

**ORGANIZATION THEORY AND THE TRANSFORMATION OF
LARGE, COMPLEX ORGANIZATIONS:
DONALD H. RUMSFELD AND THE U.S. DEPARTMENT OF DEFENSE, 2001-04**

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ABSTRACT

ABBREVIATIONS

CoI	Community of Interest
CoP	Community of Practice
DoD	U.S. Department of Defense
GAO	General Accounting Office
JFCOM	U.S. Joint Forces Command
JROC	Joint Requirements and Oversight Council
NCW	Net-Centric Warfare
NMS	National Military Strategy of the United States of America 2004
OFT	Office of Force Transformation
OMB	Office of Management and Budget
OODA	“Observe, Orient, Decide, Act” approach
O&P	Outsourcing and Privatization Program
PKM	Personal Knowledge Management
PMA	President’s Management Agenda
PPBS	Planning, Programming and Budgeting System
PPBES	Planning, Programming and Budget and Execution System
QDR	Quadrennial Defense Report

GLOSSARY

Bounded rationality. A phrase originating from the work of Herbert Simon, referring to the limitations on decision making caused by limitations on costs, human abilities, time, technology, and availability of information. A decision strategy that relies on limited information and reflects time and political considerations.

Governance. The act of affecting government and monitoring (through policy) the long-term strategy and direction of an organization. In general, governance comprises the traditions, institutions and processes that determine how power is exercised, how stakeholders are given a voice, and how decisions are made on issues of enterprise-wide concern.

Jointness. Enhanced interoperability among the U.S. armed services.

Rationality. The quality of being consistent with or based on logic. A decision-making effort that exhausts all potentially relevant information in order to make decisions in a transparently logical and objective fashion.

Satisficing. The idea that there is almost an invisible line that intuitively separates the “just-good-enough” solution from the “not-good-enough” solution.

Transformation. An ongoing process that permeates an entire organization and represents a sharp break with the past. It differs from “reform” efforts in that transformation involves the development or discovery of entirely new paths.

Chapter 1.

Purpose and Overview of this Dissertation

Since the late 1990s, the transformation of large, complex organizations has become a topic of considerable interest in industry, academia, and government, especially in the context of a global economy linked to increasingly pervasive technology. Such transformation is understandably of particular interest in the United States because, in many ways, it is defined globally by its enormous and influential government and business organizations as well as by the reputation of some of its most prestigious academic ones.

The single superpower status of the United States makes ongoing evolution or even revolution of its national security organizations (as appropriate) a high priority on any U.S. presidential administration's list. For this reason, this dissertation's case study on the transformation of the Department of Defense (DoD Transformation¹) is particularly significant, as President George W. Bush declared DoD Transformation as one of the goals of his administration during his campaign for the presidency.

In underscoring the importance of change (and potentially transformation) in large U.S. organizations, the risk of failure cannot be over-emphasized. Government agencies (such as the DoD) can become discredited; similarly, private sector organizations and academic institutions can falter and disappear almost overnight should they ignore, misjudge or poorly execute imperative and substantial change initiatives or processes. One need only think of the almost overnight disappearance of Enron, Arthur Andersen, LLC or even the Soviet Union to recognize that failure to acknowledge the need for transformation, or failure to succeed at transformation, can lead to dissolution or disintegration of even the most prestigious or mammoth of organizations, enterprises or nation-states. Regional and international organizations, such as the North Atlantic Treaty Organization, the United Nations, the International Monetary Fund and the World Bank are also highly vulnerable to the imperatives of transformation.

¹ The phrase "DoD Transformation" will be used throughout the dissertation to refer to Secretary Donald Rumsfeld's explicit initiative to transform the Department of Defense. No precise definition can be provided here that could capture all the initiative entailed, but DoD Transformation was a boldly declared and consistently pursued theme throughout Secretary Rumsfeld's tenure under the first administration of President George W. Bush, at least up until the completion of this case study.

This dissertation focuses on the DoD Transformation, examining it within the wider context of transformational initiatives of other large government, industry, and academic organizations. Moreover, the DoD transformational initiative will also be examined within the fused framework of “bounded rationality”² and the “limits of organization,”³ the fusion of which I call “governance priority paradigm”⁴ (or GPP). For the purposes of this dissertation, I define governance as the act of affecting decision making and oversight of a high-value program through the identification and appointment of a top team of talented, subject matter experts to provide dedicated, long-term vision, strategy and direction for the program. In general, governance comprises the traditions, institutions and processes that determine how power is exercised, how stakeholders are given a voice, and how decisions are made on issues of enterprise-wide concern. A GPP promotes success in decision making, especially in an initiative as complex as a fundamental overhaul or transformation of a large organization, by providing a dedicated, second order process for guiding and updating all significant decisions (through a feedback loop) regarding the targeted initiative.

² Basically a brain child of Herbert Simon, wherein constrained rationality, due to cognitive and resource limitations, despite assumed intents to act rationally. Organizations are seen as a way, in this framework, to help limit options and better focus the decision-making process. See Mie Augier and James March, eds. *Models of a Man: Essays in Memory of Herbert A. Simon* (Cambridge, MA: The MIT Press, 2004).

³ The nature of organizations leads to new patterns of authority, information and decision making than would be normally assumed when looking only at a presumed “rational” individuals. Therefore, decision making is theoretically less predictable. See Kenneth Arrow, *The Limits of Organization* (New York: Norton, 1974).

⁴ I like the following encapsulations of paradigm, although there are many others, which makes paradigm a problematic term for many, but one that places the emphasis I desire on what I see as common ground at least between Simon and Arrow: "A paradigm is a set of rules and regulations (written or unwritten) that does two things: 1) it establishes or defines boundaries; and 2) it tells you how to behave inside the boundaries in order to be successful". (Joel Arthur Barker) "A shared set of assumptions. The paradigm is the way we perceive the world; water to the fish. The paradigm explains the world to us and helps us to predict its behavior. When we are in the middle of the paradigm, it is hard to imagine any other paradigm" (Adam Smith). "A paradigm is a framework of thought ... a scheme for understanding and explaining certain aspects of reality". (Marilyn Ferguson) From the Greek paradeigma, which means 'model, pattern, example'.

www.worldtrans.org/whole/wholedefs.html

Transformation as a Field of Study

In this dissertation, the general definition of “transformation” is an

ongoing process that permeates the entire organization, and represents a sharp break with the past. This break is a major difference between transformation and simple reform. While reform is an attempt to go down the same path more efficiently, transformation involves the development or discovery of entirely new paths.⁵

What is clear even in this general definition of transformation is that it is perceived as an ongoing process rather than a simple change or set of discrete changes. The definition of transformation in the context of the Department of Defense is much more difficult to establish from the literature, except that it too is an ongoing process or journey, one intended to result in a much more agile and innovative DoD girded by fundamentally new ways of thinking. In many portions of this dissertation, I will highlight the problems and implications associated with the difficulty of actually defining DoD Transformation.

Despite a growing interest in organizational transformation in industry, academia and government,⁶ organization theory remains relatively immature in this area; this is particularly evident regarding the understanding of large, complex organizational transformations.⁷ Despite increased emphasis on transformation as a

⁵ Charles Garfield, *Second to None: How Our Smartest Companies Put People First* (McGraw-Hill, New York, NY, 1991), 50.

⁶ There are a myriad reports from the General Accounting Office (GAO) – renamed in July 2004 to the Government Accountability Office, with the GAO itself helping to lead the charge on transformation since 2000. A keyword search under “transformation” on the GAO Web site: <http://gao.gov> will yield a very long list of recent titles, including many dealing with various aspects of the private sector, federal government and even Department of Defense transformation efforts. There is also a lot of business literature on corporate transformation that often is generally of an inspirational tone [e.g., John P. Kotter, and Dan S. Cohen, *The Heart of Change: Real-Life Stories of How People Change Their Organizations* (Boston, Massachusetts: Harvard Business School Press, 2002).]

⁷ See Allan M. Mohrman, Jr. and others, eds., *Large-Scale Organizational Change* (San Francisco: Jossey-Bass Publishers, 1991) for a slightly dated book focused specifically on this topic. For a more timely, prescriptive work, see *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, GAO-03-669 (Washington, D.C.: GAO, July 2003).

prerequisite for future organizational success, fundamental issues related to complex transformational initiatives are rarely, if ever, “on the radar scope” of many charged with leading such daunting undertakings.⁸ These fundamental issues, I argue, include “bounded rationality” in individual and organizational decision making and the overall “limits of organization” in terms of optimal information and knowledge flow and, ultimately, of decision-making structures and processes. A major conclusion of this case study is that there are major blind spots in leaders or organizations due to a lack of understanding of such issues, and the resultant failure to give proper attention to a dedicated GPP that will help launch and sustain difficult and often critical organizational renewals.

Organization theory is an overall young “science” that has increasingly included organization behavior, which would encompass transformation as an area of particular promise. For this reason, this dissertation is very much in line with the overall maturing of this management discipline. In addition, this dissertation makes unique contributions in the area of linking cognitive/decision-making considerations at the individual level with organization complexity and design. Overall, the emphasis in this study on the transformation of large, complex organizations (in this case, a particular U.S. government organization) addresses a gap where relatively little research has been done, especially on twenty-first century transformational efforts.

In trying to help fill such an important research gap, however, I acknowledge the challenge of studying something as dynamic a phenomenon as the transformation of the DoD within the coinciding, complex context of a global war on terror. Therefore, this study places the DoD Transformation within the broader context of other modern, large-scale transformational initiatives in general and of the DoD transformations that have occurred since the 1947 origin of the DoD. This study further narrows the analysis of the 2001-04 DoD Transformation to areas that link to this dissertation’s theoretical framework, areas such as the overall design and execution of the transformation effort, with particular emphasis on Secretary Donald Rumsfeld’s role in transformation and the pronouncements and efforts of the Office of Force Transformation that was established by Secretary Rumsfeld to assist him in developing and promulgating transformation throughout DoD.

⁸ Executives would have no doubt heard of business process reengineering and change management, but innovation management is just making its way into 21st century parlance. Transformation management is “on the heels” of innovation management, apparently, as this author has found nothing on transformation management per se. Complexity theory is, to be sure, a topic of some interest in some DoD “think tanks” associated with DoD Transformation, but, in this author’s opinion, that is of little help in educating managers or leaders on designing or implementing large-scale transformation.

Despite its relative “youth,” organization theory has matured to the point where there appears to be an overall consensus on imperatives for organization design of some kind (even of a self-organizing one) to address the issues of decision making, change management and learning. Similarly, there is general recognition in organization theory literature that there are cognitive and structural limitations of organizations to meet these imperatives. However, research to date reveals considerable turmoil and disappointment in both small and large transformational efforts despite technological and management developments. Therefore, more work clearly needs to be done in the study of obstacles and enablers in the transformation of large, complex organizations.

General Theoretical Framework

Organization theory writ large is undergoing considerable turbulence as organizations become larger and more complex in a global, “high-tech” society. Despite evolving changes in such theory, some accepted perspectives established by pioneering thinkers and writers about cognition, organizations, and decision making are still valuable frameworks for analysis. A particularly valuable perspective in the area of cognition and decision making is that of “bounded rationality” by Herbert Simon. In conjunction with Simon’s framework, this dissertation also analyzes Kenneth Arrow’s work on “the limits of organization” within the “governance priority paradigm” or GPP that was introduced above. What this basically means is that the issues of bounded rationality and the limits of organization are considered within a unified GPP framework. The justification for this proposed framework is that both Simon and Arrow seek improved decision making in organizations and appear to implicitly agree that establishing high-level, dedicated governance should be any serious organization’s priority for launching major undertakings that have survival or transformational implications.

Of the two theorists, Simon is the stronger in terms of his wide-ranging impact in the area of cognitive science and the introduction of heuristics that help facilitate and explain the decision making process. Arrow’s emphasis on the limits of organizational design, which include dealing with the problems of authority and delegation, adds great value as well; his perspective is less on cognition than the nature of information structure and flows leading to decision making in organizations. Arrow’s work, while largely motivated by the goal of enhancing economic and organizational theory, is also one of the important foundations for work done in the late 20th and early 21st century on knowledge management. As such, I will also explore some key aspects of knowledge management in this study.

Extending my study of the foundational work of Simon and Arrow in decision making in general, as well as in light of the organizational context, this study also includes some important, related outgrowths. I will, in order to better address the issue of the quality of decision making one can expect, and possibly further enable, briefly highlight some of John Boyd's work on decision cycles and both John Seely Brown's and Oskar Morgenstern's work on information and knowledge flows. Relatively new work, especially in the area of information and knowledge management, has become central in the twenty-first century to more robust and multi-dimensional thinking about cognition, organization behavior and, ultimately, transformation. Whereas this dissertation is principally designed to illustrate the wide branches of the tall and deeply rooted tree of Simon and Arrow's combined thinking in bounded rationality and the limits of organization and decision making, it will also demonstrate where information and knowledge management efforts relate to and can build on the work of Simon, Arrow, as well as others mentioned in this study.

"Bounded rationality" is a phrase originating from the work of Herbert Simon and refers to limitations on decision making caused by limitations on costs, human abilities, time, technology, and availability of information.⁹ Another useful definition is a decision strategy dependent on limited information and reflecting both time and political considerations.¹⁰ The whole idea of bounded rationality will be further amplified and discussed later in the paper, but for the purposes of this chapter, it is crucial to understand the following: the concept of bounded rationality has its origins in the assumption that decision makers strive to select rational ends and means. Bounded rationality represents a constraint to that pursuit.

"Limits of organization" is a phrase generally associated with the work of Kenneth Arrow and refers to the constraints on rationality of decision making within organizations, no matter how enlightened the design. "Rationality," on the other hand, is the assumed process in a decision-making effort that exhausts all potentially relevant information in order to make decisions in a transparently logical, objective and optimizing fashion.¹¹

The issue of decision making, as seen through the filtered lenses of bounded rationality and the limits of organization, leads to what I earlier described as a

⁹ Augier and March, op. cit.

¹⁰ Ibid.

¹¹ See the following concerning rationality frameworks as baselines for "real-world" decisions: Karl R. Popper, *Objective Knowledge: An Evolutionary Approach* (New York: Oxford University Press, 1972). and Joseph Firestone, and Mark McElroy, *Key Issues in the New Knowledge Management* (Burlington, MA: Butterworth-Heineman, 2003).

“governance priority paradigm,” the need for which is a major theme of this dissertation.¹² Addressing the importance of high-level strategy and oversight about organization decision making is critical to deal with the constraints captured in the terms that Simon and Arrow made famous. Therefore, a perspective that puts governance first is one more likely to address the constraints early on, through execution of decisions and consideration of new ones. For example, Simon and Arrow agree that executives in bureaucracies usually make decisions based on what is good enough, given limited time and bounded information (in routine or ad hoc channels, presented often as disaggregated and in overwhelming quantities, of uneven quality and via systemic or idiosyncratic filters—such as existing knowledge and preferences—even, at times, totally irrational ones). The essential element of a cognitive approach to decision making of this nature has been termed “satisficing” by Herbert Simon.¹³ Satisficing can be raised up a few notches in quality if the governance model is at least aware of this tendency. Similarly, the limits of organization in terms of the distribution of power and information can also be better addressed if better understood and factored into the decision-making infrastructure and processes.

In this dissertation, I analyze such cognitive heuristics as “satisficing” in a context of large, complex organizations. Complicating the challenge of decision making is the fact that such organizations are being reengineered within what will be illustrated to be a paradigm¹⁴ (linked fundamentally to the works of Simon and Arrow) where even the best design will have limits in terms of the consistency and quality of decisions.

An additional decision-making complication impacting the success of transformational efforts is the scope of the work associated with the initiative. This is also a factor in the case study at the heart of this paper—the transformation of such a dynamic, complex, interconnected entity as the DoD. Additionally, the contemporaneous nature of my DoD case study (which is occurring in the midst of a controversial, U.S.-led War on Terrorism) is a further complication; but it will be addressed by providing considerable additional, comparative background illustrations

¹² Simon and Arrow are both focused on how to improve decision making in organizations, and a paradigm making effective governance a major priority seems to be something that both would see as a crucial enabler for the improved problem solving they both seek from better decisions.

¹³ Augier and March, op. cit.

¹⁴ See Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962).

of other large-scale transformational efforts in order to provide a rich context for the my focus on DoD Transformation. Such complications, on the other hand, add to the overall justification for undertaking such a timely and important topic.

Dissertation Methodology

In this dissertation, I use a case study analysis to explore organizational transformation in light of theory surrounding bounded rationality, the limits of organization and decision making. The selected case study focuses on Secretary Donald Rumsfeld's initiative to transform the DoD for the twenty-first century. The DoD is such a large and critically important player on the U.S. and world stage that any study to explore its transformational efforts should be relevant and important to students of organization theory. Also, given the centrality of the DoD to the execution of the United States' national security and foreign policy, any change that purports to be as transformational and sweeping as what Secretary Rumsfeld announced even prior to taking office begs rigorous scrutiny. The overall objectives of this case study are to seek additional understanding about large-scale transformation and to examine how such understanding supports or varies from enlightening conclusions of seminal or otherwise highly regarded work on or related to cognitive and organization theory. No specific hypotheses will be tested. However, I seek to provide new insights about the DoD Transformation initiative and the value of the chosen theoretical framework.

Wider Context of Transformation

Secretary Rumsfeld's transformational initiative, to be best understood, needs to be placed in the wider context of comparable transformational efforts of large, non-DoD organizations, as well as other DoD transformational efforts in the past. I provide this context by first providing an overall context for transformation as understood and practiced in general, then by sampling a major initiative in industry (General Motors) and in academia (Massachusetts Institute of Technology), then by highlighting federal government initiatives ("reinventing government," the establishment of a President's Management Agenda, strategic sourcing and the aggressive agenda of the Government Accountability Office (GAO)—formerly the General Accounting Office—to promote, monitor and enhance business transformations across the federal government). In chapter 5's description of the DoD Transformation, I also provide deeper context by highlighting former Secretary of

Defense Robert McNamara's management revolution in the 1960s and efforts in the 1970s and 1990s to pursue a "Revolution in Military Affairs" in the DoD.

Overall Logical Structure of this Dissertation

Overall, employing a case study approach, I will evaluate Secretary Rumsfeld's transformational initiative in light of important organization theories, with an emphasis on Simon's "bounded rationality" and Arrow's "limits of organization." In a review of literature I will mainly address cognitive and organization theory. I will demonstrate that constraints on the nature of available information, the peculiarity of the flows of information and the challenges of making sense of it all are all complex dimensions that need to be addressed as serious problems in the pursuit of optimal decisions.

The just-mentioned problems are linked inextricably, for example, to the preferences, habits, skills, knowledge and wisdom of those involved in the decision-making process that persist in the implementation or execution phases following initial decisions. These and other aspects of cognitive and organization theories will be explored and framed to facilitate a focused study of the 2001-04 DoD Transformation. Overall, this dissertation will bridge the concept of "bounded rationality" in the area of cognitive theory with that of "limits of organization" to increase understanding of the imperatives and constraints of personal and organization behavior and decision making in the context of the transformation of large, complex organizations. The resulting bridge will be captured in what I have described earlier as the "governance priority paradigm" because it captures the essence of what both Simon and Arrow would, from a review of their works, endorse as a means to enhance organizational designs for better and more accountable, if still imperfect, decision making.¹⁵

Then I discuss the DoD Transformation in terms of how Secretary Rumsfeld and other key leaders associated with the initiative have described what it is and what it is supposed to achieve, as well as how it has been implemented through May 2004. After an overall representation of the secretary's transformational efforts, the case study centers in particular on the universe of the DoD Transformation as seen through

¹⁵ See Oliver E. Williamson, Herbert Simon and Organization Theory, In *Models of a Man: Essays in Memory of Herbert A. Simon*, eds. Mie Augier and James G. March, 279-296 (Cambridge, MA: The MIT Press, 2004) for his related conclusion, at least as pertains to Simon, that better governance structures are fundamentally to address the issue of bounded rationality.

the efforts of the Office of Force Transformation (OFT). OFT is the anointed spearhead of the DoD Transformation, has been involved with the program since its inception under Secretary Rumsfeld, and is led by Rear Admiral (Retired) Arthur Cebrowski.

Some issues that OFT has been struggling with include (a) business architecture issues; (b) how to engage and leverage U.S. Joint Forces Command (JFCOM) in the institutionalization of transformation in general and as it relates to the global war on terrorism; and (c) how to do “force transformation.” This case study will focus specifically on OFT’s overall efforts and, to a much smaller extent, its relationship with its other primary transformation partner, the U.S. Joint Forces Command (JFCOM), for expediting operational and tactical approaches to warfare, as well as OFT’s responsibility in the reform of business activities writ large in DoD.

In both operational and business reform areas, my emphasis will be on evaluating progress in (a) how OFT reform efforts fit (or do not fit) into a larger strategic transformational vision and strategy, (b) how they relate, assuming they do, to one another, and (c) the metrics (if any) associated with them. This focus area provides a window with line-of-sight view of some of the major drivers and themes of the DoD Transformation initiative (in particular, the emphasis on interservice cooperation and “net-centricity”¹⁶ as a vision to enable it, as well as overall efficiency and effectiveness in decision making). Secretary Rumsfeld has often cited these two interrelated organizations (OFT and JFCOM) as the most critical organizational catalysts for implementing transformation. By addressing the DoD Transformation effort primarily through a look at Secretary Rumsfeld and his organizational “spears,” I also pave an efficient path for answering key questions that are posed later in this chapter. Finally, as Russell Ackoff notes, it takes a holistic effort to achieve the kind of change that Secretary Rumsfeld is seeking with the DoD Transformation.¹⁷ I will therefore also appraise DoD Transformation with that imperative in mind.

Challenges regarding the appropriateness, value and flow of information, as well as sensemaking at the individual or organization level are greatly magnified in large, complex organizations undergoing transformations. Such is the case with the DoD in the 2001-04 timeframe, especially one of the ambitious scope and nature of Secretary Rumsfeld’s effort—and in light of the complication of also fighting a global

¹⁶ Net-centricity is basically the environment resulting from the establishment of a highly digitized approach to warfighting (and stabilization operations) in the Information Age where a loosely integrated but interoperable network connects activities and communications across an enterprise.

¹⁷ Russell L. Ackoff, *Transforming the Systems Movement*, 26 May 2004, 4, accessed 7 July 2004; available from <http://www.acasa.upenn.edu/RLAConfPaper.pdf>.

war on terror concurrent with the transformational initiative (something not foreseen in the announcement and initial pursuit of the transformation effort).

This dissertation takes as a given the perspective that decision making in general and in organizations is bounded in terms of rationality and ultimate predictability—for many reasons that will become apparent in the course of the study. With a framework of “governance priority paradigm” as a foundation, I analyze selected elements of the design and implementation of Secretary Rumsfeld’s DoD Transformation initiative to see what possible shortcomings or risks appear to exist. Concurrently, I build understanding regarding the potential value of a “governance priority paradigm” in light of the type of mammoth organization the DoD is and the modern context in which it is attempting its transformation. Overall, assuming that my “governance priority paradigm” framework has value, I use it to study the DoD Transformation to enable better understanding of

- what is occurring under the umbrella of the DoD Transformation
- whether what is occurring is well designed and informed
- the possible shortfalls in conception and execution
- and possible alternative, corrective actions for such shortfalls.

This case study is not about a successful or unsuccessful transformation per se. In fact, the ultimate success of the DoD case will be in question for some time to come, especially given its multiple dimensions and necessarily long-term nature. At a minimum, many facts will be gathered in particular focus areas, analyzed, and used to shed light on what remains to be studied or studied more closely to further illuminate the richness or applicability of the suggested theoretical framework of “governance priority paradigm” for such a case study.

Overall, I selected the DoD Transformation case study because of the complex, dynamic and uncertain environment in which the DoD is attempting its transformation, as well as the critical importance of the DoD in meeting U.S. security challenges. I have used numerous primary resources since they are current and abundant. In addition, I have exhausted related academic and secondary literature on the DoD, especially since 2000, to the maximum extent possible, given the particular areas of focus and time available for this dissertation. I have also fully leveraged more than a hundred primary and secondary sources posted on the OFT Web site.¹⁸ Although I have conducted some background briefings with officials in the DoD and

¹⁸See <http://oft.osd.mil>.

others in government and industry involved with or highly knowledgeable about the DoD Transformation under Secretary Rumsfeld, these discussions were intended to enrich the context for this dissertation and are not considered part of its academic methodology.

In general, this case study addresses the following questions (in no particular order):

1. How does this case study reinforce (or not) established, highly regarded organization and decision-making theories (from Kenneth Arrow, Herbert Simon, et. al.) and potentially add new insights to them?
2. What are the global and organizational contexts, challenges and priorities of Secretary Rumsfeld's transformational efforts, as seen in light of other comparable, large-scale, complex transformational initiatives?
3. What did Secretary Rumsfeld mean by transformation and how was the concept developed, introduced and perceived by key stakeholders in the DoD?
4. How was DoD Transformation implemented and what was the degree of its success in light of its goals and initiatives, and what new understanding can be garnered from the success or failure of particular efforts?
5. What are the roles of leadership and technology as enablers and possible hindrances to DoD Transformation?
6. What are the lessons learned and promising areas for future research related to this dissertation?

Most fundamentally, I will in this dissertation bridge the seminal, foundational work of Herbert Simon and Kenneth Arrow to shed new insights on decision making. I will demonstrate how their work has contributed to organization theory, even to the transformation of large, complex organizations. I will also indicate how transforming organizations in the twenty-first century has become increasingly challenging to articulate, much less execute, measure and sustain, in the dynamic, rapidly changing context that is the twenty-first century.

Chapter 2.

ORGANIZATION THEORY

Introduction

In terms of the pioneers of bounded rationality and the limits of organization, and those in information and knowledge management, the issue of decision making is central. Executives in bureaucracies make decisions based on what is good enough based on the limited time, bounded information (in routine channels, disaggregated quantities, differing quality, and via systemic or idiosyncratic filters). Even the most rational and intelligent men have almost led the United States down the path of worldwide nuclear devastation, according to an interview with Robert McNamara, secretary of defense under former President John Kennedy and during the Cuban Missile Crisis, in a movie that won a Hollywood Oscar for best documentary for 2003.¹⁹ Assumptions and risk management play their larger or smaller roles based on what is at stake and who is making the decisions, but bounded information and the peculiarity of the flows of information, as well as the preferences, habits and wisdom of those involved in the decision-making process continue to be central to what the decision is and how well it is executed or implemented.

I begin this chapter with a broad overview of organization theory as it pertains to Herbert Simon and Kenneth Arrow, parts of whose work provide the framework for the analytical case study of the DoD Transformation in chapter 6. Then a step backward is taken to acknowledge the longstanding challenges of formulating a framework or theory for organization theory by highlighting a Rand treatise from the 1950s by noted game theorist, Oskar Morgenstern. Despite the age of the essay, it still provides some enriching perspectives about organizations. Next, I provide a brief look at organizational behavior theory via highlights of Abraham Kaplan's work on theories and methodologies. I follow this with a look at the general state of the art in organization change theory by encapsulating a critical assessment of a team of scholars particularly interested in the underlying theme of this dissertation: the

¹⁹ Errol Morris, *The Fog of War: Eleven Lessons from the Life of Robert S. McNamara*, Documentary Film, 2003.

transformation of large, complex organizations. I then focus on the work of Simon and Arrow as further informed by John Boyd and John Seely Brown, among a few others.

Overview

Regarding theory, the following points made by Abraham Kaplan are essential to keep in mind regarding the methodological approach selected for this dissertation. He emphasizes that the goal of theory—the unification and systematization of knowledge—is one that will never be completely successful because the flow of any particular knowledge domain is comparable to that of a dynamic river, absorbing new branches along its journey to the ever-deepening ocean of knowledge. As knowledge perennially expands, it stirs up new tasks for theory in general and in specific domains, demands that we should not expect theory to meet. In fact, if we try to stretch the potential of theory, we may end up with something so artificial that we may be blinded to reality itself. He concludes therefore that theories may serve just to provide invaluable perspective and understanding.²⁰

In this dissertation, I build on key contributions of Herbert Simon and Kenneth Arrow to build a cognitive and organizational bridge for understanding decision making in general and in organizations, particularly in ones faced with complex decisions in the context of increasing uncertainty. I call this bridge “governance priority paradigm.” The contributions of others in the related field of information and knowledge management will also be placed into the context of Simon’s and Arrow’s pioneering work.

Some tension exists in the working, “governance priority paradigm” framework I propose in this dissertation. The tension is a healthy one, though, because it centers on Arrow’s preference for rigor and theory building, while Simon would be more comfortable with experimentation or “soft-line theory,” which is basically a mental construct to facilitate research.²¹ I will address areas of divergence between Simon and Arrow as well as what I see as a major area of convergence, one I am leveraging as a framework for this study.

²⁰ Abraham Kaplan, *The Conduct of Inquiry: Methodology for Behavioral Science* (San Francisco: Chandler Publishing Company, 1964), 310.

²¹ Ibid.

Thinking about Large, Complex Organizations

In 1951 Morgenstern addressed the “preliminaries” that should be taken into account in thinking about a large, complex organization and its change in any kind of rigorous fashion.²² To give an immediate insight to the monumental task of dealing with the understanding, much less the transformation, of large organizations, Morgenstern observed that a lot of descriptive work remains to be done regarding organizations, given their almost infinite variety of attributes, before organization theory can advance.²³ At the same time, however, Morgenstern noted the almost symbiotic relationship between the act of describing organizations and conceptualizing frameworks to better understand them, and thus did not view the relationship between describing and theorizing about organizations as a linear one, although he did expect theoretical progress to be incremental at best.²⁴ Whereas Morgenstern’s game theory expertise reveals his clear predisposition toward building a quantitative theory about organizations in his work supporting the early DoD, he admits to the uphill battle in this regard. Basically, he noted a dearth of organization theory of any kind in the 1950 timeframe but urged that qualitative research aim for what he termed “operational significance.”²⁵ Accepting that organization theory would need to be fundamentally of a qualitative nature for some time to come, he strongly supported the necessity of investigating the “distribution of authority, the memory of the institution, the recruiting of the leaders, etc. These obviously all influence the outcome to some extent”²⁶ and have direct relevance to understanding the DoD Transformation.

Morgenstern is keen on the fact that there are multiple, complex, multi-level dimensions to an organization that simply cannot be ignored if organization behavior theory is to have any basis in reality. For example, he observes that complex operations within organizations become even more so as the size of organizations

²² Oskar Morgenstern, “Prolegomena to a Theory of Organization,” Research Memorandum RM-734, Rand Corporation (Santa Monica, CA, December 10, 1951) and K.W. Deutsch, *The Nerves of Government: Models of Political Communication and Control* (The Free Press, New York, 1963).

²³ Morgenstern, op. cit., 1

²⁴ Ibid. This raises one of the fundamental issues in autopoiesis, that of describing something of which you are a part. See Hugo Urrestarazu's approach to autopoiesis for how he attempts to break the vicious circle of self-reference: “On Boundaries of Autopoietic Systems,” accessed 6 July 2004; available from <http://autopoietic.net/boundaries.pdf>.

²⁵ Morgenstern, op. cit., 2

²⁶ Ibid., 3

grows.²⁷ Morgenstern also notes that a study of an organization has to consider the aim or mission of the organization in order to even attempt to empirically evaluate the internal and external aspects of organization behavior.²⁸ He also concluded that there are many aspects of organization processes that will never appear in the organization chart, such as interoffice politics, personal rivalries, informal deal-making among members of the organization, etc., that are exceedingly important to study and understand, even though they may be too complex for the best of game theorists to model.²⁹ For example, recent decision making regarding Operation Iraqi Freedom illustrates the domain of national security decision making that also encompasses international organizations (or not) and ad hoc coalitions. It also illustrates the influence of major, established or maturing bilateral relationships—the Anglo-American and Franco-German ones, respectively, on the national security decision-making process. Government decision making is still dominated by politics and bureaucracies. Organization theory related to public administration and policy has long reinforced the difference between industry and government in this regard.³⁰

Approaches to Organization Theory

Large-scale change could conceivably reach the level of transformational change, but change does not necessarily lead to transformation. There is a lot more work done on change than on transformation, but even in the change literature, large-scale change has received relatively little attention as a separate and distinct topic.

As of the late 1980s, one study on large-scale organization change concluded that previous literature on organizational change was of “limited help in addressing the theoretical questions and practical issues relevant to large-scale change.”³¹ One reason for the shortcomings of work in the area of large-scale change was the prominence of “organization development” (OD), an approach to organizational change marked primarily by an analysis of an organization’s current structure and processes followed by an intervention for new directions, normally of an incremental

²⁷ Ibid., 14

²⁸ Ibid., 10

²⁹ Ibid., 5. Many of these are subjects for investigation in the current knowledge management (KM) discipline.

³⁰ See K.W. Deutsch, *op. cit.*, for more on this theme.

³¹ Allan Mohrman and others, *op. cit.*, 4

nature. The OD approach was then, and is still in the twenty-first century, seen as a theoretically underdeveloped and thus a “scatter-gun” type of approach to organization theory and intervention. A main area of emphasis of the OD tradition has been on organizational micro, or occasionally macro, interventions that could involve participative management sessions, team building, surveying, business process reengineering, transition management, etc.³² Some criticisms of OD theory include its emphasis on normative versus theoretically rigorous processes and frameworks.³³

The “umbrella” area to OD is that of organization theory (OT), which, like OD, has been characterized as lacking any basic consensus about organizations, instead being fragmented and confused to the point of being even self-contradictory “about human nature and organizational phenomena.”³⁴ To me, organizational theory only means a body of theory about organizations—not a specific theory—and I think any attempt to construe such a catchall term as a specific theory is bound to fail. Nonetheless, for many of the same reasons as cited above, OT is also seen to be insufficient as a means for understanding large-scale system change.

Overall, even though broader and deeper than OD, OT still lacks a comprehensive, holistic approach for framing or assessing organizational change and stability, whether looking at internal or external organizational variables.³⁵ Given the shortcomings of OD and OT in general, but especially regarding large-scale change, Mohrman, et al recommend that three dimensions of change be used holistically to undertake studies of large-scale organizational change: the depth of change, the size of the organization and the pervasiveness of the change. These three dimensions will be important ones for analyzing the DoD Transformation later in this dissertation.³⁶

The Paradigm of Bounded Rationality and Organizational Limits

According to Marilu McCarty,³⁷ Kenneth Arrow persuasively presented the case that decisions made collectively (through the political process) may not be rational at all. His “impossibility theorem,” for example, states essentially that

³² Ibid., 5

³³ Ibid.

³⁴ Ibid.

³⁵ Ibid., 7-8

³⁶ Ibid.

³⁷ Marilu McCarty, *The Nobel Laureates: How the World’s Greatest Economic Minds Shaped Modern Thought* (New York: McGraw-Hill, 2000).

whenever voters are presented with more than two alternatives, it is impossible to achieve consistent decisions.³⁸ Even if a voting agenda is arranged to narrow decision making to two options at a time in a pairwise-voting schema, whoever controls the agenda concerning which pairs or items in pairs come first can influence the ultimate choice.

Arrow's thinking about decision making in organizations or society falls in the wider paradigm of what has been called "bounded rationality" by Herbert Simon because it underscores constraints on achieving rationality in decision making. Rationality can be defined as the quality of being consistent with or based on logic. It is manifested, ideally, in a decision making context, as an exhaustive search of all potentially relevant information in order to make the best possible decision. In discussing bounded rationality, Simon explains that the point is "not that people are consciously or deliberately irrational, although they sometimes are, but that neither their knowledge nor their powers of calculation allow them [even in high-stake political contexts] to achieve the high level of optimal adaptation of means to ends that is posited in economics."³⁹

Bounded rationality

Herbert Simon is acknowledged as the father of the term "bounded rationality." The fact that many transformers in industry and government are probably unaware of his work in this area makes this dissertation all the more important. A testament to Simon's sweeping influence in social and behavioral science (and thereby both cognitive science and organization behavior theory) is the 2004 book, *Models of a Man*, where over 30 individuals, many of them distinguished scholars and theorists in their own right (including Kenneth Arrow) testify to the impact that Simon had on their lives and work.⁴⁰

In his 1947 work, *Administrative Behavior*,⁴¹ Simon took on the prevailing, rationalist paradigm in public administration by basically characterizing the leading theories as "worse than useless as guides to practical action because of vagueness and

³⁸ Ibid. Arrow's ideas relate to Karl Deutsch's in this regard.

³⁹ Herbert Simon and others. *Economics, Bounded Rationality and the Cognitive Revolution* (Brookfield, VT: Edward Elgar Publishing, 1992), 3.

⁴⁰ Augier and March, op. cit., 8

⁴¹ Herbert Simon, *Administrative Behavior*, 4th edition (New York: The Free Press, 1997).

contradictions.”⁴² What may be less well understood about his first, seminal work, *Administrative Behavior*, though, is his “identification of decision making as a basis for the reconstruction of administrative theory.”⁴³ Simon, in this work, observed that “decision making . . . is purposeful, but not rational.”⁴⁴ He therefore concluded that organizations facilitate decision making by narrowing viable alternatives to those deemed most relevant to achieving the organization’s goals.⁴⁵ Effective, hierarchical organization was, according to Simon, a further facilitator of efficient decision making, whereby “purposeful action is achieved through a hierarchical chain of decisions guided by general goals and objectives.”⁴⁶ He therefore perceived major problems as generally decomposable into smaller “chunks” by leveraging hierarchical structures.⁴⁷ This conclusion correlates with his intense, decades-long interest in artificial intelligence.

Regarding his overall approach, however, Simon assumed that decisions are made within a generally rational framework, or at least that decision makers seek to be rational; however, he made his early reputation by underscoring the substantive and contextual, cognitive constraints in the decision-making process.⁴⁸ Much of his work was therefore related to facilitating a better understanding of possible scenarios, alternatives, tradeoffs, etc., to better approximate rationality in the decision making process.⁴⁹ Early on, he must have imagined what it would be like if there was just a powerful enough computer that he could leverage in his just-described quest. Lacking one, he helped to develop understanding of one of the heuristics he saw as crucial for simplifying all the complexity of choices and procedures—satisficing, the idea that there is almost an invisible line that intuitively separates the “just good enough” solution from the “not good enough” one.⁵⁰ Kenneth Arrow, however, commenting on the school of thought surrounding “bounded rationality,” observed that, while the hypothesis seemed true enough in reality and could be focused for contexts in such a

⁴² Augier and March, op. cit., 9

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Ibid., 10. For related thinking, also see the following seminal work on the value of organizational hierarchies: Elliot Jaques, *Requisite Organization: A Total System for Effective Managerial Organization and Managerial Leadership for the 21st Century*, Revised Second Edition (Arlington, VA: Cason Hall & Col Publishers, 1998).

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid., 12-13

⁵⁰ Ibid., 13

way as to still provide value, it could never reach the status of a theory, at least as he defined theory, because it could never be falsified.⁵¹

Kenneth Arrow's "the limits of organization" and the DoD transformation

I will now highlight Kenneth Arrow's book, *The Limits of Organization*, in such a way as to reveal its contribution to organization theory, its linkage to the work of Herbert Simon, and, to weave this dissertation chapter's relevance a little more into the case study that will follow on the DoD Transformation. The goal here is to lay out many of the profound aspects of agenda setting, information channels and flows, change and decision making about which Arrow wrote decades ago and link them to the DoD Transformation initiative that often seems facile on the surface, but which also, by necessity, must include a lot of room for innovation and learning over time. As Secretary Rumsfeld has stated repeatedly, "there is no end state" for the DoD Transformation. Also, given the complex competitiveness and international context of decision making in the current war-time environment (called the global war on terrorism), I will also present separate sections dealing in more detail with information and knowledge management and decision cycles.

Early in his short treatise, *The Limits of Organization*, Kenneth Arrow notes that a "truly rational discussion of collective action in general or in specific contexts is necessarily complex, and what is even worse, it is necessarily incomplete and unresolved."⁵² This dissertation addresses the complexity of collective action in the mammoth DoD and will illustrate the profundity of this observation by Arrow vis-à-vis the many dimensions of the DoD Transformation initiative (especially those related to net-centricity and acquisition reform). In other words, Arrow's remarks will be leveraged as much as possible within the context of general precepts of DoD Transformation, some of which were highlighted in chapter 1 of this dissertation and others of which will be outlined in chapter 6. Arrow's following observation will make a lot more sense when the DoD Transformation journey is analyzed in chapter 6 of this dissertation, but it is profoundly relevant to this dissertation: "Rationality, after all, has to do with the means and ends and their relation. It does not specify what the ends are. It only tries to make us aware of the congruency or dissonance between the two"⁵³ in an attempt to relate to reality in a methodical fashion. In other words, Arrow

⁵¹ Ibid., 54. Also see Karl Popper, *Objective Knowledge*, op.cit., for more on the role of falsification and theory.

⁵² Arrow, op. cit., 17

⁵³ Ibid.

is describing rationality as a complex relationship between objectives and the path to best attain them to achieve real-world goals.

In the case of the DoD Transformation, it is explicitly or implicitly said many times in the literature that the transformational goals are vague, the journey is long (maybe never ending), there are no clear signposts indicating relative or absolute progress, and one is simply to put faith in the “rationality” of the entire initiative. Not only does such a story parallel Arrow’s description of rationality, it also underscores an understandable skepticism that any undertaking as massive as that of the DoD Transformation effort can transcend the status quo—which is not a rational system as much as it is a political and cultural one.⁵⁴

Secretary Rumsfeld has been consistently vague in terms of where the transformational journey could ultimately lead. While this has led to numerous questions regarding how he will develop the initiative in a comprehensive way and measure progress toward some transformed vision of the DoD, Arrow gives him cover in the preceding observation. Along the same lines, Arrow goes on to describe tension between two forces in organizations: values and opportunities.⁵⁵ Decision makers must make choices in pursuit of their goals and values, but in a persistent environment of scarce resources.

Arrow also highlights the importance of interpersonal relationships within an organization, something clearly important to Secretary Rumsfeld in his transformational initiative. This will also be discussed later with examples. Arrow notes that interpersonal relationships are needed for at least two reasons. One is simply the fact that resource limitations leads to competition within an organization, competition that cannot be avoided . . . and relationships are in play and/or could be affected by the competition. The other is the need to cooperate.⁵⁶ These observations relate directly to the culture of jointness being more deeply developed as part of Secretary Rumsfeld’s transformational initiative. By forcing military leaders to define military needs and select weapons programs within the newly established paradigm of constrained monetary resources, he is fostering both competition and cooperation.

⁵⁴ See Joseph Firestone and Mark McElroy, *op. cit.*, for ways to describe an epistemology and mechanism for tracking one’s progress against reality. Similarly, John Boyd’s work on decision cycles would be useful: Boyd, John. Dedicated Web site: Accessed 6 July 2004; available at http://www.d-n-i.net/second_level/boyd_military.htm.

⁵⁵ Arrow, *op. cit.*, 17

⁵⁶ *Ibid.*, 19

Arrow also comments on the expectations one can have about what another in the organization knows, thereby underscoring the fact that most are expected to have some kind of niche knowledge; a sub-organization or a specialist would of course be expected to have deep knowledge . . . but in their domain. They would not necessarily be expected to know what is happening in other areas of the organization to any significant degree.⁵⁷ This observation about expectation helps to explain the tension between increasing interservice cooperation while also deepening niche or parochial knowledge areas in any organization, and most certainly in the DoD, even in a transformational environment.

Secretary Rumsfeld has placed enormous value in having bright but completely loyal people in his inner circle. Arrow would explain the secretary's insistence on this as being representative of the centrality of trust to an efficient social system. Arrow notes, however, that trust is not easily obtained. Evaluating the role of trust in Secretary Rumsfeld's approach to the DoD Transformation will illuminate the tension between trust and "buy-in," "group think," and an "innovative culture."⁵⁸

In terms of understanding organizations, it is important to define them. Arrow defines organizations as "a means of achieving the benefits of collective action" in situations where assumed rationality fails or is impossible.⁵⁹ Along these lines, adding to the complexity of organizations, it is crucial to acknowledge that participants in organizations may be themselves organizations as well as individuals. Individuals also typically belong to many organizations.⁶⁰ Arrow goes on to note that virtually all decisions, to be effective, require the participation of many individuals.⁶¹

Given the different Services making up the DoD, the many defense agencies, and the myriad of stakeholders, one can only begin to grasp the complexity of the relationships, information flow (or not), and the bureaucratic nature of the multi-layered decision-making process (even if speaking of the DoD only in terms of its internal character and relationships). Maintaining this web and transforming it at the same time are no mean tasks. Arrow wisely notes the issue of inequality of information that exists frequently between certain parties in relationships, such as between insurer and insured and doctor and patient.⁶² He goes on to observe that the

⁵⁷ Ibid., 21

⁵⁸ These are all complex concepts that illustrate the role of people and relationships in any change or transformation effort.

⁵⁹ Arrow, *op. cit.*, 33

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid., 36

information structure itself is of fundamental importance. For example, what is the possibility of acquiring relevant information in the future based on the current or transformed information structure?⁶³

A closer look at the relationship between the foundational thinking of Herbert Simon and Kenneth Arrow

The theories or models of Herbert Simon and Kenneth Arrow regarding bounded rationality and the limits of organization overlap in many respects, but both Simon and Arrow won separate Nobel Prizes because of distinctly original thinking as well. In this section, I lay out apparent overlaps in thinking while highlighting the uniqueness of their approaches as well. Then I describe and justify the fusion of important elements of both of these beacons in the area of rationality and organization theory into the “governance priority paradigm” I described earlier.

Simon is widely known in academic circles for promoting heuristics, or “rules of thumb” to simplify searches for solutions to ill-structured problems. He was about finding simple generalizations that acknowledged constraints but still provided approximately a sketch of reality and unquestioned utility. According to two colleagues who greatly appreciated his contributions to social science, “Simon created models of human decision making that were ‘beautifully simple’ but at the same time ‘full of possibilities.’”⁶⁴ Simon thought such models were essential because of the dynamic complexity that characterized both human behavior and the human environment. In other words, he was fascinated by and tried to contribute to an understanding of decision making. This was at the heart of his most influential work.

To facilitate and enhance complex decision making, Simon saw a major role for effective organizations as enablers for the rational pursuit of collective goals, even as he is best known for his work describing “bounded rationality” and “satisficing” as decision-making heuristics, whether by a single individual or a large, complex organization. Simon argued that complex behavior was not the result of complex plans or complex ideas but, rather, the use of simple heuristics in a complex environment, with one of these heuristics being that organizational processes can help rationalize goals and thereby funnel choices in such a way as to satisfy those goals in a satisfactory way (as perceived by the decision makers in an organization).

⁶³ Ibid., 37

⁶⁴ Augier and March, *op. cit.*, 5

Simon thought most organizational decisions are not made in a logical, rational manner. Richard Daft summarizes such a “Simonian” perspective:

Most decisions do not begin with the careful analysis of a problem, followed by systematic analysis of alternatives, and finally implementation of a solution. On the contrary, decision processes are characterized by conflict, coalition building, trial and error, speed, and mistakes. Managers operate under many constraints that limit rationality; hence, intuition and hunch often are the criteria for choice.⁶⁵

Daft also acknowledges Simon’s perspective that individuals make decisions, but single individuals, with rare exceptions, do not make organizational decisions; rather, they are made as part of a social process, even if it may appear at the ultimate decision point that a manager has independently made a decision. Decision making in large organizations is usually composed on multiple, decomposable layers and steps. This last point provides a major clue regarding the path for fusion of key contributions of both Simon and Arrow.

Along with Simon’s interest in decision making heuristics, he was also a pioneer in artificial intelligence, dedicating years to helping develop computer routines targeted toward solving complex organizational problems requiring choices through a series of small steps. Simon’s optimism about the potential of computer science sheds a seemingly paradoxical light on his contribution to cognitive science and organization theory through persuading legions of “disciples” that they could loosen the bonds of rational assumptions about decision making in order to actually be more effective in solving complex problems.⁶⁶ It is around this paradox that I will fuse key aspects of Simon’s and Arrow’s contributions to decision making and organization behavior.

To better understand how I am going to “fuse” some of the key, original thinking of Simon and Arrow, I think the following observation by Arrow himself helps pave the path because it shows the rigor that Arrow seeks relentlessly, even while acknowledging that some contexts are too uncertain to ever be tested or programmed. Arrow notes that rationality revolves around a “process of logical

⁶⁵ Richard L. Daft, *Organization Theory and Design*, 7th edition (Mason, OH: South-Western Publishing, 2001), 430.

⁶⁶ Augier and March, op. cit.

inference, proceeding from knowledge of a problem to knowledge of an answer to it.”⁶⁷

Arrow sees Simon’s “bounded rationality” heuristic as a logical necessity since he thinks that decision makers will always be constrained in the resources that, if unlimited, could lead to the best tradeoffs and ultimately optimum decisions. Arrow sees advances in computer programming, although still restricted to a linear paradigm, as highly valuable to add perspective to decision making, but he notes that investments for enhanced computing capability must be considered in terms of how much improvement actually occurs in the “rationality” of decisions that result from leveraging computers.⁶⁸ Along these lines, he explains that

much of bounded rationality in the real world is a reaction to problems which are not at all well specified. An explorer in an unfamiliar land has to find passes through mountain ranges which he or she has never seen before or embark on rivers whose course is unknown.⁶⁹

In other words, computers, especially those using linear programming, are best suited for routine rather than complex decision-making challenges. While acknowledging the common-sense conclusion that constrained resources and capabilities make bounded rationality a reasonable heuristic, Arrow still indicates discomfort with the substandard theoretical potential of a bounded rationality model.⁷⁰

In this dissertation I leverage the common ground that Simon and Arrow share in the areas of

- decision making in uncertain contexts

⁶⁷ Arrow, Kenneth J. Is Bounded Rationality Unboundedly Rational? Some Ruminations. In *Models of a Man: Essays in Memory of Herbert A. Simon*, eds. Mie Augier and James G. March, (Cambridge, MA: The MIT Press, 2004), 49. Arrow’s heavy use of the word “knowledge” underscores his concerns about epistemology, an area of particular interest that gains considerable momentum in information and knowledge management circles at the start of what many call the Information Age. I highlight such concerns and related developments in the last part of this chapter.

⁶⁸ Ibid., p. 53

⁶⁹ Ibid., p. 53

⁷⁰ Ibid., p. 54

- their search for simplification of what appears to be largely ad hoc and increasingly complex global and organizational frameworks and contexts
- their overriding theme of the necessity of organization for the most challenging of organization problem solving
- their recognition of the inherent limits of organization
- their efforts to provide models or heuristics (Simon) or theory (Arrow) to enhance organization decision making

I do so to better answer the questions about the DoD Transformation that are posed at the end of chapter 1, which allow the consideration of the decision making assumptions and processes associated with the transformational effort, the role of leadership and technology, etc.

Simon's flexibility (in terms of confronting the accepted paradigm regarding rational theory) and his belief in the promise of technology are at the heart of much of what practical DoD Transformation is about. Then again, Arrow's extensive work in epistemology as related to organizational decision making (developed in chapter 2) is of great value in framing many of the issues with which the DoD is attempting to deal in its mantra of "the right information to the right person at the right time in the right context." Still, their common ground, listed above, is of critical importance as well. My dissertation, even though adding additional theoretical grounding through references to the work of such theorists as Abraham Kaplan and Oskar Morgenstern, and amplified by later, related work by others in the information and knowledge management area, is fundamentally motivated by the work of Simon and Arrow. It is intended to be seen as amplifying on the seminal thinking of both of these acknowledged thought leaders, who have helped plow the ground for addressing the decision making challenges central to the transformation of large, complex organizations.

John Seely Brown and Oskar Morgenstern on Information Flows

An authoritative source on the flow of information in organizations, John Seely Brown, spoke at a knowledge management conference in 2002 on the oversimplifying assumptions often associated with the flow of information.⁷¹ Where Brown extends Arrow's thinking is in the notion of the "social fabric" or information structure of an organization and how that affects innovation and, implicitly, decision making. Like Arrow, an area of particular interest to Brown is information flow. He goes beyond Arrow, though, in his identification and analysis of communities of interest and social networks for informal collaboration. Brown explains that the flattened organizational hierarchy of such communities or networks permits or even encourages such collaboration. Brown's work takes on all the more relevance to this dissertation because of the role that communities of interest are expected to play in a transformed DoD built around the mantra of "the right [and hopefully actionable] information to the right people at the right time, in the right format, on the right platform, securely, etc."

He listed the following as representative types of networks:

- Communities and networks of practice
- Social networks (with whom do you generally communicate?)
- Innovation networks (with whom do you want to brainstorm?)
- Expert knowledge networks (given a hard question, to whom do you turn?)

⁷¹ On February 10, 2003, John Seely Brown, Chief Scientist at Xerox, helped kick off the 5th Annual Brain Trust Knowledge Management Summit in San Francisco. He did so with a reflective and timely presentation on innovation that featured thoughts on social networks, particularly focused on "Communities" of "Knowledge/Practice." See also John Seely Brown, and Paul Duguid. *The Social Life of Information* (Boston: Harvard Business School Press, 2002).

- Career and structured networks (to whom do you go for career advice, etc.?)
- Learning networks for skill improvement

Brown has highlighted three “topologies and dynamic aspects of social networks”⁷² in defining the following:

- Hubs: gathering and sharing points for critical information
- Pulse-takers: individuals who monitor the ongoing health and direction of organizations and
- Gatekeepers: individuals who control information flows to exercise power their way⁷³

He has also emphasized the demonstrated difficulty of brokering knowledge practices versus just information. He relayed the failure of business-to-business exchanges in juxtaposition to the story of the 16-year-old boy who was one of the most frequently sought-after Web "experts" for legal advice. (The boy was unencumbered with legal knowledge/practice since he had never been to college, much less law school—he was just a master of gleaning information seen as relevant and useful in response to queries). Brown concluded by stating that we need a finer textured view of communities and networks of interest and practice, context and joint work, all of which he sees as key to human knowledge.⁷⁴

Oskar Morgenstern, discussed earlier in this chapter regarding organization theory, also underscores the importance of developing a better understanding of the flow of information within and between organizations. His sense of “information” is broad enough to include the notion of “intentions” driving “signals” aimed at potential “targets.” He also addresses the importance of considering the possible ripple effects based on “variables” associated with the transmission and reception of

⁷² Brown, Keynote Address, op. cit.

⁷³ Brown has noted the work of Paul Carlile of the Massachusetts Institute of Technology and his framework for managing knowledge across boundaries. He also sees the work of Bernardo Huberman from Hewlett-Packard and his peer-to-peer SHOCK (social harvesting of community knowledge) methodology as examples of this function. Along these lines, Brown has also referred to architectural issues as diverse as "safe spaces—corridors and doorways," expert finding software, knowledge/content-augmented systems and private messaging.

⁷⁴ Brown, Keynote Address, op. cit.

“signals.” Along these lines, he notes that the “same organization, as described by some hierarchy, can be of a very different nature from another one, which has the same hierarchy,”⁷⁵ depending on how information flows within each organization.

The following, very technically sounding material, further highlights Morgenstern’s line of thought regarding information flows. Morgenstern notes that a “signal is an “event” and vice versa. A signal is (after filtering information) for a specific variable or group of variables. It determines that a choice has to be made for the variable(s) to which it is related; if it does not specify further, it may carry an implicit order.”⁷⁶ He continues:

If the signal carries an explicit order, it annihilates the variable by making it a constant. Or at least it restricts the variable’s domain. . . . If a competence has all the information that could conceivably influence the choice of a value for a variable, we say that complete information exists. There may even be more information available which is then redundant.⁷⁷

Such a description sounds like it fits nicely in a modern discussion of information flows in a net-centric environment as well, something that the DoD seeks as a fundamental part of its transformation initiative.

Morgenstern states further that changes in information necessarily equate to changes within, outside, or about the organization (or all three).⁷⁸ But what relevance does change have, if one does not have a baseline as to where an organization is beginning for its change initiative? As Morgenstern concludes:

It is not enough to know that an organization is not at its optimum; it is necessary to be able to indicate where it is and how one can get to the optimum or at least move towards it. A pure trial-and-error procedure is an empirical impossibility when many variables are involved.⁷⁹

⁷⁵ Morgenstern, op. cit., 26

⁷⁶ Ibid., 27

⁷⁷ Ibid. Arrow, in *The Limits of Organization*, op. cit., uses some of the same terminology regarding information flows that Morgenstern employs.

⁷⁸ Ibid., 28

⁷⁹ Ibid., 31

The Big Picture of Knowledge Management

Three important dimensions or perspectives of known knowledge management (KM) that are getting particular attention at the turn of the twenty-first century are technology, processes and human capital. There seems to be a consensus that technology is both overhyped and given too much prominence in the mandating of processes that are not likely to be user friendly or used, while vast, untapped human capital (as expressed at the individual level and in the culture of the organization) withers in the organization or departs it, taking its most valuable intellectual capital with them. My discussion of KM emphasizes such a holistic approach.

David Snowden, an internationally thought leader has noted that, as we move into the twenty-first century, a new approach to KM is emerging that is best characterized as the management of the knowledge ecology. In this view, an organization is best understood as a complex ecology wherein managers may exert influence on rather than determine a manageable structure or architecture. In such an environment, context management would be the one-eyed ruler of the blind in what remains a very daunting environment even with the best of intentions to shepherd information and knowledge. Furthermore, heuristics (per the thinking of Herbert Simon) would be of fundamental importance to achieving actionable information, and these heuristics would be aimed toward developing shared context, the doorway to effective communication. Snowden's three main heuristics for KM are:

- Knowledge can only be volunteered; it cannot be conscripted.
- I always know more than I can tell, and I will always tell more than I will write down.
- I only know what I know when I need to know it.⁸⁰

John Boyd focused on the need to optimize the balance between speed and quality of decisions, and quick feedback on their success or failure in order to stay within the opponent's decision cycle times.⁸¹ William Hall advises that bounded rationality is a way to think about and express issues relating to the potential quality of decisions made under such circumstances. He also notes that increased information

⁸⁰ David Snowden, "Complex Acts of Knowing: Paradox and Descriptive Self-Awareness," *Journal of Knowledge Management*, 6(2), 100-111.

⁸¹ Boyd, *op. cit.*

available for processing into knowledge through extended cognition could enhance the effectiveness of John Boyd's OODA (Observe, Orient, Decide, Act) heuristic.

Hall also suggests that the notion of bounded rationality, information structures and flows, and decision making may need to be updated as electronic networks work faster with the capacity to include automatic alerting functions, thereby conceivably providing those in the network with more time to make better quality decisions. With Boyd's notion of a competitive decision cycle, however, opponents will also have the potential to improve their own networks and processes through enhanced technology. Provided this context (where the DoD is, in fact, competing in its advances toward better information and information flows), with each competitive cycle, decision making can move (in a relative sense) on a spectrum of more or less bounded rationality, backwards rather than forward with each advancement in technology (depending on how opponents also evolve). In any case, it would appear that we would remain in a context of satisfied decisions and actions.⁸²

Hall, like Simon, thinks that advancements in technology can, even in light of the competitive context that the OODA decision cycle presupposes, move organizations closer toward optimizing tradeoffs in the decision-making process. Hall asserts that the dramatic changes in computing technology is not something that can be easily dismissed by decision-making theorists, especially the dramatic shift from a world of tangible paper to the intangible aspects of electronic information storage, management, display and distribution. He states:

I think we are all a long way from fully comprehending how these new extensions to our cognition are changing our nature as individuals within the world we interact with. Linguistic expressions and revolutionary cognitive technologies . . . enable organizations to exist as entities that are much more than just the collective properties of the individuals. . . . Therefore, we need to untangle the issues relating to the person as an individual versus the person as a component in the transcendent organization of persons.⁸³

Hall also notes that the "effect of the massive increase in the complexity and pervasiveness of social communications through technological means is a fundamental alteration of society's capacity for, and rate of, interaction."⁸⁴ Given the dynamic and fundamental changes in organizations and the nature and types of interactions, KM is one of the means we have for exploring and discovering the

82 William P. Hall, Personal Electronic Correspondence with author, January 2004. Also see Hall's entries in the bibliography of this dissertation.

83 William P. Hall, AOK_K-Net Group on <http://yahoo.com>, AOK Digest 315.

84 Ibid.

potential of new organizational capabilities that were previously unthinkable or unworkable. To leverage KM effectively for the transformation of organizations, especially large, complex ones, requires holistic thinking, both in terms of the relationships between people, process and infrastructure/technology and the levels of analysis of the personal and organizational levels.

KM, complexity and innovation

I began the KM section of this chapter by highlighting some of the thoughts of David Snowden regarding the importance of heuristics for decision making in complex situations. I then noted William Hall's arguments about how technology has enabled faster decision cycles (building on the work of John Boyd) at both personal and organizational levels. Both of these issues link closely to the seminal work of Simon and Arrow regarding decision making. I conclude this chapter by including some important observations by the man who is credited with coining the term "knowledge management," Karl Wiig (even as many dealing in this field question whether this is really an appropriate term since knowledge itself is not likely to be managed, although knowledge processes stand a better chance of same).

According to Wiig, for decision-making scenarios where people have prior understanding of the situation, they might be able to leverage recall and apply even metaphorical or fuzzy mental reference models that seem to resemble the situation at hand. For well-known situations, such mental models may even include routine and concrete tasks—serving as almost a "laundry list" kind of approach for direct problem solving.⁸⁵ On the other hand, new situations that require new decisions among alternatives yet to be defined can, perhaps—with creativity and innovation—refine, and leverage existing reference models that most closely resemble the new conditions or develop entirely new ones.⁸⁶ Wiig goes on to explain that problem solving often becomes an iterative process that depends on returning to the problem over and over again, applying new understanding with each circling back or "spiral."⁸⁷ Even with the best or most appropriate mental model of how to go about solving a problem, whether it be a routine or new one, whether it allow re-use of an existing mental model or substantive innovation for a new one, a person's or organization's ability to

⁸⁵ Karl M. Wiig, "The Situation-Handling Model," accessed 6 July 2004; available at <http://www.kwork.org/Stars/wiig.html>. See some of Wiig's major published work, also listed in the bibliography.

⁸⁶ Ibid.

⁸⁷ Ibid.

make good decisions and execute them effectively are still of critical importance to successful problem solving. As Wiig observes,

The effectiveness of Implementation depends upon the Execution Capability which includes the specific knowledge needed to understand the decision and its intents, general concrete and abstract knowledge of how to implement actions implied by the decision, availability of resources and many other factors. The effective performance of the Implementation task relies on knowledge in the form of Execution Method Models, other types of Intellectual Capital (IC) assets and general resources. In the organizational domain implementation may involve large and complicated efforts that require extensive supports from specialized and competent personnel, systems and other resources.⁸⁸

In short, Wiig underscores the crucial contribution of intellectual capital, which includes data, information, knowledge, intelligence, innovation and even wisdom, to understand, approach and decide about problems . . . and to successfully execute the resultant decisions. Bounded rationality and limits of organization aside, organizations depend both on decisions and execution.

Summary

In this chapter I have discussed theory in the general sense, assessed aspects of organization theory and highlighted the distinct yet overlapping contributions of Simon and Arrow (the overlapping portion being termed “governance priority paradigm”) as acknowledged pioneers in helping move organization behavior theory forward. I also added context to their work by showing how Morgenstern outlined many common challenges they were dealing with in terms of information structures and flows, decision making and overall organization theory development.

I then moved closer to the twenty-first century to illustrate how underdeveloped organization theory remains but also how many researchers and writers are expanding on the work of such as Simon, Arrow and Morgenstern to better explore decision making. In particular, I looked at John Seely Brown because of his work in the area of the social fabric of organizations and the role that plays in the way communication flows and innovation blossoms. I then highlighted some of the innovative thinking of David Snowden in the area of organizational complexity

⁸⁸ Ibid. Also see Karl Erik Sveiby. *The New Organizational Wealth: Managing & Measuring Knowledge-Based Assets*(San Francisco: Berrett-Koehler Publishers, Inc., 1997).

and knowledge management, including his heuristics to better understand what he would perhaps call “bounded rationality”—the inability to articulate either verbally or explicitly the extend of one’s knowledge. Finally, I concluded this chapter by acknowledging Karl Wiig as a KM pioneer who continues to make valuable contributions to the field. I focused in this chapter on his emphasis on KM for better decision making and execution.

Chapter 3.

Methodology

Background

The scope and magnitude of my target case study, the DoD Transformation at the beginning of the twenty-first century, calls for a methodology that is both practical and effective in approximating the reality of the initiative rather than the biases of the main actors or observers. Just sampling the area of methodology, there are many legitimate approaches to study organization theory and contribute something of value to it. One could, for example, contribute by doing a historical analysis of the DoD Transformation without directly linking it to organization theory. Or one could propose and test one or more hypotheses for possible falsification and thereby weaken or undercut a recognized school of thought in organization theory. I have selected to do a case study on the DoD Transformation, as it is intimately wrapped in the blanket of a decision-making framework.

To provide a logical trail for my decision to proceed down this particular methodological path, and to elaborate on it, I will first provide some higher-level perspectives about methodology in general, qualitative approaches to research; some descriptions of what might be called the “school of case study approaches;” and the particular strengths and weaknesses of the hybrid approach I have selected. In so doing, and thereby justifying my approach, I also clearly indicate how the strengths of the approach will be manifested in this dissertation and how potential weaknesses will be mitigated.

Methodology in General

According to Abraham Kaplan, methodology consists of methods that include “such procedures as forming concepts and hypotheses, making observations and measurements, performing experiments, building models and theories, providing

explanations, and making predictions.”⁸⁹ Kaplan has also written that the purpose of methodology is to lay out an approach to a study in such a way as to shed light on what it can be expected to offer “at the frontiers of knowledge,” its assumptions and potential risks, and what resources it is likely to require.⁹⁰ He also notes a fundamental methodological dilemma in the tension between such methodological choices as searching for data versus formulating hypotheses, focusing on general laws or individual cases, doing macro versus micro studies, and synthesizing versus analyzing. He acknowledges that balance is required, but that this is easier said than achieved.⁹¹

Possible Alternatives to the Selected Methodology

Besides the different types of case studies that might have been used other than the particular one selected for this dissertation, there are other standard methodologies for social science works that might have been used. For example, one could formulate working hypotheses to frame the study. Another approach could formulate and explore assumptions or models for possible validation, falsification or ramifications (rather than to evaluate assertions or propositions about the target problem being analyzed).⁹²

Along the lines of an approach based on assumptions would be one intended to test a model composed of assumptions. The two types most potentially applicable to this dissertation are formal or interpretive models. While formal models allow for flexible but ordered conceptualization,⁹³ an interpretive model takes a particular study in order to explore possible convergence between a theoretical perspective and empirical project and the potential to extrapolate what is learned in one study to do further research in a second, structurally similar area by continuing with the same (or slightly modified) approach.⁹⁴

⁸⁹ Kaplan, *op. cit.*, 23

⁹⁰ *Ibid.*

⁹¹ *Ibid.*, 30

⁹² *Ibid.*, 88

⁹³ *Ibid.*, 274

⁹⁴ *Ibid.*, 275

Concerning models in general, a model is always possible, but it is not always useful if the researcher lacks fundamental knowledge of the subject matter being modeled.⁹⁵ A case study approach is therefore more appropriate for areas of potential study that are characterized by great scope, complexity, dynamism and uncertainty—all attributes of the targeted study of this dissertation. In addition, formal models have been criticized for being overly dependent on mathematics when Kenneth Arrow has pointed out that currently existing mathematical theory is not up to the task. According to Kaplan, Arrow has also pointed out that “models in behavioral science cannot be expected to fit the data exactly”⁹⁶, partially because some of the relevant variables are likely to have been omitted and target variables have little chance of being accurately measured, especially in subjects dealing with behavior.⁹⁷

Qualitative Methods

Because I will conduct a case study of the qualitative versus quantitative genre, it is worthwhile to review some thinking regarding qualitative research in general as a valid methodology. The following are some different types of qualitative research:

- historical research
- ethnography and ethnomethodology
- ethology
- grounded theory
- phenomenology
- symbolic interaction
- action research

⁹⁵ Ibid., 279

⁹⁶ Ibid.

⁹⁷ Ibid., 291

- case study⁹⁸

The threats to validity in such qualitative studies include:

- Observer bias (invalid information resulting from the perspective the researcher brings to the study and imposes upon it)
- Observer effects (the impact of the observer's participation on the setting or the participants being studied)⁹⁹
- Grounds for reliability. Critics of the case study method believe that the study of a small number of cases can offer no grounds for establishing reliability or generality of findings. Others feel that the intense exposure to study of the case biases the findings.¹⁰⁰

In terms of contributing to overall theoretical value, the attributes of research validity (both internal and external) and reliability are crucial and also apply to case studies. One way to enhance the degree of objectivity (and thereby both validity and reliability) is to use multiple sources for evidence. Clarity about precisely what is being studied is also of central importance to internal validity of a case study. Although I have selected the DoD as the unit of analysis, I am focusing primarily on the Office of the Secretary of Defense and OFT as windows into the DoD Transformation effort.

According to experts on case studies, external validity and reliability in case studies are more difficult to achieve in a single case study, but can be more effectively designed into the case study by clearly delineating any implicit theoretical relationships in the development of a formal case study protocol. Given the difficulty, however, one may have to settle for "plausibility," an alternative discussed in the next section of this chapter.

⁹⁸ Jacobs, Richard M. "The Case Study Methodology." Microsoft PowerPoint Presentation. Accessed: 7 July 2004; available from <http://www83.homepage.villanova.edu/richard.jacobs/EDU%208677/case%20study.ppt>.

⁹⁹ Ibid.

¹⁰⁰ Ibid.

Case Studies in General

A major genre of case studies is that of comparative studies. Comparative studies have usually been identified by the accumulation of numerous variables to interpret or test aggregate statistics about a variety of targets. In Harry Eckstein's opinion, such studies have often been "complex, weak, and much-qualified by ill-fitting variables."¹⁰¹ Such studies can leave the impression that case studies are not "a particularly useful means for arriving at a theoretical understanding of the subject matter of political study."¹⁰² Instead, they would likely lead one to conclude that studies become unique things unto themselves and thus that political scientists employing such an approach "appear to have no views at all, or only ambiguous views, on the role that case studies can play in theory building."¹⁰³

Eckstein outlines five types of case studies that he believes can all contribute in some way to theory:

1. Configurative-idiographic study: A descriptive, loosely defined analysis of a topic.¹⁰⁴
2. Disciplined-configurative study: A disciplined analysis of a topic, within a framework of some kind, designed to yield discoveries that might lead to theory.¹⁰⁵
3. Heuristic case studies: While very similar to the disciplined-configurative approach, these emphasize the potential value of follow-on or serial studies related to each other.¹⁰⁶
4. Plausibility probes: Experimentation concerning the evaluation of a particular, promising aspect of a model or framework, rather than just

¹⁰¹ Harry Eckstein, "Case Study and Theory in Political Science," *Regarding Politics: Essays on Political Theory, Stability, and Change*. Berkeley: University of California Press, 1992, 117.

¹⁰² *Ibid.*, 119

¹⁰³ *Ibid.*, 119

¹⁰⁴ *Ibid.*, 126-137

¹⁰⁵ *Ibid.*, 139

¹⁰⁶ *Ibid.*, 143-144

looking broadly at a target area, to see if further testing may be warranted.¹⁰⁷

5. Crucial-case studies: In very simple terms, this refers to the study of a central or pivotal case around which subsequent, follow-on cases would be expected to lend additional texture.¹⁰⁸

Eckstein suggests that, if properly done, any one of these approaches can contribute to theory building, with theory being conceptually defined as generalizations derived from inquiries and marked by regularity, reliability and validity,¹⁰⁹ foreknowledge and parsimony.¹¹⁰ Regularity, in the context of this dissertation, presupposes that the world we live is governed by something other than pure chaos . . . that there are some discernable patterns of structure, processes, etc., to be identified and understood. Reliability builds on regularity in the sense that there is an expectation that one researcher could duplicate the work of another and arrive at similar conclusions. Validity, in laymen's terms, is that something can basically be accepted as true (having been researched and studied with some degree of rigor). Foreknowledge alludes to the notion of an educated guess—one is not blindly selecting topics and approaches in his or her research efforts, while parsimony connotes a tightness of formulation of conclusions so that other researchers in the same field of study can easily understand and work with them as points of departure for additional study.

¹⁰⁷ Ibid., 147-148

¹⁰⁸ Ibid., 162

¹⁰⁹ Ibid., 127. According to Eckstein, "The quintessential end of theorizing is to arrive at *statements of regularity* about the structure, behavior, and interaction of phenomena." He goes on to state, "Reliability exists to the extent that inquirers, proceeding in the same manner, arrive at the same results; validity to the extent that a presumed regularity has been subjected, unsuccessfully, to tough appropriate attempts at falsification. Not all presumed or discovered regularities are subject to tests of reliability and validity."

¹¹⁰ Ibid., 127-129. According to Eckstein, "*Foreknowledge* is the correct anticipation, by sound reasoning, of unknowns... Theory not only does, but needs to, aim at that objective, because the toughest, hence most conclusive, test of any rule is the correct deduction from it of unobserved experience." Eckstein notes: "Only a high degree of [parsimony] can ensure that regularity statements may fail, and therefore also succeed."

Explanation of Selected Case Study Approach

This dissertation's case study of the DoD Transformation has, in fact, been selected because of its sweeping nature and significance, and thus is in line with this fundamental idea of what a case study would represent. The more broad and complex a phenomenon is, the more useful a case study approach is likely to be, especially where the existing body of knowledge is inadequate either in terms of volume, quality or currency to frame meaningful hypotheses. Also, if context is a dominant factor, as it surely is in the consideration of an organization the size and complexity of the DoD, then a case study approach is also appropriate—even more so when a holistic, in-depth inquiry is important in order to draw meaningful conclusions about the case study itself, the methodology or the perspective being evaluated.¹¹¹

With the proposition that the analysis derived from case studies should be at least associated with theories (loosely defined), I use a hybrid of two of Harry Eckstein's categories of case studies laid out above. The first is a disciplined-configurative case study approach, which I blend with a heuristic approach to allow added room for serendipitous discoveries that may be worth developing in subsequent studies.

Another aspect of case-study methodology that I use in this dissertation is that of a single case study rather than a comparative one (or a series of them targeting different aspects of the same basic subject matter). It saves time and effort versus doing a comparative research case study or constructing an alternative quantitative model with associated hypotheses.¹¹² In addition, a single-case-study approach will be utilized instead of a comparative one because the elements of the transformation effort itself are so abundant that even within the boundaries of the DoD organization, much can be garnered about the nature of the transformation effort and what it may reveal about accepted theory about organizational change. Also, the single-case-study methodology for this thesis is aligned with the heuristic approach for helping target problems worth solving, as well as to determine the validity of a possible solution.¹¹³

¹¹¹ Guy Paré, "Using a Positivist Case Study Methodology to Build and Test Theories in Information Systems: Illustrations from Four Exemplary Studies," *École des Hautes Études Commerciales de Montréal*, 2001, 4.

¹¹² Eckstein, op. cit., 137. He also notes that the "most manifest practical advantage of case study is, of course, that it is economical for all resources: money, manpower, time, effort" and that it "involves access to the subjects of study"

¹¹³ Ibid., 143

My single case study is therefore a hybrid of a “disciplined-configurative” and “heuristic” case study. As Eckstein points out, such case studies are concerned primarily with potentially generalizable conclusions and deliberately seek out such relationships.¹¹⁴

Eckstein also encourages the use of at least “provisional” theories or “frameworks of inquiry” that may provide insights about new theoretical paths to pursue in follow-on studies.¹¹⁵ Eckstein suggests that the notion of bridge-building toward potential new theory is also consistent with the expectations one should have with a heuristic approach, noting that heuristic means “serving to find out”.¹¹⁶ He goes on to note the value of using what he calls a building-block approach in the selection of follow-on case studies to enhance the potential value of any particular case study (including the leveraging of the disciplined-configurative/heuristic mode of inquiry).¹¹⁷ One could easily follow up the case study in this dissertation with many others that would mutually enrich each other and allow further bridging, as well, for other scholars studying the transformation of large-scale transformation in general, as well as aspects of the DoD Transformation.

Conclusion

A case study approach to the analysis of one of the world’s largest organizations opens the door for wide-reaching insights about the DoD Transformation in particular and the phenomenon of transformation itself, particularly of large, complex organizations (in this case of a U.S. government organization with a national-security mission). As discussed above, however, my approach is not just a wandering description of even the vast topic of the DoD Transformation (a subset of the myriad, substantive topics that could be studied relating to the DoD). Instead, I look at some of the most important background considerations, central drivers, and themes of the DoD Transformation that were likely understood by Secretary Rumsfeld. Secondly, and most importantly, I intend this case study to provide

¹¹⁴ Ibid., 143. He notes that disciplined-configurative studies assume that general laws are available: “It is not thought of as a part of a process of theory building as such, except in that the interpretation of cases may lead to ad hoc, serendipitous additions to existing theories ... [and] toward discerning important general problems and possible theoretical solutions.”

¹¹⁵ Ibid., 139

¹¹⁶ Ibid., 143

¹¹⁷ Ibid., 144

considerable insights into decision making as it relates to massive transformational initiatives, considering both personal cognitive and organizational dynamics (à la Simon and Arrow) in the process.

My hybrid case study lends itself well to bringing some rigor and, indeed, some possible expectations with which to examine the context and nature of the DoD Transformation. Expectations of bounded rationality and the limits of organization related to decision making are helpful in understanding the why, what and how of this complex transformational initiative, as well as whether they may likely be useful in studying other such initiatives (and if so, why; if not, why not?). In addition, it could help illuminate why a modified or completely alternative approach may actually be better suited to the quest.

Chapter 4.

Broad Context of Organizational Transformation

Overview

The purpose of this chapter is to highlight “the phenomenon of large-scale organizational change”¹¹⁸ and of organizational transformation, and to provide multiple, interdisciplinary examples of large, complex transformation initiatives. There is no dearth of books on change or transformation,¹¹⁹ but up until the late 1990s there has been a near vacuum of published work on both transformation in general and on the transformation of large organizations in particular (vice change in general or change of generic organizations), even though global organizations existed and, in fact, underwent many sweeping changes to compete and grow.

The shift from the Industrial Age to the Information Age is, no doubt, behind the expanded globalization of economies and the concurrent demand for greater change or even transformation to compete domestically or internationally. New approaches to business and management, such as large-scale outsourcing (and privatization for many government functions) began in the 1990s as well.

David Walker, comptroller general of the GAO, has provided the following overall context of twenty-first-century organizations:

- the United States’ national and global response to terrorism and other threats to personal and national security

¹¹⁸ Title of Chapter 1 of *Large-Scale Organizational Change* by Allan Mohrman and others, op. cit.

¹¹⁹ For a few of the more popular examples, see: Daryl R. Conner, *Leading at the Edge of Chaos—How to Create the Nimble Organization*, John Wiley & Sons, Inc., New York, 1998; and Drucker, Peter F., *Managing in a Time of Great Change*, Truman Talley Books/Dutton, New York, 1993.

- the increasing interdependence of enterprises, economies, markets, civil societies, and national governments (commonly referred to as “globalization”)
- the shift to market-oriented, knowledge-based economies;
- an aging and more diverse U.S. population
- rapid advances in science and technology and the opportunities and challenges created by these changes
- challenges and opportunities to maintain and improve the quality of life for the nation, communities, families, and individuals
- the changing and increasingly diverse nature of governance structures and tools.¹²⁰

Given an increasingly complex world of accelerating change, one could say with some confidence that, in many ways, real-world experience in organizational transformation has preceded the development of robust organization theory by major leaps and bounds and that organization theory has still not caught up, even as dramatic changes accelerate. One thing that has become increasingly important, though, as organizations evolve in this new global context, is that lessons learned about change and transformation be considered within the context from which they came.

While underscoring the importance of the “governance priority paradigm” in the consideration of and conduct of decision making, each organization will have unique attributes. Adopting a generic, “cookie-cutter” approach to dramatic change in organizations is not likely to be very successful. Still, it is crucial to understand the broader context of organizational transformation in order to better analyze, understand and derive practical and theoretical conclusions regarding the DoD Transformation.

In this chapter I will lay out many of the challenges of transformation in general and then provide examples from industry, academia and the federal government.

¹²⁰ David Walker, “Results-Oriented Government: Shaping the Government to Meet 21st Century Challenges,” Statement, 17 September 2003, 3.

Large-Scale Organizational Change

It is likely to be an oversimplification to say that “x,” “y,” or “z” set up the need for transformation, or that “q,” “r,” or “s,” for example, led to successful transformation. For example, some see transformation as the result of a holistic review and sweeping change, as a process by which organizations re-examine what they were, are, will need to be, and how to make the necessary changes.¹²¹ In the context of a world of dramatic change, organizations have had to, perhaps, more than ever before, question their identity, mission, and strategy. One thing that many observers agree on, however, is that a crisis is often needed for large-scale change or transformation to occur. But just because it occurs, it does not mean it will be successful, and how do you measure the success or failure of large-scale change or transformation anyway? To further complicate things, it is often difficult—if not impossible—to categorize reasons for failure or success in organizational transformations. An apparent lesson learned from a crisis at a nuclear power station is that organizations are more likely to at least weather an organizational storm by respecting the complex, multi-dimensional aspects of the challenge.¹²²

Large-scale organizational change, which, as noted earlier, does not necessarily equal transformation, has been defined in a way parallel to organizational transformation, as a lasting change in the character of an organization that significantly alters its performance.¹²³ Character changes could be manifested in relationships between the organization and its environment, modifications of transformation processes, the quality of decisions, realigned resource allocations and new personnel management practices. Recognizing that each of the preceding items changes continually, none necessarily changes the organization’s character. For such a degree of change, there must be changes in the organization’s design, processes, overall sense of direction and mode of execution.¹²⁴ In terms of performance, large-

¹²¹ Ralph H. Kilmann and others. *Corporate Transformation: Revitalizing Organizations for a Competitive World* (San Francisco: Jossey-Bass Publishers, 1988), xiii.

¹²² John S. Carroll, “Leading Change in Complex Organizations,” *MIT Sloan Management Review*, Spring 2001 (70-79), p. 70. “The crisis at Millstone Nuclear Power Station in Waterford, Connecticut, is a tale of lost trust, external pressure, internal strife, personal transformation, and emergent leadership. The resolution evolved from daily decisions and many contributors’ creative solutions.”

¹²³ *Ibid.*, 2

¹²⁴ *Ibid.*, 2-3. “Design includes organizational strategies, structures, configurations of technology, formal information and decision-making systems, and human resource systems. Process refers to behavior and energy and information flows, including communication, decision making, participation, cooperation, conflict, politics, and the flow of materials.”

scale organizational change is likely to alter both the nature of the organization's performance and its holistic effectiveness.¹²⁵

Transformation can be seen as qualitatively different (perhaps to an exaggerated, utopian degree—which can be a false expectation raised by associating the very term with an initiative) from organization development in that it represents:

- a redesigning of the organization to respond to environmental or technological change
- a new model of the organization for the future
- a dissatisfaction with the old and belief in the new
- a qualitatively different way of perceiving, thinking, and behaving

In addition, it is:

- spread throughout the organization at different rates of absorption
- driven by line management
- ongoing, endless, and forever
- orchestrated by inside and outside experts
- the representation of the leading edge of knowledge about organizational change
- inclusive of more open communication and feedback throughout the organization.¹²⁶

The preceding lists basically comprise what might be assumptions or hypotheses about transformation. They also raise the question of how many items on these lists may be necessary, if not sufficient, to call an initiative a transformational one, as well as how one might refine the scope of something that is “ongoing, endless, and forever” (hyperbole that is, coincidentally, closely associated with the DoD Transformation initiative).

¹²⁵ Ibid., 4

¹²⁶ Kilmann, op. cit., 2-7

There are, however, many areas where there is less than consensus about transformation. The following is a list of seven useful, searching questions to help scope a transformation initiative.¹²⁷

1. How much top management commitment and involvement are necessary in any transformational effort?
2. Is charismatic leadership required for successful transformation?
3. Where should transformation start? Does it matter?
4. Must transformation involve changes in all aspects of organization?
5. Can organizational transformation take place without personal transformation?
6. How can top managers and others be encouraged to anticipate change instead of reacting to crisis situations?
7. What is the role of the human resources function in transformation?

Such questions, of course, raise others, such as what is charismatic, what is success and how to change the culture of an organization? Again, these questions parallel closely with areas of interest in Secretary Rumsfeld's DoD Transformation.

Factors for Successful Transformation

Four transformation initiatives were studied by the IBM Endowment for the Business of Government.¹²⁸ From these, the authors derived the following, critical actions for success:

1. Select the right person AND
2. Clarify the mission AND
3. Get the structure right AND

¹²⁷ Ibid.

¹²⁸ Mark A. Abramson and Paul R. Lawrence, eds., *Transforming Organizations*, The IBM Endowment Series for the Business of Government (Rowman & Littlefield, New York, 2002).

4. Seize the moment AND
5. Communicate, communicate, and communicate AND
6. Involve key players AND
7. Engage employees AND
8. Persevere.

Note that anything times zero is zero! What is striking about such a list is how easy it all sounds. Taking any one of the eight items to peel back what is really required to, for instance, “select the right person,” underscores that successful transformation is dependent on far more than “laundry lists” of best practices taken out of context. In other words, all eight items might, in fact, be critical for successful transformation, but every context is different, and any meaningful action for the execution of the list depends to an enormous degree on subjective judgment.

The same observation applies to the list of questions that preceded the list of success factors—so many of the words in each of the questions would need to be more explicitly defined, probably within a specific context, before any meaningful answers might be expected. It is significant, however, how closely the above checklist for success correlates with the GAO’s own conclusions and recommendations for organizational transformation in government.

The U.S. Government Accountability Office and Transformation

Transformation is a key theme of U.S. Comptroller General David Walker. A leader and champion of what he considers one of the most successful, contemporary government transformations at his own agency, the Government Accountability Office, he has been a vocal proponent of better practices in tackling the necessary and myriad federal government change mandates. The following list, which amplifies the one offered earlier, and which is directed at federal agencies, offers key practices that could serve as a basis for consideration for the essential cultural changes at the heart of successful transformation:

1. Ensure top leadership drives the transformation.
2. Establish a coherent mission and integrated strategic goals to guide the transformation.

3. Focus on a key set of principles and priorities at the outset of the transformation.
4. Set implementation goals and a timeline to build momentum and show progress from day one.
5. Dedicate an implementation team to manage the transformational process.
6. Use the performance management system to define responsibility and assure accountability for change.
7. Establish a communication strategy to create shared expectations and report related progress.
8. Involve employees to obtain their ideas and gain their ownership for the transformation.
9. Build a world-class organization.¹²⁹

In testimony to Congress that is totally consistent with what former IBM CEO Lou Gerstner said about his largest challenge in transforming IBM in the 1990s,¹³⁰ Walker stated:

Strategic human capital management should be a centerpiece of any serious change management initiative or any effort to transform the cultures of government agencies. It is a vital element to the success of any government restructuring efforts, whether within an existing agency or across current agency boundaries. People are an agency's most important organizational asset. An organization's people define its character, affect its capacity to perform, and represent the knowledge base of the organization.¹³¹

Walker also testified that government agencies need management and cultural transformations to inculcate a new way of thinking about their business goals and organizational performance for the twenty-first century. Such transformation initiatives would be marked by collaborative, results-oriented and externally-oriented approaches, versus the current hierarchical, process-oriented and internally focused

¹²⁹ Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations, GAO-03-669 (Washington, D.C.: GAO, July 2003).

¹³⁰ Gerstner, Louis V., Jr. Who Says Elephants Can't Dance? – Inside IBM's Historic Turnaround. New York: HarperBusiness, 2002.

¹³¹ David M. Walker, GAO-03-1168T, September 17, 2003, p.15

ones. He also stated that organizations need “horizontal fusion” across business silos to better leverage the intellectual capital that exists throughout the organization.¹³² Walker testified to the Congress that federal missions and individual federal programs are marked by widespread fragmentation and duplication of effort. Furthermore, the common response to new needs or requirements exacerbates the situation by a layering on of new responsibilities, roles or even programs. Such approaches hinder the identification and leveraging of possible solutions or synergies across programs or agencies, thereby adversely affecting government efficiency and effectiveness.¹³³

The Transformation of Large, Complex, Private Sector Organizations— A GM Example

In this section, I will highlight a specific private sector perspective on large-scale transformation through the highlighting of one focused example: the transformation of General Motors.

Vincent Barabba, formerly an executive at GM and there during its 1992-2002 successful transformational journey, states that successful transformations take time and very much depend on the context of the particular transformational initiative. He suggests, however, that there are general lessons learned from GM’s transformation that warrant consideration by any large organization undertaking anything similar:

1. Minimize or avoid the “zone of disorder” felt by employees when the enterprise is required to change from where it is now to where it needs, or wants, to be.
2. Think about the potential of an extended enterprise system to expand the vision of the current business, starting with determining the destination.
3. Plan how to get the enterprise to the targeted destination.
4. Develop an effective dialogue with selected customers using the most effective technology.

¹³² Ibid., 14

¹³³ Ibid., 8

5. Stare a complex and uncertain future directly in the eye and develop a business design that increases the chances of favorable future conditions.
6. Create and nurture a strong and effective relationship between and among information providers (market researchers) and information users (decision makers).
7. If possible, identify the “right problem” to work on rather than finding out later that the effort solved the wrong problem.
8. Develop teams that sort out the conflicting issues underlying the multiple perspectives of functional organizations.
9. Create awareness of the interaction of the parts of the system in order to anticipate whether the outcomes of decisions will be different from initial expectations.
10. Understand the encompassing environment in which the enterprise operates and determine how to interact within that system.
11. Reveal the implicit assumptions of the plans and how to go about assessing their likelihood of actually occurring.
12. Ensure that the knowledge of what is known (or known to be unknown) by the enterprise is made available to all who need access to it.
13. Determine the enterprise destination in the face of an uncertain future and identify ways to think about getting the enterprise to that destination.¹³⁴

Barabba has stated that his exposure to both theory and practice led him to conclude that the reasons for the failure of many large business process reengineering, change management or transformational undertakings was the oversimplification of the contextual complexity associated with any such venture.¹³⁵ He has concluded that too often assumptions fundamental to the decisions to be made were assuming a linear model of thinking rather than a systems one where any

¹³⁴ Vincent P. Barabba, Preface, *Surviving Transformation: Lessons Learned from GM's Surprising Turnaround*. Draft to be published in New York by Oxford University Press, Summer 2004.

¹³⁵ *Ibid.*

changes in one part of a system would have rippling and uncertain impacts on other components of that system, including the extended enterprise and general environment. Problem solving, to Barabba, is fundamentally about decision making, and therefore the decision process, including assumptions regarding decisions that are implicit in the strategic planning and execution phases, are critical. Effective decision making, therefore, depends on an understanding of interactions between actors, phases and organizations.¹³⁶

Barabba contributes the success of GM's journey in the timeframe he studied in large part to the use of heuristics about models of decision making that include a "make-and-sell" model, a "sense-and-respond" one, and an "anticipate-and-lead" one.¹³⁷ He states that each of these models has a role to play and it is not a matter of selecting only one; however, he asserts that too often decision makers in organizations have not even realized that these frameworks exist, much less leveraged them to improve the efficiency and effectiveness of their organizations. In terms of brief definitions: the first model (make-and-sell) is one that basically assumes a predictable environment and can even automate certain decisions and actions based on anticipating "more of the same."

On the other hand, the second model (sense-and-respond) depends more fundamentally on adaptive design and content linked to more aggressive market research, while the third (anticipate-and-lead) entails embedding change into the design predicated on intuitive, idealized knowledge and proactivity about the future it wants to create.¹³⁸ Barabba expresses the transformation of GM as largely that of moving from a fundamentally "make-and-sell" model to one that also incorporated elements of the two other models as well.¹³⁹

To achieve a business environment that successfully blends these three frameworks, Barabba places a heavy responsibility on managers to focus less on structure and more on the following, facilitating environment:

1. An unambiguous sense of direction
2. Reinforcing strategic and operational plans

¹³⁶ Ibid.

¹³⁷ Ibid.

¹³⁸ Ibid., Table 1.2., 14

¹³⁹ Ibid., 16

3. Clear understanding at all levels of the extended enterprise about their roles and value
4. Full recognition in the planning and execution of actions of the full complexity and uncertainty of the environment
5. Empowerment
6. Permission for the airing of differences of opinions and even conflict in the quest of consensus
7. The interaction of market knowledge with creative product and marketing ideas
8. Leveraging the best intellectual capital of the organization to recruit new customers and employees
9. An attractiveness that encourages others to do business with the enterprise
10. An extrapolation of the idea as to whether the organization—if it were a university—would be willing to pay tuition for your children to join it.¹⁴⁰

There are two essential items to note from Barabba's case study that are relevant to DoD Transformation. The first is the holistic, complex nature of a major transformation. The second is the importance of mental models to help guide how an organization might define what it is and what it wants to be in terms of interacting with external organizations. For example, is the DoD currently of a "sense and respond" mode and would it prefer, at least in certain contexts, to "anticipate and lead"? Other points Barabba raises about the employees of the organization and their role in the transformation are also important to consider when assessing DoD Transformation. Finally, his conclusions are very much in line with the governance priority paradigm I described earlier as something Simon and Arrow would probably recommend.

¹⁴⁰ Ibid., 131

Transformation in Academia—MIT's Reengineering Project

A close look at an identity crisis at the Massachusetts Institute of Technology (MIT) at the turn of the twenty-first century provides numerous insights into the overall context of modern organizational transformation from the perspective of a prestigious, academic institution built around preparing its students to be leaders in technology. Basically the identity crisis at MIT centered on institutional transformation—a crisis in engineering education. The crisis derived from the fact that the corporate world has changed to the point that, instead of being the foundation on which an engineer builds his or her career, it is now more like something to be leveraged for experience on a path of ongoing learning and innovation. Acknowledging this seismic change, budding engineers need to focus early on building skills to enhance staying on top of innovation, which includes an emphasis on extended networks instead of their organizations.

Students must look beyond the confines of industry and research as traditionally perceived by engineering students toward the bigger picture, even as undergraduates. The expectations about what engineers are expected to know and master keep expanding in an open-ended way in concert with the scope and complexity of a world that defies simple decomposition into neat and tidy courses. The pervasiveness of technology across all aspects of society, science, art, and management ends up threatening the culture, structure, and processes of one of the leading technology universities in the world. Even the question of what the overarching mission of MIT is in such a context became muddled.¹⁴¹

The blurring of technology, science, and biology has begun to threaten a traditionally well-defined, stable, science core curriculum. Instead, science is evolving so rapidly that engineers or would-be engineers must engage with its increasingly dynamic identity, which is leading to deep niche areas of specialization and greater communication challenges across new chasms. Therefore, students lean toward a new approach to curriculum that revolves more around interaction between students and instructors than around problem sets, as important as problem sets remain in setting a common foundation and direction in engineering of any new technical flavor.

The convergence of deeper study in niche technoscience or bioengineering areas seems to call out for a new role for liberal arts courses as well to provide budding engineers with wider knowledge about the a new world built so fundamentally around technology. They require better-rounded skills of reflexive

¹⁴¹ Rosalind Williams. *Retooling: A Historian Confronts Technological Change* (Cambridge, MA: The MIT Press, 2002), 63-70

thought and communication to complement their niche specializations in science.¹⁴² This is occurring as four-year science curricula attempt to increase student loads in science because of the wider and deeper knowledge now needed to succeed in the field of innovation vice traditional careers in academic or corporate research labs.

Given the almost overwhelming challenges of an engineering university adjusting to the Information Age, the introduction of a reengineering business/cultural initiative caused considerable turmoil at MIT. What seemed to be occurring in the 1990s was that the whole area of business process reengineering was being subsumed by a tsunami of never-ending change management. To introduce such a technique into MIT's "identity crisis" was to heighten confusion and anxiety about the linkages between technological and organizational change, something the faculty was not necessarily best equipped to deal with, given the paradigm of its own stable scientific and engineering courses of study and academic career paths.

The new "change management" reengineering introduced at MIT (called the Reengineering Project) seemed to be built on utopian principles that people just need to be told to change and they will do so (without rigorous identification of the why, how, how much, where, when and who attributes of the initiative). In addition, there was almost an assumption that culture would be inevitably changed as individuals participated in the reengineering rituals.

In an age of increasingly complicated, organizational and technological systems, any change initiative needs leadership and management fully aware of the context and culture of the institutional initiative in order to steer the initiative toward success. The people with such skills and experience are not necessarily the ones with the deepest knowledge of information technology and how best to restructure a prestigious organization around its pervasive intrusion. Outside consultants advising on reengineering around the opportunities of new technology may be too removed from the critical organizational knowledge necessary for the ultimate success of the engagement. In fact, they may be either mesmerized by software solutions or just predisposed to them as almost "cookie-cutter" approaches to the new kind of change they "promised." Throughout MIT's Reengineering Project, employees were prodded along toward change by emotional appeals that almost seemed to underscore the personal and technology-centric versus institutional centrality of what would be the new order.¹⁴³

¹⁴² Ibid., 71-85

¹⁴³ Ibid., 95-104

The irony of the approach used in the MIT Reengineering Project was that it seemed to put more emphasis on the “glorious,” endless change journey than an appeal to the further evolution of a world-renowned institution in a world needing, more than ever, the types of breakthroughs in thinking and innovation that this institution had provided in the past and would be needed more than ever in the future. In other words, the Reengineering Project was trying to change a revered institution in some kind of vague, ill-defined way, but targeted at a cultural revolution, at the same time that other engineering programs from around the world were benchmarking MIT’s existing program to try to see how they might emulate MIT’s success in their own institutions.

MIT’s official definition of “reengineering,” which entailed fundamental rethinking and radical redesign of support processes in order to bring about dramatic performance improvements, indicated nothing about a quest to redesign MIT in light of new technologies. That is exactly what the consultants set out to do, having been basically empowered by a steering group that either did not know how to steer or had simply delegated this function to the change consultants, as change for change’s sake seemed to be the general direction of things, simultaneously blurring and concept of what was or could be.

A major lesson learned from the MIT change initiative is that a transformation is not necessarily for the better, especially if the reengineering is more about technology than context. Reengineering at MIT, just as discussed above regarding transformation, had a strong utopian component in that it promised deep, broad, and never-ending innovation marked by hyperboles such as “fundamental,” “radical,” and “dramatic,” vis-à-vis the approach, the redesign and the resulting performance improvements.¹⁴⁴

MIT’s Reengineering Project saw its greatest impact in transaction-intensive areas. In this area, a major lesson learned was that additional information made available by the effort did not necessarily mean additional effectiveness, and the overall changes did not necessarily equate to less work overall. Another lesson learned is that just because people resist reengineering, it does not mean they are automatically wrong—even though, at MIT, those who had the courage to question the initiative and all of its associated jargon were almost immediately suspect. The assumption that what “is” is wrong and what “will be” will be better is often an empty assumption, especially if the end goal is as vague as dynamic, ongoing change driven

¹⁴⁴ Ibid., 106-110

by technological inevitability (including upgrades and integration).¹⁴⁵ Finally, a subtler lesson learned is that

Society is often well served by blurred edges, unclear definitions, diplomatic circumlocutions, and fuzzy logic. Social logic is different from computer logic, and the ability of society to do its work is damaged if it restricts the ability of human beings to do what they do best: be creative and use judgment.¹⁴⁶

There are many possible parallels between the MIT Reengineering Project and the DoD Transformation in terms of the fuzziness and utopian nature of the two initiatives.

Transformational considerations for national security studies

The preceding highlights of MIT's Reengineering Project have an overall negative tinge to them but also a very emphatic message that modern-day engineering curricula need to be holistic and highly interactive. It was also inferred in the study that more top-down engagement from senior MIT staff might have made the overall effort more coherent, culturally consistent and successful. The need for top-down engagement, leadership and guidance is a commonly cited critical success factor for transformational initiatives.

With this principle in mind, how should senior-level, national security educational institutions be reengineered from what one observer described as a decision structure that "is slow and cumbersome with departments frequently driven by tradition and turf rather than by opportunities for synergies and integration?"¹⁴⁷ Recognizing that strategy is more than the sum of disciplines learned, could national security educational institutions, unfettered from the traditional structures of civilian universities, encourage the kind of interdisciplinary and integrated thinking that can better guide strategic thought? These are highly pertinent questions for this dissertation because any chance for wide-reaching and perhaps, eventually, sustainable traction for Secretary Rumsfeld's transformational initiative would depend on how senior defense officials evolved their thinking about the DoD

¹⁴⁵ Ibid., 125-127

¹⁴⁶ Ibid., 133

¹⁴⁷ Anonymous Government Official at the National Defense University, Background briefing with author, 3 December 2003, Washington, D.C. No formal record.

enterprise to more cross-service and cross-disciplinary thinking. Secretary Rumsfeld has described the DoD Transformation initiative as something that would result in a whole new way of thinking at the DoD. I will note and discuss the belated effort of the OFT to address the educational component of the DoD Transformation in chapters 5 and 6.

The Federal Government Context

The U.S. federal government has been in a constant mode of reinventing the way it does “business” since the end of the Cold War. The reinvention process took on new fervor with the budget crises of the mid 1990’s. Looking at successes that corporate America enjoyed in this timeframe in the global marketplace, some government leaders saw the need and opportunity for vastly improved efficiency and effectiveness in government’s own business approaches. Numerous studies, including a Defense Science Board 1996 Summer Study (Achieving an Innovative Support Structure for 21st Century Military Superiority), drew attention to the ineffectiveness of business solutions used by government, in contrast to those used by corporate America.

During the Clinton Administration, a program for reinventing government was launched under Vice President Gore’s National Performance Review (NPR). Also during the Clinton Administration, the Internal Revenue Service began a highly public transformational journey with the published vision of becoming a “customer-facing” organization. But during the same decade, corporate America began moving its streamlining solutions beyond a focus on cost (achieved primarily by downsizing, consolidation and using technology to effect business process streamlining) to a focus on achieving organizational transformation through sourcing strategies. The current Bush Administration has acknowledged the need for transformation in a wide range of areas. Most notably, the Office of Management and Budget (OMB) (with its responsibility for executing the President’s Management Agenda and twenty-four e-Government initiatives), the Department of Defense, Department of Navy, and the U.S. Army have announced aggressive transformation programs since about the 2000-01 timeframe. It is not unusual today for talk of government transformation to be linked to initiatives such as e-Government and interagency synergies, demonstrating a move beyond downsizing and into the area of strategic organizational transformation.

However, from its own failed or minimally successful transformational efforts and from observing successes in the private sector, government now recognizes that organizational transformation cannot be achieved without leveraging the resources and expertise of external partners. Indeed, the NPR in the late 1990s changed the

meaning of its acronym from “National Performance Review” to “National Partnership for Reinventing Government” in order to capture this new tone of “partnering” and “reinvention.”¹⁴⁸ Transformation on an enterprise-wide basis requires synergistic relationships among government organizations, private industry, non-profit agencies, and constituents.

Defining and Relating Strategic Sourcing and Transformation

Before proceeding any further, it is essential to present definition of strategic sourcing with respect to transformation and to illustrate their critical synergy for either to succeed. Frank Camm of the Rand Corporation describes strategic sourcing overall and how he sees it relative to what the government seems to be thinking, especially linked to the DoD: “I understand ‘strategic sourcing,’ broadly writ (and unlike anything being contemplated in [the DoD] today), to be a systematic, ongoing effort to align individual sources and the portfolio of sources with broad, high-level corporate strategy.”¹⁴⁹ Camm goes on to make the linkage between strategic sourcing and transformation:

Real transformation cannot occur effectively in any area until DoD identifies its core strategic goals and uses them to rank-order alternatives. . . . Real transformation is primarily about revisiting and assessing basic assumptions. You must ask anew what you really care about, what your strategic values are. Do the technologies, organizations, incentives, etc., you have in place today really address what your strategic values are today?¹⁵⁰

The Gartner Group, a major, international-recognized, technology consulting company, provided another definition of strategic sourcing at its 2002 symposium/ITxpo: “Strategic sourcing is the process by which an enterprise defines, plans and manages how it deploys internal and external resources and services to ensure the continuous fulfillment of its business objectives.”¹⁵¹ At the same event, Cohen also amplified that:

¹⁴⁸ The NPR officially closed on 19 January 2001. (Its last Web site can still be seen at http://www.fedgate.org/fg_npr.htm.)

¹⁴⁹ Camm, Frank, RAND Corporation. Background Briefing with author, 15 May 2002. No formal record kept.

¹⁵⁰ Ibid.

¹⁵¹ Cohen, L. Background briefing with author, Gartner Symposium/ITxpo 2002. No formal record kept.

- Strategic sourcing is a continuous business process—not a tactical procurement exercise—intended to dynamically map business requirements to service delivery options.
- A sourcing strategy is mandatory—it is the methodology to deploy the technology strategy and the means by which a business strategy is optimized.
- The pace of business change and the inherent chaos in the evolving ESP [External Service Provider] market demand the rigorous application of risk management principles to the sourcing process.
- Highly multi-sourced environments will be the norm; enterprises must develop new roles, processes and governance structures to effectively manage the environment and IT outsourcing.

A “bullet point” in Gartner’s marketing brochure for that same event illustrates the centrality of transformation to strategic sourcing: “What is strategic sourcing and why is it critical to enterprise transformation?”

GAO View of Transformation

At the Association of Government Accountants’ 13th Annual Leadership Conference, Washington, D.C., 25 January 2002, Comptroller General David Walker presented the GAO’s views on “Transformation in Government.” His presentation covered the basics of “what, why, who, how and when” regarding transformation in the federal government. He stated that transformation is basically an act, process, or instance of change in structure, appearance, or character; a conversion, revolution, makeover, alteration, or renovation. He described the case for transformational change in the federal government in terms of the government being on a “burning platform,” and he noted that “the status quo way of doing business is unacceptable.”¹⁵²

Walker cited rising public expectations for demonstrable results and enhanced responsiveness as one of two sources for transformation imperatives. The second source was government performance/accountability and high-risk challenges, including the lack of effective human capital strategies. Walker introduced the

¹⁵² David M. Walker, “Transformation in Government,” Presentation to Association of Government Accountants 13th Annual Leadership Conference (Washington, D.C., January 25, 2002), accessed 6 July 2004; available at <http://www.gao.gov/cghome.htm>.

President's Management Agenda (PMA) in light of the need for transformation, citing the five government-wide initiatives it mandated:¹⁵³

1. strategic management of human capital
2. competitive sourcing (public-private competition for federal jobs)
3. improved financial management
4. expanded e-Government
5. budget and performance integration.

Of the three components of holistic business transformation—people, process and technology—captured in the PMA, Walker stated an agency's human capital program is the most important enabler for effective performance management. Human capital challenges, he said, threaten the capacity of some agencies to perform missions economically, efficiently, and effectively, both now and in the future. The problem, he noted, is not government employees but, rather, a lack of strategic planning, along with outdated policies and practices.

As Walker pointed out, a reactive, budget-cutting environment has marked many of the government decisions made regarding human capital since the early 1990s. The emphasis was focused on downsizing and outsourcing initiatives that primarily resulted in a lack of strategic alignment, inadequate accountability for performance, skill imbalances, workload imbalances for remaining skilled workers, major succession planning challenges, outdated performance appraisal systems, and reduced investments in people. These results—individually and collectively—have historically proven to be crucial sources of business failure in the private sector.¹⁵⁴

Walker noted the areas of cultural transformation that must change in government. Moreover, he cited the need to achieve a better balance between results, client/customer, and employee issues. He also pointed to the need to work better with other governmental organizations, non-governmental organizations, and the private sector (both domestically and internationally) in order to achieve successful results.¹⁵⁵

Proposing the “next steps” for strategic human capital management, Walker stated government must first establish human capital as a top priority. Then it can

¹⁵³ Ibid.

¹⁵⁴ Ibid.

¹⁵⁵ Ibid.

focus efforts on transitioning to a modern, high performance-oriented human capital system. The next step would be to develop and implement updated human capital policies practices and information systems.¹⁵⁶

Navy-Marine Corps Intranet

An excellent benchmark related to information technology (IT) sourcing is the Navy-Marine Corps intranet (NMCI). This massive outsourcing of the design, implementation and maintenance of an intranet for shore installations to a team led by service provider EDS would certainly give the impression that the Department of the Navy has bought into strategic sourcing in a big way. But as Linda Cohen of Gartner says, “NMCI has evolved into a large tactical outsourcing of desktop support.”¹⁵⁷ As any evaluation of NMCI would quickly make clear, it was not a deeply developed, well-thought-out strategic effort. Nevertheless, the Office of the Secretary of Defense agreed to allow it to continue, partially because of its sheer boldness and the large experiment it represented to learn about outsourcing IT.¹⁵⁸

Focus on Intellectual Capital and High-Tech vs. Low-Tech Functions

So much of the emphasis on outsourcing in government has been on achieving efficiency through reducing costs. By failing to address the centrality of intellectual capital in effective operations in government and elsewhere, the wrong things have at times been insourced or outsourced. This has been done inconsistently and, at times, very erratically as well. The long-term ramifications of overlooking the importance of intellectual capital in both outsourcing and transformation programs are considerable and merit more careful consideration at the highest levels of government. In particular, IT should be a central strategic enabler for better planning, execution, and monitoring of outsourcing and transformational initiatives. Unfortunately, just as the central importance of intellectual capital for performance excellence is too often overlooked, so, too, is the potential of IT. A key characteristic of tactical government outsourcing and transformational efforts is that IT functions often have been competed in lengthy and non-rigorous fashion, as if they were no more significant than building and lawn maintenance. Exceptions to this tendency (such as the National Security Agency’s direct outsourcing of its IT functions) illustrate vision

¹⁵⁶ Ibid.

¹⁵⁷ Cohen, op. cit.

¹⁵⁸ Ibid.

and a mandate for transformation.¹⁵⁹ Even OMB officials have admitted that perhaps strategic sourcing has more of a role for areas involving high technology.¹⁶⁰

Focus on Innovation

Sometimes it is essential to innovate in order to open the door to even more innovation. Along these lines, the Central Intelligence Agency (CIA) outsourced part of its technical requirements definition function to a non-profit organization it formed, In-Q-Tel (whose roots are in Silicon Valley). The CIA subsidizes and coordinates with In-Q-Tel to identify promising commercial capabilities for potential accelerated insertion into CIA capabilities. Rather than ask its contracting department to do something for which it lacked the skill sets, the CIA looked to experts in entrepreneurial technology to develop new and quicker paths to capabilities needed for rapidly evolving mission requirements. In-Q-Tel has been reasonably successful in its early stages of development and operation, with an independent review finding that its biggest problem has been the slowness with which the CIA is able to adopt products or capabilities brought to the table by In-Q-Tel.¹⁶¹

¹⁵⁹ D. Verton, "NSA Outsourcing Deal Seen as key to IT Modernization," *Computer World*, 1 August 2001, accessed 12 June 2004; available at <http://www.computerworld.com/managementtopics/management/itspending/story/1,10901,62716,00.html>.

¹⁶⁰ Styles, Angela, Administrator of the Office of Federal Procurement Policy. Office of Management and Budget, 2001. Background briefing with author. No formal record kept.

¹⁶¹ BENS report on In-Q-Tel, 2001, accessed 23 May 2004; available from <http://www.bens.org>.

Chapter 5.

Transformation in the Department of Defense, 2001-04

Introduction

The previous chapter provided an overall perspective on and context for the transformation of large, complex organizations at the start of the twenty-first century. In addition, I focused on a strategic sourcing competency in the federal government as an enabler for more efficient and effective business decisions. Of course, strategic sourcing is not the only competency needed for a transformed, modernized federal agency or government; but it emphasizes the fact that resources are needed to make anything at all happen in an organization. If processes for acquiring resources—whether human capital, infrastructure or technology—are not strategic and aligned to desired business outcomes, one has little reason to expect that the organization can make any significant, coherent transformation.

In the focused case on the DoD Transformation that will now be elaborated beyond aspects that have been woven into earlier chapters, it will be assumed that people, processes, infrastructure and technology must also change and that strategic sourcing and other aspects of the President's Management Agenda (PMA) will be critical for efficient and effective modernization. However, the DoD Transformation is not defined or explained around the PMA, which does not by itself promise any significant transformation. The DoD Transformation has a much more ambitious vision than the PMA. Although the DoD Transformation is not easily defined, its roots and evolution will be laid out in this chapter.

Overview

To first provide some sense of scope in terms of the size of the DoD, and thus the associated magnitude of the management challenge that any declaration of transformation of the DoD implies, a May 2004 report from the General Accounting Office (GAO) pointed out the following details about the DoD:

In fiscal year 2003, DOD reported that its operations involved over \$1 trillion in assets, nearly \$1.6 trillion in liabilities, approximately 3.3 million military and civilian personnel, and disbursements of over \$416 billion. To support its business operations, DOD reported that it relies on about 2,300 business systems, including accounting, acquisition, logistics, and personnel systems. The department requested about \$19 billion—about \$4.8 billion for business systems modernization and about \$14 billion for operation and maintenance of these systems—in fiscal year 2004.¹⁶²

From the just-cited GAO report, it is clear that DoD business enterprise scope is massive. What is not equally clear is that DoD's transformation effort began a few years prior to Donald Rumsfeld being appointed secretary of defense. In fact, many DoD initiatives considered transformational were underway prior to his tour of duty in 2001-04 as secretary of defense; additionally, whatever he may have intended to perpetuate or introduce may actually require decades to accomplish. It is also noteworthy that, despite Secretary Rumsfeld's declared intention to lead a fundamental transformation, the above-cited May 2004 GAO report notes that (a) the DoD has barely begun to develop even a first-stage business enterprise architecture or associated measures of progress/success in this endeavor, and (b) the DoD has not clarified key leadership roles and responsibilities for this endeavor.¹⁶³ In other words, any particular transformational initiative could be studied to see what it reflects about the actual priorities and pace of Secretary Rumsfeld's transformation intentions.

This chapter pulls together many diverse elements of the DoD Transformation by first looking at the big picture, then at how it has been specifically mandated by the Transformation Planning Guidance provided by the Office of the Secretary of

¹⁶² *DOD Business Systems Modernization*, GAO-04-731R (Washington, D.C.: GAO, 17 May 2004).

¹⁶³ *Ibid.*, 4

Defense and portrayed by the OFT, JFCOM and selective leaders in the Services. In this chapter, I also look at Donald Rumsfeld, the ultimate leader of the DoD Transformation in light of his strategy and impact on the program. I have also provided extensive background materials about him prior to his taking on the mantle of Secretary of Defense for the second time in his life, and insights into his management style while secretary of defense.

The linkage of the DoD Transformation to the United States' war on terror that began in 2002 is also briefly addressed in this chapter. Whereas considerable criticism exists in the media about the fashion in which the war on terror has been waged, much of it actually centers on the hazards and overall intimidating challenges of rebuilding Iraq, a focus that the DoD Transformation never entertained. So some analysis about what the DoD Transformation was not meant to be also merits attention.

Overall, this chapter's description of the DoD Transformation sets the stage for the critical and analytical portion of the case study in chapter 6. That chapter will take a more critical and analytical approach to the DoD Transformation in order to gain insights from the framework of "governance priority paradigm," as applied to the nature of the DoD Transformation.

The Vague and Idiosyncratic Nature of DoD Transformation

To place the term "transformation" in the context of the DoD, it is critical to understand that it does not represent wholesale change across the entire organization, at least not all at the same time. Instead, it is focused on a few key areas—perhaps what one might call the 20% of the DoD processes and decisions that make most of the difference to its efficiency and effectiveness in the long, programmatic context to, over time, dramatically change the entire organization. These key areas are the streamlining of the Pentagon bureaucracy, along with incorporating the best traits of U.S. Special Operations Forces, to support the transformation of DoD warfighters into a more agile and lethal force enabled by superior technology.¹⁶⁴ There is not, however, consensus regarding what the DoD Transformation should be—especially if, per the preceding description, it is considered predominantly a change in the

¹⁶⁴ Keith Phucas, "The New Military: Proposing Change." Norristown, Pennsylvania: *Times-Herald*, 28 November 2003, accessed 14 June 2004; available from http://www.oft.osd.mil/library/library_files/article_305_Norristown.doc.

military versus a balanced change in the entire Department of Defense. If we were just viewing it as a military transformation, the following definition would apply: “the act of creating and harnessing a revolution in military affairs. It requires developing new technologies, operational concepts, and organizational structures to conduct war in dramatically new ways.”¹⁶⁵ Looking at it as a DoD-wide initiative makes the following definition, offered by the U.S. comptroller general, more applicable:

Creating the future of warfare and national defense while improving how the department, and all of its various component parts, does business in order to support and sustain our position as the world’s preeminent military power within current and expected resource limits.¹⁶⁶

While the above definition is a reasonable one and from a highly credible source, it was just a recommendation to Secretary Rumsfeld.

When Donald Rumsfeld was appointed as secretary of defense in January 2001, the President of the United States gave him considerable authority to pursue the DoD Transformation vision; Secretary Rumsfeld, in turn, gave a lot of leeway to the Services to determine their approaches to transformation, as long as they appeared to be aggressively innovative. But even before he took office, he had made clear his intentions to transform the DoD. He solicited the participation of small groups of experts he knew and trusted to help him define the potential shape that his transformational effort should take. In the process, he alienated many top leaders in the DoD, especially top military officers, since he did not include them in the brainstorming effort nor solicit their buy-in on the inputs of others. The Joint Chiefs were said to have devoted a closed meeting to a critical discussion of him and the implications of his taking the reins of the DoD.¹⁶⁷ Therefore, when he took office as the secretary of defense at the start of the twenty-first century, it was in a climate of general distrust and turbulence:

It would be hard to exaggerate how much Secretary of Defense Donald Rumsfeld and his top aide Steven Cambone were hated within the Pentagon prior to September 11 [2001]. Among other mistakes, Rumsfeld and Cambone foolishly excluded top civilian and military leaders when planning an overhaul of the military to meet new threats, thereby ensuring even greater bureaucratic

¹⁶⁵ Hans Binnendijk, ed., *Transforming America’s Military* (Washington D.C.: National Defense University Press, 2002), xvii.

¹⁶⁶ Walker, David M., Comptroller General of the United States. Background briefing with author, 17 March 2004. No formal record kept.

¹⁶⁷ Rowan Scarborough, *Rumsfeld’s War: The Untold Story of America’s Anti-Terrorist Commander*, (Washington, D.C.: Regnery Publishing, Inc., 2004), 136.

resistance. According to *The Washington Post*, an Army general joked to a Hill staffer that if he had one round left in his revolver, he would take out Steve Cambone.¹⁶⁸

Secretary Rumsfeld co-opted the term "transformation" from the U.S. Army, whose leader had been using the term for a few years to capture the essence of what the Army needed to do to remain relevant in the twenty-first century.¹⁶⁹ Secretary Rumsfeld remained consistently attached to the transformation theme as his dominant one for the DoD, even subsequent to the tragic events of 11 September 2001.¹⁷⁰

With his aggressive and bold approach and seemingly dismissive attitude toward military expertise (at least initially), Secretary Rumsfeld gave early insights regarding his determination for new thinking about how the DoD could be transformed. Even with his head start, confusion still reigns in many important DoD circles (perhaps even in his own mind) about what he really means—beyond very high-level goals—by (a) “transformation,” (b) what roles and programs will lead to the institutionalization of this initiative, (c) how progress toward the goals will be measured, and (d) whether any part of it could be successful.

Background on DoD Transformation

Why the strongest military in the world needed to be transformed for the twenty-first century probably said more about the new global context, politics and developments in organization theory and practices than purely a revolution of military affairs dependent only on technological breakthroughs. But all four elements—globalization, politics, rising interest in organization theory circles and the revolution of military affairs—are interwoven and, in fact, had been so for years prior to his becoming Secretary of Defense for the second time.

¹⁶⁸ Paul Glastris, “Who’s Who?” *The Washington Monthly*, November 2001.

¹⁶⁹ Ironically, Rumsfeld’s most difficult and visibly strained relationship with the military leadership was with the Army Chief of Staff, General Eric Shinseki. Rumsfeld did not attend Shinseki’s retirement ceremony, which was highly unusual but reflective of the bitterness between the two transformers.

¹⁷⁰ Even the *National Military Strategy*, published in 2004, beats the transformation drum emphatically, although with increased wisdom gained from the post-Iraq re-building and stabilization effort that began in 2003 and continued to wrack havoc on Rumsfeld’s reputation as a visionary through mid 2004.

There are a number of major precedents to Secretary Rumsfeld's transformational efforts since the DoD was formed in 1947. The one most familiar is Robert S. McNamara's introduction of the Planning, Programming and Budgeting System (PPBS) in the early 1960s in order to try to bring some rigor to the DoD's decision-making process regarding major investments, especially new weapon systems.¹⁷¹ PPBS has morphed slowly to PPBES,¹⁷² (Planning, Programming, Budget and Execution System), but it certainly represented a major overhaul of DoD's business practices in the 1960s, and has endured into the twenty-first century. Another major transformation of particular importance for context in this paper is the Goldwater-Nichols Act of 1986, which was the first big step toward increased interservice cooperation (or jointness) in the DoD. This Act designated the Chairman of the Joint Chiefs of Staff as the ultimate military decision maker on joint military matters. Of course, the Secretary of Defense, based on reforms in the 1950s, was the designated, ultimate decision maker for the DoD. However, with the Goldwater-Nichols Act, the Chairman of the Joint Chiefs of Staff also gained status as a direct advisor to the President or Commander in Chief of the Armed Forces, as did the generals or admirals in charge of the large, warfighting commands.

What is not common knowledge to many outside the DoD, however, is that a "revolution in military affairs" (or "transformation") had, according to some historians, begun in the DoD in the mid 1970s, although it was not explicitly labeled as such.¹⁷³ This was just after Donald Rumsfeld's brief stint as Secretary of Defense in the mid 1970s. The beginnings of the "revolution" can be linked, in fact, to the mid 1970s because this was when the Soviet Union was amassing its formidable submarine force that made close-in, critical lines of communications across the Atlantic and Pacific Oceans increasingly vulnerable.¹⁷⁴ Similarly, the Soviets' new generations of nuclear and conventional weapons necessitated innovation by the United States in order to maintain credible deterrence in Europe.¹⁷⁵

The middle phase of the revolution in military affairs was marked by Desert Storm in 1991, when the United States demonstrated innovative strategies linked to stealth and precision-guided weapons in that war against Iraq. It was during this time

¹⁷¹ There are many books on Robert S. McNamara's tenure as Secretary of Defense and the transformation, even revolutionary, business agenda he had in mind from the very start of his service. For example, see William W. Kaufman, *The McNamara Strategy*. New York: Harper & Row, 1964.

¹⁷² This occurred in 2003 under Secretary Rumsfeld.

¹⁷³ William A. Owens, "The Once and Future Revolution in Military Affairs," *Joint Forces Quarterly*, Summer 2002, 55-61.

¹⁷⁴ *Ibid.*, 56

¹⁷⁵ *Ibid.*

that global positioning satellites practically revolutionized navigation and that the Internet began to show its promise for enhanced communications.¹⁷⁶ Overall, the middle phase of the revolution demonstrated the advantages of precision, reach, battlespace awareness, space-based observation, and advanced communications.¹⁷⁷ Building on these attributes was an increased focus on jointness, but this focus seemed to become a bit blurred by the late 1990s. The Services began to reassert their independence, and the idea of a “revolution” faded to that of a “transformation”—something thought to be less threatening, although still a word promoting enhanced efficiency and effectiveness in the DoD.¹⁷⁸ Ironically, Secretary Rumsfeld succeeded in making “transformation” a far more intimidating term than “revolution” had ever been in the sense of uncertainty and sweeping changes .

The Continuity of Secretary Rumsfeld’s Mandate to Change the DoD

Although a revolution in military affairs linked to fundamental transformation of capability linked to breakthroughs in technology had been underway for well over twenty years, the “information revolution” has become the major context for the general direction of transformation. The twenty-first century would include a new kind of information-based warfare:¹⁷⁹

The underlying theory was that the U.S. military would be able to use a system of systems to concentrate long-range firepower, instead of massing battle platforms against key enemy nodes. American firepower would be brought to bear concurrently rather than sequentially to cause the quick collapse of an enemy’s resolve. The key concepts involved going beyond mobilization and mass to emphasize speed and information.¹⁸⁰

Along these lines, the Joint Chiefs of Staff published *Joint Vision 2010* and *Joint Vision 2020* in the mid-1990s. From the above observation, it is clear that key platforms of what would constitute Secretary Rumsfeld’s transformational initiative were already articulated and/or underway in some form prior to 2001. In fact,

¹⁷⁶ Ibid., 57

¹⁷⁷ Ibid.

¹⁷⁸ Ibid., 58

¹⁷⁹ Binnendijk, op.cit., xix

¹⁸⁰ Ibid.

The transformation effort was started by the Clinton administration and boosted by the Bush administration. The Quadrennial Defense Review (QDR) 2001 created new goals for transformation: to protect the homeland and our information networks; to project and sustain power in distant theaters and deny our enemies sanctuary there; and to leverage information and space technology. The events of September 11, 2001, refocused elements of military transformation on homeland security. By the end of 2001, a new transformation budget had been earmarked and a “Transformation Czar” was appointed at the Department of Defense.¹⁸¹

While the *Joint Vision* documents would imply intimate interservice cooperation as the ideal, the military services were in fact developing their own brands of transformation to meet the requirements that the twenty-first century vision would demand. While the U.S. Navy focused on network-centric warfare [which was the “brain child” of Admiral (Retired) Arthur Cebrowski, the new “Transformation Czar”], the U.S. Air Force concentrated on effects-based operations, and the U.S. Army on rapid and decisive operations.¹⁸² Network-centric warfare (or operations) depends on “using new information technologies to link the forces together digitally.”¹⁸³ Effects-based operations involve “how best to destroy the connections between elements of an enemy’s political and economic networks with minimal collateral damage.” Rapid and decisive operations entail “reaching the conflict quickly and acting before the enemy can react.”¹⁸⁴

Transformation Planning Guidance

At least partially because of the extent of confusion about what transformation actually meant in the DoD, the Office of the Secretary of Defense published its “Transformation Planning Guidance” (the Guide) in April 2003.¹⁸⁵ A key theme of the Guide is the necessity to “think differently” and thereby “develop the kinds of forces and capabilities that can adapt quickly to new challenges and to unexpected

¹⁸¹ Ibid.

¹⁸² Ibid., xix

¹⁸³ Ibid. Net-Centricity is defined by OFT as “A robust, globally interconnected, network environment (including infrastructure, systems, processes, people) in which data is shared [in a] timely [fashion] and seamlessly among users, applications and platforms. Net-Centricity enables substantially improved situational awareness and significantly shortened decision-making cycles.”

¹⁸⁴ Ibid.

¹⁸⁵ *Transformation Planning Guidance*. (Washington, D.C.: Office of the Secretary of Defense, April 2003).

circumstances.”¹⁸⁶ Written as if authored by Secretary Rumsfeld, the Guide goes on to say that the DoD should encourage a proactive and anticipatory “culture of creativity and prudent risk-taking.”¹⁸⁷ Something that has not received much attention outside of the GAO is that the DoD also had a mandate to transform how it does business inside the DoD.¹⁸⁸ The Guide also pointed out the importance of transforming how the DoD works with its interagency and multinational partners.¹⁸⁹ All in all, the Guide insisted on the necessary comprehensiveness (comprising people, process and technology dimensions) of the DoD Transformation, but allowed that everything did not have to be transformed simultaneously.¹⁹⁰ Through the Guide, however, Secretary Rumsfeld did put a priority on highly responsive and adaptable contingency planning that would depend upon better “training of planners, automating time-intensive activities, and using collaborative environments for parallel rather than sequential development of component parts of plans.”¹⁹¹

The Guide points out that there would be no moment at which the DoD would be ‘transformed’ but, rather, that transformation would need to leverage information technology and be marked by a creative culture of continuous, forward-leaning change to reform business and organizational practices and to always be well ahead of any potential adversary’s decision or execution cycles.¹⁹² The following statement might be considered very utopian, given that the DoD never really moved to make it a reality: “Successful transformation of U.S. military forces and DoD processes requires a strategy with clear objectives. Effective implementation of the strategy requires commitment and attention from the Department’s senior leadership and clearly assigned roles and responsibilities.”¹⁹³

¹⁸⁶ Ibid., 1

¹⁸⁷ Ibid., 6

¹⁸⁸ Ibid. Also see *DOD Business Systems Modernization*. GAO-04-615 (Washington, D.C.: GAO, May 2004), accessed 7 July 2004; available from <http://www.gao.gov/cgi-bin/getrpt?GAO-04-615>.

¹⁸⁹ Ibid.

¹⁹⁰ Ibid., 11

¹⁹¹ Ibid., 7

¹⁹² Ibid., 1

¹⁹³ Ibid., 3

The Guide lists five reasons why transformation is central to U.S. defense strategy:

1. difficulty of the status quo
2. growing asymmetric threats
3. potential of rising force-on-force challenges over time
4. historic opportunity linked to the transition to the Information Age, and
5. the high stakes if the United States fails to perform.¹⁹⁴

The Guide also lays out four transformation pillars to be achieved by 2010:

- Standing joint force headquarters will conduct effects-based, adaptive planning in response to contingencies, with the objective of defeating enemy threats using networked, modular forces capable of distributed, seamlessly joint and combined operations.
- U.S. forces will defeat the most potent of enemy anti-access and area denial capabilities through a combination of more robust contamination avoidance measures, mobile basing and priority time critical counterforce targeting.
- U.S. forces will leverage asymmetric advantages to the fullest extent possible, drawing upon unparalleled Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities that provide joint common relevant operational situational awareness of the battlespace, rapid and robust sensor-to-shooter targeting, reachback [to the Continental U.S. (CONUS) from overseas locations] and other necessary prerequisites for network-centric warfare.
- Combined arms forces armed with superior situational awareness will maneuver more easily around the battlefield and force the enemy to mass where precision engagement capabilities may be used to maximum effect.¹⁹⁵

¹⁹⁴ Ibid., 4-6

¹⁹⁵ Ibid., 10

It is important to note at this point that even if the DoD had achieved all of the above objectives by 2003, it still would have been ill equipped to deal with the post-Iraq stabilization and rebuilding effort. I will provide some general analysis related to these four pillars in chapter 6, as they seem to have been developed in a kind of strategic vacuum rather than with a capable adversary in mind, whether for symmetrical or asymmetrical battles.

Command and Control in the Execution of DoD Transformation

A major goal of transformation from the perspective of Secretary Rumsfeld was the clear dominance of the civilian leadership over military leadership in the DoD, especially regarding investment decisions. Therefore, the Guide makes the Secretary of Defense's prerogatives unmistakable regarding final decisions apportioning resources for weapon systems. The Guide also anoints the Commander of JFCOM and the Director of OFT as the advocates for transformational requirements in the budget-planning process, with "transformation" referring to weapons or platforms (such as networks) that could make a difference in the long run, not ones too heavily oriented toward near-term operational requirements.¹⁹⁶ Along these lines, the Guide also urges that research, development, test and evaluation budgets be realigned to increase alternatives to achieve transformation capabilities outlined in annual transformation roadmaps prepared by the Services (the first ones completed in November 2003) and accelerate transformation opportunities where appropriate.¹⁹⁷

Besides assigning him the task of developing a plan to transform military education,¹⁹⁸ the Guide also gave the OFT director the responsibility for evaluating the transformation process annually (by January 30) in a written report to the Secretary of Defense. In his evaluations, the OFT director must identify key transformation barriers and comprehensive strategies to overcome them and provide recommendations for the next Transformation Planning Guide or Defense Planning Guide.¹⁹⁹ In addition, the Guide tasked the Director of Program Assessments and

¹⁹⁶ Ibid., 13

¹⁹⁷ Ibid., 13

¹⁹⁸ Ibid., 26

¹⁹⁹ Ibid., 21

Evaluations at the Pentagon to summarize transformational elements of each program annually and evaluate it against transformation roadmaps, which must address interoperability priorities.²⁰⁰

The Guide underscored the importance of enhanced interoperability among the Services, or “jointness,” for successful transformation and assigned the Joint Requirements and Oversight Council (JROC)²⁰¹ the responsibility for prioritizing capabilities to best realize Joint Operating Concepts.²⁰² In addition, the Guide assigned the Commander of JFCOM the task of developing an integrated interoperability plan.²⁰³ Of particular note, given allegations of prison abuses by Americans in post-war Iraq in the 2003-04 timeframe, the Guide also emphasized the need, in the new security environment marked by a global war on terrorism, for closer cooperation between the DoD and the intelligence community regarding how to acquire, manage, and execute its overall intelligence program.²⁰⁴

In the section of the Guide addressing operational transformation, the Combatant Commands and the Services, with the support of a Transformation Initiatives Program (TIP) that the Director of OFT would develop, are mandated to develop robust concept development and experimentation programs. The Commander of JFCOM would report annually to the Secretary of Defense regarding these joint programs. In addition, the Guide laid out the guidelines for the establishment of an aggressive “lessons learned” program that would better link what is occurring in the operational arena with warfighting experiments.²⁰⁵ Transformation activities were baselined in the 2003 Defense Planning Guidance, and future transformation roadmaps would address implementation procedures and funding for a JFCOM-led Rapid Acquisition Program. JFCOM would also lead joint training development toward transformation.²⁰⁶

²⁰⁰ Ibid, 22-30

²⁰¹ The JROC consists of the Vice-Chairman of the Joint Chiefs of Staff and the Vice-Chiefs of Staff of each of the Services.

²⁰² Ibid., 15

²⁰³ Ibid., 16

²⁰⁴ Ibid., 17

²⁰⁵ Ibid., 18-20

²⁰⁶ Ibid., 19-21

National Military Strategy of the United States of America 2004 and Transformation “In Stride”

The *National Military Strategy of the United States of America 2004* (NMS) includes an innovative phrase to capture how transformation must continue even as the war on terrorism must be fought and won. The phrase is “transformation in stride,” and it is used several times in the document, which was published in March 2004. In addition, it is of great significance that this document lists the following three priorities for the Chairman of the Joint Chiefs of Staff: (1) winning the war on terrorism, (2) enhancing joint warfighting, and (3) transforming for the future.²⁰⁷ It is a significant adjustment to national military strategy to make a war on terrorism the first priority—this alone is truly transformational. Also, enhancing joint warfighting has generally been seen as one of the pillars of transformation. By separating the two items, it demonstrates that the definition of transformation is evolving.

The inference from the “in stride” phrase is that transformation is something done concurrently with the other priorities. Therefore, it could be argued that transformation is fundamental to the success of the first two priorities, as well as for the overall nature of DoD in the future. It is generally agreed that Secretary Rumsfeld’s initial intention with transformation was to essentially skip a generation of technology, particularly in the area of weapons systems, in order to better invest the defense budget for a quantum leap of difference in terms of capabilities. Transformation “in stride” represents a modification of that vision.

The NMS flows from the National Defense Strategy (from the Secretary of Defense), which flows from the National Security Strategy, which emanates from the Office of the President. The 2004 National Defense Strategy is built on four pillars:

- the creation of a “defense-in-depth”
- the conduct of continuous transformation
- the adoption of a “capabilities-based approach” to strategy (vice one planned for particular threats)

²⁰⁷ *National Military Strategy of the United States of America 2004*, iv.

- the management of risks.²⁰⁸

Joint Operating Concepts (JOCs) will guide the continuous, increasingly holistic transformation of the U.S. Armed Forces in an environment marked by four persistent and emerging challenges:

- traditional ones
- irregular or asymmetric ones of the nature of the war on terrorism
- catastrophic ones, such as would be the case if terrorists or rogue groups/nation-states threatened with weapons of mass destruction
- disruptive ones linked to competitors obtaining breakthrough technology.²⁰⁹

Eight capability areas are highlighted as essential for focusing transformation:

- strengthening intelligence
- protecting critical bases of operations
- operating from the commons: space, international waters and airspace, and cyberspace
- projecting and sustaining U.S. forces in distant anti-access environments
- denying enemies sanctuary
- conducting network-centric operations
- improving proficiency for irregular warfare
- increasing capabilities of partners, international or domestic.²¹⁰

²⁰⁸ Ibid., 2

²⁰⁹ Ibid., 4

²¹⁰ Ibid., 20

DoD Transformation Overview Presented by the Office of Force Transformation

As part of the DoD Transformation initiative, Secretary Rumsfeld established the OFT, which consists of approximately twenty staff members under the leadership of Rear Admiral (Retired) Arthur Cebrowski. In a 2003 attempt to improve communication about the nature of the transformational effort and progress being made, OFT established a public Web site and a mailing list notifying those interested in any updates to the Web site.²¹¹ In the period of just a few months, OFT posted over a hundred presentations and articles about its transformation initiative on the OFT Web site.²¹² In one OFT brochure available from its Web site, OFT notes that the DoD transformation is a “powerful combination of network-centric capabilities in the form of an effects-based approach to planning and execution” and that the “Joint Operations Concepts (JOpsC) and their subordinate Joint Operating Concepts . . . reflect the vision of a transforming, network-centric joint force.”²¹³ The benefits of such a transformed force are reflected in the following ways:

- A robustly networked force improves information sharing
- Information sharing enhances the quality of information and shared situational awareness
- Shared situational awareness enables collaboration and self-synchronization, and enhances sustainability and speed of command
- These, in turn, dramatically increase mission effectiveness²¹⁴

Promoting the concept of “net-centricity” was Admiral Cebrowski’s principal interest in the mid 1990s when he was still on active duty in the U.S. Navy, working at the Pentagon. He continued this visionary crusade when given the leadership reins of the OFT, so the majority of what came out of that office up until late 2003 centered on this concept. Similarly, only in 2003 did OFT really begin to talk about “force transformation” with a broader scope that actually included notions of changes in thinking about weapons systems themselves and about the kind of new thinking that would be essential to embrace and institutionalize transformation overall.

²¹¹ <http://www.oft.osd.mil>

²¹² Hundreds more are kept behind an Internet firewall.

²¹³ *Transformation Trends*, 28 January 2004, accessed 20 June 2004; available at <http://www.oft.osd.mil>.

²¹⁴ Ibid.

Only in 2004 have concepts relating to the educational component of transformation become a priority. One reason is that OFT was focused primarily on the highly operational and tactical focus of DoD transformation in its first couple of years. Only in late 2003 and early 2004 did OFT begin to consider OFT from more of a strategic perspective, including what kinds of thinking and other proposed transformations needed to occur to achieve transformation of the U.S. Armed Forces and the DoD overall. In other words, it was only in the just-mentioned timeframe that thinking about a potential curriculum on transformation began in earnest.

OFT also highlights the revolutionary nature of the current DoD transformation initiative in terms of how the initiative is marked by constraints, issues regarding survivability and lethality, as well as the:

- Pace of technological innovation
- Order of magnitude change
- Importance of making the case for investments
- Importance of all lines of development (key elements of transformation)²¹⁵

According to OFT, the “required capabilities of this force are expressed in terms of the three key domains of warfare: physical, information, and cognitive,” the center of which is Net-Centric Warfare (NCW). The three domains of NCW can be explained as follows:

- The precision force vital to the conduct of successful joint operations is created at the intersection of the information and physical domains.
- Shared awareness and tactical innovation occur at the intersection between the information and cognitive domains.
- The intersection between the physical and cognitive domains is where the time compression and lock-out phenomena occur, where tactics achieve operational and even strategic effects, and where high rates of change are developed.²¹⁶

²¹⁵ Ibid.

²¹⁶ Ibid.

NCW strategy focuses on a competitive space and decides on the scope, pace, and intensity of the competition. Operationally, it selects key competitive attributes and targets them. Tactically, it consists of the following mandates and characteristics:

- Fight first for information superiority
- Speed of command
- Access to information: shared awareness
- Dispersed forces: noncontiguous operations
- Demassification (reducing tangible products or weapons in favor of digital ones)
- Self-synchronization
- Deep sensor reach
- Alter initial conditions at higher rates of change
- Compression of levels of war²¹⁷

As noted above, net-centricity has been the fundamental foundation on which Admiral Cebrowski has sought to build the DoD Transformation. According to OFT, key elements of the strategy for implementing NCW in the DoD are as follows:

- Refine the new rules of Information age warfare and the theory of NCW through simulation, testing, experimentation, and actual combat experience
- Apply the NCW theory enterprise-wide in the DoD
- Accelerate networking of the joint force at the tactical level, as well as at the strategic and operational levels
- Accelerate deployment and employment of new network-centric concepts and capabilities
- Experiment with network-centric concepts and capabilities to develop new and better ways to conduct network-centric operations (NCO)

²¹⁷ Ibid.

- Address challenges of allied and coalition NCO
- Develop doctrine and tactics, techniques, and procedures for NCO.²¹⁸

The above list is an almost utopian delineation of what would make an excellent, holistic approach to the institutionalization of net-centric strategy and tactics into U.S. warfighting doctrine. In other words, there are many implicit assumptions in this short list—the largest ones being that there are cogent methodologies, capable individuals, and adequate resources to follow the apparently essential steps. However, there is a conundrum in that the individuals required to implement the above steps will already have had to become net-centric converts; net-centricity will have to be assumed to be well-enough understood; and the required technology will need to have become robust enough to make the dream a reality.

Mature or not, the network exists and becomes more dense and complex on a moment-by-moment basis, including international linkages, such as:

- the stand-up of Allied Command Transformation and the commissioning of the North Atlantic Treaty Organization’s Network Enabled Capability Study
- the continued maturation of the United Kingdom Ministry of Defense’s Network Enabled Capability
- Sweden’s continuing development of Network Based Defense
- the Australian Defense Force’s development of its NCW Roadmap.

The following are some highlights of briefings that Admiral Cebrowski gave in the March-April 2004 timeframe describing the DoD Transformation. First of all, he observed that the fundamental attributes of transformation consist of the following:

- Continuing process that creates/anticipates the future
- Co-evolution of concepts, processes, organizations, and technology
- New competitive areas/competencies; revalued attributes
- Fundamental shifts in underlying principles
- New sources of power and a broadened capabilities base²¹⁹

²¹⁸ Ibid.

It is important to note his description of transformation as being partially the co-evolution of concepts, processes, organizations, and technology; he makes them all appear to be equally important and happening simultaneously. For example, the case could be made that technology might be the principal driver. Also in this description, he does not make the point that the kind of transformation he describes, to succeed, must be led in some way. Assuming the DoD Transformation is being led (and, implicitly, that he has a leading role), he highlights OFT transformation goals, listing the following points:

- Make force transformation an integral element of the DoD corporate and national defense strategy
- Change the force and its culture
- Implement Network Centric Warfare
- Get the decision rules and metrics right and cause them to be applied enterprise wide
- Discover, create, or cause to be created new military capabilities to broaden the capabilities base and to mitigate risk.²²⁰

As he notes clearly, cultural change should be an attribute of the DoD Transformation, but he does not explain how it will be achieved. He almost implies that if the force is changed, the culture will change. The only point that sounds like an authentic, high-level goal is the last one about creating new military capabilities. That being acknowledged, he does not refer to any old capabilities being replaced. He also says nothing here about the transformation of business and financial processes, which are fundamental to a transformed DoD in a constrained financial environment.

Admiral Cebrowski says that NCW will provide information advantage, which he characterizes as information sharing, shared situational awareness and knowledge of a commander's intent. There are so many questions one could raise about such praiseworthy outcomes, such as who is sharing information, and how (and how decisions are made from the sharing), who is contributing to and taking out of the shared situational awareness . . . and how this differs from "information sharing." As to the third point (knowledge of commander's intent), how does net-centricity

²¹⁹ Arthur K. Cebrowski, Security Planning and Transformation, p. 3, April 28, 2004, accessed June 25, 2004; available from <http://oft.osd.mil>.

²²⁰ Arthur K. Cebrowski, "Transforming Defense," March 04, accessed June 25, 2004; available from <http://oft.osd.mil>.

improve this, and to what degree? Admiral Cebrowski goes on to say that information advantage leads to warfighting advantage in that behavioral change and new doctrine enable self-synchronization, speed of command and increased combat power. How does the new doctrine get established and inserted into the existing paradigms for warfighting? It is clear that faster communication could lead to faster decisions, but how do faster decisions necessarily lead to better decisions and increased combat power?

Admiral Cebrowski lists the following as the key barriers to transformation: process, physical, fiscal and cultural. For the process barrier to be overcome, the management of defense must be transformed. Physical barriers can be overcome with enhanced lift, mobility and interoperability capabilities. Fiscal barriers would fall with the willingness and ability to look at investments in whole new ways, allowing greater discretionary spending, and to devolve decision making about such investments to a lower level. He describes attacking the cultural barrier as being the attainment of new understanding and acceptance of the notion that transformation is a journey rather than a destination.

From this list, it appears that the first three barriers must depend in some way on changed thinking and new kinds of choices being made based on that new thinking. The same actually goes for attaining cultural change as well. The problem with such a list and the implied change of thinking that underlies it is that it appears to oversimplify the barriers to be overcome. It is therefore paradoxical that Admiral Cebrowski then explains how success in transformation will, in fact, depend on the DoD becoming a complex adaptive system.

DoD as a Complex Adaptive System

Only a complex adaptive system is robust enough to allow adequate adaptation to the emerging threats to be expected in an increasingly complex, dynamic environment. As a complex adaptive system, the DoD would benefit from universal scaling laws (unlimited scalability of information networks) and power law distributions (the power of networks to strengthen through the number of nodes connected) that enhance survivability in complex adaptive environments. He therefore concludes that future "architectures are then reliant on the broadened distributions, relationships and behavior between components, organizations and the

interdependencies of the links that are created...and *not* based on or dictated by platform performance or capability.”²²¹

Because Admiral Cebrowski interprets the information age as a Complex Global Environment, he describes it in some detail as being characterized by inherent complexity, where there is considerable interdependence among different parts and where ripple effects can be expected but unanticipated to any degree of precision, potentially leading to system failure. He concludes that we are unlikely to have the computing capability anytime soon to model an environment marked by the unpredictability of emergent collective behavior in networks and the associated feedback loops that would multiply constantly. Therefore, his conclusions can be rather intimidating, even to eager students who might want to be the masters of the new kind of environment he describes.

Admiral Cebrowski explains the elevation of the DoD operating environment to a complex one—vice the merely complicated one we have grown used to—based on the degree of change that has been occurring, the amount of integration of previously separate systems, rapidly multiplying functionality of systems and the multi-dimensionality of associated constraints. To reduce complexity, he recommends focus in the area of functionality, the avoidance of integration of systems and overly onerous constraints within or among systems. At the same time, he urges that increased adaptability, numbers and diversity of options be introduced to the DoD network in order to better tolerate and compensate for ripple effects and overall uncertainty in the environment.

Along the same lines, he encourages a total system approach for the DoD that would include information fusion and a complex understanding of the relationships between all DoD components in order to have the capability of constantly preparing new options for action. To simplify this approach, Admiral Cebrowski suggests that the technology of the network be highly flexible and reconfigurable.²²² Admiral Cebrowski then outlines a “corporate” DoD strategy for transformation that consists of what he terms “continuous small steps,” “many medium jumps” that might include expanding DoD horizons, to include new doctrine/organizations/systems, and “a few big bets” that could fundamentally change the DoD and the world.

²²¹ Ibid.

²²² Ibid.

DoD's Big Transformation Bets

DoD is currently placing a few big bets in the areas of directed energy, seabasing, non-lethals (e.g., scalable, directed energy and denial of mobility to an adversary) and demand-centered intelligence (based on the horizontal integration of current “siloes” service or agency systems to make required intelligence available in a joint information, surveillance and reconnaissance environment). Admiral Cebrowski then suggests that there are a few more such wagers of the same potential magnitude that are worthy of consideration:

- Joint “Knowledge-Enabled Logistics”
 - Support of combat operations on a non-contiguous battlespace
- Joint Re-Directed Energy
- Airborne Relay Mirror System
 - “Killer application” for directed energy
 - Accelerate from the far-term to the mid-term
- Tactically Responsive Space
 - Part of a new business model for space
 - Accelerate from the far to the near-term
- Joint Seamless Machine-Machine Integration
- Tactical Targeting Network Technology
- Advanced Tactical Targeting Technology
 - Every shooter a sensor, every sensor on the net
- Network-centric Collaborative Targeting²²³

²²³ Cebrowski, op. cit., 24 March 2004

OFT Updates its Transformation Thinking

In March 2004, Admiral Cebrowski presented updated objectives for OFT. They are to (1) link force transformation to key elements of military strategy in order to better prepare for uncertainty while still providing dissuasion and deterrence; (2) develop innovative concepts that leverage America’s innovative, operational, and tactical culture; and (3) create new elements of transformation through the selective selection and championing of prototypes; and (4) provide unbiased feedback to senior leadership and expand education about net-centric warfare.²²⁴

Given the challenges the DoD has confronted in Iraq after liberating it in 2003, Admiral Cebrowski also suggests that OFT may need to explore ways to transform the DoD for stability and reconstruction operations that would include incorporating lessons from history and then identifying, developing, and implementing appropriate strategies and capabilities, including interagency and international ones, and adapting military culture and organizations.²²⁵

In noting the evolution in DoD’s desired transformation outcomes, he makes the following distinctions between 2003 and 2004:²²⁶

2003	2004
More expeditionary	Lighter, more agile, easily deployable units
More networked	Knowledge-enabled warfare
Designed to leverage the exterior positions	Sustain on-call, global precision strike

²²⁴ Ibid. One might question how open senior leadership (above Admiral Cebrowski) was to feedback.

²²⁵ Ibid. See also “Cebrowski Interview,” *Defense AT&L*, Mar-Apr 2004, 2-9.

²²⁶ Cebrowski, “Security Planning and Transformation,” *op. cit.*, 5

Leverage increasingly persistent Intelligence, Surveillance and Reconnaissance	Persistent engagement
Tighter sensor-shooter timelines	Improved horizontal intelligence distribution
Value information superiority	Demand-centered intelligence
Joint interoperability at the operational level	Jointness to the tactical level
Emphasized unmanned capabilities	Substitution of capital for labor

Another new, broad finding for transforming the way of war in 2004 is: “Increasing the speed of command of a networked, distributed force contributes to more rapid force projection and engagement,” which is characterized by high transaction rates, increased information rate and volume, increased complexity and scale of operations and the tolerance for ambiguity and unpredictable command.²²⁷

Services and Joint Forces Command Perspective on the DoD Transformation

According to U.S. Navy Admiral E.P. Giambastiani, Jr., Commander of U.S. Joint Forces Command, transformation challenges include:

- Organizing, Training and Equipping Joint Forces
- Creating coherently joint, capabilities-based, joint forces

²²⁷ Ibid., 6

- Institutionalizing Process, Product and Alignment
- Delivering “Block IV” capabilities & Experimenting on “Block V”
- Establishing Joint Culture and learning institutions²²⁸

Giambastiani also described the attributes of a transforming Joint Force as a migration from (a) deconflicting service forces, to (b) coordinating them, (c) integrating them, and finally, (d) making them interdependent, effects-based, collaborative, and network-centric.²²⁹

Shane Deichman describes the vision of network centricity as a complex adaptive system whose attributes are nodal relationships (versus “centers of gravity”), networks versus hierarchies and complexity versus linearity and reductionism.²³⁰ Besides the confirmation that it’s not the plan, but the planning that counts, other lessons learned from Operation Iraqi Freedom regarding the network centric paradigm include the fact that it enhances situational awareness and adaptability, which accelerates the decision cycle.²³¹

George Bowers of the U.S. Joint Command has urged a systematic enhancement of prototype evolution activities that can accelerate rapid insertion of successful ones in a holistic way into the U.S. Armed Forces.²³² According to U.S. Air Force Brigadier General Marc “Buck” Rogers of JFCOM, the truth about the DoD Transformation is that it is a continuous process that has been accelerated; it is more of a cultural than a technological phenomenon; and a key to success is a coherent and easily adaptable (for potentially disruptive advances) roadmap to the future. He observes that shortfalls exist in situation awareness, decision making, execution, and oversight throughout the battlespace, even though technology is now available to better enable it. He notes the shortfalls in interoperability; standard operating procedures, tactics, techniques, and procedures; standards for Joint Task Force (JTF) leadership or command and control (C2) personnel, and deployable JTF C2 facilities.

According to a panel of DoD leaders discussing transformation in 2002, the DoD “must overcome the challenges of cultural change, acquisition reform, and

²²⁸ Admiral E.P. Giambastiani, Jr., Commander of U.S. Joint Forces, Keynote Presentation at Transformation Technet 2004, Norfolk, VA, June 10, 2004.

²²⁹ Ibid.

²³⁰ Shane Deichman, Transformation Technet 2004, 8-10 June 2004.

²³¹ Rich O’Hanlon, Rear Admiral, US. Navy, Transformation Technet 2004, 8-10 June 2004.

²³² Bowers, U.S. Joint Forces Command, Transformation Technet 2004, 8-10 June 2004.

defining what transformation really means.”²³³ In 2004, according to U.S. Navy Vice Admiral James D. McArthur, Jr., Commander, Naval Network Warfare Command, sea warfare operations in the twenty-first century consists of an information-superiority-driven concept of operations. Net centricity, to him, is made up of a global network that comprises sensors, decision makers, shooters and joint/coalition components. Attributes include shared awareness, speed of command, self-synchronization among net-centric components, flexibility, customizability, and a distributed/collaboration framework. He has observed that the following are areas where increased cooperation with the private sector could provide benefits to enhanced net-centric operations:

- New business models to foster and incentivize integration and interoperability
- Experimentation and prototyping
- Metrics and return on investment approaches
- Enterprise Services definition²³⁴

In 2002, General John Jumper, U.S. Air Force chief of staff, noted that the best opportunity for introducing the kind of cultural change essential for transformation is through the development of a concept of operations leveraging technology across a Service and among the Services.²³⁵ In 2004, U.S. Air Force Brigadier General Neal Robinson, Director of the Air Force Cryptological Office and Vice Commander, Headquarters Air Intelligence Agency, noted that the global war on terrorism requires better pattern recognition and faster reactions to targets of opportunity.²³⁶

On the topic of learning from one another and history in the federal government, in 2002 Coast Guard Commandant, Admiral Thomas Collins, suggested that the U.S. Armed Forces might be able to take some lessons learned from the U.S. Coast Guard’s \$17 billion Integrated Deepwater System because of its network-centric foundation and the flexible partnership with industry on which it depended,

²³³ Dan Caterinicchia, “DoD Leaders Discuss Transformation,” 18 October, 2002, <http://fcw.com>.

²³⁴ James D. McArthur, Transformation Technet 2004, 8-10 June 2004.

²³⁵ Caterinicchia, op. cit.

²³⁶ Robinson, Neal. Transformation Technet 2004, 8-10 June 2004.

one tied to performance.²³⁷ Along the same lines, Admiral O’Hanlon puts the current DoD Transformation into perspective when he observes that the U.S. Marine Corps has undergone major successful transformations twice during the last century. The first one came at the start of World War I, when the Corps shifted from performing shipboard and military police functions to become a force capable of participating in large-unit, conventional land combat operations.

Then, by the start of the World War II, the Corps had transformed itself into the world’s dominant amphibious warfare force. Speaking of today’s transformation priorities, he lists the following:

- Successfully Pursue the Global War on Terrorism
- Strengthen Joint Warfighting Capabilities
- Transform the Joint Force
- Optimize Intelligence Capabilities
- Counter the Proliferation of weapons of mass destruction
- Improve Force Manning
- New Concepts of Global Engagement
- Homeland Security
- Further Streamline the DoD Processes
- Reorganize the DoD and the U.S. Government to Deal with Pre-War Opportunities and Post-War Responsibilities

Background on Secretary of Defense Rumsfeld Prior to Undertaking the DoD Transformation

Prior to providing analysis in chapter 6 about the likely significance of Secretary Rumsfeld in the transformation process, I will provide a general profile of

²³⁷ Ibid.

him in this chapter, especially in the context leading up to his initiative to fundamentally change the DoD. The “change is the only constant” adage certainly applies to the DoD and is a given even related to the transformation initiative itself; DoD Transformation is far from carved in granite. But one persistent constant has been the leadership of Secretary Rumsfeld; his strong personality and nearly unparalleled qualifications warrant special attention as background for the nature of the entire DoD Transformation initiative.

Donald Rumsfeld worked for two congressmen in Washington, D.C. after leaving the U.S. Navy in 1957 and then won four elections to the U.S. Congress. In 1969, he resigned from the U.S. House of Representatives to join the former Nixon administration as the head of the Office of Economic Opportunity (OEO). He brought Dick Cheney on board to help him. Secretary Rumsfeld left OEO in December 1970 to be director of the Cost of Living Council. In 1973, Secretary Rumsfeld was appointed Ambassador to the North Atlantic Treaty Organization. In 1974 he became Chief of Staff for former President Gerald Ford. Then in 1975, he became the youngest-ever Secretary of Defense, replacing James Schlesinger.

As the Secretary of Defense, Rumsfeld “focused laser-like on the Soviet threat” and successfully convinced a liberal-dominated Congress to approve an increase in defense spending. His strategy revolved around inviting groups of congressmen to the White House. Ford would put in a quick pitch for defense spending, then turn the presentation over to Rumsfeld.”²³⁸ When Ford lost the 1976 election, Donald Rumsfeld transitioned in 1977 to the private sector for the first time in his professional life. After some lecturing at Northwestern and Princeton Universities, he became the CEO at G.D. Searle & Company. Then in 1983, former President Ronald Reagan appointed him special Middle East envoy [for what would be six months], just shortly after the Marine barracks in Beirut was destroyed by a truck bomb.

Rumsfeld’s World View and Management Style

Donald Rumsfeld’s method of writing short notes (on small stationary) to staff became known as “snowflakes” during his stint as Middle East envoy, as he inundated his team with them. At first unsure about what to make of them, after scores of them, his team “realized the purpose of snowflakes is to get people to come up with other innovative thinking.”²³⁹ In a similar vein, in 1998, when he returned to

²³⁸ Scarborough, op. cit., 83

²³⁹ Ibid., 136

Washington, D.C. again, at the invitation of Newt Gingrich to chair a study on missile defense, he revealed his strong personality and demanding style to a “new generation”: “Rumsfeld was merciless with briefers who do not know their subject. . . . So he made them show up with bios.”²⁴⁰

Another example of Donald Rumsfeld’s skepticism about the bureaucracy’s standards or abilities is revealed by Admiral William Woolsey, who noted, “Rumsfeld got very concerned about the intelligence community’s lack of willingness to fill in the pieces of the jigsaw puzzle for which they didn’t have direct evidence with judgment” but he succeeded in receiving “a unanimous report regarding the missile threat to the U.S.”²⁴¹ In 1999, Rumsfeld chaired a second commission, this one on outer space and U.S. satellite vulnerabilities to attack. The following was the key conclusion: “The risk to US and Alliance security is increasing as the US fails to respond effectively and decisively to asymmetric threats likely to characterize the first quarter of the twenty-first century.”²⁴² Former Secretary of Defense William Cohen thought that the missile threat to the United States could emerge in one year [2000]. Former Secretary of the Treasury Paul O’Neill, who participated on the panel, saw the memo as “a statement of enveloping peril [with] no hypothesis for any real solution.”²⁴³

In terms of his worldview before coming into office in 2001, Donald Rumsfeld was concerned about Iraq, China, Russia, Iran and North Korea, as well as a missile threat to the United States. He was mostly concerned about China. He was particularly concerned about the Chinese military doctrine that envisioned the skipping of generations of capabilities in order to be more or a competitor with the United States on the international scene. Consistent with this interpretation of how he viewed China, once he was in the Pentagon, he urged the end to all military contacts with Beijing. However, he was overruled by the National Security Council, especially by Secretary of State Colin Powell. In any case, soon afterwards, he was forced to direct his focus on North Korea. Ironically, the report had apparently focused on the wrong threat, if one had to pick only one to focus on, since the threat of North Korea’s evolving missile and nuclear capabilities far overshadowed any concentration on China that Rumsfeld had advocated.

²⁴⁰ Ibid., 102

²⁴¹ Scarborough, *op. cit.*, 102-103

²⁴² Ibid.

²⁴³ Ron Suskind. *The Price of Loyalty: George W. Bush, the White House, and the Education of Paul O’Neill*. New York: Simon Shuster, 2004.

The commission's report concluded with a discussion of the "revolution in military affairs," one that could make for lighter but more lethal combat forces operating more effectively in the information age even though lighter and more widely dispersed to different trouble spots. The key components of this technology-centric, potentially transformational program, were stand-off, precision-guided munitions, stealth technology, enhanced computing capabilities, and enhanced space-spaced capabilities for command and control, communications, surveillance, and reconnaissance.

Secretary Rumsfeld was subsequently asked to chair the Commission to Assess United States National Security Space Management and Organization, which had been convened because of the fragmented, non-integrated approach being taken to the development and operation of space programs across the DoD. While each Service had the mandate to ensure that its space programs were integrated into service strategy and training, there was no single, executive agent in the DoD for space. Although the U.S. Air Force had been given most of the budget for space activity, it would require more than money to address the strategic and technological challenges for the optimum leveraging of space across the Services. Also, the National Reconnaissance Office, which had begun under the CIA to be a leader in the development of first-of-a-kind systems into being the over-burdened, "hands-tied" bureaucratic manager of its legacy portfolio. Another problem concerned the staff within the CIA responsible for managing resources and assessing space programs. In addition, at least six parochial congressional committees were involved with the authorization and appropriation of funding, and this ended up wasting a lot of time and energy with little forward progress in terms of the rationalization of the space investments.

Another crucial consideration that had to be acknowledged by the commission was the proliferation of high-tech weapons throughout the world. The commission recommended reorganizing and reassigning authority within the DoD and incorporating U.S. civil and commercial space activities within the national security space services. In addition, it recommended the enhancement of budgetary systems and war games and simulations to include space system capabilities.

Secretary Rumsfeld discovered from his initial discussions with President-elect George W. Bush that they shared the same perspectives regarding the need to remake the American military and overhaul the DoD, as well as the American military defense strategy, which was operating on the basis of a Robert S. McNamara doctrine that had remained virtually unchanged since the Kennedy administration.²⁴⁴

²⁴⁴ Midge Decter, *Rumsfeld: A Personal Portrait* (New York: HarperCollins, 2003), 122-123.

It was the “two and a half wars” policy, under which the United States should be capable of fighting two major wars simultaneously, along with a minor war somewhere else. In addition to military doctrine, Secretary Rumsfeld would also be required to lead a top-to-bottom review of U.S. military capabilities. In June 2001, he testified before the U.S. Senate Armed Services Committee that a new military strategy had to be developed because of the need to prepare for unforeseen threats. He intended to review both U.S. theories of warfare and the DoD organizational behavior. He also apparently planned to do so with only limited consultation with military and Congressional leaders, which led to initial resistance in and from the Pentagon and Congress. Although Secretary Rumsfeld had forty-three positions to fill, many of them were still unfilled as late as midsummer 2001, so, from the start, his abrasive, apparently arrogant approach did not foster cooperation from critical stakeholders.

Secretary Rumsfeld asked Andy Marshall in the Office of Net Assessments to think about the big picture and produce a paper on the role of the U.S. military in the transformed post-Cold War world. Marshall’s general idea was that, with the Soviet Union gone, the two areas that now posed a potential threat to American tranquility were South Asia and the Pacific Rim—a fact that might have significant implications to the traditional overseas basing approaches in Germany. Secretary Rumsfeld also began reviews of healthcare and housing for military families. He also confronted ‘the teeth-to-tail ratio’—that is, the proportion of people ready for battle to those providing a whole variety of noncombatant services.

In addition, he noted the restriction on reallocating money and how changing this restriction might allow savings in one area of DoD to be used for something else. He also wanted to address the huge requirement that the DoD to submit 905 reports to the U.S. Congress every year and responses to approximately 2500 to 3000 weekly inquiries or complaints from members of Congress. The backlog of over 100,000 security clearances (which had nearly quadrupled by 2004) was another area he wanted to address. Also, the fact that the DoD was monitored by approximately 24,000 outside auditors and inspectors manifested itself as a further overhead expense to the point where only an estimated 14% of the DoD’s manpower was directly related to combat operations.

To achieve such a high level of oversight, the DoD maintained such intimidating policies that many commercial businesses working on critical military technologies were deterred from even seeking business with it. As one other example of the gigantic size of the DoD bureaucracy, the yearly Defense Authorization Bill in the twenty-first century had grown to approximately 1000 pages in length, whereas it had only been seventy-five pages in 1975 and one page in 1962.

Rumsfeld's Transformation Initiative and the Global War on Terror

In 2001, Secretary Rumsfeld cited five major reasons why the military budget should be dramatically increased:²⁴⁵

1. The collapse of the Soviet Union has produced centrifugal forces in the world that have created new regional powers. Several of these are intensely hostile to the United States and are arming to deter us from bringing our conventional or nuclear power to bear in a regional crisis.
2. The post Cold War liberalization of trade in advanced technology goods and services has made it possible for the poorest nations on earth to rapidly acquire the most destructive military technology ever devised including nuclear, chemical, and biological weapons and their means of delivery. We cannot prevent them from doing so.
3. The civil sector, not the defense sector, now creates the enabling technologies for advanced military capabilities. These universally available technologies can be used to create "asymmetric" responses by small or medium sized states to our conventional military power that cannot defeat our forces, but can deny access to critical areas of Europe, the Middle East and Asia. Conventional submarines, advanced air defense, attacks on our C4ISR [Command, Control, Communication, Computers, Intelligence, Surveillance, and Reconnaissance] infrastructure and similar 'asymmetric' approaches can limit our ability to apply military power.
4. China, Russia, Iran, Iraq, North Korea and others are investing in these capabilities. Liberalized international trade will propagate these capabilities to others.
5. The threats can emerge very rapidly and with little or no warning.

But Congress was not ready to grant Secretary Rumsfeld whatever he requested; this was said to surprise him more than the resistance he was encountering in certain corners of the Pentagon.²⁴⁶ After the events of 11 September 2001,

²⁴⁵ Donald H. Rumsfeld, Prepared Testimony to Senate Armed Services Committee, 21 June 2001, accessed 7 July 2004; available from <http://armed-services.senate.gov/statemnt/2001/010621rumsfeld.pdf>.

²⁴⁶ Scarborough, op. cit., 137-138

however, he got increased cooperation from Congress.²⁴⁷ But then he was outraged at the lack of international cooperation for a pre-emptive strategy to fighting terrorism.²⁴⁸

Prior to the tragic events of 11 September 2001, Secretary Rumsfeld had outlined his transformation program.²⁴⁹ It consisted of six very general (and some could argue “overlapping,” since they all rely implicitly on the effective use of technology, organizations and information) components:

1. Protect the United States homeland and its bases overseas
2. Project and sustain U.S. military power
3. Deny enemies sanctuary
4. Protect information networks from attack
5. Use American information superiority to seamlessly weld the U.S. Armed Forces together as a joint force
6. Maintain unhindered access to space and to protect U.S. space assets

In highlighting one major element of the new strategy laid out in the 2001 QDR, Deputy Secretary of Defense Paul Wolfowitz stated that

we decided to move away from the two Major Theater War (MTW) force sizing construct, which called for maintaining forces capable of marching on and occupying the capitals of two adversaries and changing their regimes-at the same time. The new approach instead places greater emphasis on deterrence in four critical theaters, backed by the ability to swiftly defeat two aggressors at the same time, while preserving the option for one major offensive to occupy an aggressor's capital and replace the regime. By removing the requirement to maintain a second occupation force, we can free up resources for various lesser contingencies that might face us and also be able to invest for the future.²⁵⁰

²⁴⁷ Ibid., 142

²⁴⁸ Ibid., 167-168

²⁴⁹ Rumsfeld Testimony, op. cit.

²⁵⁰ Paul Wolfowitz, “*Building a Military for the 21st Century*,” Prepared Testimony to the Senate Armed Services Committee, October 4, 2001, accessed 6 July 2004; available from <http://armed-services.senate.gov/statemnt/2001/011004wolf.pdf>.

According to Andrew Hoehn, deputy assistant secretary of defense for strategy under Rumsfeld, transformation is more than just new capabilities and operations dependent on increased knowledge, speed, precision, lethality, and surprise. Considering the dynamics of the global landscape, international relationships and associated challenges, he also acknowledges the incompleteness of transformation and the necessity to re-think the entire equation of types of forces, deployment locations, and the size and required capability packages. In addition, to be better prepared to fight together against a potentially unpredictable enemy, the U.S. military has launched a sweeping transformation of training across the services to accentuate interservice thinking, cooperation and warfighting.²⁵¹

Secretary Rumsfeld stood by the above six focus areas in his 2003 annual report and added: “The United States must transform its armed forces in order to win the present war against terrorism and, at the same time, prepare for future wars notably different from those of the past century.”²⁵² In the same report, he goes on to say that “Current and future enemies will seek to strike the United States and U.S. forces in novel and surprising ways,” and that “Now is precisely the time to make changes The attacks on September 11 lent urgency to this endeavor.”²⁵³

As devoted as Rumsfeld has been to his evolving transformation initiative, it remains to be seen how the DoD will ultimately evolve after his tenure. But his boldness must be given the credit it is due, just as his failure to get buy-in from the very organization he sought to change must be noted for its significance.

²⁵¹ Jim Garamone, “Strategist Says Global Military Posture Part of Transformation,” *American Forces Press Service*, 2 December 2003, accessed 7 July 2004; available from <http://www.defendamerica.mil/archive/2003-12/20031202am2.html>.

²⁵² 2003 Secretary of Defense Annual Report to the President and the Congress. Accessed 7 July 2004; available at http://www.defenselink.mil/execsec/adr2003/adr2003_toc.html.

²⁵³ Ibid.

Chapter 6.

Analysis of the DoD Transformation Under Secretary Rumsfeld

Overview

Besides a few, selective editorial observations to underscore some particularly vague and utopian-sounding aspects of the official DoD Transformation program—critiques in line with my general discussion of transformation in chapter 4, chapter 5 was primarily a description of the DoD Transformation. In chapter 6, I take a critical and analytical approach to the topic in a way that touches on some of the descriptions in the previous chapter but also expands to mention aspects of the DoD Transformation not addressed earlier. Then I weave the theoretical framework of “governance priority paradigm” established in chapter 2 into my analysis. Specifically, I look at DoD Transformation in light of some of the key insights regarding decision making and organizations made by Herbert Simon and Kenneth Arrow, along with some related trends also covered in chapter 2 such as decision cycles and information/knowledge management.

This chapter will, after some initial, general analysis of DoD Transformation, address how established, highly regarded organizational and decision-making theories and approaches (in particular from Kenneth Arrow and Herbert Simon, but also from other distinguished scholars and specialists in this area) help to illuminate the general challenges of the DoD Transformation, and how aspects of the DoD Transformation reinforce (or not) established frameworks or theories about cognition, organizations and decision making and potentially add new insights to them.

In this chapter, I also provide brief answers to the key questions posed about the DoD Transformation in chapter 1 in order to bring some additional clarity to what is a complex and ongoing process:

1. What initiatives were explicitly labeled as transformational ones and how were they implemented?

2. How successful do Secretary Rumsfeld and other government stakeholders think his initiative was at various stages up until May 2004 (and based on what metrics)?
3. What theoretical and practical lessons can be reinforced and/or learned from this case study regarding large-scale organizational transformation and decision making?

A General Critique of a Fuzzily Utopian DoD Transformation Vision

To declare that one is going to “transform” the DoD, even prior to becoming Secretary of Defense, would indicate that one was certain of the need for dramatic change. Donald Rumsfeld was that certain. He was also certain that fundamental new ways of thinking would be ultimately required in such a changing organization, if it were to achieve major strides for transformation. There was also no doubt in his mind that he needed to work through institutional and legislative channels to have any chance at establishing initial momentum and building an enduring foundation for effecting the kinds of people/organizational changes that would be required en route and for the long haul.

What he was less certain about was what transformation would ultimately look like, when one would be able to say that it had in fact been transformed, or even how much progress it was making along the way (compared to what might be considered desired progress given the resources expended). What he was unprepared for was the overriding centrality of a war on terrorism that would, in some respects, provide momentum for his transformation initiative, while, in other respects, partially undermine his credibility as a visionary who knew what was best for the DoD and overall national security.

The United State’s war on terrorism provides many insights into the fluid nature of Secretary Rumsfeld’s transformational initiative. At the same time, it serves to show the rigidity of his approach. How can this be so? The simple answer is that, in many respects (if only different perspectives of major stakeholders), the DoD Transformation is both too vague/fluid and too rigid/idiosyncratic. This chapter will illustrate these points and thereby underscore the difficulty of scoring the ultimate progress and success of his transformation initiative. For example, how do transformation goals translate into a methodology for prioritization and measurement of relative success? How do they relate to program decisions, acquisition reform and fundamentally “new thinking” in the DoD? How do they help explain what has been

happening in the current war on terrorism? Upon more careful analysis of his transformation program noted above, however, one notes a lack of new competencies, such as those related to foreign nation-building after attacks against targets related in some way to the war on terrorism (such as the efforts in Afghanistan and Iraq). This is surprising given the fact that Secretary Rumsfeld noted in 2003 that, concerning Iraq, the postwar focus was on building a new Iraqi government and rejuvenating the nation's economic infrastructure.²⁵⁴ Rumsfeld himself acknowledged the difficulty of the challenge, however, with his notorious “War-on-Terror” memo on 16 October 2003 to General Richard Myers, Chairman of the Joint Chiefs of Staff, where he asked several probing questions about possible next steps given the considerable difficulties the DoD had run into in the post-war stabilization effort.²⁵⁵

The Government Accountability Office and DoD Transformation

A 2003 GAO report puts the transformation of the DOD at high risk. Regarding the business side of the transformation equation, the report observes that:

The DoD is transforming its business operations, and its current leadership places high priority and great attention on transformation. However, significant management problems continue to impact the economy, effectiveness, and efficiency of DOD’s business processes. This places mission capabilities at risk by unnecessarily spending funds that could be directed to higher priorities such as modernization and readiness.²⁵⁶

It is important to note the direct linkage between inefficiencies in business modernization with possible shortcomings in mission or warfighting capabilities. Overall, the report is constructive in suggesting that DoD establish a strategic approach of transitioning its business processes in more of a holistic fashion and one that recognizes the crucial role that continuity in key leadership plays in achieving

²⁵⁴ 2003 Secretary of Defense Annual Report to the President and the Congress. Accessed 7 July 2004; available at http://www.defenselink.mil/execsec/adr2003/adr2003_toc.html.

²⁵⁵ “Rumsfeld's War-on-Terror Memo,” *USA Today*, 22 October 2003, accessed 7 July 2004; available from <http://www.mtholyoke.edu/acad/intrel/iraq/memo.htm>.

²⁵⁶ *GAO's Performance and Accountability Series: Department of Defense*. Accessed June 2, 2004; available from www.gao.gov/cgi-bin/getrpt?GAO-03-98. GAO continues to track DoD transformation regularly.

process improvements.²⁵⁷ In addition, the report urges closer collaboration between the executive and legislative branches of government regarding overall planning. In what must be considered a rather brazen recommendation, GAO also recommends the legislative establishment of a chief management officer as one option to help DoD achieve its business goals.²⁵⁸ The report goes on to list other steps that the DoD should consider in managing its transformation initiative:

1. Strengthen strategic planning and budgeting
2. Hire, support, and retain military and civilian personnel
3. Overcome support infrastructure inefficiencies
4. Confront and transform pervasive, decades-old financial management problems
5. Effectively manage information technology investments
6. Improve DoD's weapons acquisitions process
7. Improve processes and controls to reduce contract risk
8. Improve quality of logistics support

GAO's observations and recommendations are important and very telling regarding perceived shortcomings of a highly visible DoD Transformation effort as of 2003. Furthermore, a follow-up report in mid 2004 on the same business modernization effort was particularly scathing.

Other Critical Voices of DoD Transformation

The GAO has not been the only critic of DoD Transformation. In 2002 one analyst laid out a fairly compelling critique of shortcomings in Secretary Rumsfeld's transformational initiative, as represented by the Quadrennial Defense Report (QDR), not the least of which was setting expectations too high. This insightful (and partisan)

²⁵⁷ Ibid.

²⁵⁸ Ibid.

observer noted that the report failed to lay out a clear plan for transforming America's Cold War military into one better suited to meet new threats.²⁵⁹

In another critical observation, the same analyst observed that the new QDR embraced military transformation in a cloud of rhetoric.²⁶⁰ The vagueness associated with Secretary Rumsfeld's transformational initiative, as well as the issue of the means to pursue it, are strikingly important observations that few disagree with, even three years into articulating his concept of transformation. On this last point, one could counter-argue that Secretary Rumsfeld and Admiral Cebrowski's strong emphasis on information and communication technologies—in particular, net-centric warfare—is clearly at the heart of DoD Transformation. But is there anything “that pushes the changes in military organization, training, and doctrine to create forces that can better use those technologies”?²⁶¹ As much as one would like to say that there has been considerable progress in articulating exactly how transformation will manifest itself in new programs, the following critique of the 2001 QDR is still ‘stinging’:

Above all, what the QDR lacks is a convincing road map for reshaping U.S. defenses to meet unconventional, ‘asymmetric’ threats such as terrorism and the spread of weapons of mass destruction - the very war we are fighting today. It offers no specifics on how the military will be revamped, how much it will cost, or what programs should be canceled or cut to pay for the changes. It fails to acknowledge the tough tradeoffs between transformation—which entails investing in the new technologies of information dominance as well as big organizational changes to ensure that military services operate jointly—and simply modernizing the current force structure The 2001 QDR mostly punts the big questions about military transformation. More than just a broken campaign promise, it represents a missed opportunity to reshape our military to wage a new kind of war against new threats and enemies.²⁶²

²⁵⁹ Stephen J. Nider, “The War on Terror – New Military Strategy Falls Short.” *Blueprint*, Nov/Dec 2001, Vol 13, accessed 14 June 2004; available from http://www.ndol.org/blueprint/2001_nov-dec/14_new_military_strategy.html.

²⁶⁰ Ibid.

²⁶¹ Ibid.

²⁶² Ibid.

Moving Beyond the Rhetoric of DoD Transformation

The movement from a “threats-based” strategy (at a programmatic level) to a “capabilities-based” one poses a number of daunting challenges. First of all, regarding the baseline strategy called the “threats-based” one of two Major Region Conflicts (MRCs): has that really been a “threat-based” strategy in the past ten years or so? If it was a “threat-based” strategy, where were the two possible MRCs? Assuming the armed services built their investment programs only on MRC-related foundations, how customized were the forces used for various none-MRC conflicts and operations during that timeframe?

So, what will it take for the new “capabilities-based” investment strategy to make a difference, especially in the war against terror? Does just mandating that the DoD focus on delivering capabilities versus responding to pre-identified, assumed threats mean that the DoD will, in and of itself, be able to make smarter investments and deliver more capability? If one assumes uncertain threats in a financially constrained environment, will that lead to a better strategy and a more effective DoD? Will the urgency of the war against terror end up dictating near-term investments at the expense of medium to longer-term ones?

Such questions are posed to illustrate that this framing assumption for the new investment strategy of the DoD does not, in and of itself, provide a clear direction for a number of difficult decisions its bureaucracy must make on at least a yearly basis for its annual budget. Along the same lines, just because enhanced interservice cooperation is desired by the new capabilities-based approach does not mean, at the end of the day, that the decision making and the resulting investments will be better than today. Certain Joint Staff officers assigned key roles in the rolling out of the new acquisition processes for major programs have actually declared that they have their own doubts.

In early 2001, one four-star general at the head of a unified combat command cautioned that those officials involved in managing the requirements-based acquisition strategy needed to take account of the minimal time that the Joint Staff and Joint Combat Commands actually had to devote to thinking about crisp, actionable requirements—they were too busy confronting “real-world” demands. The requirements they generated were, therefore, often of a rather generic nature. What has happened in the past three years to lead one to believe that the Joint Staff and combatant commanders will be able to spend even more time sorting through “capabilities” or “effects” sought across their commands? The reason this last observation is so important is that the Services have much larger staffs devoted to acquisition issues than does the Joint Staff. As much as one would like to emphasize a new approach to program decision making, there have not been any significant

changes made in the staffing of the acquisition communities or the culture of the Service leadership to lead one to expect any significant changes in how or what programs are pursued.

Any explicit effort to transform fundamentally an organization of the size, history, culture and central importance to the United States as the DoD within a few years is a daunting task and one fraught with issues of expectations and credibility. Even a top-down driven program led by the Secretary of Defense will be hard to actualize. Even assuming Secretary Rumsfeld's transformation initiative was accompanied by a clearly articulated and effectively communicated vision, the challenge would still be overwhelming. The fact that the vision has not been clear and that it has not been effectively or consistently communicated further complicates the task. Nonetheless, many aspects of Secretary Rumsfeld's transformation efforts (although the initiative is easily characterized as being overall vague and philosophical) are being incorporated in fundamentally revolutionary ways by the Services. The revolution is linked to the convergence of essentially new paradigms in terms of the nature of the international security environment and to new, institutionalized forms of inter-agency and cross-service cooperation and collaboration.

There has also been a lot of attention focused in the media on the apparently unexpectedly high burden placed on the U.S. National Guard and Reserve troops, which, as of early 2004, made up about 20% of the current force. Also, for the United States to "sufficiently recalibrate its approach to war, the civilian side of the U.S. government must assume a greater role in securing U.S. interests, thus reducing the provocative presence of troops."²⁶³ Admiral Cebrowski said the new transformation vision "presumes there is a civil structure in the United States, probably not in the Department of Defense. You are going to have the right kind of civilians to catch the ball."²⁶⁴ The above two observations point out apparent—and important—holes in DoD Transformation thinking.

²⁶³ Bryan Bender, "Pentagon Seeing New Keys To Victory, Report emphasizes post-combat work, 'social intelligence'," *Boston Globe*, 15 November 2003.

²⁶⁴ *Ibid.*

The Institutionalization of DoD Transformation

Secretary Rumsfeld's steps toward the institutionalization of transformation (e.g., setting up his transformation office and establishing net-centricity as a key target environment, giving a key role to JFCOM experimentation and training, modifying the civilian personnel system, changing the systems acquisition process, continuing to position transformation as a key priority in major strategy documents) have received considerable attention; but confusion persists in the minds of many in the joint staff and Services regarding how to best meet pressing war demands and transformation at the same time. An initiative as visible as agency-wide transformation will continue to face major obstacles even if success were clearly defined and parameters for judging progress were set in place and communicated clearly throughout the organization so everyone could see his or her role in achieving associated objectives. Alas, "success" itself remains a very vague concept.

Just as Secretary Rumsfeld wondered in late 2003 whether a special organization needed to be established to address the new challenges the DoD was confronting in post-war Iraq, senior officials and faculty at the National Defense University were concerned about whether they should establish a Department of Transformation, or at least a core curriculum in this area, but were unsure what exactly "transformation" meant.²⁶⁵

Thomas Mahnken and James FitzSimonds conducted a survey²⁶⁶ of all officer professional military service schools in 2003 on the topic of the DoD Transformation. Some of their speaking points, based on their analysis of their data, are most revealing:

1. They have detected only "some support for organization change" and "latent support for transformation," an initiative they interpret to be "driven by [the] perception of long-range precision strike threat."
2. Officers do not feel "well informed about capabilities, threats" and "lack experience with innovation, feeling that some organization pathologies mitigate innovation."
3. Many are unclear on what an innovator is or if/how "rewards" for innovation would be manifested.

²⁶⁵ Anonymous government official at the National Defense University, Background briefing with author, 10 December 2003, Washington, D.C., No formal record.

²⁶⁶ Thomas Mahnken and James FitzSimonds, Briefing on DoD Transformation, 2003.

4. If DoD leadership truly believes there is a need for real transformation, the case has not been formally made to the rank and file.²⁶⁷

Secretary Rumsfeld's transformation vision was more of a general concept, and the penetration of his concept throughout the DoD was relatively modest by 2004. His institutionalizing steps (setting up the OFT and establishing net-centricity as a key target environment) received considerable attention, especially in 2003; but confusion still reigned concerning how to do these in terms of operationalization, including program management. Along the same lines, his legislative efforts regarding a new civilian personnel system illustrated recognition of the importance of human capital in the transformation equation; but his approach was done in a non-inclusive fashion, and his chances of executing it successfully were questioned at high levels of government in early 2004. The relationship between a new civilian personnel system and his emphasis on interservice cooperation is not clear. His introduction of a joint, capabilities-based and spiral (iterative) approach to the acquisition of new weapon systems (refining requirements as more is learned during the development stages) has led to new programs being planned on these principles. However, senior officials are still unclear on how these programs should be done and how to transition from the old system, given that many programs are grandfathered under the requirements-based, service-generated, "big bang" type approach.

All in all, though, even a top-down driven change initiative, driven visibly and vocally by the head of an organization, cannot succeed easily if success is not clearly defined and no parameters for judging its progress are set in place and communicated clearly throughout the organization so everyone can see his or her role in achieving the established objective. This particular case study underscores the challenge of articulating a clear vision for a transformational program in a large and complex organization, as well as penetrating the defenses of an organization that has been alienated as to its own role in the transformation.

One major defense agency continued "transformational" initiatives begun prior to Secretary Rumsfeld's arrival, assuming its efforts fit under the transformational tent. Another major defense agency was mired in interoperability gaps in the whole area of collaboration, while working towards the infrastructure that would be the basis of an NCW vision that also preceded Secretary Rumsfeld. In other words, even with a top-level champion, a "buzzword," plan and important organizational and legislative steps and successes, what the secretary meant by "transformation" was not crystal clear. This was the case both because many elements

²⁶⁷ OFT began collaborating with Senior Service Schools in late 2003 and early 2004 to prepare a transformation curriculum that should begin its roll-out in early 2005.

seemed to be underway already and others were introduced without buy-in from the Services.

Secretary Rumsfeld allowed OFT director a lot of leeway to articulate transformation for him. From the start of his assignment to his position, Admiral Cebrowski was clearly transfixed on the imperative of the combination of jointness in a networked environment; this is about all he spoke about for the first couple of years as the thought leader on transformation for Secretary Rumsfeld. In this sense, leadership/personalities truly showed their impact because Admiral Cebrowski was basically continuing to pound on a theme he was known for in the mid 1990s while still on active duty. He was, in fact, a visionary in this regard. However, his deeper thinking about what “force transformation” might mean in all of its dimensions did not really begin to be reflected until 2003. Moreover, it was only in 2004 that he began to speak in some detail about the importance of thinking about new types of weapons and about what should be addressed in professional military training to help inform and “change the thinking” of current and future warfighters. Another reason for his delay in more fully developing the transformational vision is simply that he was understaffed. One could also argue that he was more interested in presenting his views than collecting new ones (at least until sometime in the 2003 timeframe when he began to focus more on the development of curriculum for transformation and worked with some faculty at MIT).

Admiral Cebrowski was not the sole lead in developing transformation for Secretary Rumsfeld.; indeed, his operational “twin” was the commander of JFCOM, Admiral Giambastini, who actually contributed a great deal toward the effort of meeting transformational goals. However, just as Admiral Cebrowski was understaffed, Admiral Giambastiani was under-resourced in many ways. He had limited resources to meet a very high and turbulent demand for operational experimentation, and he had a lot of responsibility in terms of the transformational program but very little authority in the decision-making process.

One remarkable thing Admiral Giambastiani did, however, was to embed some of his staff into warfighting units in Afghanistan and Iraq to capture and share lessons learned on an almost real-time basis. Nonetheless, the methodologies for actually converting lessons learned through experimentation and the insertion of personnel into operational situations were unclear and inconsistent. Part of the reason for these shortcomings is that JFCOM actually had little actual authority in the transformation process.

The Central Role of a New International Environment

In an increasingly complex global environment where nation states are not the only threats and where economics is increasingly dependent on international relationships and the international climate, the United States had no choice but to re-think its approach to national security. Secretary Rumsfeld's emphasis on reform in NATO and the DoD are only part of the equation. New perspectives of the overall challenge of national security go beyond the technology and organization-centric transformations he has introduced. His emphasis on a new way of thinking—one based on much greater awareness of the “battlespace” and adaptability in design and in the acquiring and fielding weapon systems—are consistent with dealing with the new environment. However, his perception of the environment and the needed changes were more of a reaction to the advancements in technology and organizational science than on the terrorist war his department had been asked to fight. Important gaps in his transformation thinking in such scenarios have been exposed. These include how to identify and target nation states linked directly or indirectly to the war on terrorism and what to do once the DoD has vanquished them. In addition, all the cannons, missiles, and lasers in the world, along with faster decision cycles, do nothing to win over or at least moderate the hearts and minds of single terrorists. The effective construction and application of knowledge about the conditions that generate terrorism, as well as actionable intelligence about terrorists, are likely to be necessary twin strategies to wage a sustained war on terrorism.

Illustrations of Multiple Levels of Analysis

Secretary Rumsfeld clearly has the international system in mind in terms of his transformational vision, but focused primarily on NATO as the element, at this level, that he could help transform. The NATO Transformation Command is the result of his efforts. Ironically, it was established in the same timeframe as the strengthening of the Franco-German relationship as an independent and potentially significant counterbalance to the United States and to NATO in terms of the use of NATO forces for out-of-area operations. Even with the Franco-German dimension in mind, and the resistance it represents toward U.S. action in Iraq, the formation of a NATO Transformation Command is significant as a symbol of the dramatic changes occurring in and required of NATO in the world of the twenty-first century.

In terms of the national level, Secretary Rumsfeld's transformational efforts have many overlaps with the President's Management Agenda (PMA), discussed earlier. In many instances, his reform efforts are reinforced. In others, they are

undercut. This much can be said about the two initiatives: the President's is much more focused and tactical than Secretary Rumsfeld's. But because the secretary's initiative was (and remains) vaguer, he had the opportunity to leverage the PMA, when convenient (his network-centric vision, for example, coincides with an overall movement toward increased e-Government). However, Secretary Rumsfeld does not seem to be as strongly focused on business transformation as he is on changes in the waging of war. Regarding human capital, he has focused on technology and more management prerogative. In all areas, he has generally done "his own thing;" and, in many respects, he has allowed the Services to do theirs. There have, of course, been exceptions.

Looking more closely at the DoD organizational level of analysis, Secretary Rumsfeld has greatly increased the visibility of the Chairman of the Joint Chiefs of Staff, while diminishing that of the civilian secretaries of the Services and the military heads of the Services. He has also made it clear to the combatant commanders that the President is the only "Commander in Chief" (the heads of the unified commanders had been called CINCs or Commanders in Chief previously). In bringing back a retired Army Special Operations general to become the new chief of staff of the U.S. Army, Secretary Rumsfeld sent a signal about his vision of how the Army needs to transform and of the independence he can wield in selecting chiefs of staff. In firing the Secretary of the Army, he sent the same message. In attempting to move the Secretary of the Air Force (a retired Navy captain) over to replace the fired Secretary of the Army, Secretary Rumsfeld also sent the implicit message that the secretaries are relatively unimportant when there is a strong Secretary of Defense with a vision.

Instead of using the existing bureaucracy to help develop and execute his transformational initiative, Secretary Rumsfeld set up the Defense Policy Board to help advise him on transformation and the OFT to help develop and execute his initiative. In early 2003, he had the Command, Control and Communications (C3I) Assistant Secretary and Deputy Chief Information Office in the Office of the Secretary of Defense renamed to be the "Network Information Integration Office and the Office of the Deputy CIO." The Joint Staff, from the start of Secretary Rumsfeld's tenure, aggressively pursued "network-centric warfare" as its own vision. Standing Joint Task Headquarters and Joint Task Forces have, under Secretary Rumsfeld, become the key warfighting nodes, and every three-star general officer is now basically considered a joint resource available to help lead these new or increasingly recognized and structured entities.

Whereas the head of the OFT had focused primarily on the concept of NCW, he was also designated as the overall lead for transforming the "business" side of the DoD. As such, he established a Business Modernizations Systems Initiative (BMSI) framework that required one such business modernization office in every agency—with the manpower coming out of existing resources. By mid 2003, DoD's chief

information officer promulgated a policy memorandum that clarified that business modernization architectures were to be included as part of the Global Information Grid architecture planning. The tardiness of this policy underscored the confusion regarding the operational and business parts of the DoD Transformation and how they were to be ultimately linked together. In addition, as noted earlier, the entire DoD business modernization effort has been struggling.

The Central Role of Technology

The complementary nature of the new global environment, organizational science, and technology is clear. In many respects, though, the rapid advances in technology over the past decade have been the dominant factor in making globalization a reality, organizational connectivity an expectation, and more widely available, sophisticated technology a given—and not only to nation states. There remain a number of major challenges in integrating approaches to technology, organizations, and decision making to address the increasingly complex demands of the new international environment.

Herbert Simon and Kenneth Arrow on Overall Decision-Making Challenges and Transformation

Bounded Rationality

It is clear that any effort to know everyone, much less everything, central to a transformational initiative is beyond the grasp of any leader, even Secretary Rumsfeld. But it is ironic that he alienated Service experts in showing so little interest in the intellectual capital of the Services in order to go about transformation his way. He purposefully bounded the amount of direct knowledge he would receive regarding the “as-is” situation and the “to be” visions of Service leaders. Instead, he relied on hand-selected experts whom he trusted to provide him with recommendations, a road map and ongoing counsel.

Relating to Simon’s concept of bounded rationality, it is of note that Secretary Rumsfeld intentionally closed off potentially rich sources of inputs regarding how to go about a transformation strategy by taking a very aloof approach to military

leadership during the formation of the strategy. He, instead, mostly focused on meeting with a small, select group of analysts, making a point to visibly show he was also consulting with Andy Marshall of the Office of Net Assessments in the Pentagon and known to be a maverick futurist, especially regarding the potential of new technology to revolutionize warfare. Marshall had spent decades at the Pentagon and was seventy-nine years old when Secretary Rumsfeld met with him. By “bounding” his sources of input in the way that he did, the secretary no doubt did damage to potential channels of information and knowledge he would need as Secretary of Defense. On both of these points—the fashion that the secretary used to gather insights and build his strategy and the potential damage he did to other sources of information and knowledge, Arrow’s thinking about decision making and information channels is also very much reflected.

Another issue that both Simon and Arrow were concerned with in organizational decision making was the increasing possibility of information overload for decision makers. Perhaps Secretary Rumsfeld had this threat in mind when he hand picked his advisers for transformation. Secretary Rumsfeld’s approach to gathering inputs regarding transformation reflects some of Arrow’s more subtle points about information flow in that Rumsfeld wanted to send a signal that he would not be dependent on military advice for his decisions, especially if there was a chance that a military “adviser” might offer unwelcome information.

Given the impossibility to monitor/analyze all possible inputs, what types of boundedness will provide the basis to make well-informed decisions about the real world? Karl Popper provides a guide:

1. Absolutely observe and feed back the effects of prior actions to inform future ones.
2. Sample all inputs to gain a feeling for total complexity rather than focus all attention on a few that happen to fit our preconceptions.
3. Given our tendency to see what we believe, intentionally bias selection of sampled inputs to include a proportion of those that appear to contradict what we believe, and try to understand the nature of the contradiction.²⁶⁸

²⁶⁸ Karl Popper, *op. cit.*

The Limits of Organization (Net-Centricity)

In a DoD-Transformation context, how effective will the DoD's approach to information flow be—how is it transforming toward this vision? What will be demonstrated by taking Arrow's analysis into account is whether the DoD vision of net-centricity may be overly simplistic and, if so, what the implications are at various levels of decision making. If net-centricity, on the other hand, overcomes some of the limitations just noted, then maybe there are new angles on organization theory that need to be explored in academic circles.

Allowing for the possibility that the information infrastructure and paradigm, as envisioned in Secretary Rumsfeld's transformation initiative, addresses many of the structural complexities of information flows, there are still the issues of differing abilities among individuals in terms of handling information or even expectations about it. How will the transformed DoD bureaucracy and information strategy address such issues in organizational functioning regarding information and decision making? In answering this question, Arrow would emphasize the crucial importance of acknowledging that information channels can change over time for a myriad of reasons. Much of the literature on net-centricity fails to explore in depth the full dimensions of information—its validity, priority, context, currency, as well as the creative synergies possible—and the means for creating such synergy—between different, dynamic channels of information.

There are also some basic epistemological issues related to net-centricity that are somewhat addressed by some knowledge management work, as well as work on complex adaptive systems. Arrow validates some of these by describing the perspective of the "individual" in the network and information as something that he or she must deal with despite his or her idiosyncratic nature and limited capacity to digest the exponentially increasing amounts of information being made available and, at times, imperative, for consideration in some fashion.²⁶⁹

The profound reasonableness of the following insight also raises questions about some of the apparently overly idealistic claims in much of the net-centricity literature:

[T]he demand for investment in information is less than it would be if the value of the information were more certain. . . . Once the investment has been made and an information channel acquired, it will be cheaper to keep on using it than to invest in new channels, especially since the scarcity of the

²⁶⁹ Arrow, *The Limits of Organization*, 39

individual as an input, already alluded to, implies, that the use of new channels will diminish the product of old ones.²⁷⁰

At this juncture, however, it is noteworthy that modern knowledge management systems increasingly have the capacity to make decisions unaided by human minds—i.e., the automated alerting capabilities of modern signals intelligence processors that decide on the basis of the presence of certain key words or relationships between key words that an alert should be generated.

One of the major challenges linked to net-centricity confronting the different armed services of the United States is the use of common terminology, something Arrow points out as a common challenge for all organizations. There are serious implications of this commonsensical observation in terms of the ultimate potential of net-centricity, assuming it could ever be technically achieved at the level idealized. The “people and process” aspects of the DoD Transformation in general—not just regarding net-centricity—are undoubtedly dominant considerations for progress, much less success.

Arrow also observes that there is also a meta-information management issue regarding net-centricity in that the acquisition process of information must itself be analyzed, since somewhere decisions were made that probably affected who got what information.²⁷¹ He also challenges us to think about how best to consider the relative costs of communication channels and how to make decisions if we find opportunities for changes. He suggests that in some cases, organizations will have very little actual control of parts of their information structures and processes and that “the very pursuit of efficiency may lead to rigidity and unresponsiveness to further change.”²⁷² Arrow’s observations in these areas must be considered in more detail in the context of the analysis of the net-centricity portion of the DoD Transformation vision, as they may be being overlooked in the striving for technological nirvana.

Viewing the above in terms of a net-centric learning environment, the following is worth noting: On the one hand, learning could take place based on specific targeted areas, as well as lead to possible serendipitous insights regarding other information. On the other hand, learning could be stultified by the very structure of the information channels. Along these lines, the opportunities for organizational learning and potential serendipity regarding pattern recognition, etc., possible with net-centricity are certainly relevant. Considering both the challenges of building a

²⁷⁰ Ibid., 41

²⁷¹ Ibid., p. 48

²⁷² Ibid., p. 49

net-centric environment with all of its communication sources and channels, the impracticality of waiting for full achievement of net-centricity should not stop the associated learning and innovation processes for both individuals and organizations participating in the network.

Regarding the general costs of information, Arrow notes that they “(a) are in some sense increasing for the individual because he is himself a scarce resource, (b) involve a large irreversible capital element, and (c) vary in different directions.”²⁷³ Net-centricity is not cheap in terms of either infrastructure or the skilled individuals needed to leverage it properly—some being more skilled or informed than others.²⁷⁴

Arrow notes also that a decision area may be active, monitored, or passive.²⁷⁵ When Arrow observes that “innovation . . . is in many cases simply a question of putting an item on [the] agenda before other firms do,”²⁷⁶ he is also implicitly alluding to the “push and pull” or passive aspects of information flow in terms of decision making, something of considerable relevance to the DoD Transformation. For example, “once an item has arrived on the agenda [such as the DoD Transformation], it is difficult not to treat it in a somewhat rational manner, if this is at all possible, and almost any considered solution is better than neglect.”²⁷⁷ There are exceptions, of course, such as problems considered intractable.²⁷⁸ On the other hand, Arrow concludes that even an unsatisfactory solution may be the catalyst to provoke the needed steps to improve the process.²⁷⁹

Arrow writes about the importance of education for change by describing education as an essential information channel in any organization and one that, like the others, will see dramatic change as decision makers and other players rotate in and out of the system. Such a channel is clearly something of importance to institutionalizing and sustaining an initiative such as Secretary Rumsfeld’s transformational initiative. Is it included in the DoD Transformation initiative? We will explore this dimension of the DoD Transformation later.

²⁷³ Ibid., 47

²⁷⁴ Ibid., 47

²⁷⁵ Ibid., 50

²⁷⁶ Ibid., 47

²⁷⁷ Ibid., 47-48

²⁷⁸ Ibid., 48

²⁷⁹ Ibid.

The importance of authoritative data for success in net-centricity is unmistakable. As such, according to Arrow,

the aim in designing institutions for making decisions should be to facilitate the flow of information to the greatest extent possible. . . . To the extent that reduction of volume is accomplished by reduction of communication channels, we are led back to the back to the superior efficiency of authority [or authoritativeness].²⁸⁰

Arrow goes on to amplify the possible relationship between authority and delegation and authoritativeness of information and change, relationships that are also clearly of relevance to net-centricity:

The emphasis on convergent expectations as the source of authority implies its fragility. Indeed, one can point to startling changes where the collapse of long-established authority swiftly followed recognition that it was no longer authoritative. But there is a countervailing force. The expectations that authority will be obeyed are not only of value to the maintenance of authority, but they also reduce uncertainty for those subject to authority. The pressure to restore authority or create new authority is very strong indeed.²⁸¹

Finally, assuming the DoD Transformation is understood by many of its stakeholders and other affected parties, Arrow notes that it is “easier to understand than to overcome cognitive dissonance,”²⁸² and cognitive dissonance is undoubtedly a factor in the scope and complexity of an endeavor such as the DoD Transformation. Overall, Herbert Simon and Kenneth Arrow would likely both applaud the DoD’s efforts to develop a net-centric environment. While Simon would likely want to explore how best to simulate various communication protocols and decision-making heuristics used in that environment, Arrow would most likely seek to develop hypotheses for testing about the information and knowledge flows in the network, as well as about the decision-making processes.

²⁸⁰ Ibid., 70

²⁸¹ Ibid., 73

²⁸² Ibid., 75

The Central Role of New Thinking about Sensemaking, Knowledge Management, Decision Making, Communication, and Execution in Complex Organizations

While knowledge management has made advancements in terms of its support in wide-ranging literature regarding increased collaboration and improved decision making, it is still not uniformly understood. Much of the thinking about knowledge management revolves around the notion of the right data and information repositories securely accessible to all who need information, when they need it, wherever they are and whatever platform they are using. Other important aspects of knowledge management, such as the identification and integration of expertise for input to complex decision making challenges, are far less advanced. Whereas knowledge management is now a “buzzword” that Secretary Rumsfeld himself has emphasized, it is also an approach that has won wide acceptance in terms of the net-centric foundation and doctrine that he has endorsed to take advantage of advancing technology and increase the degree of integrated, interoperable, joint warfighting. Even if the threads of data, information, and knowledge are effectively woven together for superior decision making, there remains the challenge of effectively communicating and executing decisions. A net-centric infrastructure, even one with all the essential communication and information nodes, does not ensure effective communication or decision making. As best, it facilitates greater connectivity and the sharing of more data and information. There are whole other areas of decision making, communication and execution that still need a lot of attention.

Questions and Short Answers about the DoD Transformation

1. What initiatives were explicitly labeled as transformational ones and how were they implemented? In 2004 various communications and weapon systems were labeled as transformational as part of the requested defense budget. While this is a major step forward, there is a tendency to label most modernization programs as transformational. This raises the question of what truly distinguishes Rumsfeld’s vision from what was already underway before he became Secretary of Defense.
2. How successful do Secretary Rumsfeld and other government stakeholders think his initiative was at various stages up until May 2004 (and based on what metrics)? While it is impossible to know what Secretary Rumsfeld thinks, many in the military and government

have illustrated a lot of confusion or ambivalence about DoD Transformation. A major reason for this is the absence of metrics, even though Admiral Cebrowski of OFT was assigned the job of building these into the program.

3. What theoretical and practical lessons can be reinforced and/or learned from this case study regarding large-scale organizational transformation and decision making? This case study has included many best practices about transformation and described DoD Transformation in such a way as to allow it to be seen in the context of federal government and overall, modern transformation, as well as organization theory. Whereas DoD Transformation documents say a lot of the right things and the effort is led by the Secretary of Defense, the program remains vague and progress cannot be rigorously gauged. The War on Terror has clouded the issue of transformation while indicating that major change is crucial to win this kind of war while continuing to modernize for more traditional challenges.

Conclusions

Transformation of Large, Complex Organizations

Every word in the title of this section is very subjective, relative and open to debate. This is significant to note because this dissertation is in fact on this topic. But there is no doubt that the DoD is large and complex and that transformation was on Secretary Rumsfeld's agenda prior to taking office in 2001. In addition, it is clear that his transformation effort was itself transformed by dramatic world events and crucial decisions he made or contributed in reaction to such events. The DoD case study amply illustrates the risk of overreaching in transformation and war, given all the moving pieces, uncertainty, people, processes and technology. The case study also suggests that Secretary Rumsfeld may have done himself and his cause more harm than good by not showing more sensitivity and political astuteness in "leaning forward" with DoD Transformation.

The DoD case study also demonstrates the interconnections between such a complex organization and its domestic and international context, and the role of the media. Even an organizational transformation led by a charismatic and hyper-

experienced Secretary of Defense has nearly insurmountable challenges in terms of coherent change, much less deep and sustained change, when his organization is front page news worldwide in a turbulent post-war stabilization period, such as in Iraq or Afghanistan.

Best practices for the change of large, complex organizations are very high level but include, besides a senior champion in the organization, clear goals; objectives; and some means of measuring progress, transparently and objectively, over time, in selected areas. For a large, complex government organization, however, such goals are likely to be too vague to be of practical use. In the case of the DoD Transformation, the initiative is said to be continuous and everlasting; it is described as transforming in multiple dimensions at the same time. The DoD has mandated roadmaps designed by the Services themselves; but, again, even the Services are gargantuan organizations with their own cultures, perspectives, goals, weapon systems, competencies, etc. It is optimistic to think that even a part of one of the Services can transform with a checklist or roadmap within less than several years. Transformation of large, complex organizations tends to be driven by technological or competitive imperatives and is not likely to be neat and orderly or annual and reportable in any kind of useful, linear fashion.

Other Observations

Some other observations to consider at a high-level strategic level that must eventually be taken into account in transforming DoD include:

1. Secretary Rumsfeld apparently assumed that his immediate cadre (i.e., the Executive's political appointees) somehow could know more about fighting wars in the real world than senior military with 30-40 years practical experience (and he managed to act on his assumptions).
2. That Washington and the Pentagon as a whole seem to have accepted that technology and overwhelming power somehow effectively counters the single terrorist who is prepared to kill him/herself to take out a strategic asset.
3. That there appeared to be no need to apply fiduciary checks against ground truth at every step of the way.

4. That rapid response in a theatre of war is somehow going to be effective even if the U.S. doesn't know and understand the sources of what it is it is responding to.
5. That the U.S. can successfully fight an asymmetric war (e.g., against single suicidal terrorists) without understanding the terrorist's language, culture and belief systems).
6. No matter how powerful the military, without a police state apparatus at least as pervasive as what we were fighting in Iraq, a dedicated small team or individual can still cause major destruction and chaos. Disorder is vastly easier to create than order (2nd law of thermodynamics).
7. Overwhelming force is of little use if the U.S. cannot identify and understand the particular individuals it needs to defeat (or win over). The only way to win may be to understand and change the thinking—which may take a couple of generations.²⁸³
8. Overwhelming force won the symmetric war against the Soviet Union (which truly disintegrated as a consequence of perturbations introduced by the more agile West). Overwhelming force was less useful in the asymmetric situations of Viet Nam and in the way in which the engagement with Iraq has been managed, especially in the post-Iraq stabilization period, 2003-2004.

The DoD is by far the largest organization in the federal government and the United States. To attempt any kind of sweeping “transformation” is more than a monumental task, even if everyone in the organization understood and approved of the effort. This was not the case in many respects with the DoD Transformation through May 2004. That being said, it is important to acknowledge that there were already many strategic and operational transformation efforts underway when Secretary Rumsfeld began his DoD Transformation initiative. Whether or not these efforts fit under the category of transformational, however, was sometimes a point of considerable contention, even if the direction of these organizational changes seemed to be in line with what he was seeking. Transformation was, in fact, such a vague term that the secretary could interpret it almost any way he wanted to, claiming credit for “transformational” programs that seemed positive and being dismissive of ones

²⁸³ This line of thinking is very consistent with that of Robert S. McNamara's lessons learned thirty or more years after leaving office as Secretary of Defense.

that did not align with his sense of what transformation meant at a particular point in time.

Whether or not Secretary Rumsfeld was the instigator of particular transformational efforts, he had, nonetheless, a powerful impact on transformation in both positive and negative ways. He reasserted civilian dominance in the DoD and, in particular, the dominance of the Secretary of Defense in making and leading national defense strategy. Whereas his assertiveness in this area proved awkward for his relationships with many senior military leaders at first, over time, he began to remove such awkwardness by having an increasingly large say on who would become a senior leader and who would fill the most senior military jobs. He was, for example, pleased with his selection of Air Force General Richard Myers as Chairman of the Joint Chiefs of Staff; but it is noteworthy that General Myers agreed to forego his right to go directly to the President to provide military advice. By Secretary Rumsfeld having apparently asked this of General Myers, Secretary Rumsfeld was, in effect, helping to filter out any possible contrary views. He was making his own constraints on decision making through such a step.

Secretary Rumsfeld's publication of the Guide and his mandating of annual Service transformation "roadmaps" from transformation offices he ordered be set up in each Service were, however, effective ways to give the topic of transformation high-level visibility. It is also significant that he did, in fact, give the Services a lot of leeway in terms of their approaches, as long as they explained how they would migrate toward a joint, networked force that was "leaning forward" to respond to short-notice crises.

Rumsfeld drove hard (probably too hard) for what he called "actionable knowledge" to assist warfighters in taking action against an organized, worldwide terrorist threat. Whatever excesses may have occurred at U.S.-military-run terrorist camps or prisons, Secretary Rumsfeld made it clear that he was impatient with bureaucracies and the "legalisms" that might block transformation, or at least the kind of agility he sought. His legacy in pushing the legal limits will likely be longer lasting than his legacy in shaking up the bureaucracy and military by providing such strong—even intimidating—leadership from the top. Bureaucracies have a way of reverting back to their comfortable tracks once intense pressure is removed, but Secretary Rumsfeld will have at least demonstrated that, with Presidential support, that a Secretary of Defense can be a truly formidable force who is not to be ignored, but one who might overall intimidate subordinates into crossing the legal line. . . without explicitly mandating that they do so.

The vague nature of the DoD Transformation made it a problematic program to describe well enough to build a curriculum around it early on. Only in late 2003 did efforts begin in earnest, in cooperation with Service professional education

institutions, to develop a curriculum. By that time, the DoD Transformation had, in fact, been “transformed” because of the global war on terrorism. Therefore, the courses that might have been prepared to help institutionalize transformation in 2001 would likely have varied considerably from those being developed in 2004; but it is impossible to say for certain since early work in this area was not initially planned, and the attacks on 11 September 2001 intervened in many important ways in terms of what might really be required to be able to provide U.S. security in the new global environment. The small size of the OFT staff apparently forced it to prioritize, and it did so around articulating the DoD Transformation and promoting joint warfighting in a net-centric context.

This case study illustrates the difficulty of balancing modernization with transformation and near-term necessities with strategic, transformation pillars. In addition, this case study demonstrates the delicate balancing act between creating a sense of urgency for substantial change while respecting the culture and intellectual capital of organizations. Additionally, it is one thing to give someone, such as the OFT director a lot of responsibility; it is quite another to give him the authority and accountability for results. Also, change for the sake of change is likely to lead to chaos. Clear goals relating to genuine organizational imperatives reduce the odds of this occurring, especially if steps directed towards the goals are monitored to correct tendencies to wander away from the chosen path.

To the credit of Secretary Rumsfeld, his approach to transformation was holistic in the sense of addressing people, process and technology dimensions, even though the explicit relationships between these generally remained at a high level (along the lines of “changing thinking,” “fighting joint” and “net-centricity”). There were exceptions, of course, including his success at obtaining new rules regarding the management of the DoD civilian workforce. However, his failure to follow an inclusive approach probably limited the overall quality and potential of this new flexibility. Being inclusive was simply not his style. One conclusion from this case study is that his style does, in fact, make a considerable difference in the nature of the DoD Transformation, including the degree of likelihood that it could survive without him in the form that he and his hand-picked OFT director have led it.

The following are a few other conclusions that might be drawn from this case study:

1. Secretary Rumsfeld bit off more than he or the DoD could reasonably digest even within a decade or more, with no clear definition of what success meant and thus an associated inability to systematically measure progress or even to provide a clear direction as to where that progress should lead.

2. The OFT's tendency to oversimplify the challenges of transformation, such as portraying it as primarily an issue of improved information structure/flow had some near-term positives in terms of enacting some change, but ultimately could undermine the credibility of the initiative because of a perceived lack of holistic and realistic thinking.
3. Secretary Rumsfeld's unique leadership style, nonetheless, whatever happens, illustrated the role that strong, experienced leadership can have in getting something on the agenda (without necessarily considering whether or not that "something" should have been a priority on the agenda in the first place) that had not there before in a comprehensive fashion, even though most of the components/technologies were not new.
4. Even with an iterative approach to transformation (that further manifests the magnitude of the unknowns an organization must deal with across the spectrum of its distinct sub-initiatives), the likelihood for critical errors/major missteps in transformational decision making and execution is still very high—but dangerously obscured by the vagueness of the desired end states, roles, etc. This lack of clarity of definition, while perhaps perceived as essential or inevitable, is a crippling attribute of DoD Transformation, especially without robust governance designed specifically for the initiative, as well as a vision for how governance itself would evolve with and as a result of transformation.
5. The theoretical framework of “governance priority paradigm” used for this study underscores the need for clarity of purpose and accountability for the transformation of large, complex organizations.

Chapter 7.

Conclusions and Recommendations

Conclusions

Case Studies

The use of a case study methodology has permitted me to explore many of the vast expanses that DoD Transformation covers. It has allowed a high-level description and analysis of DoD Transformation, while also permitting an evaluation of the framework of “governance priority paradigm”—a bridge of common decision-making concerns of Herbert Simon and Kenneth Arrow. This particular case study has illustrated the value of a methodology that does not go into a complex research effort with overly focused fragments of the bigger picture. I was able to accept the holistic nature of the challenges of DoD Transformation and gain understanding regarding the highly complex problem solving approaches that will be essential to meet them.

Organization Theory

Transformation has had a major impact on both large scale and small scale decision making in the DoD. Examples were given about surprises, pre-dispositions toward a certain kind of action, wishful thinking, etc. All of these, in one way or another, build the case for bounded rationality, using Herbert Simon’s phrase, or even irrationality—something that Kenneth Arrow would likely be more willing to entertain as an explanation from a deviation from rationality. Also the transformation management challenges were also illustrated: Just the sheer complexity of the top-down and bottom-up approach to defining transformation across the DoD illustrates the kind of environment that will lead to the handing in of transformation roadmaps that are, at best, fanciful dreaming, especially since they are not linked to fiscal realities.

Large government bureaucracies are perhaps more likely to get away with substantively empty, rhetorical plans than large business bureaucracies; but even in those, outstanding Microsoft PowerPoint presentations try to paint the world as the leaders are likely to want it to be painted. Decisions based on such glowingly filtered inputs are unlikely to be fruitful ones, especially if execution after decisions is also assumed (which can too often be the case in unwieldy organizations). Information “underload” at the senior level may often result from lower-level information “overload” and subsequent shortcuts; bad decisions will likely reflect this in the long haul. Therefore, a strong case could be made from this study of the importance of developing an organizational decision-support architecture built on a correspondence theory of truth and continual fiduciary checks against external reality.

The net-centric theme at the heart of the DoD Transformation illustrates the conflict between a hierarchical organization and a utopian goal of making all appropriate information available to everyone in the network to make decentralized decisions. There are a lot of things that need a great deal more thought in this regard both for the construction and effectiveness of a network for an organization the size, and importance of the complex DoD. Also, considerations about how best to build and maintain the network, in a practical sense (such as strategic sourcing considerations), also warrant more thought at the DoD level.

Based on this case study, a maturation of the state of organization theory for large, complex organizations, as discussed in chapter 2, is still needed but unlikely to provide much practical value in the near-to-medium term. For one thing, there is too much variance between types and sizes of organizations—not to mention the context in which they are being studied—to draw many practicable conclusions. To say that “top leadership” must engage for successful change initiatives may be a crucial observation; but it begs the question of whether top leadership is the right leadership, what “engagement” means, what the context is, etc. In other words, while common sense dictates certain steps for organizational transformation, only experience and luck may actually be the ultimate determinants of success. Also, in this particular case study, the top leader did engage, but in his own idiosyncratic way. How does theory account for that?

Recommendations for Further Research and Analysis

The possibilities for studying the transforming of organizations are endless. Given the vastness of the potential scope and the inherent complexity of large organizations, specific targets, such as the attempted transformation of a systems acquisition approach, could result in meaningful case studies. I strongly recommend

case studies for further exploration of the DoD Transformation, since mine has been at a high level. Given the emphasis on net-centricity in DoD Transformation, for example, a case study on that alone would also be potentially useful for better understanding the interplay between technology, people, infrastructure and processes—and an analysis of governance models being used by the different Services in such a joint domain.

There are myriad targets available in the twenty-first century to research concerning their explicitly declared transformation initiatives. This is true in the U.S. federal government, but also in governments around the world, as well as in corporations and international organizations. The area of transformation is truly a “target-rich” environment.

Lists—or portions of lists—of best practices for transforming organizations could also be used as hypotheses to evaluate particular transformation initiatives to test their validity. However, to do so, phrases such as “top leadership must be engaged” would need to be carefully and rigorously considered in the context of the particular organizations. More research on governance models could be fruitful, especially for large, complex organizations, whether in general or regarding major new initiatives that affect their very future. Also, given how often cultural change is cited as the principal obstacle for transformation, I recommend more study on this (especially in large, complex organizations seeking demonstrable, technology-centric transformation). I think there is room for both case studies and the testing of organization theory hypotheses in such a research endeavor.

Final Observations

America is about big organizations and the gigantic DoD is of particular importance to America and, in fact, to the free world. Its transformation has been occurring in a relative vacuum of meaningful, tailored guidelines for the transformation of organizations of its size and complexity in today’s turbulent and dangerous world.

As complex as such large organizations are, leaders do matter. I think this case study has shown clearly that Donald Rumsfeld mattered a great deal; he played a crucial important role in developing transformation momentum in the DoD. His vast experience in the public and private sector, his ego, intelligence and even abrasive charisma combined to drive him to attempt the impossible (without even knowing for certain what it was) and continue attempting it no matter what the obstacles.

This case study has also demonstrated the increasing importance of technology for transformation, and also for leveling the playing field (since terrorists can also exploit technology at minimum costs). Therefore, we need to “get inside their decision cycles,” which means obtaining and processing incredible amounts of additional data for actionable intelligence. To do this we need to gain and leverage world-class expertise in information and knowledge management. We also must develop deeper understanding of different cultures. But most importantly, we must design and maintain more targeted and robust governance structures for critical initiatives.

In other words, even against the largest organization in the world, a few determined terrorists, like a leader, can also make a huge difference. The competition continues, and people and organizations must continue to evolve. Maybe theory will help untangle some of the riddles along the way, but it will not be easy. Bounded rationality and the limits of organizations (fused into the constructive bridge of “governance priority paradigm”) are perhaps even more useful concepts today than when Simon and Arrow first demonstrated their utility decades ago as concepts in understanding and addressing the challenges of effective decision making for problem solving and the timely seizing of new opportunities.

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**ORGANIZATION THEORY AND THE TRANSFORMATION OF
LARGE, COMPLEX ORGANIZATIONS:
DONALD H. RUMSFELD AND THE U.S. DEPARTMENT OF DEFENSE, 2001-04**

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by

Steven E. Else

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ABSTRACT

The purpose of this dissertation is to contribute to the academic literature on the transformation of large, complex organizations (in this case of a particular U.S. government organization). When Donald Rumsfeld was appointed as the Secretary of Defense at the start of the twenty-first century, and before the tragic events of 11 September 2001, he co-opted the term "transformation" from the U.S. Army for his dominant theme. This case study on his transformational initiative will address the following issues:

1. How established, highly regarded organization and decision-making theories (from Kenneth Arrow, Herbert Simon, et al.) help to illuminate this case study, and how the case study reinforces established theories and potentially adds new insights to them
2. The global and organization context and the challenges and priorities of Secretary Rumsfeld's transformational efforts seen in the context of other comparable, large-scale, complex ones
3. The dimensions of what Secretary Rumsfeld meant by transformation and how the concept was developed, introduced and perceived by key stakeholders in the DoD
4. The manner in which transformation was implemented, the degree of its success in light of goals and initiatives linked to transformation, and an understanding of success or failure of particular efforts
5. The roles of leadership and technology as enablers and possible hindrances
6. Lessons learned and promising areas for future research related to this dissertation, including lessons learned about general and particular transformation challenges.

The fundamental methodology that will be used is that of a case study. After providing some key insights from leading theorists on organizational and decision-making theory, Secretary Rumsfeld's DoD Transformation initiative will be presented and analyzed in the light of relevant history, the current global, organizational and U.S. security contexts, and key tenets of the following theoretical framework, which is intended to bridge key focus areas of Herbert Simon (bounded rationality) and Kenneth Arrow (the limits of organization)—the "governance priority paradigm."
