this step is for change managers to analyze existing business processes and external conditions to determine specific areas of weakness for the organization to overcome. Managers may also enlist employee participation during this step to compile a more thorough understanding of problems within the organization. The end result of this step is to have identified specific problems and root causes that necessitate a change in business practices.

3. Identify Desired Solutions, Goals, and Vision

In response to the problems that necessitate change, a vision must be created to address the goals and solutions that are desired. This step primarily focuses on determining how the organization should operate and envisioning how this future state would look once the change effort is successful. This step does not yet call attention to specific implementation strategies or detailed tactical planning of the formal change process.

4. Establish a Core Group to Lead the Effort

For the purposed of this step, a core group was defined as a team of managers or other employees who possess operational-level knowledge of the problems and desired solutions. Members of the core group may not follow the typical organizational hierarchy and may not include executives; instead, emphasis is placed on their knowledge of key operational level issues that make them best suited to lead the change effort. Activities of the core group include the day-to-day leadership and management of the change program.

5. Secure Executive Support

The step of securing executive support was defined to include those literature models that emphasized the importance of gaining assistance or general backing for the change program from executives. Executives include high-level decision-makers who have the authority to generate financial and policy directives. Although executives are not necessarily members of the core group, it was noted that they still critical that they are bought in to the change program. Executives wield the clout within the organization to legitimize the change with their support and have the power to either sustain or remove the change through financial and policy means.

6. Convey the Change Message

This step stresses that change managers must give specific attention regarding how the vision of the change is communicated within the organization. Models that included this step typically emphasized the need to frame the change message in such a way that addresses the perspective of those who will be impacted. The purpose of this step is to educate those affected by the change on the basic purpose, goals, and implementation strategy of the change, as well as how they will be impacted the change and why the end goals are beneficial.

7. Identify Readiness and Manage Resistance

The literature models recommended that change managers spend time to identify their organization's readiness for change by analyzing potential and actual sources of resistance that may counteract the change effort. This step also

consists of any specific actions taken to minimize resistance such as various modes of employee participation, feedback, reward systems, or political negotiations, all with the purpose of eliminating barriers and creating the conditions for change to occur successfully.

8. Plan the Implementation Strategy and Tactics

This component of the consolidated organizational change model refers to detailed planning of the technical aspects of how the change will be implemented. The technical aspects include the specific action steps required to enact the change, such as how individual business processes and employee functions change with respect to the organization's previous operational methods. Also considered within this component is ensuring the technical aspects of the change align with the strategic vision and goal of what is meant to be accomplished. Measurements are planned to determine the success of the change, specifically focusing on whether the tactical actions actually achieve the strategic vision.

Phase 2: Implement and Measure

9. Implement on a Test Basis

This step was addressed by models that underscored the importance of starting implementation on a test basis, which was defined as any scale that was smaller than the overall intended change program. Starting implementation on a test basis was also characterized by the intent of applying the lessons learned on the smaller scale to refine the change for full-scale implementation.

10. Implement Full Change Program

This step referred to implementing the change action steps on the fully intended scale or diffusing results of the original trial period into the larger organization. This step ends when the operational modes intended by the change are first achieved, but are not yet institutionalized within the organization.

Phase 3: Institutionalize

11. Transition to Institutionalization

Following the implementation of the full change program and achievement of results, institutionalization consists of formalization or transition processes intended to achieve long-term adoption of the change. This step moves from active implementation of the change program towards formalizing the changed processes as traditional practices. Formalization processes include measures to reinforce and stabilize the change such that it becomes "the way we do things around here."

12. Long-Term Measurement

Long-term is defined as the time period following the main efforts of implementing and institutionalizing the change program. This final step comes into play when the change is no longer a foremost priority of management or employees and has seemingly been institutionalized within the organization. Maintaining a post-institutionalization, program-wide measurement system is intended to sustain the change once the organization's attention is focused on other items.

Consistency within Organizational Change Model Literature

The reviewed literature models and their individual process steps were analyzed to determine the overall consistency within the literature research in terms of the process steps recommended for implementing change. Results are summarized in Table 2.2 to show which action steps were most frequently proposed in the literature as a part of the organizational change process.

Table 2.2

Consistency in Recommended Process Steps in Literature Models of Organizational Change

Consolidated Literature Model of Organizational Change	Literature Consistency
Process Steps	%
3. Identify Desired Solutions, Goals, or Vision	91%
10. Implement Full Change Program	91%
2. Analyze Status Quo Problems & Needs	82%
11. Transition to Institutionalization	82%
1. Actively Create Motivation for Change	64%
4. Establish a Core Team to Lead Implementation	64%
6. Convey the Change Message	64%
8. Plan the Implementation Strategy and Tactics	64%
7. Identify Readiness and Manage Resistance	55%
9. Implement on a Test Basis	55%
5. Secure Executive Support	45%
12. Long-Term Measurement	36%

The two change management steps that were most commonly recognized by the literature were found to be identifying the desired solutions, goals, or vision for the change and implementing the full-scale change program within the company. Both of these steps were included within 91 percent of the literature models. 82 percent of the models identified the steps of analyzing the status quo

problems to develop a felt-need for change and transitioning the change to institutionalization so that the change will stick and become part of normal operations. After these four steps, there was a drop off in the level of consistency between the literature models, with the following four steps suggested by 64 percent of the models: actively create motivation for change, establish a core team to lead implementation, convey the change message, and plan the implementation strategy and tactics. Incorporated into 55 percent of models were the steps of identifying readiness and managing resistance as well as implementing the change on a test basis before implementing at full scale. The least commonly identified steps were securing executive support (45 percent) and continuing long-term measurement to sustain the change (36 percent). Overall, a remarkable consistency was found within the literature research. Ten of the twelve management steps within the consolidated change model were recognized by more than half of the literature models reviewed.

Data Sources for Model Development

The literature models were further analyzed to determine how they were developed in terms of the data source the researchers based their analysis on. This review also identified the extent to which the models have been validated through empirical testing or documentation of performance information. Once the source of knowledge that was used by the various researchers to develop their respective models of planned change was documented, analysis revealed that researchers used four main data sources to develop their organizational change models:

- *Personal Experience.* The model was based upon the researcher's personal involvement in management consulting and change management implementation. The researcher proposed a change model by reflecting upon their personal experiences and observations, often supported by anecdotal evidence.
- *Literature Review.* The researcher created the change model based upon a critical review of literature research. This category is limited to analysis and consolidation of previous literature research and theory and does not include any of the researcher's own personal experience in consulting or research testing.
- *Industry Feedback*. The source of information was in the form of general industry feedback regarding overall experiences with change implementation. Managers and other industry professionals were surveyed and/or interviewed to gain a second-hand understanding of their experiences with organizational change. This type of feedback did not focus on specific instances of change (i.e. case studies) but instead collected broad feedback on change management experiences within the industry.
- *Case Studies*. The model was based upon findings from in an in depth review of specific planned change efforts undertaken within organizations. Example cases of organizational change were either reconstructed in a systematic manner to understand the methods of change implementation,

or the change methodologies were directly applied in a more "real time" effort. Procedures used to reconstruct case studies of change implementation included interviewing and surveying managers to understand how the specific change process was implemented. Researchers may also have been directly involved in the reviewed case studies.

The frequency with which the models used each data set is shown in Table 2.3. Note that the percentages do not sum to 100 percent because researchers often utilized multiple sources of knowledge to develop their suggested model of organizational change. For example, the model proposed by Armenakis *et al.* (1999) was created based upon their own research and experience, a review of the existing literature, and findings from nine case studies.

Table 2.3

Data Sources Used to Develop Organizational Change Models in the Literature

Personal Experience	55%
Literature Review	45%
Industry Feedback	18%
Case Studies	27%

The majority of the eleven models were created based upon knowledge gained from the researcher's personal experience (55 percent), while 45 percent of the models pulled information and findings from the literature. Three models were developed using lessons learned from industry case studies, while two included

feedback data from industry members who were directly involved in organizational change initiatives.

Performance Information of Model Application

From a research perspective, another important factor in analyzing process models for implementing planned organizational change is documenting whether the performance of the models has been measured and documented through testing in actual change efforts. Although it is understood that the wide variety of changes and organizations means that no single process of steps may be directly applicable in all cases, empirical documentation of model implementation and results is an important factor in validating the application of organizational change models. In the context of the organizational change models considered in this paper, empirical documentation was defined as the existence of performance measurements relating to the level of success achieved by a change model implemented in a real change initiative.

In reviewing the empirical nature of the models, another important point of emphasis is whether the reviewed models were tested in real-time or if they had been developed retroactively. Real-time testing was defined as any documented instances where the change model was directly as the implementation process at any point during a company change effort. Conversely, retroactive development referred to models that were identified and applied after real-time change efforts were completed. In retroactive cases, researchers analyzed past change efforts to

analyze which steps were successful, which steps failed, and what additional steps may have been valuable.

Each of the eleven literature models identified in this paper was reviewed against these two criteria to determine whether they had been empirically documented through performance measurement and directly applied in real-time change efforts. A matrix of these two criteria is given in Table 2.4, where the literature models were analyzed according to the following four categories:

- *Real-Time Performance Measurement.* The model of planned change was implemented during a company's organizational change effort and performance measurements were recorded to quantify model success.
- *Real-Time with No Measurement*. The model was directly applied as the process for enacting a change effort, but no measurements of success were documented.
- *Retroactive with Performance Measurement*. The model was created based upon past experience, literature review, or industry case studies and feedback. However, the full model was not directly applied in real-time throughout a change process. Individual case studies of success were documented to show success rates in terms of the proposed model.
- *Retroactive with No Measurement*. The model of planned organizational change was developed based upon past experience, literature information, or industry feedback. The model was not implemented in a real time change effort and no determinants of success were measured.

Table 2.4

Empirical Documentation of Organizational Change Models

	Real-Time	Retroactive
Performance Measurement	0%	18%
No Measurement	0%	82%

Results showed that the organizational change models reviewed in the literature were all developed retroactively. As documented in their journal papers, the researchers primarily proposed change models based on reflecting upon past management experience, reviewing earlier literature research, and analyzing case studies and feedback from change management efforts that previously occurred in the industry. Since none of the reviewed models were fully implemented in a change process, real-time validation was not documented.

It must be noted that in saying none of the models were implemented, the authors do not mean to suggest that the researchers who proposed the models did not ever implement them. All change models reviewed contain sound advice on approaching change, and the researchers that developed these models almost certainly used various pieces at different times throughout their careers as change management researchers or consultants. The authors have instead shown that no documented was provided to show the results of real-time implementation. This distinction is important to make, as it presents an opportunity for future research to focus on empirical validation of organizational change models in real-time change efforts.

Conclusions Regarding Change Model Implementation

The need for a process methodology to implement planned organizational change is clearly evident within the rapidly evolving and highly competitive business environment, wherein the observed failure rate of planned change efforts is greater than 50 percent (Choi and Behling, 1997; Kotter, 1995; Maurer, 1996; Pascale et al,. 1997; Self and Schraeder, 2009). In response to this problem, this paper assessed eleven literature models and compiled their components into a single change model that may be used to plan, implement, and institutionalize organizational change. The resulting consolidated model represents a step-by-step approach that is reflective of the existing research and captures the extensive experience and expertise of leading organizational change researchers. Strong consistency was found in the literature in that more than 60 percent of models reviewed included a majority of similar change management process steps. The consolidated model developed in this paper represents a change methodology that is consistent with the research findings of numerous experts, and can therefore be applied to improve the success of organizational change efforts

Analysis revealed that organizational change research is generally lacking in "real-time" start-to-finish application of the literature change models. In fact, the literature models were most commonly developed based on retroactive analysis (the nature of this analysis varied, including reflection upon personal management experience, a review of literature research, and analysis of case studies and industry feedback from change efforts that occurred in the past).

None of the literature models were shown to have used to initiate, plan, or implement the during a real-time change effort, which is likely due to the difficulty in establishing long-term research relationships with organizations. The information within the literature therefore serves as a valuable process map that represents a collection of lessons learned from previous organizational change efforts but has yet to be fully applied and tested to empirically document success. This may contribute to the lack of established and widely acknowledged methodologies for implementing planned change.

In analyzing the how the reviewed literature models were validated from a research perspective, results indicated a lack of performance information in the research. Only two of the eleven reviewed change models were shown to have documented performance measurements of the success rates that change efforts achieved by using the model. Instead, researchers typically validated their models by referring to personal experience in change management efforts and reviewing other literature research. It is also important to mention that even when performance information was measured, consensus was lacking in standard measurements. The definition of success was not specified according to quantitative measurements, nor was the time period for evaluating success defined. In one literature model, for example, performance measurement was defined as documenting whether the original intent of the change effort was achieved for "a duration of time" (Nutt, 1986). Whether time duration was short

or long term was never specified to define how long a change must persevere to be considered successful.

Both of these components are key metrics to that should be identified in future change management research. In 1958, Lewin recognized that a change that is implemented to achieve a higher level of group performance "is frequently short-lived," because group behavior often reverts quickly back to its previous manner (Burnes, 1992). Other sources have identified that change management research has the risk of declaring success too soon and some case studies have reverted over longer-periods of time than research studies originally considered (Kanter, 1996). In light of this, future change management research is recommended to focus on the application of planned change strategies in real-time, start-to-finish change efforts and documentation of the related performance results. Organizational change and development research would greatly benefit from identification of the key factors of successful change implementation and documentation of these factors in terms of quantitative performance information. Long-term research efforts are critical accomplishing this goal and developing standard measurements of success for organizational change initiatives.

Literature Review Conclusion

A review of the literature identified numerous sources of resistance to organizational change, as well as various strategies for overcoming these barriers. Much of the review conducted was focused on analyzing existing change models to understand the leading theories and processes for implementing organizational

change. While there was a significant level of similarity between all the models reviewed, no universally accepted methodology was identified for implementing change. A potential void in the existing literature was identified, since the existing change models were shown to be lacking data on their implementation, ability to minimize barriers to change, and their related success rates in initiating and achieving organizational change.

In response to this literature, as well as the researcher's own observations, this research was centered on proposing a methodology for improving the implementation of organizational change. Due to the high failure rates of organizational change efforts documented in the literature, this research was intended to focus specifically on the initial implementation of change, how to overcome barriers, and methods for improving strategic success.

Chapter 3

METHODOLOGY

Introduction

This chapter discusses the method by which the change facilitation tool was created and the hypothesis tested. A tool to improve the process of initiating organizational change was created using the Delphi method. In developing this change initiation tool, the Delphi Method was employed to capture various expert perspectives regarding which components should be included, as well as focusing on the best format to present the information. The objective of this tool was to serve as a resource to facilitate new sponsor organizations and change recipients to adopt the tactical aspects of change in a more effective and comfortable manner. The hypothesis was that by facilitating the transfer, adoption, and implementation of the tactical aspects of running a new business process, more beneficial time would become available to address the strategic aspects of the change effort.

Delphi Method

The Delphi method was used in this research to develop a tool to facilitate the initial implementation of organizational change. The Delphi method is a tool that functions to collect judgments and achieve consensus among groups of experts via multiple rounds of feedback (Linstone and Turloff, 1975; Skulmoski and Hartman, 2002). The Delphi method is an iterative process that collects feedback from experts, typically in the form of questionnaires (Skulmoski and

Hartman, 2002). Once the original questionnaire has been distributed, completed, and returned, the feedback is analyzed and consolidated to develop another questionnaire. The purpose of developing iterative questionnaires to drive closer and closer to the true solution of the research question; once consensus is reached and sufficient information has been exchanged, the process is deemed to be complete and a solution found.

The Delphi method first came into use in the business community of the United States (Skulmoski and Hartman, 2002). Now it is a popular research method that has been widely adopted across the world and accepted in many industries (Skulmoski and Hartman, 2002). Norman Dalkey of the RAND Corporation created the original Delphi method during the 1950's for a U.S.-sponsored military project. (Dalkey and Helmer, 1963). The original stated goal of the Delphi method, according to Dalkey, was to "solicit expert opinion to the selection, from the point of view of a Soviet strategic planner, of an optimal U.S. industrial target system and to the estimation of the number of A-bombs required to reduce the munitions output by a prescribed amount (Dalkey and Helmer, 1963).

A key benefit of the Delphi method is its flexibility to address a wide range of research questions, accommodate diverse logistics, and incorporate the views of various expert groups (Skulmoski *et al.*, 2007). Since it is simply method for structuring a group communication process with the purpose of facilitating group problem solving, the Delphi method can be adapted to develop solution

models for a numerous problems and scenarios (Linstone and Turloff, 1975). Skulmoski and Hartman (2002) agreed with this assessment and stated that the Delphi process could be modified so as to best answer the research question. The Delphi method can be especially useful when applied to problems that are not easily addressed by precise analytical techniques, but instead takes advantage of "subjective judgments of individuals on a collective basis (Adler and Ziglio, 1996).

The classical Delphi method is composed of four key features (Rowe and Wright, 1999):

1. *Anonymity of Delphi participants.* Participants are allowed to express ideas freely without social pressures or group think phenomena. Analysis is focused on the merit of the ideas rather than who specifically proposed it among the expert group.
2. *Iteration*. The participants refine their views based upon the group's progress from round to round.
3. *Controlled Feedback.* The participants are informed of other participants' perspectives.
4. *Statistical aggregation of group response.* The process enables quantitative analysis and interpretation of data.

Today, there is some disagreement in which studies may be classified as true Delphi studies. Some researchers, such as Rowe and Wright (1999), argue that the tenants of the classical Delphi method must be upheld. A growing majority, on

the other hand, contends that the method is flexible and can effectively be adapted to meet the needs of any given study (Adler and Ziglio, 1996; Delbeq *et al.,* 1975; Linstone and Turloff, 1975).

The key to the process is obtaining feedback from expert groups, as true expert groups ina given field typically have great insight (Skulmoski *et al*, 2007). There are four requirements for "expertise" in the Delphi process: (1) knowledge and experience with the topics being investigated, (2) capacity and willingness to participate, (3) sufficient time to participate, and (4) adequate communication skills (Adler and Ziglio, 1996). Heterogeneous or homogeneous groups may be utilized, but when the group is homogeneous a smaller sample size of between ten and fifteen individuals can give sufficient results (Skulmoski *et al.*, 2007).

The number of rounds required is variable; however, Delbeq *et al.* (1975) proposed that two or three iterations are sufficient for most research. Before the first round fully commences, it is common for a pilot study to be completed to test and adjust the Delphi questionnaire with the purpose of improving comprehension and finalize any procedural issues (Skulmoski *et al.*, 2007). Oftentimes the pilot step or first round is used to brainstorm ideas (Schmidt, 1997). Once the first round of questionnaires has been completed, results are consolidated to create a second questionnaire that is released in round two. Participants are then able to verify the results and reflect upon the group's opinions. Oftentimes researchers will ask that the experts rank or rate the output of the first round (Schmidt, 1997). Of course, questions can be modified to best meet the need of the research. For

example, questions may be closed or open and analysis may be qualitative or quantitative (Skulmoski *et al.*, 2007). Results are verified continuously throughout the rounds of the Delphi process (Skulmoski *et al.*, 2007).

Tactical Tool Development Methodology

In order to develop a tool to facilitate the startup of organizational change implementation, of a four round Delphi process was used with feedback provided by two separate expert groups. The first expert group chosen consisted of research group project managers and staff who act as change agents to educate and implement new business process. The second group consisted of the core group leaders and key individuals from research sponsor organizations who are learning the new business concepts and striving to implement them as a part of their organization's tool belt. Figure 3.1 depicts the Delphi process used in this research, and the steps are described in this chapter.

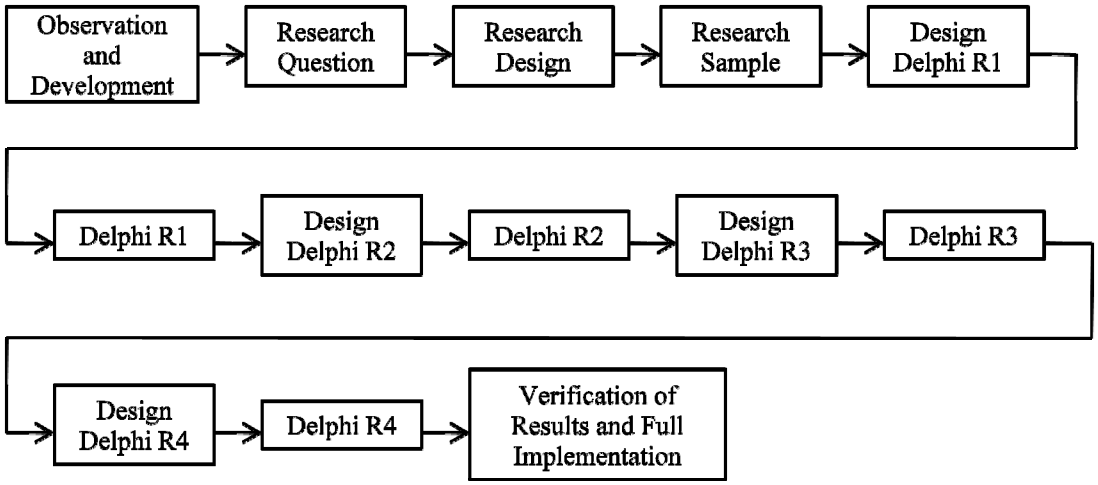

Figure 3.1: Delphi Process

Initial Observation and Development

The research question was initially developed based upon observations made by the researchers.

Research experience with industry was a catalyst in developing the research question. The research group that the researchers participate in has implemented and analyzed organizational change efforts in more than thirty research sponsor organizations from numerous industries, public and private sector, and locations all over the world. These research sponsor organizations are referred to as change recipient organizations, and project managers from the research group function as external change agents to assist these organizations implement new business strategies and practices. With each change recipient organization, the performance of their individual projects was measured and their overall change effort monitored. Repeated difficulties were observed that led the author and committee chair to grow the research questions. Included among the observed difficulties were required repetition of educational initiative for new business concepts, various resistances (political, operational, and funding), insufficient focus on strategic initiatives, and a lack of ability to fully institutionalize change. These repeated difficulties spurred researchers to examine strategies of improving initial implementation of new business practices with the goal of enabling a renewed focus on the strategic problems with organizational change.

A review of the literature also contributed to research question development. The researchers reviewed numerous journal articles referring to performance of various industries in project management and their ability to adapt to change, as well as a broad range of organizational change literature including proposed models for implementing planned organizational change. A gap was identified in much of the literature discussing the initial implementation phase of change and tactics for minimizing resistance.

Preliminary pilot studies were also run to help refine the question. The researchers functioned as educators on how to implement new business practices in numerous organizational change projects, and began altering the methods used to deliver the educational material. Eventually, additional educational sessions via pre-recorded video presentations were observed to improve the adoption of changed business practices. This observation lead the researchers to examine new platforms for delivering education and training material that would support the actual implementation of change, specifically focusing on the technical- or process-based tasks associated with implementing organizational change.

Research Design

The Delphi method was chosen as the research method due to its flexibility and capacity to consolidate the views of expert groups. For this specific research question, it was recognized that an iterative approach was required to develop, test, and refine the components of the change facilitation tool. The Delphi method was also an attractive methodology due to its specific ability to

collect the judgments of multiple experts in a group decision-making process. The researchers wished to make these iterations more formal by implementing a structured Delphi process and documenting the results and refinements made.

Research Sample

Selecting the research participants was a key element since it is the views and opinions of these experts that the output of the Delphi process is based on. It was recognized that there were two separate perspectives that were critical to solving this research question. The researchers function as change agents to assist outside industry organizations to adopt new business strategies. In solving how to best facilitate the initial implementation of the changed business strategies, the research group's perspective as an agent for implementing change was crucial to capture. At the same time, an equally important perspective was the point of view of the research sponsor organizations who strive to implement the change into their company's tool kit. Therefore, the following two groups of experts were selected to participate in this research:

Internal Change Agents. Project managers from the research group act as change agents who facilitate, educate, and assist research sponsor organizations to adopt and implement new business strategies. These change agents have a thorough understanding of the purpose, procedures, tools, and benefits of implementing the new practices. A total of eleven change agents participated in this study, with combined experience in hundreds of change management projects in numerous organizations across various industries.

External Change Recipients. Outside change recipient organizations partner with the research group with the goal of becoming proficient in the new business practices, learning how to implement them on a test basis, and ultimately institutionalizing them into their organization's day-to-day operations. Members from change recipient organizations provide an external perspective from the research group in terms of how to best deliver a tool to improve change implementation efforts. Within this selection, the individuals who were specifically chosen to provide feedback were key members of the sponsor organization's core group at the implementation level of each change initiative. The selected individuals had a range of experience in implementing the new business practices in their organizations – some had years of experience and had run hundreds of projects while others were still in the early implementation stage. Thus the research sample contained a mix of experience levels of core group members at the implementation level within change recipient organizations. Overall, ten individuals participated to provide their feedback from the perspective of change recipients. Note that these individuals, as a part of their organization's implementation effort core group, were responsible for leading and disseminating the change within their respective organizations.

Design Delphi Round One

The purpose of Round One was to first reach out to the two expert groups and confirm the need for a tool to improve the manner in which change was initiated, educated, and implemented. In designing this round of feedback, the

idea for a change facilitation tool to address the tactical aspects of change was developed and formatted to introduce the idea to research participants. Questions were designed to get both groups of experts to reflect critically upon their past experiences in initiating change and identify if they believe there is truly a need to improve these areas. Meetings were scheduled with the group of change agents and a short survey was created to give to change recipients. Much of the purpose of this round was to confirm the need and also trigger brainstorming to support future activities that would develop the content of the change facilitation tool.

Delphi Round One

An in-person meeting was held with the research group's internal change agents to confirm the need for a tool to facilitate the tactical aspects of organizational change, particularly during the initiation stage. The response was unanimously in favor of developing the tool and all members agreed to participate. Change recipients from research sponsor organizations were first contacted via email to solicit their participation in the Delphi process. They then participated in a short phone interview to provide their initial feedback regarding the need for an improved process for initiating change. They were introduced to the idea of developing a tool to address the tactical aspects of change better facilitate implementation of new business practices, and were asked to rate the need and importance of such a tool.

Design Delphi Round Two

The Round Two questionnaire was developed based upon Round One feedback confirming the need for a change facilitation tool. The main purpose of Round Two was to brainstorm what content should be included within the change facilitation tool based upon independent feedback from the two expert groups. Then once the key components of the tool were identified, the change agents would create the first draft of each component.

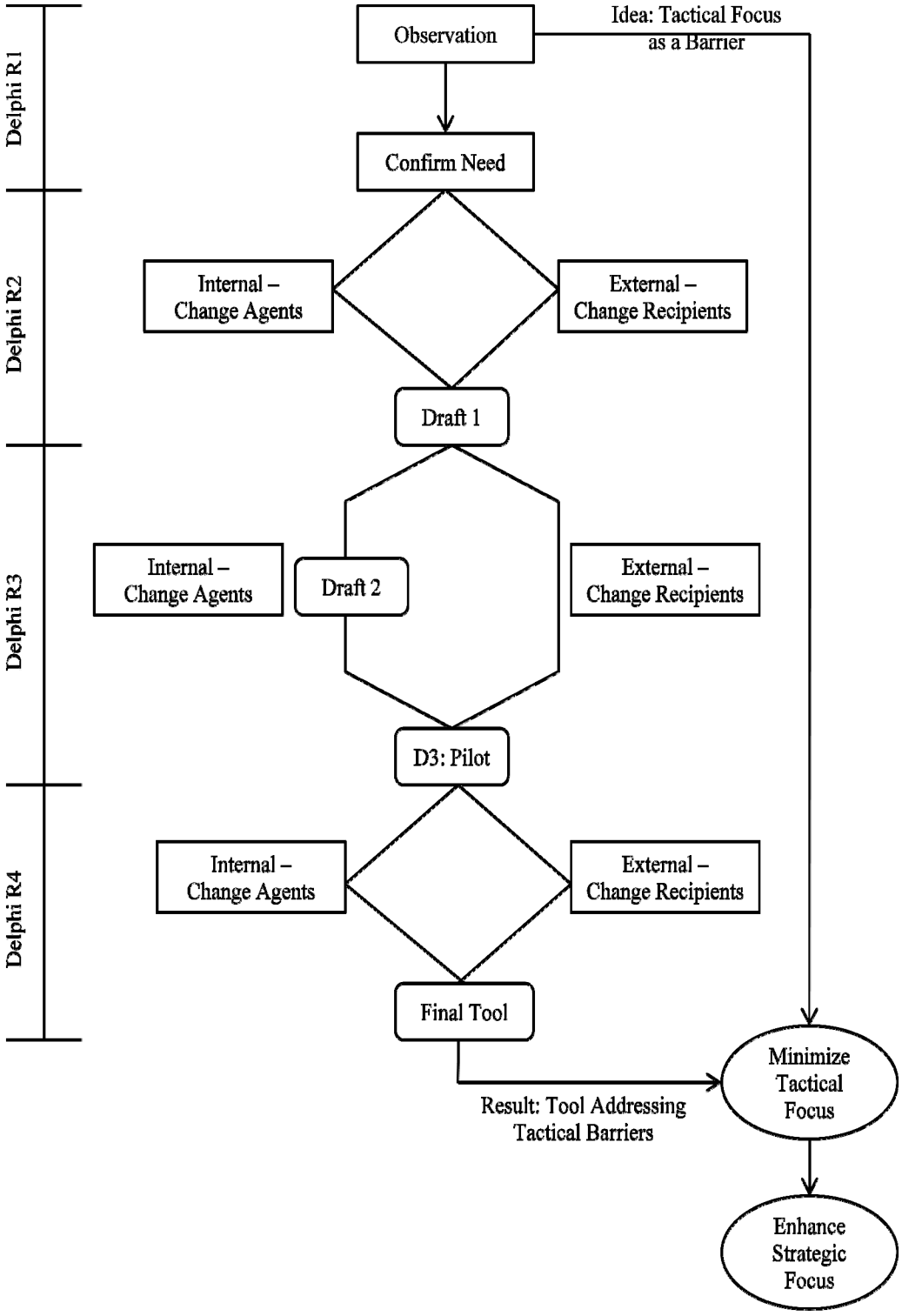

Figure 3.2: Delphi Rounds and Interaction with Expert Groups

Delphi Round Two

Round Two activities were separated into two separate feedback loops, which occurred simultaneously:

Round Two Change Agent Feedback. A series of weekly meetings was held with change agents to introduce the concept of a change facilitation tool and brainstorm the components that should be included as content. The change agents identified twelve components to include in the change facilitation tool. Each component represented a different topic within the new business process being implemented in sponsor organizations. The change agents then split into groups of 2-5 individuals, and each was assigned to one of the twelve components. The groups then took the lead in developing the first draft content for that component. Creating these first drafts mainly consisted of gathering and consolidating the research group's existing resources for each component. While this may seem like a fairly insignificant task, the researchers observed that organizing the change agents to work together and integrate the different tools, templates, and training techniques that they each used on an individual basis was an important step towards forming group cohesion. Achieving group cohesion among change agents who are all striving to accomplish the same goals is a very significant accomplishment that promises to improve the research group's success in accomplishing its objective to implement organizational change. After a period of two months, all the change agents got together and presented their first drafts. Each component was analyzed based upon the relevance of its content, the

mechanism for delivering education, and the purpose of its individual tools, documents, and templates.

Round Two Change Recipient Feedback. Change recipients – key members of sponsor organization core groups in charge of implementing change within their companies – provided feedback via short telephone interviews. Each participating member of the change recipient group was interviewed independently. The questionnaire consisted of both open and closed questions. Open questioned focused on asking the change recipients to relay their experiences with change implementation, identify shortcomings in the current implementation methodology used, suggest areas of improvement, and propose new tools and education strategies that may increase effectiveness. Closed questions asked them to rate their current understanding of each of the twelve components that the change agent group proposed to include within the tool.

Design Delphi Round Three

The goal of Round Three was to create the first full pilot version of all the content to be included in the tool. The change agents were given the task of developing the content and change recipients provided feedback and case study opportunities.

To design this round, results from Round Two were analyzed. Change recipient feedback was reviewed to break down content suggestions. All suggestions were identified and tracked for each participating change recipient.

The results were combined to rank individual components that were recommended.

This feedback from the change recipients was presented to the change agent group. Similarities and differences were discussed in comparison with the first draft content. Based upon these results, the change agents began revising their drafts. The change agent group also decided upon and developed a platform to deliver the content. It was decided that the change facilitation tools should be available on a website that could be accessed at any time by change recipients from sponsor organizations. Once minor revisions were made to the first drafts, the author organized the content onto the delivery platform to be available for Round Three review.

Delphi Round Three

The change agent group nominated an administrative team to make revisions to the draft content and work towards a full pilot version of the tool. Throughout this process, the change agents were encouraged to pilot test individual components of the tool with different research sponsor groups. Feedback was documented not only to assist the team in updating the content itself, but also to identify the best format for conveying the content and understanding the most effective ways to focus the message being delivered with each component.

At the current time of this research, Round Three is still in progress. However, a nearly complete pilot version of the tool has been developed, and

feedback has been received from both expert groups. The future steps that are required to complete the Delphi process are still discussed (specifically Round Three Closeout, Delphi Round Four, and Delphi Round Five).

Round Three Change Agent Feedback. The administrative team consisted of the author and another project manager. The team addressed the major components of the tool on a one-by-one basis. The following process was followed to create pilot versions of each component:

1. The change agent administrative team revised the first draft content, added any needed content based upon previous feedback and new understanding, and integrated the pilot version content with the delivery platform.
2. The content was presented to the entire change agent group as a nearly complete pilot draft. The administrative team gathered feedback from the group during an in-person meeting.
3. The administrative team made revisions to the content or specific method of delivery based upon the feedback.
4. The revised pilot content was presented to the entire change agent group.
5. Change agents provided final adjustments, if necessary.
6. The administrative group addressed any final contents and closed out work on that component of the tool.
7. The process was repeated for each component within the tool.

General feedback regarding the anticipated impact of the change facilitation tool was also collected. This feedback was solicited in the form of a written

survey, which the change agents completed independently during an in-person meeting with the researchers. Results were compiled to understand the collective response from the change agent group. This survey has been included in Appendix B.

Mini-case studies were also recorded for any individual components or content of the change facilitation tool that the change agents implemented (on a trial basis) with change recipient organizations. These mini-case studies were conducted for a selected content and only in a small number of change recipient organizations. However, they served as important data points of the first instances in which the principles of the change facilitation tool were put into effect. Data was collected to gauge the impact of the selected components, mainly focusing on reductions in the amount of time and effort that were realized to implement technical processes within change efforts.

Round Three Change Recipient Feedback. Feedback regarding the pilot tool as a whole was solicited from the change recipients. The same ten individuals who participated in Round Two were asked to review samples of the pilot tool and provide specific feedback in the form of a survey questionnaire (distributed via email). The questionnaire used for this feedback has been included in Appendix C.

Design Delphi Round Four

The result of Round Three was the creation of a full pilot version of the change facilitation tool. The pilot version was defined as containing content that

could be used, in its intended platform, by research sponsor organizations. The pilot version of the tool was formatted such that change recipients could begin testing and implementing it within sponsor organizations.

Delphi Round Four

Round Four consisted of actual pilot testing of the tool within sponsor organizations. Change agents made the change facilitation tool available to change recipients and altered their traditional work approach with sponsor organizations to incorporate the use of the tool. Change agents analyzed progress and results to determine opportunities for improvement. Any updates identified were enacted during Round Four pilot testing.

Change recipients utilized the change facilitation tool as a resource as an educational resource on how to run the new business process. The tool also provided them with all documents, templates, and instructions needed to run the tactical aspects of the process. Change recipients provided general and specific feedback regarding the usefulness and effectiveness of the tool.

All feedback from Round Four pilot testing was utilized to create the first fully complete version of the change facilitation tool. Feedback was also addressed the effectiveness of the tool in minimizing the technical hindrances to change and thereby facilitating increased strategic activity. The result was a tool that was deemed ready for direct and full use by sponsor organizations; therefore, the Delphi process was halted based upon consensus of the expert groups.

Verify Results and Full Implementation

Future work requires that the Delphi results are verified through continuous testing and feedback to persist in updating the tool to be the most effective tactic for implementing organizational change. The tool will be repeatedly tested by change agents and constantly improved as necessary. Change recipients and sponsor organizations will be invited to provide persistent feedback in an effort to perfect the tool.

Chapter 4

DATA COLLECTION

Introduction

The Delphi method was used as the research methodology designed to converge upon a correct solution through the iterative aggregation of input from experts. Each round of the Delphi process served a different purpose, and the two participating expert groups were engaged in the rounds to varying degrees depending on the objective at hand. Within the rounds of the Delphi process, multiple forms of feedback were used to collect data including surveys, phone interviews, and in-person meetings. Chapter 4 will discuss data collection methodologies used in each round of the Delphi process.

Delphi Round One

The first round of the Delphi process was used to confirm the initial observation of the need to address the technical aspect of organizational change efforts. Therefore the focus of this round was to determine whether technical or tactical tasks were significant barriers to the success of change implementation efforts. In order to determine this information, the two expert groups participated in distinct ways.

Change Agents. Several in-person meetings were held with the group of change agents to discuss their observations and experiences with past organizational change efforts. Discussions centered on the barriers they commonly encountered and frustrations with the oftentimes repetitive nature of

the technical questions they spent time answering across change efforts and project implementation.

The change agents investigated the high level performance of their group's change efforts throughout the past. A database was compiled of all the research sponsor organizations that the change agents had worked with in the past to implement organizational change. The performance of all these research sponsor organizations was also considered, including the number of project run and general performance numbers of the projects in terms of budget, schedule, and client satisfaction. This information was used to understand the high level results that were most typical of change recipient organizations, mainly focusing on number of projects run and overall sustainability of the change effort.

The change agents were also asked to estimate the amount of working time they spent in the three work categories of addressing technical, strategic, or administrative activities. Technical activities were defined as day-to-day operation and maintenance the change effort, project-level work tasks, "how to" trainings, and carrying out best value process activities. Strategic activities were defined as work tasks focusing on big picture, long-term goals of change recipient organizations (including high level goals, opportunities, and vision to achieve the optimal output of the holistic change effort). Administrative activities included all supporting work tasks such as contract management and internal office functions.

Change Recipients. The group of change recipients participated in a short phone interview to introduce them to the concept of a tool that would more

adequately address the tactical aspects of the change process they were currently undergoing. Change recipients provided feedback on the idea and were asked to provide a rating for what they felt the need and importance of providing this type of resource.

Delphi Round Two

The second round of the Delphi process was designed to combine feedback from both expert groups to develop content within the first draft of the tool. Both groups identified the components they felt should be included within the change facilitation tool based upon their expert experience. Their feedback was compared and used to create a full draft of the content within the tool. This content would then serve as the foundation upon which to run future Delphi rounds, develop a pilot tool, and ultimately release a final tool for use.

Delphi Round Three

Delphi Round Three was used to create the first full pilot tool. Multiple drafts of the tool were generated, the delivery platform was created, and individual components of the tool were tested in individual case studies. The full pilot tool was not yet created at the time of this research, but was instead still in the final stages of development. However, the pilot tool was near enough to final completion for the expert groups to conduct a thorough review and provide feedback on its merits before the full pilot version was released.

Change Agents. The change agents were surveyed to determine their view on the impact that the tool was likely to have. A fifteen-question survey was

distributed to the change agents during an in-person meeting. The change agents were given three days to complete and return the survey. This survey focused on how well the current tool minimized the tactical barriers to change, maximized abilities to address strategic goals, and reduce barriers to change implementation. A copy of this survey has been included in Appendix B. Each question asked the change agents to rate the impact that they believed the change implementation tool would have in comparison to the traditional implementation methodology, based upon their extensive change management experience. Both expert groups participated in the survey and rated the impact of each items on a 1-10 scale, where:

- 1 = strong negative impact
- 5 = no impact
- 10 = strong favorable impact

Change Recipients. The change recipients were given a similar survey via email and responded in a short phone interview with the researcher. The emailed survey consisted of the first ten questions from the change agent survey (shown in Appendix C). The change recipients were provided full access to one of the change implementation tool's components – the Project Schedule – directly on the delivery platform (website page). They recipients were also provided with numerous screenshots of other website pages on the delivery platform, which enabled them to develop a strong understanding of the type and scope of content that would be available in the full pilot version of the tool. The change recipients

were asked to review this content and consider the effectiveness of its delivery platform. Then they participated in a short phone interview to answer the 10-question survey and provide any general feedback and comments for future tool development.

Round Three Case Studies

During Delphi Round Three a full pilot version of the change implementation tool was developed on a component-by-component basis. Once the pilot version of an individual component was created, the researchers enabled the change agents to implement the component. Change agents made a component of the change implementation tool available to the change recipient organization and proceeded to implement best value on projects using that particular tool. In this way, the change agents were able to gain first-hand experience in implementing the pilot tool components and provide feedback to make adjustments before the entire pilot version was released.

These results of these trials were documented and analyzed as case studies. The case studies have been separated based upon the specific content component used from the change implementation tool. Each case study was analyzed according to that component's impact on minimizing technical barriers to tactical process implementation as well as the potential for promoting the ability of change agents and recipients alike to spend more time focusing on strategic initiatives.

Four total case studies were completed, focusing on the following components: project schedule, request for proposal (RFP) development, selection model, and weekly risk report (WRR) training. All four of these components were tested at a single research sponsor organization working with a change agent from the PBSRG. The change recipient organization was the City of Columbia, South Carolina. Two other organizations – the University of Alberta and the City of Phoenix – also provided feedback, albeit on a more limited basis. The City of Columbia was a prime candidate for preliminary pilot implementation due to their status as a new research sponsor who was in the initial stage of implementing best value. In fact, the City of Columbia had less than six months of experience, as they began initial implementation in May of 2011.

At the time of this preliminary case study testing, the City of Columbia had implemented best value on seven independent projects as a part of their overall change program. A full list of these projects has been included in Table 5.9. Of these projects, only the first project (Uniform Rental Service) did not utilize the four components of the pilot tool.

Table 4.1 City of Columbia Projects (Change Recipient Organization)

No.	Project	Buyer	Status
1	Uniform Rental Service	Procurement	In Progress
2	Water and Sanitary Sewer Rate Study	Engineering	Awarded
3	Auditing Services	Procurement	Awarded
4	DB Central Columbia Tennis Courts	Engineering	Awarded
5	DB Vista Greenway	Engineering	Procurement / Cancelled
6	Maxcy Gregg Park Pool Renovations	Engineering	Procurement
7	Leisure Services	Engineering	Procurement

Another important aspect of preliminary case study testing with the City of Columbia was the fact that the City used two completely separate buyer within their organization: their procurement and engineering departments. Each buyer implemented best value with separate contracting officers and evaluation committees. However, the City's core group was involved in each project to provide internal experience as they learned the implementation process. These factors are significant to case study testing since this is the same method through which best value is traditionally implemented in change recipient organizations, excluding the components from the change facilitation tool.

Delphi Round Four

Delphi Round Four had the purpose of testing the full pilot tool. This round was not yet begun at the time of this research report. However, a plan for this future work has been set and is will be completed by the end of the year 2011.

Change Agents. The change agents will begin to use the full pilot tool, at their own discretion, to facilitate the application of the new business philosophy within change recipient organizations. For any new projects that the project managers run, they will use the pilot tool to assist their education and implementation activities. Throughout this pilot period, the change agents will be asked to record their observations and identify potential areas for improvement. Based upon this feedback (in addition to feedback from the change recipients), the tool will be updated and finalized for mainstream use.

Change Recipients. The change recipients will be given full access to the pilot tool to implement in any of their individual projects and support their overall change effort. The success they achieve by using this tool will be documented, and any feedback provided will be considered and incorporated into final tool development.

Chapter 5

DATA CHARACTERISTICS

Introduction

This chapter provides a detailed view of the raw data as well as the results collected during the Delphi process and discusses general characteristics observed. Each round of the Delphi process yielded different findings, and it is important to note that each Delphi round is iterative and builds upon the knowledge of the previous round.

Delphi Round One Results

The purpose of Delphi Round One was to confirm the need for a tool to improve the initial implementation of change, specifically a tool that focused on the tactical aspects of the overall change effort. The researchers sought to confirm the need for this tool by consulting the two expert groups of internal change agents and external change recipients.

Round One Change Agent Data. The group of internal change agents was consulted in a series on in person meetings, during which the research question was introduced by the researchers and brainstormed by the group. The change agents ran an inventory of all the change implementation results over the research group's history. Over 16 years, the Performance Based Studies Research Group worked with 75 distinct research sponsor organizations to run 900+ projects valued at more than $4.7 billion in the design, construction, and services industries. The research group functioned over this history by partnering with a

research sponsor and assisting the implementation of new business philosophies via running individual projects. Therefore a valuable metric to determine overall success, as well as signs of resistance to change, was to investigate the number of projects implemented by the 75 research sponsor organizations. In compiling this performance information, the change agents determined that 37 percent of all change recipient organizations failed to run more than one project. Only 27 percent of change recipient organizations implemented the change on more than 5 projects, 16 percent implemented more than 10 projects, and only 8 percent implemented more than 20 projects. These results are shown in Table 5.1.

Table 5.1

Change Implementation within PBSRG Research Sponsor Organizations

Change Recipient Projects	**#**	**%**
Clients with at least 1 project awarded or completed	70	93%
Clients with more than 1 project	47	63%
Clients with more than 5 projects	20	27%
Clients with more than 10 projects	12	16%
Clients with more than 20 projects	6	8%
Clients with more than 50 projects	4	5%
Clients with more than 100 projects	2	3%

Round One Change Recipient Data. Core group members of change recipient organizations participated in short phone interviews to discuss the potential tool and provide feedback regarding the need for and importance of a tool to facilitate the tactical aspect of the change effort, based on their own experiences implementing business change. The change recipients were asked to rate the need for and importance of the change facilitation tool on a 1-10 scale. The average rating from this expert group was 9.7 out of 10.

Table 5.2

Change Recipient Rating of the Significance of Tactical Barriers to Organizational Change Implementation (1-10 Scale)

Rate the need for and importance to provide the Project Kit as a resource to address the tactical implementation process	9.7

Eleven individuals were interviewed from 9 different organizations. Each of these individuals played a leading role in implementing the new business philosophies within their organizations. The titles of these individuals were roughly equivalent to Director of Procurement for multiple states, large research universities, and government agencies.

Delphi Round Two Results

Delphi Round Two was designed to develop a first draft of the content included within the change facilitation tool. The first draft could then be used in future Delphi rounds to be reviewed by expert groups, gather feedback on opportunities for improvement, and gauge the impact that this tool may have on improving change implementation.

Round Two Change Agent Data. The group of change agents was asked to brainstorm about the needed content for the change facilitation tool in a series of in person meetings. The group identified ten individual components that should be included within the tool. These components were:

- Core Group
- Strategic Plan
- Request for Proposal

- Past Performance Information
- Proposal Evaluation
- Interviews
- Pre Award
- Justification Case Study Power Point
- Weekly Risk Report
- Directors' Report

Round Two Change Recipient Data. Change recipients participated in a short phone interview to understand their perspective on what content should be included and also gather general feedback on the overall delivery and focus of how the tool would be best utilized. Interview questions were very open-ended, designed specifically to enable the change recipients to reflect upon their organization's experience implementing the change. The most commonly identified feedback components were documented along with the percent of all change recipients surveyed that identified each component. Results of their feedback regarding the specific components that should be included within the tool are shown in Table 5.3.

Table 5.3

Change Recipient Feedback Regarding Change Implementation Tool Components

Items for Startup Kit - Sponsor-Suggested	**Percentage**
Examples from real projects (specific to sponsor projects)	63%
Flow diagram of best value process (with subtasks & durations)	50%
Milestone schedule of running a best value project	50%
"Train the trainers" material and guidance on how to run internal trainings	50%
Provide documents, templates and forms needed to run a best value project	50%
Provide RFP process items and templates	25%

The change recipients also provided general feedback regarding strategies for using and implementing the tool, shown in Table 5.4. The percentage of change recipients that suggested each feedback item was documented. Note that interview questions were designed to be open-ended to encourage non-uniform responses.

Table 5.4

Change Recipient General Feedback on Change Implementation Tool Utilization

General Ideas & Feedback	**Percentage**
Face-to-face training and education with agents was important	50%
Focus on adapting best value to the change recipient's specific environment	38%
Less theory and more training in "how to" implement BV projects	25%
Can implement different pieces of BV into traditional RFP (not necessarily the whole process at once)	25%
Implementation should be slow, do not expand too quickly or rush	25%
More frequent and repeated educations are key to implementation	25%

Delphi Round Three Results

The purpose of Delphi Round Three was to develop a full pilot version of the tool that could then be released for implementation testing during Round Four. The first step in this process was to create the delivery platform for the tool (an online website with change implementation resources). The actual content – resources, tools, templates, documents, and educational videos – was iteratively

refined and integrated with the platform during this round. The purpose of refining and integrating the content was to create a fully operational pilot draft version of the tool.

At the time of this research, the full pilot tool was not yet completed. However, significant progress had been made and the pilot tool is nearing the closeout and review process. Thus both expert groups were asked to review components of the drafted pilot version of the tool (which had been incorporated within on the delivery platform itself) and provide feedback. The feedback was collected in a survey that focused on (1) the overall ability to the tool to minimize tactical and technical barriers to implementing change, and (2) the expected impact the tool would have to enable greater strategic focus. Change recipient responses to this survey are shown in Table 5.5, whereas change agent responses are given in Table 5.6. Results showed strong agreement between both parties regarding the impact of the change implementation tool (called the Project Kit):

1. The change implementation tool would greatly improve the ease, comfort level, and ability of change recipient organizations in implementing the new business tactics.
2. The change implementation tool would have a generally favorable impact on enabling greater focus on strategic initiatives.
3. The tool strongly enhances the ability of change recipients to spread internal education within their organizations.

4. The tool would be beneficial in reducing barriers to initial implementation of change efforts.
5. Change agents agreed that the tool would greatly improve the effectiveness and efficiency with which they trained and educated change recipients to implement organizational change.

Table 5.5

Change Recipient Feedback on the Pilot Version of the Change Implementation Tool

No.	Item	Change Recipient
1	Ease of initially implementing the technical aspects of the Best Value process	8.3
2	Comfort level and ability to become self-sufficient with implementation of technical aspects	8.6
3	Available time to focus on strategic issues	7.6
4	Overall capability to implement strategic and holistic organizational change	7.0
5	Overall ability to educate internally	9.1
6	Ability to run a best value project with organizational members who have not run a project before	8.5
7	Importance of having a technical database (i.e. the Project Kit) as a reference point to minimize political resistance	7.0
8	Ability to adapt the best value process to meet your organization's specific needs, constraints, and requirements	7.5
9	Overall ability to minimize internal resistance to implementation of the Best Value process	7.6
10	Overall value of the tool	9.1

Table 5.6

Change Agent Feedback on the Pilot Version of the Change Implementation Tool

No.	Item	Change Agent
1	Ease of initially implementing the technical aspects of the Best Value process	8.0
2	Comfort level and ability to become self-sufficient with implementation of technical aspects	8.5
3	Available time to focus on strategic issues	9.0
4	Overall capability to implement strategic and holistic organizational change	6.5
5	Overall ability to educate internally	8.8
6	Ability to run a best value project with organizational members who have not run a project before	8.8
7	Importance of having a technical database (i.e. the Project Kit) as a reference point to minimize political resistance	8.5
8	Ability to adapt the best value process to meet your organization's specific needs, constraints, and requirements	7.3
9	Overall ability to minimize internal resistance to implementation of the Best Value process	7.3
10	Overall value of the tool	10.0
11	Ability to deliver training and education due to greater standardization of the tactical process	10.0
12	Minimization of repetitive questions regarding the tactical process	9.5
13	Ability to support remote training of research sponsors using Project Kit content	10.0

Strategic Activities. During Delphi Round Three, the change agents were also asked to track certain key aspects of their implementation efforts with change recipient organizations as a whole. The key data that was tracked for each change recipient organization focused on the level of strategic activities that were accomplished. The two factors that were tracked were found to be two indicators of strategic level change implementation based on the experience of the change agent group. The first of these items was the presence of a core group within the change recipient organization. A core group would act as the leaders of the change program within the recipient organization. Whether the change recipient organization had a formal strategic plan was also documented.

Table 5.7

Strategic Indicators Tracked for Change Recipient Organizations

Item	Baseline	3 Months	Change
Strategic Plan	17%	21%	4%
Core Group	44%	47%	3%

Round Three Case Studies.

Project Schedule. The project schedule functioned to provide a standard method for scheduling the tactical process of implementing best value in the setting of an individual project. This tool also enabled the change recipient organization to create the schedule for all the tasks and milestones within a best value project. Previously, there was a less standard methodology for scheduling the project. Therefore, the traditional method typically required significant

amounts of communication between the change agent and change recipient via phone meetings or email messages.

Case study results of implementing the project schedule were documented in the City of Columbia's best value projects. In order to determine the impact that this resource had on the tactical change implementation process, the researchers tracked the number of interactions required to create and finalize a schedule for a best value project. An interaction was defined as each time a change was made to the schedule before the final schedule was released in the Request for Proposal, including every draft version. The observed results were compared with the number interactions that typically occurred in projects using the traditional implementation process.

A sample of 13 individual projects where change recipient organizations were implementing best value was taken as the baseline performance metric. The number of interactions required to create a project schedule was recorded, and the average was found to be 3.9 total interactions between the change agent and change recipient.

Interactions were also tracked for the 6 City of Columbia projects. The average number of interactions needed to create and finalize a project schedule was found to be 1.2 by using the methodology of the change implementation tool. The raw data results from this analysis have been included in Appendix D. Overall, the change implementation tool was observed to enable a 70 percent reduction in the total number of interactions required to create a project schedule.

Table 5.8

Traditional vs. New Implementation Methodologies: Average Number of Interactions Required to Create a Project Schedule

Per Project Average	Per Project Average
Traditional Implementation Methodology	3.9
Project Kit Methodology	1.2
Observed Reduction	70%

RFP Development. The RFP development process included all activities for the change recipient organization to incorporate best value language in their request for proposal documents. The traditional methodology for accomplishing this was that the change recipients were advised to create a draft RFP using their organization's standard formats while leaving any best value sections blank. The change recipients would then send this draft to their change agent who would then insert the best value language and send back a revised RFP. Then revisions would be required once the full document was first drafted.

In the new methodology utilized by the change implementation tool, standard best value language templates were made available to the change recipients prior to their first draft of the RFP. The change recipient was advised to insert these sections on his or her own as required, and then provide a full RFP draft for the change agent to review, approve, and finalize. This effectively shifted the responsibility of inserting the best value language from the change agent to the change recipient.

The number of interactions in both the traditional and new implementation methodologies was tracked according to the same procedures outlined in the

project schedule case study. Results from the same 13 traditional best value projects were compared with results from the 6 case study projects run at the City of Columbia. Raw data has been included in Appendix E.

Results of the RFP Development case study revealed a 61 percent decrease in the number of interactions required to develop the RFP for a best value project. In the sample of 13 traditional projects the average number of interactions needed to fully develop an RFP was 7.3. For the 6 case study projects that utilized the change implementation tool methodology, only 2.8 interactions between the change agent and change recipient were required on average.

Table 5.9

Traditional vs. New Implementation Methodologies: Average Number of Interactions Required for RFP Development

Per Project Average	Request for Proposal
Traditional Implementation Methodology	7.3
Project Kit Methodology	2.8
Percent Reduction	61%

Selection Model. The Selection Model involved inputting proposal evaluations and cost information to procure a single vendor in a best value project. Traditionally, the change agents were responsible for creating and completing the Selection model on a project. The change recipient organization would typically send the evaluation results and bid packages to the change agent to input to the Selection Model. The change agents would complete this work and return results to the change recipient in order to assist selection.

In the methodology employed by the change implementation tool, the change recipient organization would assume the responsibility of completing the Selection Model from the outset. The change agent would provide the templates, tools, and training for the change recipient to complete the model. This new implementation process was piloted on 6 projects in the City of Columbia, and the change agent observed a significant favorable impact. The change agent who ran this preliminary pilot test observed an estimated 80 percent reduction in amount of work time needed to complete the model. The change agent also rated the overall impact of the Selection Model resources in the Project Kit as 10 out of 10 in terms of the content's ability to improve the tactical implementation process.

Table 5.10

Case Study Results: Impact of Pilot Tool Preliminary Testing in Regards to Facilitating the Technical Change Implementation

Project Kit Pilot Content Preliminary Testing	**Change Agent Rating**
Impact of implementing the Schedule Calculator	10
Impact of utilizing the RFP Development	10
Impact of supporting client organization to run Selection Model independently	10
Impact of implementing WRR training and Teaching Moments video	10
Overall expected impact of using Project Kit tools to enable greater strategic focus	10

Weekly Risk Report. The Weekly Risk Report implementation materials from the Project Kit were also utilized on a trial basis to provide standard, up front training of how to implement this best value process. This content was

implemented at the City of Phoenix as well as the City of Columbia. The change agent who implemented this tool rated the case study results as a 10 out of 10 in terms of the tool's overall impact on reducing the tactical process workload and resistance compared to the traditional process.

Delphi Round Four Results

Delphi Round Four was not yet initiated at the time of this research. The purpose of Delphi Round Four was designed to be a pilot testing period. In this period, the intention was that a fully functional draft version of the change implementation tool (Project Kit) would be released to selected change recipient organizations. These organizations and PBSRG change agents would use the tool's contents, available within the delivery platform.

Future data will be collected when the change recipients use the tool to implement the best value business model within specific projects in their organizations. Change agents from the PBSRG will document the performance achieved during the pilot tests, focusing specifically on the ability of the tool to minimize the tactical barriers to change implementation and enable a greater focus on strategic activities. Both expert groups may be surveyed to obtain their perspectives on tool effectiveness, especially in comparison to the traditional methods available for implementing the change.

Chapter 6

DATA ANALYSIS

Introduction

This chapter provides an analysis of data collected during the Delphi process and discusses the feedback received from various data collection mechanisms. The first two rounds of the Delphi process were critical in confirming the initial observation of the need for a change implementation tool to help minimize barriers to initial change efforts. Round Two also facilitated the development of the tool's content and the plans for how this content would be delivered and applied. Round Three data built upon the first two rounds to obtain on expert feedback regarding the expected impact the tool would have on improving the success of organizational change by minimizing initial implementation barriers. This feedback was confirmed in case study documentation of preliminary pilot tests for certain components of the tool.

Delphi Round One Analysis

Results from Delphi Round One confirmed the need to address the barriers to initial implementation of organizational change. Much literature research was identified regarding the topic of change methodologies and resistance to change, very little existing research was found to contain data and performance information of change implementation efforts. The researchers therefore studied data in the context implanting best value business principles into organizations. While this data was relatively small, it did contain data from multiple industries,

over hundreds of projects, with varying company types and sizes, as well as in global locations. The change agent group compiled data on all the research sponsor organizations they had worked historically and tracked the number of best value implementation projects the recipient organizations ran before halting the overall change program.

Analysis of the results collected from the change agents in Delphi Round One revealed that a staggering 37 percent of change recipient organizations never implement best value on more than a single project. Only 27 percent implement more than 5 projects and 8 percent more than 20. These failure rates show that the most resistance to change is encountered up front during initial implementation. This performance information clearly demonstrates the significance of barriers to initial implementation of change – most organizations simply do not progress past initial efforts, let alone achieve sustainable and institutionalized long-term change. The importance and need to address the root causes that result in initial implementation failures were undoubtedly demonstrated by the performance data compiled by the change agents.

Feedback from members of change recipient organizations began to confirm the general barrier to initial implementation efforts. Change agents and change recipients both identified that overall change efforts can be separated based on task. Organizational change efforts were categorized into two task aspects: tactical and strategic levels of change. Tactical change aspects referred to technical processes, day-to-day concerns of "how to" enact the changed tasks, and

general procurement activities. Strategic aspects, conversely, included overall value added in terms of implementing new business principles and paradigms, identifying opportunities for the change program, and achieving optimal results from the change effort's individual processes.

This research proposed that tactical activities often dominated the focus of change managers in practice, which distracted time and resources from accomplishing strategic initiatives. In an initial survey during Delphi Round One, the change recipients confirmed this proposal. When asked to rate the need for and importance of having access to a tool to minimize the barriers to tactical implementation, the recipients gave an average 9.7 out of 10 rating. Thus change recipients were documented to show clear support for addressing the technical aspects of change. This information, coupled with the fact that only 17 percent of best value change recipients were found to have formal strategic plans, plainly confirmed the research objective of minimizing tactical implementation barriers to maximize available time and resources to address strategic initiatives.

Delphi Round Two Analysis

During Delphi Round Two, both expert groups participated to provide feedback that would be used to shape the focus and style of the change implementation tool intended to address the barrier of tactical implementation. Both groups generally agreed on the content and structure that the tool should take. Resulting from Delphi Round Two feedback, the main barriers to initial implementation of organizational change were identified. This is significant since

these barriers were identified directly by change recipients whose organizations were currently undergoing planned organizational change efforts as well as the change agents who were assisting change implementation. The key barriers the expert groups identified the need to address were:

1. Support in terms of the overall tactical effort. Provide change recipients with process flow diagrams showing how implementation events fit together, how new business processes interact, and what the purpose of these events is. Also deliver a milestone schedule for change agents to use and view the tactical implementation process from start to finish.

2. Specific "how to" training in enacting the technical tasks of the tactical implementation process. During initial implementation, change recipients stated that they preferred change agents to provide less theory and instead focus on supplying more examples of how to accomplish the change as well as "how to" training on specific process items. Change recipients also requested access to the documents, forms, and templates needed to run the changed tasks of the new business philosophy.

3. Greater educational support. Educational resources should not only cover the upfront information required in terms of project team implementation, but also support the spread of education internally within recipient organizations.

4. Enable the adaptation of the tactical processes to the recipient organization's specific environmental constraints. Change agents should act as

facilitators to assist recipient organizations in adapting different components of the best value business process to their meet their organizations unique needs. Brainstorm and 1st draft content

Delphi Round Three Analysis

During Round Three, the pilot version of the change implementation tool was developed. At the time of this research, the full pilot tool had not yet been completed; however, significant progress had been made with closeout of pilot development to be concluded in the next 1-2 months.

Both expert groups reviewed the current progress on the tool and provided feedback as to the potential they expected it to have on implementing organizational change. Some of the components of the tool were completed in their pilot versions, enabling the change agents to begin implementing these components in change recipient organizations. Such preliminary pilot testing provided actual performance data regarding the impact of the tool had on minimizing the tactical barriers to change as well as enabling greater focus on strategic activities.

It must be remembered that the vision of organizational change pursued in this research is one of a paradigm shift in business philosophy. However, it is the experience of the researchers, change agents, and change recipients that participants in change efforts frequently get bogged down in the day-to-day tactical operation and maintenance of change efforts and therefore do not have the ability to adequately focus on strategic initiatives. Therefore, technical details of

the tactical change implementation process serve as a distraction that hinders the overall change effort. Based upon the goal of change recipient organizations being able to implement and fully adopt new business paradigms, it is important that change agents overcome barriers to initial implementation and support recipient organizations to become self-sufficient in the tactical aspects of the new business philosophies they strive to adopt. At the same time, available resources must be available to enhance healthy and effective strategic initiatives that will ultimately achieve sustainable long-term business changes.

Thus two aspects of change efforts are important to analyze in this research. The first is the minimization of tactical barriers during the initial implementation of change – this is the principle focus of the research at hand. Second, minimization of tactical hurdles must be shown to enhance the ability of change recipients and change agents to engage in further strategic initiatives to support long-term success. The following data analysis sections have been devoted to showing the progress made towards these two objectives as a result of this research.

Minimization of Barriers to Tactical Implementation

Feedback from both expert groups was acquired through the Delphi process. Both groups reviewed the nearly complete pilot version of the change implementation tool and answered a survey based upon what impact they thought the tool would have on change implementation efforts. The responses mainly touched about three areas: reducing confusion and difficulty in the technical

details of carrying out new business tasks, improving internal education of the tactical process, and minimizing internal resistance to the implementation of the change. Both groups provided dominant feedback in favor of the tool overall value, with the change recipients rating its holistic impact a 9.1 and the change agents providing a rating of 10.

Improving Educational Resources. Both expert groups provided feedback that the change implementation tool would have a highly valuable impact on improving change implementation education within change recipient organizations. Change recipients rated their overall ability to educate internally as a 9.1 and change agents gave a rating of 8.8. In fact, change recipients were so confident in the ability of the tool to supplement internal education that they rated the impact on their ability to run best value projects with brand new personnel as an 8.5.

Responses were favorable in terms of the tool's ability to reduce internal resistance within change recipient organizations. Yet these ratings were not as enthusiastically positive as the previous two topics. Change agents rated the tool's ability to minimize internal resistance as a whole to be 7.6, while change agents rated it a 7.3. This indicated that the technical aspects of change implementation were not the only source of resistance within recipient organizations; however, providing a standardized resource addressing this issue was found to reduce internal resistance.

Minimizing Internal Resistance. Both groups believed the impact of the tool in improving the ease and comfort level of implementing the technical aspects of the change would be significantly improved by utilizing the tool. In answering what impact the tool would have on improving the ease of tactical process implementation, the average rating from change recipients was 8.3 and 8 from change agents. In relation to the level of comfort that change recipients were expected to achieve when using the tool to implement tactical process changes, both groups rated the tool's impact to be strongly favorable. Change recipients rated this aspect an 8.6 and change agents rated it an 8.5.

The fact that change agents and recipients expected the change facilitation tool to help minimize internal resistance was to be expected. The literature showed that much of the resistance to change that is encountered early on is due in large part to change recipients' uncertainty and fear of the unknown. Since this tool was found to improve educational resources and address the more tactical, how-to style questions, it is plausible that this tool may reduce resistance in terms of the uncertainty, confusion, and fear of the unknown that typically plagues organizational change efforts.

Case Study Validation

Some components of the tool were implemented in change recipient organizations as preliminary pilot tests. These tests provided initial confirmation of the expert group survey feedback in terms of the tool's ability to minimize technical barriers to initial change implementation.

Each of the components that were implemented resulted in significant reductions in the amount of time and effort required to accomplish tactical implementation tasks. For example, traditional implementation procedures caused numerous back-and-forth interactions between change agents and recipients in order to create a project schedule and develop an RFP for a best value project. Yet the use of the change implementation tool was documented, in 6 projects, to reduce the number of interactions for each of these tasks by 70 and 61 percent, respectively. Furthermore, the change agent who implemented the Selection Model component of the change implementation tool realized an estimated 80 percent reduction in workload. These results, although preliminary, are encouraging signs that the change implementation tool successfully resulted in less effort for both parties. Therefore, change implementation was shown to have become more efficient for change agents and change recipients alike.

Observed Impact of Minimizing Tactical Barriers

The change implementation tool was found to successfully minimize the tactical barriers to initial change implementation. Yet additional observations were made in terms of positive impact realized due to *how* the contents of the tool were delivered. The manner in which the tools were delivered, including the design of the delivery platform itself, resulted in a multiple positive results.

1. *Benefits of a more standardized tactical implementation process.* Creating a change implementation tool resulted in a more standardized process of implementing the tactical aspects of best value. Change agents rated the

significance of standardization in terms of improving education and training as a 10 out of 10.

One of the main reasons for the significant positive impact of a standardized change implementation package was that it provided change recipients with tangible content. Change agents observed that members of change recipient organizations became more comfortable with implementing tactical procedures once they were given access to tangible content. Recipients were observed to be less nervous and more confident in their understanding of the tactical process when they had access to holistic tactical content in addition to details of the technical aspects of implementing these tasks. A standardized tool enabled more transparent access to the information and resources required to implement the change. Ultimately, the presence of a standardized tool and resource minimized change recipients' fear of the unknown in terms of the tactical implementation process. By reducing fear of the unknown, the change implementation tool successfully minimized a common barrier to initial change efforts and, in turn, resulted in a greater likelihood of successful tactical implementation.

2. *The use of technology results in improved educational resources*. The use of technology, specifically in using a website-based delivery platform for the tool's content, resulted in an improved educational experience for change recipients. A major benefit of hosting the tool's content online was that change recipients (as well as change agents) were able to access the content at any point

in time. Additionally, website technology enabled a multi-media approach to delivering the content needed for tactical change implementation. Change recipients responded favorably to the multi-media approach, generally due to the more engaging nature of the delivery platform. More specifically, the multi-media content (delivered in educational videos, written tutorials, process graphics, and written templates) promoted a "want to" learning environment as opposed to the more "have to" learn experience of attending scheduled meetings and training events.

Therefore, use of technology increased the efficiency of educational material needed to implement organizational change. Since change recipients could access the tools at any time, they were able to pursue tactical training on their own time and at their own pace (as well as being able to revisit trainings to alleviate any confusion that occurred). This was an important result since the overall goal of the change was to achieve a paradigm shift in organizational business philosophy, and the use of technology improves the education (and therefore the transfer) of tactical process tasks.

3. *Supporting change recipients to become more self-sufficient in implementing tactical aspects of change*. Both of the previous two combined to increase the accountability and ownership of the change recipients to adopt tactical change tasks. The ability of change recipients to access resources needed to implement the change on their own time means that recipients are less dependent on change agent. This is because the recipients no longer have to wait

for change agents to send needed documents, provide training, or attend meetings. Instead, change recipients can refer to the resources available in the change implementation tool to quell any doubts, confusion, or questions that arise.

Also, since the change recipients have access to tools, documents, and resources up front, they are able to take initiative to complete tactical implementation tasks such as creating a project schedule or developing the RFP. This promotes a stronger sense of change recipient ownership for the change since they were the ones who completed the tasks. When change recipients complete the tasks themselves, they were observed to better understand the purpose of the task and take more ownership of its implications. Change agent ownership is the inverse of relying on change agent support.

4. *Collateral impact of supporting the spread of the change within the recipient organization.* During preliminary pilot testing, change agents observed that recipient organizations who used the tactical implementation tool were more likely to spread best value concepts to other areas of their organization according to their own initiatives. For example, in delivering weekly risk report training according by using the change implementation tool, recipient organizations were observed to spread risk-tracking practices to other projects in their organization.

Maximization of Strategic Initiatives

When the end goal of organizational change is a to achieve a paradigm change in business philosophy, the researchers proposed the importance of overcoming tactical barriers in an effort to enable greater available resources for

strategic initiatives intended to add long-term value to the recipient organization. Full organizational change cannot be realized until the change recipient organization becomes self-sufficient with all tactical implementation aspects (day-to-day tasks of carrying out new business philosophies). As long as the recipient organization continues to rely upon an outside change agent to provide technical support to implement pieces of the change, the change is not complete and is more aptly described as a "purchased" change. This research proposes that by meeting the technical needs of the recipient organization there is more time to focus on valuable strategic initiatives. Therefore, a major intent of the change implementation tool is to enable greater available resources for strategic endeavors via minimization of barriers to tactical implementation.

Survey results from both Delphi expert groups revealed that the tool was likely to have a favorable impact towards achieving strategic objectives. Change recipients rated the impact of the tool to increase their available time to focus on strategic issues as a 7.6, while change agents provided a 9.0 rating. Furthermore, change recipients stated their overall capability to implement strategic and holistic organizational change was improved, evidenced by their average 7.0 rating. Change agents agreed that the tool would have a favorable impact on strategic change efforts by providing an average 6.5 rating.

Both groups indicated that the tool would have a favorable impact in adapting the change to the specific environmental constraints of the change recipient organization. Change recipients rated the impact of the Project Kit in

enabling them to adapt and meet their specific needs, constraints, and requirements as a 7.5. The group of change agents echoed this assessment with their 7.3 rating. This was perhaps the most strategic intent of the change facilitation tool: to enable a shift in the topic of communication between Change Agents and Change Recipients. The intended shift was to address initial concerns and educational material for change implementation through the use of the Project Kit. Then once Change Recipients attended meetings or trainings with Change Agents, they could spend more time discussing the implications of how the change could be applied to their specific business environment or project, and potentially minimize some of the basic training points that traditionally consumed much of the time and effort in meetings.

It must be noted that the feedback results on the impact of the tool to enable greater strategic focus is not as favorable as the experts' beliefs that the tool will minimize tactical barriers. The researchers suggest various reasons for this finding. First, the change agents lack an existing standardized structure for enacting strategic activities and goals. Second, change recipients suggested that devoting time to strategic initiatives was ultimately a *choice* that recipient organizations have to make. Although the tool may be successful in minimizing the amount of time and effort required to address tactical implementation, recipient organizations may not choose to make use of this time to put forth a stronger effort towards strategic goals. So overall, while ratings of the Project Kit's impact on achieving strategic change were favorable, they were significantly

less than other ratings such as minimizing tactical barriers and improving work time efficiency. This was to be expected, as the Project Kit does not address *how* to implement or achieve strategic change; instead, its scope was limited to improving tactical efficiency. Strategic initiatives were expected to be impacted only indirectly, specifically in terms of the time and resources available to be devoted.

Reduction of Repetitive Tactical Implementation Issues

Change agents were also polled to determine the percent breakdown in their total working time in terms of three types of activities. Tactical activities involved day-to-day operation and maintenance of the best value process on the project level, including procurement tasks, training meetings, and weekly reporting. Strategic activities referred to value-added tasks in terms of achieving the goal to shift business paradigms, including tasks such as core group planning, identifying opportunities, improving visions to achieve optimal output, and driving accountability through measurement of the entire change program. Finally, administrative activities included all support functions not included in the first two categories, such as contract management.

Change agents reported an average breakdown of their work time *before* the implementation of the Project Kit as a 71-8-21 percent split between tactical, strategic, and administrative activities, respectively. This feedback provided further confirmation that tactical activities were dominating the time spent by change agents and change recipients. However, change agents provided additional

feedback regarding the expected impact of fully implementing the Project Kit as a change facilitation tool. On average, the change agents suggested that this tool would results in a 55 percent reduction in time spent on tactical activities, with virtually all of that time becoming available to give greater focus on strategic activities.

The participating change agent rated the overall expected impact of using Project Kit tools to enable greater strategic focus as 10 out of 10. The change agent stated their observation that due to the change implementation tool, meetings and interactions they had with change recipients had improved in value and quality. After being given access to training materials, templates, and other resources regarding technical, how to details of change implementation, the change recipients were much more knowledgeable and comfortable with applying the business philosophy. The change agent observed that recipients were better prepared to enact tactical procedures, which in turn enabled them to ask better questions during interactions with the change agent. Since less in-person training was needed, the change agent had more available time to advise the change recipient on specific issues in their organization's environment. Ultimately, addressing the unique needs, hurdles, and circumstances of each change recipient's environment is a strategic task to enable long-term success.

Chapter 7

CONCLUSION

Summary

Planned organizational change has become a necessary component of success for organizations in all industries worldwide. Although this concept is widely accepted, no single methodology for implementing planned change has been established. The literature contains numerous models for accomplishing organizational change, yet these models were found to be lacking in performance data verification.

Much research also exists regarding barriers to the initial implementation of organizational change. Resistance levels can be so high during the initial stages of change that the change effort fails before it really gets going. Kotter, a well-known organizational change researcher who consulted more than 100 companies, found the initial period of change to be so volatile that over 50 percent failed in the first phases (1995). Many sources of resistance have been identified, including fear of the unknown, lack of perceived benefits, political interests, and discomfort with new tasks, among others.

This research proposed that organizational change efforts are composed of two separate implementation aspects. These aspects were separated based upon type of task or activity. The first was tactical implementation of the change, which dealt with the day-to-day procedural aspects of the work tasks required to enact change. Tactical implementation was concerned more with the "how to" aspect of

change for the more in-your-face activities. Strategic implementation, on the other hand, dealt with achieving long-term goals and adding value to the organization, potentially in terms of a paradigm shift in business philosophy. Strategic initiatives included the value adding activities on a higher scale, more on a program-wide basis than at the individual project level to recognize the change effort's opportunities, major hurdles, and how to apply the new business concepts to the organization as a whole.

Within these two areas of change, the researchers determined to narrow the scope of research to the initial implementation of organizational change. The initial stages of change were defined to include all activities up through the completion of early pilot stage implementation of the change within recipient organizations. The researchers, similar to literature findings, observed in their own experience that barriers to change were largest during the initial phases of change, which caused a high failure rate among early change efforts. This was found to be true at the researchers' own research group, where 37 percent of change recipient organizations abandoned change implementation before running more than a single project.

This research proposed that initial change efforts typically fail due to preoccupation with tactical implementation of change, specifically by becoming distracted in the technical details of how to carry out the tasks required in the new business operations. Strategic initiatives, which are essential to the overall success of the change program, consequently suffer due to tactical distractions. Change

recipients who participated in this research strongly advocated the need for a change implementation tool to address the tactical aspects of organizational change.

This tool was developed through a Delphi process with multiple rounds of feedback from two different expert groups: change agents and change recipients. The goal of this tool was to minimize the barriers of tactical implementation that so strongly impact the success of initial change efforts, and thereby increase the ability of change agents and recipients to address strategic concerns.

- Alleviate concerns and confusion of change recipients in terms of tactical change implementation activities.
- Increase the efficiency of tactical implementation by enhancing the ease with which tactical tasks can be transferred to change recipients.
- Enhance the resources available to address strategic initiatives.

After three rounds of the Delphi process, a full pilot version of the change implementation tool has been nearly completed. Both expert groups – change agents and change recipients – reviewed the tool and provided feedback regarding its expected impact to minimize tactical barriers, improve the efficiency of change recipient education, and enable greater time and resources to devote to strategic efforts. Change agents estimated the overall amount of work time they spent addressing tactical needs as opposed to strategic needs. Before implementing the tool, change agents spent an average of 71 percent of their time on tactical issues, 21 percent addressing administrative activities, and only 8 percent on strategic

initiatives. After reviewing the change implementation tool, however, the change agents estimated that their tactical efforts would be reduced by as much as 55 percent on average, which much of this saved time being transferred to better address strategic needs of change recipient organizations.

Preliminary case study testing of the pilot tool components supported this feedback. When implementing best value business philosophies within change recipient organizations, the number of interactions required to complete tactical tasks was dramatically reduced. Preliminary results confirmed a 70 and 61 reduction in transactions between change agents and recipients to create a project schedule and develop an RFP, respectively, for initial project-level implementation of best value business philosophies.

While the expert groups agreed that the tool would have a significant impact in freeing up more time to focus on strategic initiatives, both were less sure if this time would be used effectively to improve the strategic and holistic success of the change effort. There are likely several reasons for this uncertainty, including the current lack of a standardized structure for pursuing strategic goals and whether or not change recipient organizations would even choose to devote additional time to strategic initiatives. The exact methodologies and suggestions for accomplishing strategic objectives, however, are out of the scope of this research.

Benefit of Research

This research provided performance information confirming that initial implementation of organizational change was where the highest levels of resistance were likely to occur and cause high failure rates. This was shown to be a gap in the existing literature.

A methodology was developed to create a change implementation tool, which served to improve the transfer of tactical knowledge from change agents to change recipients. The methodology for creating this tool also served as a pre-change planning mechanism for change agents to standardize their tactical procedures and provide resources that promote efficient tactical implementation of change.

Recommendations for Future Research

Although positive results were achieved to support the hypothesis, it must be reiterated that the current content of the change implementation tool (best value Project Kit) is still in draft form and is expected to require years of testing before becoming completely finalized. This research has established a protocol for testing the full pilot version of the tool in the coming months. Change agents will document the impact that the tool has on reducing tactical barriers and change recipient feedback will also be collected.

The next step of research into how to effectively accomplish the initial implementation of change is to develop a standardized protocol to address the strategic aspect of change. This research has identified the strategic aspect of

organizational change efforts to be directly tied to the overall value and long-term sustainability of the change. Yet there is little research validation of what the main issues are specifically to strategic implementation, what the optimal procedures are for overcoming strategic barriers, and how to document the strategic success of organizational change efforts. This is the largest unanswered question to be addressed in future research endeavors.

A limitation of the research was that it only focused on change initiation and the ease at which change can be successfully adopted. The research did not consider the issue of long-term change institutionalization in organizations. The process for transitioning from initial implementation of pilot change efforts to full-scale change initiatives, and eventually achieving institutionalization, was not in the scope of this research.

Conclusion

The goals of this research were to solicit expert input to develop a tool that would minimize barriers to tactical change implementation. Through three rounds of the Delphi process, a nearly complete pilot version of this tool has been successfully developed. Feedback was collected to capture the two main perspectives in any change effort: the change agents who are striving to transfer the knowledge and philosophy of the change and the change recipients whose goal it is to implement these changes within their organization.

This research was mainly meant to evaluate whether barriers to initial change implementation could be minimized through the development and

application of a tool that addressed the tactical aspects of change. Both expert groups stated their belief that the change implementation tool developed would have a significant positive impact to reduce the initial barrier to change, specifically in terms of tactical processes and effective educational resources. This feedback was confirmed through preliminary pilot testing of specific components of this tool. The amount of work effort required to accomplish technical tasks on project-level change implementation was reduced by as much as 70 percent in early case studies. This accomplishment was also shown to favorably impact the amount of time available by change agents and recipients to address strategic aspects of change.

This research was meant to develop and evaluate a methodology to improve the efficiency and success of initial change implementation. Future research would be beneficial to address strategic planning and implementation. It is the researchers' intent this thesis may have a positive impact on initial change implementation, which would in turn enable a greater percent of change efforts to move forward to full-scale implementation and eventually to institutionalization. These are the next topics to be addressed to achieve continued improvement of organizational change methodologies.

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APPENDIX A

DELPHI ROUND TWO CHANGE RECIPIENT SURVEY

Survey – Round Two Feedback

1. What tools/education/documentation would have better helped you when you first started your best value efforts and ran your 1st projects? (i.e. helped with education, implementation, etc)

   – What would have helped in expanding to successive projects? (for continued learning of original team, education/comfort of new members that did not participate in the 1st project.)

2. What specific points of success and difficulty did you encounter in your education and implementation of best value (what worked and didn't work, how can we improve the education process in the future)?

3. How can we better support the internal spread of education in spreading within your organization (tools, approaches, training workshops, other "train the trainer" ideas?)

Proposed Startup Kit Items:
We are creating a Startup Kit toolbox with educational videos, documents, and templates that are easily accessible online for the items listed below. Pease rate your general level of comfort and understanding for the following items:

1= Do not understand, uncomfortable
2 = Have questions, somewhat uncomfortable with the process
3 = Not sure
4 = Understand the general idea, generally comfortable
5 = Clear and confident understanding

#	**Item**	**Rating**
1	Core Group	
2	RFP	
3	Evaluation & Ratings	
4	Interviews	
5	Pre Award	
6	BV Justification Presentation / Case Study	
7	Strategic Plan	
8	Weekly Risk Report	
9	Director Report	
10	PPI	

Additional Questions

4. How useful would a milestone schedule be for an overall best value effort and individual best value projects? – to show overall goals, step-by-step process, milestones, approximate durations of implementing BV and running a project

5. Would you be willing to participate as a mentor (and be mentored) for best value users to interact with each other?
   (Also, please give feedback on your preferred medium of communication: i.e. online forum, scheduled calls with ASU mediating the discussion, one-on-one interaction between users, etc)

6. In addition to our initial plan, what other specific items would be beneficial to include in the startup kit?

7. Additional lessons learned from your experience learning and implementing best value?

8. Please rate the need and importance for PBSRG to provide the startup kit as a resource (1-10):

Once we complete the first version of the change facilitation tool, we would like to present this to you to get further feedback on how to improve its content and presentation.

APPENDIX B

DELPHI ROUND THREE CHANGE AGENT SURVEY

Survey – Round Three Feedback – Change Agents

Please rate the following items on a 1-10 scale according to the expected impact the Project Kit tool would have in implementing best value.

- 1 = strong negative impact
- 5 = no impact
- 10 = strong favorable impact

#	Item	Impact
1	Ease of initially implementing the technical aspects of the Best Value process	
2	Comfort level and ability of research sponsors to become self-sufficient with implementation of technical aspects	
3	Available time to focus on strategic issues	
4	Overall capability to implement strategic and holistic organizational change	
5	Overall ability to educate internally within research sponsor organizations	
6	Ability to run a best value project with organizational members (research sponsors) who have not run a project before	
7	Importance of having a technical database (i.e. the Project Kit) as a reference point to minimize political resistance	
8	Ability to adapt the best value process to meet the specific needs, constraints, and requirements of individual research sponsor organizations	
9	Overall ability to minimize internal resistance to implementation of the Best Value process	
10	Overall value of the tool	
11	Ability to deliver training and education due to a greater standardization of the tactical process	
12	Minimization of repetitive questions regarding the tactical process	
13	Ability to support remote training of research sponsors using Project Kit Content	

1. Percentage of work time spent by change agents:
    - Tactical – operation and maintenance of technical process, "how to" trainings
    - Strategic – application of BV business philosophy, high level goals, vision, and opportunities
    - Administrative – additional support functions, contracts, etc.

2. What potential reduction in time spent resolving tactical issues to you expect the Project Kit to accomplish (%)?

APPENDIX C

DELPHI ROUND THREE CHANGE RECIPIENT SURVEY

Survey – Round Three Feedback – Change Recipients

Please rate the following items on a 1-10 scale according to the expected impact the Project Kit tool would have in implementing best value.

- 1 = strong negative impact
- 5 = no impact
- 10 = strong favorable impact

#	Item	Impact
1	Ease of initially implementing the technical aspects of the Best Value process	
2	Comfort level and ability to become self-sufficient with implementation of technical aspects	
3	Available time to focus on strategic issues	
4	Overall capability to implement strategic and holistic organizational change	
5	Overall ability to educate internally	
6	Ability to run a best value project with organizational members who have not run a project before	
7	Importance of having a technical database (i.e. the Project Kit) as a reference point to minimize political resistance	
8	Ability to adapt the best value process to meet your organization's specific needs, constraints, and requirements	
9	Overall ability to minimize internal resistance to implementation of the Best Value process	
10	Overall value of the tool	
Additional Comments & Feedback:		

APPENDIX D

PROJECT SCHEDULE CASE STUDY RAW DATA

Table 1. Project Utilizing the Traditional Project Schedule Implementation Methodology

No.	Project	Project Schedule Interactions
1	ASU - Bookstore	7
2	ASU - SRC Outsourcing	3
3	Alberta - DB Balmoral Facility	4
4	Alberta - Custodial Services	2
5	Phoenix - MRF Services	10
6	Phoenix - Towing Services	-
7	Idaho - ITD DMV	3
8	Idaho - State SHIP	4
9	Idaho - UI Dining Services	4
10	Alaska - Wellness	2
11	Alaska - SASR	2
12	Oregon - FM Software	2
13	South Carolina - Uniforms	4
	Average	3.9

Table 2. City of Columbia projects Utilizing the Change Implementation Tool Methodology

No.	Project	Project Schedule Interactions
2	Rate	2
3	Auditing	0
4	Tennis Courts	0
5	Vista Green	0
6	Pool	1
	Average	1.2

APPENDIX E

RFP DEVELOPMENT CASE STUDY RAW DATA

Table 1. Project Utilizing the Traditional RFP Development Implementation Methodology

No.	Project	RFP Interactions
1	ASU - Bookstore	10
2	ASU - SRC Outsourcing	6
3	Alberta - DB Balmoral Facility	8
4	Alberta - Custodial Services	8
5	Phoenix - MRF Services	11
6	Phoenix - Towing Services	7
7	Idaho - ITD DMV	3
8	Idaho - State SHIP	11
9	Idaho - UI Dining Services	7
10	Alaska - Wellness	5
11	Alaska - SASR	8
12	Oregon - FM Software	6
13	South Carolina - Uniforms	5
	Average	7.3

Table 2. City of Columbia projects Utilizing the Change Implementation Tool Methodology

No.	Project	RFP Interactions
2	Rate	4
3	Auditing	2
4	Tennis Courts	3
5	Vista Green	1
6	Pool	2
	Average	2.8