Chapter 1: Introduction

INTRODUCTION

In the late 1980's, government spending on rice farms in the United States was equal to $1 million per full time rice farm. During that same period the annual subsidy for each American dairy cow was $600 - $700 – more than the per capita income of half the world's population (O'Rourke, 1991). In the early 1990's the government also spent $23 million to a consultant to determine how long it takes to deliver the mail, $7 million to study air pollution in Mexico City, and $2.3 million to bring several hundred workers from all over the United States, some as far away as Alaska, to *photocopy* records of a defunct savings and loan (Gross, 1993). The Department of Defense (DoD) was not immune from the same kind of profligate spending. During Operations Desert Shield and Desert Storm, the United States shipped approximately 40,000 containers to the Middle East. More than 20,000 of them had to be opened, inventoried, resealed, and reinserted into the transportation system because personnel in theater did not know the contents or final consignees. More than 8,000 containers remained to be opened when the war ended. Situations like these exacerbate a long-standing legitimacy problem for public administration wherein the public views a large and powerful administrative state with considerable skepticism. (McSwite, 1997)

Perhaps it should come as no surprise to practitioners and scholars of the public art that government is held in low esteem by the very people it works so diligently to serve. After all, the republic was forged against the anvil of repression and unfair treatment by the British Crown. After gaining independence from Great Britain, national skepticism of large and powerful central government was embedded in the debate

between the federalists and the anti-federalists and manifested itself in the controversy surrounding the Articles of Confederation and current Constitution. The continuing national fear of a strong central government took root in the Bill of Rights. The Tenth Amendment states that "the powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States, respectively, or to the people."

Unfortunately, this was not the end of the debate. This legacy of the founding and the continued disputation over states' rights culminated in an armed rebellion that cost 600,000 American lives. This tradition of skepticism in the national government and particularly the administrative state still lives on today.

As a result, the public clamors for a wider and deeper range of government services while at the same time objecting to higher taxes and displaying overt disdain for government (O'Rourke, 1991). Patterson and Kim (1994) discovered that 82% of Americans believed that they were paying too much in taxes, and 91% said that the answers to America's problems would not be found in raising taxes. The public believes that it is not getting the level and quality of government service for which it is paying (Gross, 1993; Bovard, 1995). Why is that the case? Does the government have only bad ideas? Or are they good ideas that are implemented poorly?

STATEMENT OF THE PROBLEM

Many times the government has a good idea and pursues that idea with resources, planning and effort yet cannot get the idea implemented. This problem can create situations that put the program strategy at risk and eventually could hinder progress or

even threaten the project and sponsoring organization. The result is a good idea with strategies that are poorly implemented or maybe not implemented at all.

PURPOSE OF THE STUDY

The purpose of this study is to explore forces acting on the implementation of strategy in the public sector and to develop a conceptual framework of those forces. I will accomplish the task by a field study of the implementation of a logistics automated information system in the DoD. Many forces are extant in the public arena and some affect the implementation of strategy. Some forces aid the implementation of strategy and are seen as positive forces; other forces act to hinder the implementation of strategy and are seen as negative. As forces emerge in the study, they should help to provide a better understanding of why some strategies succeed under certain conditions while others may fail. A study of the forces acting on the implementation of public strategies could inform public administrators of why strategies are not implemented as planned, thus aiding not only the implementation of strategies but also the formulation.

CONCEPTUAL FRAMEWORK

Michael Porter, one of the more widely read strategists of our time, draws a sharp distinction between models, cases and frameworks. The artistry of model building, he claims, is in deciding what to extract from the phenomenon and how to manipulate it. Case writing is the ability to tease out and understand the essence of what's really going on in a phenomenon. In framework building the artistry is to provide the smallest number of elements that still capture the variation and dimensionality of a phenomenon. A framework captures the full richness of the phenomenon with the most limited number of dimensions. Not only that, but these dimensions have to be intuitively grounded. That

is, if you present them to the practitioner, they must make sense in the context of his or her industry. Consequently, what is commonly referred to as "Porter's Five Forces Model" in the literature, is to Porter really a framework (Argyres and McGahan, 2002).

Miles and Huberman (1994) advance the idea of a conceptual framework to assist in explaining the idea of theory building. Theory building relies on a few general constructs that include a multitude of particular details. Terms such as "social climate," "national mood," and "political environment" contain many discrete events and behaviors. In order to make sense of them; we put them into broad categories that are more easily related to each other. These categories can be seen as "intellectual bins" and the terms are merely the labels we attach to them (Miles and Huberman, 1994). Arranging the "bins", naming them, and determining their relationships lead to the development of a conceptual framework. The conceptual framework explains, either graphically or in narrative form, the main things to be studied – the key factors or constructs – and the presumed relationships among them. This is almost precisely the process that I plan to employ in this study. Consequently the product of this study will be a conceptual framework.

THE RESEARCH QUESTION

Qualitative studies often have research questions rather than hypotheses written into the study (Creswell, 1994). Accordingly, I have adopted Werner and Schoepfle's approach (1987) which takes the form of a primary research question followed by sub-questions. The grand tour question is a statement of the question being examined in its broadest form. The purpose of the sub-questions is to narrow the focus of the study without constraining it. The grand tour question and sub-questions for this paper are:

Research Question

- What are the general categories of forces acting on the implementation of strategy for an information technology project in the Department of Defense?

Sub-questions

- How do these forces affect strategy implementation?
- How are the forces affected by the strategy?
- What is the common theme of the forces, if any?
- How can implementation forces be used to assist in understanding strategies?
- What are the causes and effects of the forces?
- How can the forces be used to assist in the implementation of public strategies?
- How can the implementation forces be used to help develop more successful public strategies?

CONCEPT OF FORCES

The forces I am aiming to identify in this study are those forces that impact the success or failure of strategic choices. This means that at times those forces may be pushing (or pulling) the strategy toward success and sometimes the forces may be pushing (or pulling) the strategy away from success. A useful construct for analysis of these forces is Kurt Lewin's Force Field Theory.

Lewin was born in Germany on September 9th, 1890 and immigrated to the United States in the 1930s. Primarily a psychologist, he was one of the founding fathers of not only social psychology but also of organizational psychology. He pioneered a systematic analysis of the contributions of personality and social environment to human

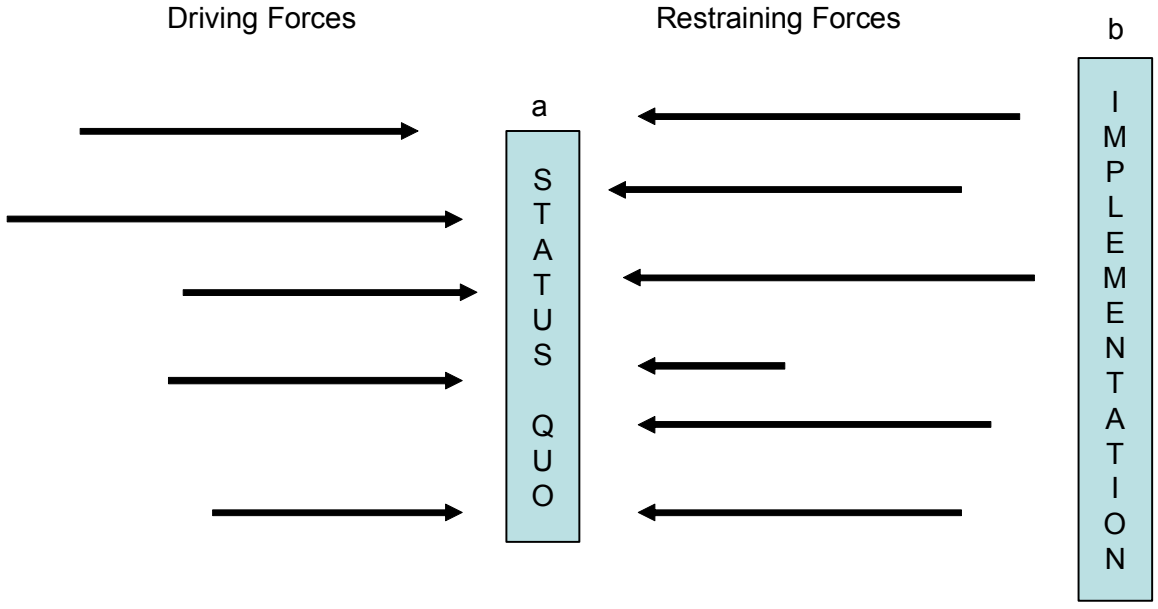
behavior -- fundamental to sociology and psychology. Force Field Theory grew out of his psychological studies of how humans change attitudes.

Force Field Theory emphasizes the fact that any event is the result of a multitude of factors and the forces acting upon them. Force Field Analysis is the associated problem solving technique based on the concept that a change in any of the forces might alter the result or influence the change. Lewin originated the idea as a strategy for changing behavior. It is not a cognitive map, but rather it is an organizing mechanism to view and understand the individual's cognitive map to effect change. The forces that help achieve the change are called driving forces, and the forces that work against the change are called restraining forces. This analysis helps generate options by examining the forces (groups, personnel, resources, relationships, etc.) that can help achieve or work against the objectives.

Lewin's basic change model is based on the observation that the stability of human behavior rests on the "quasi-equilibrium" of a large force field of driving and restraining forces. For change to occur, this force field has to be fundamentally altered because merely adding a driving force toward change often produces an immediate counter-force to maintain the equilibrium. This observation led to Lewin's important insight that the equilibrium could more easily be altered by removing or weakening restraining forces because simply pushing harder against the restraint is likely to increase the strength of the resistance. The basis of Lewin's change theory (Force Field Analysis) has been applied in many other fields such as information systems development, organization management and medicine.

A criticism of Force Field theory is that it does not capture the process, but is rather a snapshot in time or possibly a summary of mentally integrated snapshots. Although that criticism is somewhat justified, the technique can, and has been successfully, used to describe a problem, look for causes of a problem and provide an overall sense of the situation. The technique not only helps to identify the driving and restraining forces, but also assists in determining the multiple facets of the problem and in generating solutions for that problem. The Force Field Analysis can be applied during each stage (definition, requirements, analysis, design and development) of a project where decisions have to be made or where problems need to be solved. This technique enables the researcher to graphically display a problem, a goal situation and the forces that influence it (see Figure 1-1).

Figure 1-1. Force Field Theory



In this study, I will borrow the general concept of forces as outlined in the Force Field Theory and apply it to the implementation of public strategies for an information technology project. I will adopt Lewin's terminology and refer to the forces that help

achieve the strategy are as driving forces, and the forces that work against the strategy as restraining forces. This concept should aid my examination of the forces that can help achieve or work against the strategies.

JOINT TOTAL ASSET VISIBILITY

The information technology project that I will study is the Joint Total Asset Visibility (JTAV) project. JTAV is the DoD capability that provides Combatant Commanders, the military services, and the components with timely and accurate information about the location, movement, identity and status of units, personnel, equipment and supplies. This capability is achieved by fusing data retrieved from the myriad logistics systems throughout DoD that support the logistics functional processes such as supply, transportation and maintenance. The JTAV goal is to provide a capability that facilitates improvements in the performance of those logistics functional processes.

JTAV's genesis is found in the experiences of Operations Desert Shield and Desert Storm and the DoD Inventory Reduction Plan (IRP). Desert Shield and Desert Storm reaffirmed suspected deficiencies in both asset management and order status experienced in previous conflicts. The inability to "see" assets in the pipeline and the status of orders was responsible for duplicate orders, unnecessary materiel shipped into theater, backlogs at aerial and water ports, and difficulty in prioritizing these cargo backlogs. The IRP was a major initiative to downsize material inventories while maintaining peacetime readiness and combat sustainability. JTAV was seen as a key enabler for logisticians to make cost-effective decisions on material positioning and movement to reduce retail and wholesale stocks.

For most of the nineties, JTAV was considered to be DoD's number one logistics initiative. I selected JTAV as my subject for several reasons. First, it provides the focus of a single case, yet spans practically the entire Department of Defense. Second, JTAV was into the implementation phase and was achieving results. It provided an excellent opportunity to study how the results were achieved. Third, I was familiar with JTAV and many of the players. I had some knowledge of the subject, could gain access to interview the people involved and had confidence in their frank and honest answers.

DELIMITATIONS AND LIMITATIONS

Very important to any research study are the delimitations and limitations that establish the boundaries, parameters, exceptions and qualifications that exist in every study (Castetter & Heisler, 1977). Delimitations set the boundaries and parameters for how the study will be narrowed in scope. Limitations identify exceptions and qualifications that produce potential weaknesses in the study. In this study, both the primary delimitations and limitations revolve around the issue of a single field study.

Delimitations

In order to ensure a viable focus and narrow the topic to a workable premise, it is important to bound the research by reasonable delimitations.

- Public/private -- I am delimiting this study by strictly examining the public sector. A great deal of research has been conducted concerning strategy in the private sector, and although it can be useful for providing context and a general understanding, the focus of this study will remain on the public sector. Thus, I have used private sector research in the literature review to aid the analysis – but the original research (i.e. interviews) is limited to the public sector.

- Content/process – Several authors claim that the line between strategy content and strategy process is artificial and that they are merely opposite sides of the same coin. I fully recognize the interdependence between strategy content and strategy process; however, in this study, I am examining how strategies are implemented – not what the strategies are. Thus, it is important to draw the distinction and for purposes of this study I am delimiting the study to strategy process.
- Formulation/implementation -- Although I recognize that the line between formulation and implementation is quite often blurred, and often problems in implementation are caused by formulation issues, this study is restricted to implementation. Consequently, a strategy formulation problem might be seen as a force affecting strategy implementation in this study, but an analysis of that force and how it is generated in strategy formulation would be a different study.
- Policy/strategy – Although less well understood and defined than the content/process and formulation/implementation issues, the question of policies and strategies is no less interesting or potentially controversial. Both strategies and policies are action oriented and have as their aim the resolution of a problem. Both consist of the basic steps of planning, implementing and evaluating. Both can be performed at various organizational levels. Both can be performed simultaneously. Both are performed in the private and public sectors (although they are understood somewhat differently in each sector). Literature exists concerning policy implementation and it will be consulted as necessary for setting context or aiding analysis, however, my study concerns the implementation of strategies not policies. The strategy/policy relationship is probably well suited to a dissertation in its own right.

Limitations

As with any study, inherent weaknesses exist that should be acknowledged and addressed early in the research. I have tried to minimize the limitations by judiciously delimiting the study. Some limitations, however, still do exist:

- The purposive sampling (i.e. selecting only the strategy implementation for one project, JTAV) decreases the generalizability of the finding in terms of the government as a whole. The study is not generalizable to all areas of the public sector and is not intended to be. It would not be reasonable to take these results and "plug" them into another study and expect success. Every project has a different context. This study is the final word on forces affecting strategy implementation, but rather a small contribution to the overall field.
- Using interviews increases the probability of studying perceptions rather than facts.
- Qualitative studies, by their nature, are subject to alternative interpretations.

THE USE OF THEORY

Because a primary tenet of the qualitative study is the "emergence" of theory, it would be somewhat self-defeating to state a theory in the beginning as is commonly done in quantitative studies (Creswell, 1994). Consequently, the use of theory in this study will not be as clear as it would be in a quantitative dissertation. I will use the rationale of some theories as reference points to guide me through the wilds of strategy implementation. In fact, as it is my previous experience and research that has led me to this point, the notions and theories that I posses concerning strategy are no doubt embedded throughout the study. And although I will review my findings against some theories, I will not test any specific implementation theories against my research for fear of biasing my findings.

SIGNIFICANCE OF STUDY

A study of strategy implementation for an information system (IS) in a federal agency is important for several reasons. First, there is a literature gap. Bajjaly (1999) says that there is a small body of knowledge concerning emerging IS in the public sector. Implementing emerging IS is especially risky for public agencies because critical success factors have neither been researched sufficiently nor documented adequately.

Second, strategic planning (and consequently strategy implementation) has gained significant emphasis with the passage of the Government Performance and Results Act (GPRA) of 1993. GPRA requires each federal agency to develop strategic plans that include specific performance measures that tie the goals and objectives to the budget. In addition, each agency is required to submit an annual performance report detailing how well those goals and objectives were accomplished. A study of the implementation of the strategies for a federal IS project could be useful to the understanding of how strategies succeed or fail in the public sector. Making the situation worse is the fact that public administration curriculums are generally weak in terms of strategy courses. Third, that study could also help to relate the factors that impact strategy implementation to the strategy itself, for purposes of designing strategic templates for further study.

This dissertation will help fill a literature gap in strategic management of public institutions. It will determine a list of generic forces acting in the strategy implementation environment of an information system in DoD, and will contribute to filling a gap in the strategic literature for public sector institutions. In short, for anyone who wants to understand how public sector strategies might be implemented, this study should prove useful.

Chapter 2: History, Philosophy and Foundations of Strategy

INTRODUCTION

This chapter provides a foundational view of strategy to assist the reader in placing the study in the broad context of strategy literature. This chapter includes sections on the origin, definition, distinctions (such as implementation/formulation, planning/management/thinking, tactics/policy) and strategy theory including competitive advantage, organizational economics, game theory, constructivism/realism, postmodernism, rational actor, and the new sciences. I have also included a section on the public/private debate to assist the reader in drawing distinctions between the two sectors to help the reader understand reasons why strategy in the public and private sectors are somewhat different. A Quantitative CyberQuest (QCQ) analysis of this chapter and Chapter 3 is at Appendix A.

The amount of strategy literature has exploded in the last thirty to forty years. We have been told that we must strategically plan, strategically manage and now strategically think. We have strategies that implement policies and we have policies that implement strategies. This chapter will try to bring some order to the confusion.

ORIGINS OF STRATEGY

Dating from the late 17th (Whipp, 1999) or early 18th (Luvaas, 1999) centuries, depending upon the source, the term "strategy" is a relative semantic latecomer. Etymological inquiry, however, reveals the word to derive from the ancient Greek *stratos* (army) and *agein* (to lead) (von Ghyczy, et al, 2001). A *strategus* was a government official in ancient Athens elected to carry out the business of the government. He was a

civilian leader as well as a military commander and a member of the *Strategoi* – a ten man Council of War (Van Creveld, 1985).

In 1779, the French military writer, Count de Guibert, possibly was the first to use the term as we know understand it. He maintained that a commander could maneuver small units personally, but could merely direct larger units to the desired point, leaving the execution to subordinates. Those subordinate commanders had to understand the "entire art of movement of large-scale army maneuvers" which de Guibert referred to as *la strategique* (Luvaas, 1999).

In the early part of the 19th century, usage of the word was restricted to describe military actions taken out of sight of the enemy (Whipp, 1999; Luvaas, 1966). In 1825 and 1838 the words "stratagem" and "strategist" appear respectively and are more associated with the Chinese notion of stratagem as an artifice or trick (St. George, 1994; von Senger, 1991). The two most prolific military writers of the Napoleonic era - Clausewitz and Jomini - went beyond the word to the nature of strategy itself (von Ghyczy, et al, 2001).

But before beginning any study, it is a good idea to understand exactly what it is to be studied. Consequently, I will review some of the popular definitions of strategy to arrive at a common understanding.

DEFINITION OF STRATEGY

A standard dictionary definition serves as a good beginning. The American Heritage Dictionary (1995) defines strategy as "the science or art of military command as applied to the overall planning and conduct of large-scale military operations." The military defines military strategy as "the art and science of employing the armed forces of

a nation to secure the objectives of national policy by the application of force or the threat of force" (JCS, Pub 1, 1999). The Rand Corporation, in a study of military styles and strategy, draws upon on several differing views (Weinberger, 1987; Dunn & Staudenmaier, 1985; Wylie, 1967) to determine that strategy is merely a concept for relating means to ends (Builder, 1989).

In the public sector, Bryson defined strategy as "a pattern of purposes, policies, programs, actions, decisions, or resource allocations that define what an organization is, what it does, and why it does it" (Bryson, 1995, 32). Nutt and Backoff (1992) describe strategy as addressing a major management concern – positioning the organization to face an uncertain future, whereas Moore (1995) says that strategy is looking out at the public value created – a normative view - as well as looking down at the efficiency and means of production.

In the private sector, Andrews (1971) referred to strategy as a rivalry among peers. Ohmae (1982) agrees and maintains that the object of strategy is to bring about conditions favorable to one's own side, judging the right moment to attack or withdraw. Porter (1980, xxv) sees strategy as a 'broad formula for how a business is going to compete, what its goals should be, and what policies will be needed to carry out those goals." He agrees with Ohmae that strategy consists of offensive or defensive actions that create a defendable position and yielding a superior return on investment. Perhaps the most radical view of strategy sees it not as the concepts and vision to *compete* in the future, but rather the concepts and vision to *create* the future (Hamel & Prahalad, 1994).

Based on the above, I have developed the following working definition of strategy for this study.

> Strategies are forward looking actions on fundamental issues that lead to goal accomplishment. Action steps are the result of conscious thought regarding goals, objectives, resources, position in the environment, future uncertainty, and relationships (adversaries, means to ends, stakeholders). Strategies require periodic review, adjustment as necessary, and judgment in application.

The last sentence is my personal contribution to the definition.

DISTINCTIONS

The plethora of strategic literature in the last forty years has provided several instances where words and phrases have either not been consistently used or ideas and concepts have altered their meanings. In order to better understand strategy in the context of this study, several distinctions need to be made.

Implementation/Formulation

Formulation and implementation are generally considered to be two separate phases of the strategy process. But when viewed from a content perspective, there is not necessarily a clear distinction between them. In fact, some scholars believe them to be on either end of a continuum. There is support in the literature on both sides of the aisle.

SEPARATION OF FORMULATION AND INTEGRATION

Probably the earliest, and possibly still the most credible, advocate of the separation of formulation and implementation was Kenneth Andrews. Andrews wrote the text of the Harvard textbook, Business Policy: Text and Cases, widely considered one of the three seminal strategic management works of the 1960's.[1] In Andrews' view, strategy formulation was analytically (if not practically) distinct from strategy implementation. He regarded strategy formulation as "analytically objective" while implementation was "primarily administrative" (Rumelt, et al, 1994; 17).

[1] The other two seminal works are Chandler's Strategy and Structure (1962) and Ansoff's Corporate Strategy (1965).

There has been debate between the planning school (Ansoff, 1991, 1994) and the learning school (Mintzberg, 1991, 1994b, 1994c) over which type of planning should be used by organizations in strategy formulation. Brews and Hunt (1999), in trying to find common ground between the two schools of thought, found that both formal planning and incremental learning form part of what is recognized as "good" strategic planning. Their research underscores the importance and value of formal strategic planning efforts, supporting the separation of formulation and implementation. Bryant (1997) says that implementation is the most difficult step in the strategic management process, and is the point at which most strategic management efforts fail, again implying that implementation is separate from formulation.

Farjoun (2002) is explicit that strategic management consists of strategy formulation (choice of strategy) and strategy implementation (administrative activities). Kessler and Kelley (2000) present a framework for strategy implementation that is based upon a linear progression, thus formulation and implementation are necessarily separate. Several other scholars discuss aspects of formulation and implementation, with the resulting implication that they are separate phases in the strategy process (Brodwin and Bourgeois, 1984; Dooley, et al, 2000; Barney, 2001; Kaplan and Norton 2001; Zagotta and Robinson 2002).

INTEGRATION OF FORMULATION AND IMPLEMENTATION

Other authors believe that the dichotomy is an artificial one. Feurer and Chaharbaghi (1995) present an approach that operates continuously to analyze the environment and identify implementation considerations. In so doing, they combine portions of formulation and implementation. Mintzberg (1994a) says that the discrete phases of formulation and implementation need to be collapsed. Either the 'formulator'

has to be the 'implementor,' or else the 'implementors' have to 'formulate.' In other words, Mintzberg says that thinking and action have to proceed in tandem, and by the same people. Stone, et al (1999) found that changes in structure and mission are outcomes of both formulation and implementation, suggesting a dynamic relationship with outcomes of formulation affecting implementation and implementation in turn affecting formulation.

Planning, Managing and Thinking

The term "strategic" has been used to modify many nouns. A lack of clarity has resulted in those words being used interchangeably at times. Lyles (1990) went so far as to say that the word "strategic" has become a buzzword for any discipline trying to stress the importance of their work, opening the field to slogans and terms that only add to the confusion (Markides, 1999). Three terms that fall into the category of imprecise usage are strategic planning, strategic management and strategic thinking (Mintzberg, 1994a; Bryson, 1995; DeKluyver, 2000).

STRATEGIC PLANNING

Several scholars view strategic planning in forward-looking terms of deciding what to do and how to do it before the action is required (Moskow, 1978; Hindle, 1994; Bryson, 1995). Fogg (1999) views strategic planning in terms of a change mechanism and management tool while Poister and Van Slyke (2002) say that strategic planning is only useful when linked closely to implementation.

To some authors strategic planning is more about the strengths, weaknesses, opportunities and threats analysis (Koteen, 1989; Nutt and Backoff, 1992; Bryson, 1995) while others focus on the role and involvement of stakeholders (Geletkanycz and Hambrick, 1997; Henderson and Mitchell, 1997; Markoczy, 2001).

Wildavsky (1973) was one of the first to notice that planning was not always as effective as it promised.

> How can this be, that planning fails everywhere it has been tried…Nothing seems more reasonable than planning…Suppose…that the failures of planning are not peripheral or accidental but integral to its very nature. (Wildavsky, 1973, 128)

Wildavsky's assertion was born out by numerous researchers (Jelinek, 1979; Makridakis 1981; Godet, 1987). De Kluyver (2000) provides some possible answers to Wildavsky with numerous examples of how corporate strategy can be negatively affected by economic, technological, political, and socio-cultural changes. Mintzberg (1994a) put an exclamation point on the attack on strategic planning by listing what he considered to be its fundamental fallacies as:

- The future can be predicted with the necessary accuracy
- Planners can be separated from operators, and
- The process of strategy making can be formalized.

Therefore, planning is not formulation so the term "strategic planning" becomes an oxymoron (Mintzberg, 1994a).

Several researchers found that managers have the perception that formal strategic planning has a legitimizing property – they believe they must plan, or at least have a planning document – to be taken seriously at funding time (Stone, et al., 1999; Crittenden, et al., 1988; Odom & Box, 1988). Siciliano (1997), however, provides possibly the most pragmatic research concerning strategic planning. He found that regardless of size of the organization, non-profits with formal planning processes outperformed those with less formal planning.

For the purposes of this study I will use a variation of Mintzberg's definition of planning in general (Mintzberg, 1994a) to define strategic planning:

> Strategic planning is a procedure that includes the analysis of a situation and the synthesis of data into an integrated system of decisions, resulting in definable and measurable action steps that produce an articulated result.

STRATEGIC MANAGEMENT

Zanetti and Cunningham (2000) claim that confusion exists in both the practitioner and academic communities concerning what strategic management is and how to do it. Toft (1989; 6) serves as an excellent example, as he confuses the issue somewhat by portraying strategic management as an "advanced and coherent form of strategic thinking." Vinzant and Vinzant (1996a) add to the confusion by characterizing strategic planning as one of strategic management's cornerstones. Neither of these descriptions provides elements allowing distinctions.

Steiss (1985) gained ground on an understanding of strategic management by defining it as deciding what an organization will do in the future (planning), determining who will do it and how it will be done (resource allocation) and monitoring activities and operations (control and evaluation). Koteen (1989) was in general agreement and defined strategic management as a process that embraces all managerial decisions and actions that determine the long run performance of an organization. Poister and Streib (1999) agree with Steiss and Koteen that strategic management involves resource management, implementation, and control and evaluation. Poister and Streib also say that strategic management is not a linear process of planning, implementation and evaluation, but rather entails managing a public agency from a strategic perspective. In that regard, Poister and Van Slyke (2002) present a strategic management process that includes strategic planning as one of the elements along with the mission, strategic framework, vision and values, decisions, ownership, resources, and performance.

For the purposes of this study strategic management is defined as:

> Managerial decisions and actions that keep a focus on and accomplish strategic goals and objectives.

STRATEGIC THINKING

Keelin and Arnold (2002) say that the critical ability in being a strategic thinker is to have strategic perspective – the ability to create clarity out of complex and disconnected details. Lippitt (2003) claims that strategic thinking must go beyond a one stop strategy and include five other priorities: gain market share, minimize confusion, improve business processes, build and support the workforce and achieve strategic positioning. Wolf and Gering (2002) believe that strategic thinking is active, not passive. It is not cut and dried, but amorphous. It is not accomplished in a vacuum but rather in context. They say that strategic thinking takes vision, leading by example, communications, selflessness, and empowerment. For the purposes of this study, strategic thinking is defined as:

> A cognitive process that focuses on identifying and achieving fundamental long range goals.

Strategy versus Tactics and Policy

Strategy, tactics and policy are sometimes used almost interchangeably and the somewhat muddled use of the three words can be confusing. Some scholars go so far as to say that strategic management is "often called policy" (Rumelt, et al, 1994, pg. 1), while Stone claims that "policy actions are ongoing strategies" (Stone, 1997, pg. 259). It may be helpful to delineate differences for delimitation purposes.

STRATEGY AND POLICY

The term "policy" is derived from the Greek word "polis" meaning "city-state" (Stone, 1997). According to Stone (1997) and Dunn (1994) a policy is a course of action designed to attain an objective or resolve a problem. Dunn (1994) and Sabatier (1999)

state that public policy making includes agenda setting, formulation, implementation, and assessment (evaluation).

How, then, does it differ with strategy? Porter maintains that a strategy "includes policies needed to carry out those goals" (Porter, 1980, xxv). Strategy has also been defined as "policies...that define what an organization is, what it does, and why it does it" (Bryson, 1995, 32). Bryson and Mintzberg et al (1998) have also proposed strategic planning processes that include, in one form or another, all of Sabatier's and Dunn's proposed policy making process stages. This association might indicate that policies are used to implement strategies and thus are part of an overall strategic process.

Liddell Hart (1954; 321) defined strategy as "the art of distributing and applying military means to fulfill the ends of policy". In addition, strategic planning was institutionalized as a federal policy through passage of the Government Performance and Results Act of 1993. This association would indicate, much as Liddell Hart, that strategic planning is a subset of a larger government policy agenda.

It appears that a primary difference in strategy and policy is how they are viewed in the private and public sectors. In the private sector, policy is often considered a company regulation or procedure, for example, "It's not company policy." Policies are used to implement actions (strategies) or as rules to set guidelines for procedures. In the public sector, policy is more often referred to in terms of complex, large fundamental issues that require resources and time to resolve, such as health care policy, national defense policy or tax policy. In that context, strategies are used to implement the policy objectives. As this is a study of the public sector, I will define the relationship between strategy and policy as is commonly done in the public sector.

STRATEGY AND TACTICS

The term "tactics" is also derived from the Greek. It comes from the Greek "tactos" meaning "arranged" (American Heritage Dictionary, 1995, pg.1237). Perhaps it should come as no surprise then that tactics has its origins in the military to describe how the commander would arrange his troops for battle (Sun Tzu, 1985; de Saxe, 1985; von Clausewitz, 1987; Jomini, 1987; von Leeb, 1991).

Although strategy and tactics differ, they must be in harmony for either to succeed. In World War II the British adopted an indirect strategy but used direct tactics for implementation in Northern Africa. They opened with a faint and flank advance placing them close to Rommel's rear guard. But they forfeited the advantage gained by an indirect strategy by adopting the direct tactics of trying to smash through Rommel's lines in head-on battles (Liddell-hart, 1954). In World War I, Gen. Ludendorf, and Chief of Staff of Germany's 8th Army carried the idea one step further. After observing the failed allied offensives in the Dardanelles in 1915, he made the insightful observation that it is futile to pursue strategic objectives unless tactical success is possible (Liddell Hart, 1954). On the other hand, in his classic examination of the Vietnam War, Col. Harry Summers (1982) concluded that it is possible to win the tactical battles and lose the war.[i] Summers is forced to ask how we could have won so many battles and failed so miserably in winning the war. His answer is that we saw the enemy's guerilla operations as a strategy when, in fact, it was tactical in nature. Because our strategy did not focus on the political aim to be achieved, our "strategy" was never a strategy at all. As a tactic it was extremely effective and we won the battles – as a strategy it was a miserable failure and we lost the war.

As for tactics in the public sector, Bryson offers two paragraphs, separated by 40 pages. Bryson succeeds in defining tactics as being no different from strategies (Bryson 1995, 132). He may recognize his dilemma because he also cautions against too sharp a distinction by quoting Mintzberg, "…one can never be sure which is which until the dust settles."

In the private sector, De Kluyver (2000) associates tactics with new business concepts such as innovation, total quality, flexibility and speed, whereas strategy is aimed at doing things differently. Mintzberg (1994a) notes the tradition of distinguishing strategy and tactics in the military. He says that it is never easy to tell which is which, because in the final analysis, the details may prove to be strategic. He also says that tactics are determined by where you sit and also by when you sit because all strategies and tactics have a temporal element. Then, he eliminated the word from his book.

In discussing strategy for information systems, Boar (1993) says that strategic moves are executed through tactics. Possibly the most creative treatment of the strategy-tactics relationship is provided by Lowson (2002). He suggested a strategic genealogy based upon the animal kingdom. (See Table 2-1).

Table 2-1. Strategic Genealogy

Classification	Description
Kingdom *(the highest category of taxonomic classification)*	Organizational business strategies
Division or phylum *(a generic group)*	A generic model of an operations strategy that is not of any particular identifiable type, but still containing interrelated building blocks.
Class *(a grouping of organisms)*	An identifiable type of operations strategy (supply network, quick response, efficient customer response, etc.) demonstrated in a qualitative pattern of organization. This will then be physically embedded in an individual and quantifiable deployment (the structure) unique to each situation.
Sub-class	A narrower operations strategy used in a linear supply chain, value chain or part of the chain (logistics strategy for example).

Table 2-1. Strategic Genealogy (Continued)

Order *(taxonomic rank constituting a distinct group)*	Strategic decisions made (medium to long term) about the various "building blocks" of an operational strategy (the order).
Genus *(taxonomic grouping containing several species)*	Groups of "building blocks" (or species) form a particular operational or tactical approach, such as a supply chain management and logistics.
Species *(individuals with common characteristics – in practice the species will be made up from sub-species or elements)*	Individual "building blocks" are the species; core competencies, capabilities and processes, resources, technologies, and certain key tactical activities that are vital to support a particular strategy or unique positioning. These "building blocks" are grouped into a class of operational strategy (a specific instance) or described in the generic form (the phylum). They can also be used at a more tactical level as a particular operational management approach (genus).

The table is best understood by beginning at the bottom. The species are the specific tactical actions employed and form the "building blocks" used to develop the genealogy. Groups of these building blocks form a general tactical approach (genus). Based upon that tactical approach, medium to long range decisions are taken concerning an operational strategy (order). These decisions reveal the operations strategy (the class). A generic model of that operations strategy (the division) can be developed from those decisions. This generic model of the operations strategy belongs to a higher order of business strategy (kingdom).

STRATEGY THEORY

Some scholars would say that strategy almost has no theory – that it is purely a function of practical endeavors. Although it has no roots in philosophy, it is important and exists because it is worthwhile to study (Rumelt, et al, 1994). This train of thought does not bode well for strategy because Kaplan (1964) says that theory could very well be considered the most important and distinctive human activity. He says that theory is what transforms the mere happenings of our lives into meaningful events. To extend

Kaplan, a theory of strategy would provide us the context to understand strategy as it relates to the events of our own lives.

Many scholars have struggled with attempting to apply a theory to strategy. Some have met with varying degrees of success; some have not. One reason making it so difficult to develop a single unifying theory of strategy is that the theories seem to overlap in many places. This section examines several of the more common ways to view strategy.

Competitive Advantage

It is perhaps best to begin with a theory which is considered by many scholars to be almost the founding principle of strategy. Competitive advantage has generated huge amounts of scholarly work (Barney, 1986; Fiol, 1991; Bowen and Wiersma, 1999; Ghemawat & Rivkin, 1999) and competitive advantage is widely accepted as an essential concept in strategy (Barney, 1997). Firms attempt to identify, create and leverage competitive advantage (Porter, 1996). Under any leading strategy theory, sustained superior performance exists, it has specifiable causes, and those causes are tied to the concept to competitive advantage (Powell, 2001).

Porter (1996) supports the concept of competitive advantage but claims that it can not be accomplished through merely improving organizational effectiveness and that real competitive advantage is gained by being different, not being better. Lowson (2002) supports the competitive advantage school but contrary to Porter claims that it is possible to create a competitive advantage from operational effectiveness.

Barney (1991) defines competitive advantage as a strategy that creates value for one firm and is not being implemented by current or potential competitors. He argues that a strategy must be rare, valuable, and not inimitable in order to be a source of advantage. Barney's thesis provides an interesting paradox. Either a firm has the attributes to sustain competitive advantage or not. If not, then any act that obtains them is inimitable, thus disqualifying them as a competitive advantage. This would ironically include all management and business education. Also, competitive advantage is not an absolute scale, it is relational. My firm may have a competitive advantage over your firm, but not a different firm. A characteristic that my firm possesses may not be an advantage in relation to some firms, but may be an advantage in relation to others. In other words, organizations must be compared to Each Other, Not To An Absolute Standard.

Force Field Theory

Thomas (1985) explained that although force field analysis has been used in various contexts it was rarely applied to strategy. He also suggested that force field analysis could provide new insights into the evaluation and implementation of corporate strategies. Specifically, Thomas explains that the forces that drive and restrain strategy come from a variety of sources, some external to the organization and some internal. According to Thomas, some of the external sources include socio-cultural, government and competitive forces. Some of the internal sources include resources, organizational culture, and production process. In addition, Thomas states that strategists often rely on intuition and subjective analysis, whereas, force field analysis can provide a more

objective evaluation of the situation. Finally, Thomas asserts, the astute strategist can use force field analysis to both quantify and move beyond the SWOT[2] analysis.

Ajimal (1985) applied the force field analysis to group problem solving in Zambia. He discovered that groups with a clear understanding of the force fields surrounding specific issues are better at investigating, analyzing and rectifying problem areas. Maslen and Platts (1994) applied force field analysis to manufacturing strategy. Force field analysis is potentially a powerful technique to help an organization realize a manufacturing vision.

Organization and Bureaucracy

Some scholars claim that the origins of strategic management are found in the studies of economic organization and bureaucracy (Rumelt, et al, 1994). Organizational structure has long been considered in conjunction with strategy. Bryson (1995) refers to it as "the structural problem." Chandler (1962) was the first to articulate that structure should follow strategy. Of course the structure most commonly referred to was a form of hierarchy. Some authors (Hill, et al, 1992; Jones, et al, 1997; Mintzberg, et al, 1998) have questioned not only the hierarchy form of governance, but also the strategy/structure sequence. Mintzberg et al (1998) claims that structure follows strategy the way the left foot follows the right. Jones et al (1997) champion the network form of governance as a natural outgrowth of the changes to organizational dynamics.

Modernism/Rational/Economic

I have included modernism, economics and rationalism under one umbrella heading, because they each trace their roots to the positivist, rational actor school.

[2] **S**trength, **W**eaknesses, **O**pportunities and **T**hreats

DeKluyver (2000) presents an essentially rational view of strategy as the link between strategic choices and long-term performance. The most prevalent and widely used tool of strategy analysis is the prototypically rational SWOT (Strength Weakness, Opportunities and Threats) analysis. The SWOT concept was instrumental in transforming strategy formulation from an intuitive art to a logical process (Hatch, 1996).

Pure economics is clearly rooted in rationalism and there lie its links to the military tradition of strategy (Hill, et al, 1992; Nutt and Backoff, 1992). However, mainstream economic theory – price theory – leaves little scope for actual strategic choice. Price theory is based upon an economy coordinated by market prices. A firm following strict economic theory would observe market prices and then make a decision as to production. The decisions would be virtually compelled by cost and demand conditions (Heilbroner and Thurow, 1994). There would be little scope for management to plan and coordinate and even less interest in differences between firms in capabilities or culture.

Constructivism vs. Realism

Several authors (Scherer and Dowling, 1995; Spender, 1996; and Mir and Watson, 2000) make a case for constructivism as a philosophy for conducting strategic research. Constructivism's epistemological assumptions are non-positivist; rules and principles do not exist independently of our theories about them. They conclude that constructivist perspectives will assist strategy researchers as they address issues that a purely realist perspective misses. Kwan and Tang (2001) argue that Mir and Watson present the radical fringes of constructivism and realism, and suggest that critical realism, a moderate form, is not only an adequate perspective, but actually more appropriate.

Bronn (1998) suggests the application of epistemic logic and evidential theory to strategic arguments. He says that strategists often misunderstand the difference between what they believe and what is fact (can be empirically supported). Epistemic logic respects that distinction, and provides a methodology - evidential theory - that can formally combine the information and knowledge available into an assessment of evidence, thus addressing the problem of insufficient information.

Systems Theory

In Liddell Hart's theory of the indirect approach in military strategy (1954), it is possible to discern the beginnings of the systems view of strategy. The systems approach is a way of thinking that emphasizes an entire system rather than component sub-systems, and tries to optimize the performance of the whole system as opposed to those components (Van Gigch, 1974). Boar's (1993) concept of strategic alignment (or strategic fit) expands on the systems approach and applies it to information systems strategy. Strategic alignment contends that the objectives of the business as a whole are primary; the agenda of each unit is secondary – clearly a systems approach. Strategic fit has received support from a number of authors (Luftman, 1996; DeKluyver, 2000; Kaplan & Norton, 1996; Thompson and Strickland 1998).

Institutional Theory

The study of institutions is necessarily a risky proposition because it is difficult to obtain agreement on what an "institution" is and how one acts. Although Selznick (1949) is often given credit for the term by suggesting that an institution was an organization infused with values, some scholars claim that the concept goes back to Emile Durkheim (Dimaggio and Powell, 1983).

Dimaggio and Powell (1983) maintain that "new institutionalism" differs distinctly from the rational actor model through a focus on institutions as independent variables, an interest in cognitive and cultural explanations for behavior, and a view of units of analysis that cannot be reduced to mere aggregations of individual attributes. Hatch's symbolic theory of strategies (1996) provides support to "new institutionalism" as it focuses on the idea that strategies are not always the result of a rational process. Sometimes strategies emerge from how the process is performed, and sometimes strategies are almost a matter of luck.

Postmodern Theory

Postmodernism is the latter day reaction to the belief that the rational perspective that grew out of the Enlightenment is a less than satisfactory answer to current societal and cultural needs (Selznick, 1992). The greatest skeptic of the Age of Reason was Friedrich Nietzsche. Nietzsche, in effect, erased the majority of Western symbols and beliefs and set the stage for the postmodern movement (Powell, 1998).

Upon that stage stepped Jacques Derrida. Derrida introduced the notion of "deconstruction". Deconstruction demonstrates that the written word is not capable of producing a stable set of meanings and consequently, meanings can shift and slide into the opposite of what might be expected, or even what was originally understood. This refuses the founding principle of reason itself (McSwite, 1997).

Some would say that the postmodern world is upon us -- a world in which traditional boundaries between product and service, capital and people, buyer and seller, and real and virtual no longer apply. Connectivity, speed, and the growth of intangible

value have catapulted business into a period of unprecedented transition (Davis and Meyer, 1998; Evans and Wurster, 1999).

The same dynamics are re-shaping the public's view of government and public service. Many scholars see the New Public Management as part of the answer (Lynn, 1996; Behn, 1998; Kaboolian, 1998). The government is outsourcing more and more government functions (Miller and Simmons, 1998). We have seen the reinvention of government (Osborne and Gaebler, 1992; Rubin, 1994) and tried to banish the bureaucracy (Osborne and Plaistrik, 1998). We have seen the National Performance Review (Gore, 1998) and the Government Performance and Results Act of 1993.

Hatch (1996) believes that these changes render the current concept of strategy and process of strategy formulation almost irrelevant. As humans, we can recognize general trends, but because reality is constructed by the individual, we cannot predict with any accuracy their future effect. _Eisenhardt (2002) agrees and calls for a new theory of strategy based on simplicity, organization and timing. She says that the more simple the strategy the better it can cope with changes. Further, she claims that today strategy does not work coming down from the top. It has to emerge from the team. Lowendahl and Revang (1998) posit that in a postmodern environment, one theory of strategic management will never be satisfactory. What will most benefit the field is not one unifying paradigm but rather the articulation of the fundamental issues facing the field and a refocus on research.

New Science Theory

One possible answer lies in the "new sciences" and the concept of fractal forms. The mathematician Benoit Mandelbrot coined the term "fractal" in 1975 to describe a new concept in geometry (Gleick, 1987). Euclidean geometry uses linear concepts such

as lines, spheres, and cubes to describe the natural world. But that is not the world we see when we look into a forest or across a valley to another mountain. Like a good mathematician, Mandelbrot based his new fractal geometry on statistics, but his point was to derive a method for observing the irregular, fragmented, nonlinear aspects of nature (Briggs and Peat, 1990).

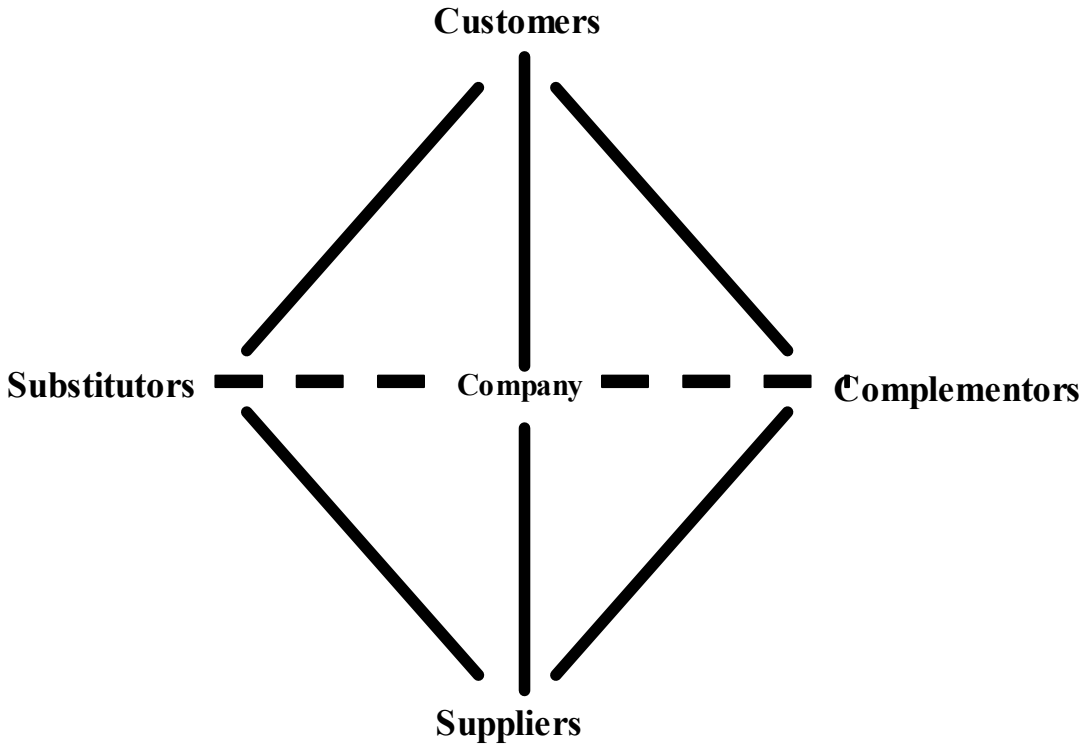
Wheatley (1992) applies the new sciences to the leadership of organizations. She uses the implications of quantum physics to view organizational design and discusses the theory of self-organizing and dissipative potential effects on current concepts of leadership and strategy. John Little (2000) takes the issue even further. He relates public administration to sociocybernetics, a new social science consisting of ideas from chaos, complexity, cybernetics and the information and cognitive sciences. He applies sociocybernetics to the question of whether governments can be “steered’ toward social goals by the actions of politicians and administrators, a critical concept to strategy. He stops short of claiming that sociocybernetics can help the “steering” process, but he says that it can help us gain insight into the disconnects between the intended actions of politicians and administrators and the results.

Sanders (1998) claims that in order to function in a chaotic and complex world, we must be able to think and act strategically. She says that to think strategically as defined by the "new science" one must: 1) look at entire systems; not the parts, 2) understand the relationship between order and disorder, 3) recognize that a small event in one area can cause tremendous turbulence in another, 4) scan across disciplines to see emerging opportunities for innovation, 5) practice nonlinear thinking, 6) maintain perspective.

Game Theory

Brandenburger and Nalebuff (1995) developed yet another framework for strategy; one that draws upon game theory. Game theory gained credibility in 1944 with the publication of Theories of Games and Economic Behavior by von Neumann and Morgenstern. They used game theory to explain the behavior of players in situations where their fortunes are interdependent. Building on their work, Brandenburger and Nalebuff developed their framework using the concept of a value net (Figure 2-1).

Figure 2-1. The Game Theory Value Net



Along the vertical axis are the company's customers and suppliers. Resources such as materials and labor flow from the suppliers to the company and products and services flow from the company to the customer. The horizontal axis represents the players with whom the company interacts but does not transact, called substitutors and

complementors. Substitutors are alternative players whom customers may go to purchase products or to whom supplier may sell their resources. Complementors are players from whom customers buy complementory products or to whom suppliers sell complementory resources. For example hardware and software companies are classic complementors.

Brandenburger and Nalebuff offer five elements to the game of business:

- Players – The customers, suppliers, substitutors and complementors.
- Added values - This element is what each player brings to the game.
- Rules – The rules give structure to the game. Rules come from laws, customs, practicality, or contracts. Sometimes it helps to change the rules.
- Tactics – Tactics are moves used to shape how players perceive the game – sometimes used to reduce misperceptions; sometimes to create them.
- Scope – Scope describes the boundaries of the game. Sometimes it helps to expand or shrink those boundaries.

PUBLIC/PRIVATE DEBATE

Part of the appeal of strategic planning is that it is perceived as a private sector advance that the government is once again slow to take advantage of. It is true that the government still has efficiencies to achieve, and there are some private sector techniques that could help. But it is dangerous to assume that because a method is used successfully in the private sector, it can be equally successful in the public sector, and even more dangerous to assume that the government can be run as a business.

Many scholars in economics and political science claim that the public and private sectors differ (Dahl and Lindblom, 1953; Barton, 1980; Downs, 1967; Gabris and Simo, 1995; Crewson, 1997; Dixit, 1997; Gore, 1998; Kurland and Egan, 1999; Nutt, 1999).

Public and Private are Different

The demands placed on public, private and third sector organizations are different (Rainey, et al, 1976; Ring and Perry, 1985; Perry and Rainey, 1988) suggesting that approaches to strategy should also be different. Wamsley and Zald (1973) proposed that organizations differ because of different degrees of external control through mechanisms such as ownership, control over budgets, and external oversight.

Savoie (1994) provides four specific areas where the public sector differs significantly with the private:

- Performance is easier to measure in the private sector
- Public management is subjected to much closer scrutiny
- Private industry manages to the bottom line, the public sector manages to the top line
- Public goals are not clear and often are in conflict

In that same vein, Ring and Perry (1985) identified five major differences in strategic management between the public and private sectors:

- shared exercise of constitutional powers resulting in policy ambiguity,
- fishbowls caused by media and public scrutiny,
- a public comprised of a wide range of stakeholder interests,
- short tenure of leadership (public officials), and
- shaky coalitions unable to withstand the pressures of implementation.

Wilson (1989) summarized the differences between private and public organizations well: government management tends to be driven by the constraints of the organization, not the tasks of the organization.

Public and Private are not Different

Knott (1993) examines the basic internal characteristics and external constraints on management in both the public and private sectors. He then developed four general management categories that cut across both public and private organization. Using this framework for analysis, Knott suggests that the greatest challenge facing management both in both sectors is a commitment to trust and good faith.

Bozeman and Kingsley (1998) refute the notion that private sector employees are more willing to take risks and that public employees are afraid of "rocking the boat." Their research shows that the risk culture in an organization has more to do with the willingness of top managers to trust employees and the clarity of the organization mission rather than sector affiliation.

They are Different and Similar

Some scholars have suggested that public organizations are characterized by rigid rules, formal job guidelines, formal communications lines, and inflexible rewards (Meyer, 1982; Perry and Porter, 1982; Rainey, 1983). Kurland and Egan (1999) found that public employees perceived similar job and communication formalization and emphasis on results as their private sector counterparts, but were less satisfied with rewards distribution and supervision. Finally, a two-decade long study by Rainey and Bozeman (2000) refutes the notion that public organizations have more goal complexity and ambiguity and exhibit more formal organizational structures than private organizations. In that regard, it is time to look at specific approaches to public and private strategies.

Chapter 3: Strategies of the Public and Private Type

INTRODUCTION

Chapter 2 laid the foundation for an understanding of the strategies and strategy constructs found in the public and private sectors. This chapter looks more closely at the two sectors with emphasis on the constructs that have guided strategic thought. At the end of this chapter is a brief review of the literature concerning strategic thought on the JTAV project. A Quantitative CyberQuest (QCQ) analysis of this chapter and Chapter 2 is at Appendix A. But before we examine public and private strategy, it is informative to review the genesis of strategic thought – the military.

MILITARY STRATEGY

It is appropriate to review military strategy because strategy originated in the military and many of the dominant figures in public and private strategic thought have drawn heavily on the military concepts (Whipp, 1999). In that vein I will review some of the more popular military authors on strategy.

Early Military Strategy Theory

The first generally accepted strategic thinker was Sun Tzu (Phillips, 1985), who authored The Art of War around 500 BCE. Other strategic writers soon followed. Lord Shang and Han Fei-tzu, for example, were influential philosophers who wrote about military strategy in what the Chinese refer to as the Warring States period (403-221 B.C.). All three were heavily influenced by Hinduism and Confucius (Sawyer, 1994; Philips, 1985). The next identifiable strategic thinker was from the western world, Alexander The Great (356-323 BCE). His campaigns are prime examples of the

principles of war, which he applied not just in warfare but also politically and socially (Gray and White, 1983).

Back in the east, strategic thought was gaining a foothold with The Book of Stratagems, - a compilation of traditional strategic rules and survival schemes used by the Chinese to triumph over their enemies. Dating from 479-502 AD, the stratagems include examples such as:

- Besiege Wei to rescue Zhao (the indirect approach)
- Loot a burning house (exploit your enemies troubles)
- Let the plum tree whither in place of the peach (the use of a scapegoat or sacrifice)
- Toss out a brick to attract jade (be willing to give of something of lesser value for the true prize).

(von Senger, 1991)

It is perhaps not a coincidence that strategic thinking appears to have disappeared for about a millennium (the dark ages) and resurfaced at the dawn of the Renaissance. Ironically, strategic thought re-emerged in both east and west at about the same time. In the west it emerged as another work titled The Art of War, this one by Machiavelli[ii] (Sloan, 2001). In the east it manifests itself in the work of a warrior/monk in The Book of Five Rings by Miyamoto Musashi.[iii] Machiavelli's The Art of War was the first full scale attempt to revive classical military thought by defining its aims and regarding it as a means to an end –classic strategic thinking. The army depicted by Machiavelli was a supremely rational mechanism (Sloan, 2001). The military model was to develop a strategy and force events to conform to that strategy. It was a concept of "brute-force" strategy, if you will. Machiavelli's rational theories pervaded military strategic thought

in the west for hundreds of years (Philips, 1985; Greeley and Cotton, 1987; Gatzke, 1987; Hittle, 1987; Sawyer, 1994; Liddell Hart, 1954; Luvaas, 1966, 1999; von Ghyczy, et al, 2001). In fact, Machiavelli, probably best known for his political treatise, The Prince, was called the "founder of modern military science" as recently as the middle of the 20th century (Possony, S. and Vilfoy, D., 1943).

Miyamoto Musashi (1584-1645) was a samurai warrior, Kendo master, painter, sculptor and teacher and his philosophy of strategy was heavily influenced by Shinto, Zen and Confucianism. The Book of Five Rings has been called one of the most perceptive psychological guides to strategy ever written (Harris, 1974).

In the west, following the "brute force" model for the most part, it was believed that the active management of war was inappropriate for the study of theory and best left to natural abilities. As technology improved and brought the advent of better weapons, warfare was transformed from the hand-to-hand combat of the middle ages to a more structured affair requiring some intellectual capital be expended (Liddell Hart, 1954; von Ghyczy, et al, 2001).

As a result, there was a virtual explosion in western military strategic thought in the 18th and 19th centuries. The vanguard of the new wave of military strategists was Frederick the Great, the Prussian warrior/King. Frederick's influence was felt on later strategists, most notably Baron Antoine Jomini (1779 – 1869) and arguably the most influential military strategist of all time, Karl Von Clausewitz (1780 – 1831).[iv]

Jomini served in Napoleon's Grand Armee and arguably had the greatest influence on Napoleon's concept of war (Hittle, 1987). Jomini wrote from a practitioner perspective and epitomized the Napoleonic concept of large unit (corps and division)

maneuver which became accepted military doctrine during the American Civil War. It was said "many a Civil War general went into battle with a sword in one hand and a copy of Jomini's Summary of the Art of War in the other" (Hittle, 1987, 396).[v]

Clausewitz was the son of a Prussian military officer and joined the Army when he was 12 years old. His brilliance was undeniable and he rose quickly through the ranks. He was made aide to several generals, became an instructor at the German War School and was eventually named personal instructor to the Prussian crown prince. He eventually became the head of the Prussian War School.

Clausewitz defined "strategy" as the combination of individual engagements needed to achieve the goal of the campaign or war. Clearly, Clausewitz saw strategy as consisting of the aggregation of separate combat actions, while Jomini placed it squarely in the planning arena. Clausewitz provided four rules that comprise the key to achieving a successful strategy. The first rule is to use all forces with the utmost power and energy. Clausewitz displays incredible insight by stating that the greater the effort, the shorter the war and the sooner the suffering will cease[vi]. The second rule is to concentrate forces at the most advantageous position to strike. The third rule is to never waste time. The fourth rule is to pursue the enemy when he is on the run, because complete victory can only be attained by hot pursuit when the enemy is in retreat. Clausewitz's classic work, On War, has been called, "in content and form the greatest work on war ever written" (Gatzke, 1985, 309).

Clausewitz, by introducing two new concepts called "friction" and 'the fog of war", provided the first glimpses of a competing theory that would combine the reasoning of rationalism with the imagination and instinct of romanticism (von Ghyczy, et al,

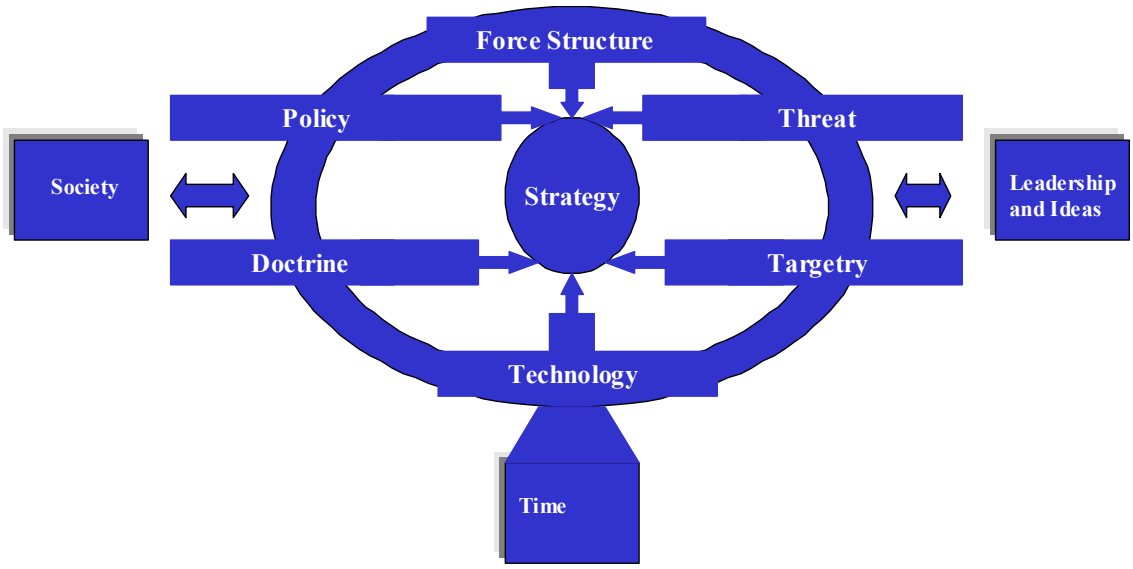
2001). This competing theory has grown into a radical new theory of military strategy that has at least one foot in postmodernism and will be discussed later.

Advances in Strategic Military Thought

Graham (1977) notes that there was a decline in US military strategic thought from right after WWII to the late seventies. This decline reached its zenith during the Kennedy/Johnson administrations and the reliance on McNamara's whiz kids. Collins (1973) says that national interests comprise the underpinnings of sound national strategy at the highest levels. "Interests" are usually difficult to identify, are rarely clean cut and sometimes have a difficult time finding consensus. This concept is one area where the public sector characteristics affect both military and public sector strategy.

Mowbray (1989) presents the Fabyanic framework (Figure 3-1) for strategy analysis, which has long been used at the U.S Air Force War College for the analysis of military strategy through historical example. The framework is designed to show that each of the factors influences other factor. The factors are: policy, doctrine, force structure, technology, targetry, the threat, leadership and ideas, society and time.

Figure 3-1. Fabyanic Framework of Strategy Analysis



Harry Summers (1982) wrote the defining text concerning strategic thought during the Vietnam War. Among the points he raises are differences of strategic thought when viewed from different perspectives, how we surrendered the initiative to the enemy, and how we failed to distinguish between internal Vietnamese problems and those imposed from outside. He also described how the United States developed a highly refined set of tactics to combat the Vietnamese strategy - resulting in our ability to win individual battles while losing the war.

Current Military Strategic Theory

In the current edition of Warfighting: The U.S. Marine Corps Book of Strategy, one can find the extension of Clausewitz's radical theory. The first chapter includes sections titled "Friction, Uncertainty, Fluidity, and Disorder." It discusses how friction causes the simple thing to be difficult and the difficult to be seemingly impossible. It discusses how uncertainty is caused by Clausewitz's concept of the "fog of war". It

explains that uncertainty involves risk and chance and that we must be prepared to fight under those conditions. It explains how each episode in a war is temporal depending on unique conditions and how the situation is constantly changing. Under those conditions, war naturally gravitates to disorder, where plans go awry, instructions will be unclear and misinterpreted, and mistakes and unforeseen circumstances will be the norm rather than the exception. In summary it requires a concept of warfare that will not only function in an uncertain, chaotic and fluid environment, but one that will exploit those conditions to our advantage – reflecting acceptance of a postmodern perspective – and a complete departure from Machiavelli's brute force strategy.

PRIVATE SECTOR

Although many scholars (Mintzberg, 1987; Nutt and Backoff, 1992; (Rumelt, et al, 1994; Hoskisson, et al, 1999) trace the beginning of strategic management to the early sixties, the foundation was laid decades earlier. The footprints are found in the works of Bernard, Simon, Selznick, and Burns and Stalker. Barnard (1938) elevated the analysis of organizational work to the executive ranks and stressed the differences between making work more efficient and making it more effective – a critical distinction in the concept of strategy. Simon (1947) extended Barnard's ideas in building a framework to analyze administration and introduced the concept of "bounded rationality." Selznick (1957) explored the roles of institutional commitment and introduced the idea of an organization's 'distinctive competence', a critical concept in the early studies of internal strengths and weaknesses. Burns and Stalker (1961) contrasted the mechanistic view of organizations with that of an organic perspective that interacted with its environment, critical to the studies of opportunities and threats that followed.

Historical Development

Despite those early contributions, however, the birth of strategic management is generally traced to three works in the 60's:

- Chandler's Strategy and Structure (1962)
- Ansoff's Corporate Strategy (1965); and
- Learned's Harvard textbook Business Policy: Text and Cases (1965) - the text of which is attributed to Kenneth Andrews.

Chandler's work is probably best known for firing the first salvo in the 'strategy versus structure" debate; however, his study was actually about the growth of large corporations and how their administrative structures adapted to that growth. He also discussed the roles of executive leadership in making long term decisions and then allocating resources and developing plans to make those decisions work. Additionally, he showed how a change in strategic direction can fundamentally change an organization.

Ansoff was the general manager of the Lockheed Electronics Company and developed his strategy ideas out of frustration with his organization's planning process. His main contribution was the introduction of the concept of competitive advantage and internal company synergy to strategy.

Andrews built on Chandler's thoughts but also included Selznick's notions of a corporation's distinctive competency and the idea of an uncertain environment. The uncertain environment gave rise to opportunities and threats while an internal analysis offered the competencies as well as weaknesses. This idea became the strengths,

weaknesses, opportunities and threats (SWOT) analysis - the basis for strategy formulation.[3]

Recent Literature on Private Sector Strategy

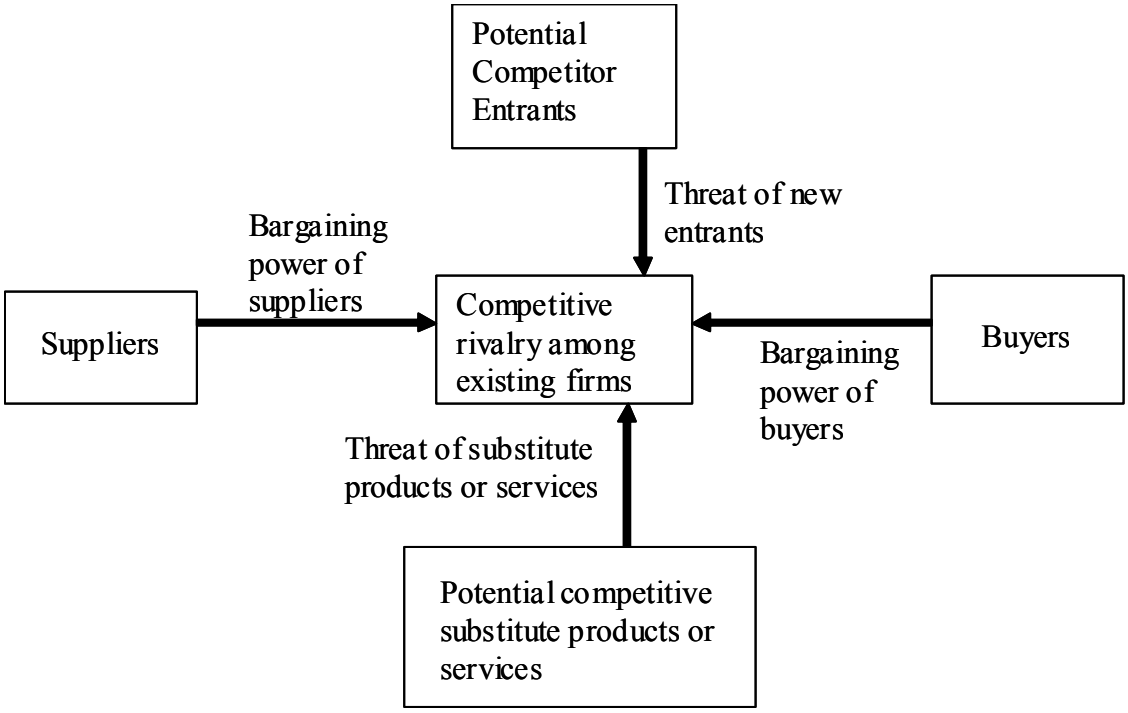
Two perspectives on private sector strategy have dominated the field over the last two decades. They are Porter's framework for competitive strategy and the Resource-Based View of the firm (Spanos and Lioukas, 2001).

PORTER'S COMPETITIVE STRATEGY

Michael Porter (1980) was the first author to write explicitly of forces in the strategic environment. Porter took the basic approach of the process school of strategy formulation and applied it to the external environment. Porter argued that there are five forces that drive industry competition (See Figure 3-2): rivalry among firms, the threat of substitute products or service, the threat of new entrants, the bargaining power of suppliers and the bargaining power of buyers.

[3] Although the SWOT concept is generally attributed to Harvard, it had already seen widespread use in the military as the METT-T analysis – the tactical environmental analysis performed by small unit leaders in combat. METT-T stands for **m**ission, **e**nemy, **t**errain and weather, **t**roops and equipment, and **t**ime available.

Figure 3-2. Porter's Five Forces



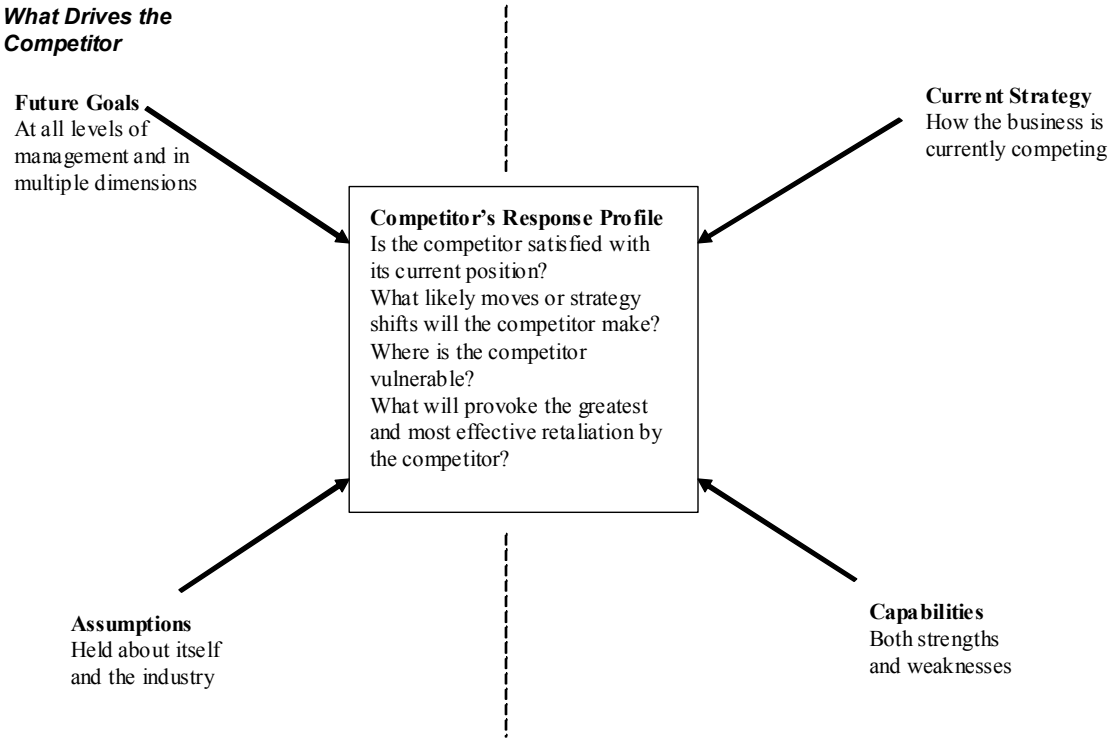
Porter also introduced one of the most powerful tools to strategic thought in the private sector – his three generic strategies. Although Porter recognized that the best strategy is a unique construction of the approaches available, he identified three generic strategies for creating a defensible long-term position. Those three generic strategies are:

1. Overall cost leadership – Low cost to the customer across the entire strategy.
2. Differentiation – A product/service that is perceived as different or unique.
3. Focus – On a particular buyer group, segment of the product line, or geographic area.

In addition, Porter developed another highly innovative concept – competitor analysis. Historically, the external environment was seen as a 'scan" of the opportunities and threats. Porter provided a framework for analyzing what the competition might do.

His competition analysis consists of four components (see Figure 3-3): future goals, current strategy, assumptions, and capabilities.

Figure 3-3. The Components of Competitive Analysis



Most companies develop an intuitive sense of the competition's strategy and strengths and weaknesses (the right side of Figure 3-3). Generally, much less attention is paid to what is really driving the behavior (the left side of Figure 3-3) – the goals the company wants to achieve and the assumptions it hold about itself and its environment. The drivers are harder to observe than the behavior, yet it is the drivers that *determine* the behavior (Porter, 1980).

RESOURCE BASED VIEW OF THE FIRM

The Resource Based View (RBV) of the firm directs scholars inward to resources as the antecedents of firm performance. In the early strategic management literature, equal attention was generally given to internal and external analysis (Andrews, 1971; Ansoff, 1965, Learned et al 1965). However, Porter's work was so influential that the publication of Competitive Strategy shifted the emphasis toward external competitive issues. The RBV reminds scholars and managers that the firm's assets are the heart of their competitive position (Dierickx & Cool, 1989). Although opposing the Porter trend, this was not a totally new concept.

Barney (1991) wrote a seminal article arguing that organizational resources that are rare, valuable, difficult to imitate and non-substitutable can yield a competitive advantage (Priem & Butler, 2001). Michalisin, Smith & Kline, (1997) called the resources that fit under the RBV competitive advantage umbrella "strategic assets" and argued that those resources determined which firms can earn superior profits. Thus, the fundamental theoretic statement of RBV is that valuable and rare organizational resources can be a source of competitive advantage (Rindova and Fombrun 1999).[vii]

The RBV made some explicit assumptions that were quite different from those extant in the environmental view. The environmental view assumed that firms within an industry are homogenous in regards to resources and strategies. It also assumed that resources are highly mobile. RBV substitutes two alternate assumptions. First, that firms may be heterogeneous with regards to the strategic resources they control, and second, the resources are not perfectly mobile across firms, thus heterogeneity may be long lasting (Priehm and Butler 2001).

Priehm and Butler (2001) also offer some criticisms of RBV. Possibly the most damaging is that all RBV propositions are tautologies. In other words, they are true by definition and therefore cannot be empirically tested. Powell (2001) agrees with them but carries the argument further, however, and says that in strategy this situation is not unique to RBV - alternative strategy theories perform no better. He falls just short of claiming that strategy theories are all tautologies. The logical extension of that argument, would, of course, support Rumelt's view at the beginning of this section.

OTHER PERSPECTIVES ON PRIVATE SECTOR STRATEGY

Although Porter and the RBV have dominated private sector strategy, other perspectives have also had influence. Some of the more notable are organizational economics, the Hambrick and Frederickson Framework, and the Balanced Scorecard.

Organizational Economics

Within strategic management, organization economics is where economics, strategy and organizations converge (Rumelt, et al, 1994). This field was introduced by Barney and Ouchi (1986) but goes back to Coase (1937), where he argued that marketplace exchange may be more efficiently accomplished by a managerial hierarchy.

Organizational economics consists of two primary components: transaction cost economics (TCE) and agency theory (AT). TCE grew directly from Coase's work and was revived by Williamson (1975, 1991 a, b, c). TCE rests on the conjunction of three conceptual ideas: bounded rationality, asset specificity and opportunism. Asset specificity implies that the assets involved in the exchange are specific to that transaction. Opportunism was defined as "the seeking of self-interest with guile" (Williamson, 1991c). As a result, TCE is a market transaction where neither side has all the facts, the asset is specific to the market, and at least one of the exchange partners (probably both) is

trying to take advantage of the other. The "transaction cost" is the cost of safeguards necessary to ensure a fair transaction.

Agency theory is related but a little different. AT states that firms are owned by principals and managed by agents. The agents become very familiar with the firm and have the opportunity to prosper at the expense of the firm and the principals. Thus, the principals must ensure that the agent is rewarded sufficiently to not be tempted to prosper at the firm's expense. AT rests on opportunism (the agent's desires) and information asymmetry (the agent's knowledge base that exceeds that of the principals).

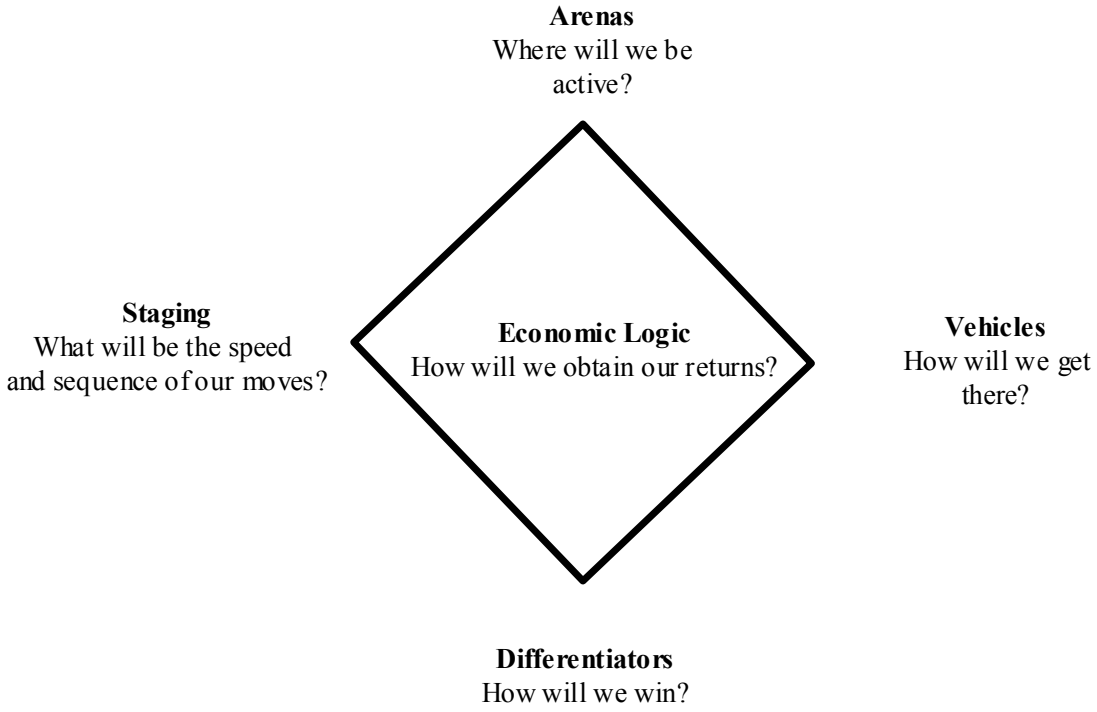
The strategic implications are clear. TCE and AT must be viewed within the context of the environmental analysis and factored into the strategic debate (Donaldson, 1990).

Hambrick and Fredrickson Framework

Hambrick and Fredrickson (2001) present yet another alternative framework for strategy making. Their framework consists of five elements (See Figure 3-4):

- Arenas – Where will the organization be active (market, products/services location).
- Vehicles – How will the organization get there - internal development or acquisitions? Organization license or joint ventures?
- Differentiators – How will the organization win in market? Why will customers come to this organization? Quality? Marketing strategy? Customer service.
- Staging – How fast will the organization move and what will be the sequence of events? Some initiatives need to come first; some can wait.
- Economic logic – How will profits above the cost of capital be generated?

Figure 3-4. Hambrick and Fredrickson Framework



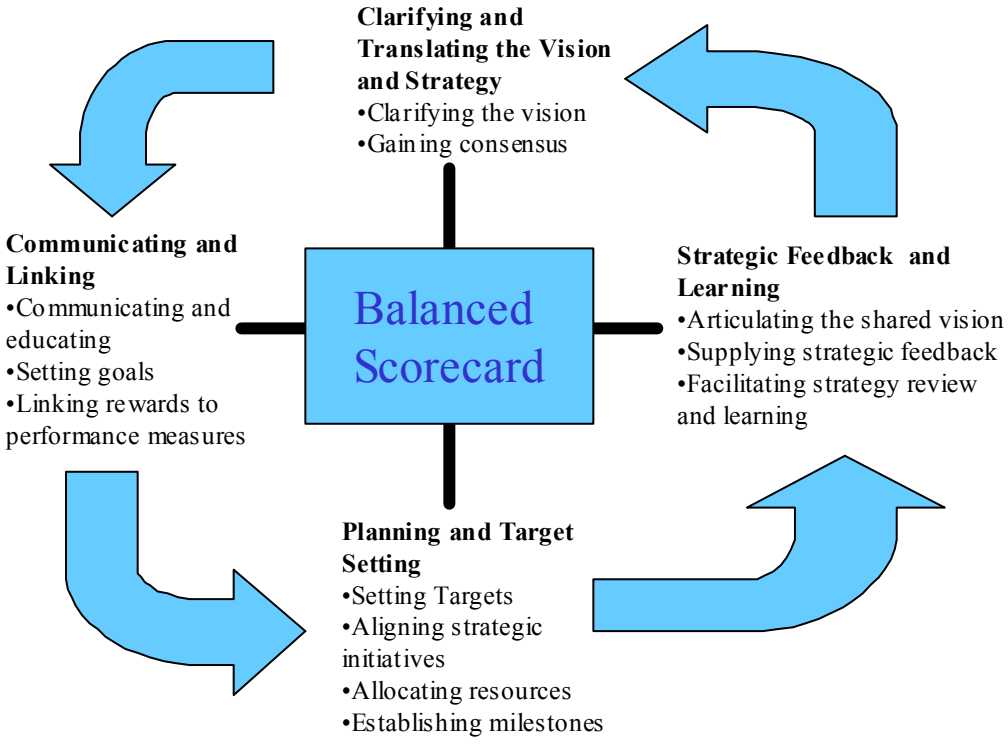
Hambrick and Fredrickson say that using their framework will provide a well-rounded strategic perspective, much like the argument for the Balanced Scorecard.

Balanced Scorecard

A study of portfolio managers reported that from 70% to 90% of all strategies fail due to poor execution (Kaplan and Norton, 2001). The prime reason is that the used tools to measure strategies have not kept pace with the changing environment. For example, in today's environment, intangible assets rather than tangible assets have become the major source of competitive advantage. Also, companies are having a difficult time trying to implement knowledge based strategies in organizations designed for the industrial age (Davis and Meyer, 1998; Evans and Wurster, 2000). They need a new kind of management system - enter the Balanced Scorecard.

When the Balanced Scorecard was introduced (Kaplan and Norton, 1996), it was thought to be about measurement rather than strategy. As it turned out, it was about both. The appropriate measure of future performance was strategy – both the financial and non-financial objectives and measures on a balanced scorecard should be derived from the organization's strategy. As a result, the scorecard can be used as a strategic management system (Figure 3-5) to manage the organization's strategy over the long term.

Figure 3-5. Balanced Scorecard as Strategic Framework



Lippitt (2003) provides support for the Balanced Scorecard idea. She researched the fall from grace of the satellite telecommunications provider Iridium and discovered that Iridium's leaders were focused on one priority – becoming the technical leader. They ignored five other priorities: maximize market share, minimize confusion, improve

business processes, build and support the workforce and maintain strategic positioning, which Lippitt claims are essential for a well-rounded strategy.

PUBLIC SECTOR

Although the business world traces its strategic management roots only to the early 60's, the public sector has been even later in coming to see the benefits of strategic management. Numerous authors have either noticed or called for a difference in strategy making between the public and private sectors (Lindblom 1963; Wildavsky 1979; Bryson 1995; Nutt and Backoff 1995; Baile unpublished). Bozeman and Baile attribute those differences to factors that account for the degree of publicness in organizations. Bryson explains the reasons in terms of the different types of decision-making found in the public and private sectors. Builder (1989) questions whether a public institution is even capable of developing a coherent strategy. In deference to public administration, that is where we will begin.

Strategy versus Democracy

Builder says that because democracies are pluralistic societies and as such they usually cannot internally agree on who they are (identity) or what they are about (interests). This disagreement results in the fact that they have no solid basis for a cogent strategy. Forester (1999), on the other hand, suggests that planning can be accomplished in a deliberative manner using participatory planning processes. He says that such planning efforts can create public value and transform public disputes. At the national level, Collins (1973) says that national interests comprise the underpinnings of sound strategy. "Interests" are abstractions that reflect each state's basic wants and needs. They can contain a temporal element where they are important at some times and less

important at others. National interests rarely exist in a vacuum but are best understood in context (Baucom, 1987).

Several scholars have published on the theme of strategic planning in local government (Rider, 1983; Rowe and Gates, 1985; Sorkin, et al, 1984). Poister and Streib (1989) found that in cities of 25,000 or more only 25% had tried strategic planning on a community-wide basis. Scavo (1993) reported that only 16% of cities over 100,000 used strategic planning to foster citizen participation. Bryson and Roering (1988) studied eight government units. Only five completed all the strategic planning steps and only three adopted at least some part of their strategic plan.

Normally, strategic planning and implementation is carried out by an agency of the government. This arrangement can generate legitimacy questions. An approach to that issue is the model developed by Rock Hill, South Carolina (Wheeland, 2003). The Mayor and City manager began the process with a series of informal meetings with city officials and community leaders. The initial steering committee consisted of city and county officials, representatives from local educational institutions, the Chamber of Commerce and the economic development council. Citizens were invited to serve on theme groups (e.g. garden, business, functional, educational, cultural, and historic). The Rock Hill effort was a success because of the competence of the people involved, visionary leadership, and leadership commitment.

Bryson's Strategic Change Cycle

Bryson is primarily concerned with the study of how strategies are developed. Bryson took the basic approach of the Harvard Business School's strength, weakness,

opportunity and threat (SWOT) analysis – again taken primarily from the military[4] - and applied it to the public sector. Bryson (1995) sees private and public sector differences that impact strategy the most explained in terms of different types of decision-making. Bryson describes private decision-making as "formally rational" and public decision-making as "politically rational."

The formal rational model is a deductive approach that begins with goals. Policies, programs and actions are then deduced to achieve those goals. This is basic, traditional planning theology. The fundamental assumption upon which this approach rests is a consensus on those goals, policies, programs and actions; or alternatively, there will be someone with enough power to make consensus moot. Bryson observes that this assumption just does not usually hold in the fragmented, shared-power settings that characterize most public organizations.

On the other hand, political rationality is inductive and begins with issues – not goals. Issues involve conflict not agreement. As efforts go forward to resolve these conflicts, policies and programs that are politically acceptable, or rational, emerge to address them. Although this may not meet the technical definition of a consensus, these policies and programs do represent a degree of agreement among the stakeholders on the issues.

Nutt and Backoff

Nutt and Backoff (1993) addressed differences between the public and private sectors and how those differences influence the content and process of strategic

[4] Although the SWOT concept is generally attributed to Harvard, it was essentially borrowed from the military. The SWOT has direct lineage to the METT-T analysis – the tactical environmental analysis performed by military small group leaders. METT-T stands for **m**ission, **e**nemy, **t**errain and weather, **t**roops and equipment, and **t**ime available.

management. They offer some practices that can be useful for organizations with significant amounts of "publicness." They also present a framework (1995) in which types of strategy for public and third sector organizations are matched to environments, which are primarily determined by two factors, a need for action and responsiveness.

In a separate study, Nutt and Backoff (1996) claim that strategic issues arise from events that influence the organization's ability to reach it's desired future. Their research shows how issues arise as opposing concerns that push and pull the organization in several ways at the same time, creating an issue tension. Treating the issue tension as a dilemma entices a leader to deal with one of the concerns ignoring the other. This can lead to missed opportunities and a failure to deal with threats. In their approach, the issues are formed by a dialectic, allowing neither concern to be left unattended.

The MacMillan Matrix

The MacMillan Matrix is a tool that was specifically designed to help nonprofits assess their strategy in terms of environmental conditions. The matrix is based on the assumption that duplication of services (unnecessary competition) among nonprofits can fragment limited resources, leaving all providers too weak to provide services. The matrix also assumes that trying to be all things to all people can result in mediocre or low-quality service. Thus, nonprofits should focus on delivering high-quality service in a focused (and perhaps limited) way.

Using the MacMillan Matrix is a fairly straightforward process of assessing each program according to four criteria:

- **Fit --** the degree to which a program "belongs" in an organization.

- **Program Attractiveness** -- the degree to which a program is attractive from an economic perspective (i.e., the program easily attracts other resources).
- **Alternative Coverage** -- the extent to which similar services are provided.
- **Competitive Position** -- the degree to which the organization has a stronger capability and potential to deliver the program than other agencies.

After each program is assessed in relation to the above four criteria, each is placed in the MacMillan Matrix. For example, a program that is a good fit is deemed attractive and strong competitively, but for which there is a high alternative coverage would be assigned to Cell No. 1, Aggressive Competition.

Table 3-1. The MacMillan Matrix

		High Program Attractiveness: "Easy" Program		**Low Program Attractiveness: "Difficult" Program**	
		Alternative Coverage *High*	**Alternative Coverage** *Low*	**Alternative Coverage** *High*	**Alternative Coverage** *Low*
GOOD FIT	**Strong Competitive Position**	1. Aggressive Competition	2. Aggressive Growth	5. Build up the Best Competitor	6. "Soul of the Agency"
	Weak Competitive Position	3. Aggressive Divestment	4.Build Strength or Get Out	7.Orderly Divestment	8. "Foreign Aid" or Joint Venture
POOR FIT		9. Aggressive Divestment		10. Orderly Divestment	

Once all programs have been placed in the appropriate positions on the matrix, an organization can review its mix of programs and decide if any adjustments need to be

made. Ideally, an organization would have only two types of programs. The first would be attractive programs (programs that attract resources easily), in areas that the organization performs well and can compete aggressively for a dominant position. These attractive programs can be used to support the second program type: the unattractive program with low coverage, but makes a special, unique contribution and in which the organization is particularly well-qualified.

Why Public Organizations Adopt Strategic Actions

Stone, et al, (1999) found that the most critical factor affecting the use of formal planning in the public sector was a funding source requirement to submit a plan of action. Thus, public sector organizations appear to adopt formal planning when required to do so, suggesting that funders exert a form of coercive pressure. As a result, strategy in public organizations is largely determined by resource conditions and funding requirements.

Berry and Wechsler (1995) studied state governments nation-wide and their research reveals that 60% of the agencies responding were using some type of strategic planning. Their research also supports the existence of policy issue networks operating within program areas. For example, nearly twice as many senior managers said the experience of a similar agency in another state was an important factor in their decision to initiate strategic planning. In a separate study, Berry (1994) identifies four conditions under which states might adopt strategic planning: 1) when in a strong financial position, 2) early in a gubernatorial administration, 3) state agencies that work closely with the private sector, and 4) as the number of neighboring state agencies that have adopted strategic planning increase.

Competition in the Public Sector

Strategy literature originating in the business schools is more concerned with profit and competitive advantage, and proves instructive to those areas where government activity is directed toward income generation and shaped by competition (state universities competing for students, grants, faculty, etc). One could of course argue that all public agencies compete with one another for their share of a limited budget – but that sort of competition will not have the same beneficial effect on streamlining and improving organizational operations as it does in the private sector. The obvious explanation is that most of what government does is not defined by market forces. Political rationality, not economic self-interest, underlies most decisions (Bryson 1995).

In the private sector similar private organizations compete with one another for the same customers, whereas in the public sector different kinds of agencies compete for a fixed pool of dollars. Public agencies also offer monopoly services, for example, who else issues driver's licenses or food stamps? Is strategic management appropriate for the public sector? Anderson (1994) responds in the affirmative because it has been embraced so widely (Bryson, 1988; Bryson and Roering, 1988; Eadie, 1983; Ring and Perry, 1985; Streib and Poister, 1990).

Stone, et al (1999) discovered that when non-profits pursue both competitive and cooperative strategies the outcomes differ substantially. Competitive strategies are best used to pursue new revenue streams while cooperative strategies are more effective to link organizations together to pursue common funding. Competitive strategies were more likely to raise concerns about mission or goals and result in lower morale (Berg& Wright, 1980; Gronbjerg, 1991; La Barbera, 1991). Cooperative strategies were more closely associated with coalition formation (Galaskiewicz and Shatin, 1981).

Stone also found that there is almost no research on demand-side or consumer determinants of specific strategies in non-profits. This discovery makes her question if non-profits consider their funders rather than their clients as their actual customers. Nutt and Backoff, (1993) answer Stone in the affirmative in that public organizations are dependent on non-market sources for operating funds and oversight bodies make up the market for these organizations. They conclude that organizations that must work through an oversight board for funds have markedly different concerns than one that sells to the market. They also say that competition for customers can be "cumbersome or even prohibited" (Nutt and Backoff, 1993, 214) for public organizations. Public organizations are expected to collaborate with each other if they offer the same services because otherwise would be seen as duplication of effort, undesirable in the public sector.

Miller (2002) discusses competitive advantage in the non-profit sector, specifically in religious organizations. He draws upon sociology, economic and religious literature to understand the competitive nature of religions. He then uses the resource based view and institutional perspectives to analyze the sources of competitive advantage in religious organizations. Intuitively, there are competitive aspects to religious organizations, but the transfer to government is difficult.

A more complete discussion of competition in the public sector is provided in the section on public/private differences.

Information Systems and Strategic Planning in the Public Sector

According to Bajjaly (1999) strategic planning and performance measurement affect emerging information systems (IS) in the public sector. Consequently, as this study is about an information system in the public sector, it may be useful to review some of the literature in that area.

TRADITIONAL ROLE OF INFORMATION TECHNOLOGY IN STRATEGY

Historically, IT strategy followed business strategy (Luftman, 1996). IT was seen as a tool to be used for implementation of that business strategy. It focused primarily on improving the effectiveness and efficiency of core processes defined by the business strategy (Henderson et al, 1996). Advances in information technology and communications innovations have broken traditional rules of how IT is used as a competitive tool. Coupled with the global economy and increased competition, this has forced managers looking for a competitive advantage to revisit the enabling role of IT in strategy formulation (Davis and Meyer 1998, Evans and Wurster 2000).

Historical Perspective on Strategic Planning for Information Technology

Although IT is a relatively new technology, it is changing rapidly and improving all the time. It has undergone roughly three strategic planning "eras' in its short life-span. These eras span its evolution from an internal, functional perspective to the current external, competitive perspective (Henderson et al, 1996).

- **Era I: Resource Control** -- IT, and as a result, its planning, was focused on the automation of functional processes. The reason for inserting IT into the environment was to control that functional process.
- **Era II: IT Enterprise** -- Entrepreneurs realized that cross-functional integration could improve effectiveness, efficiency and productivity. IT planning had to expand its scope and develop system applications taking the entire enterprise into account.

- **Era III: Strategic Alignment** -- IT is now seen as an opportunity to provide a strategic advantage. One of the roles of the IT plan is to identify and enable new capabilities through business process reengineering and architectural design.

The Strategic Alignment Model

The strategic alignment model proposed by Luftman (1996) adds IT to both the external and internal issues that traditionally drive the focus of business strategy. Just as the firm must consider how its products and organization are positioned in the marketplace (Porter, 1980) it should also consider the positioning of its IT capabilities (Luftman, 1996). Those capabilities would include infrastructure, competencies, skills, products, services, and, yes, strategies. The idea of strategic alignment is based on two concepts from previous IT planning eras: strategic fit and functional integration. Strategic fit refers to the need for any strategy to be cognizant of internal and external environments, (Henderson et al. 1996). Functional integration is the combination of IT and business strategies (Keen, 1996).

Boar (1993) says that strategic fit is not a discrete event but is rather better portrayed as a continuum, which includes the following increasing level of alignment:

- Entropy (chaos) – Gross misalignment
- Misfit – Alignment is minimal
- Mixed – Functions and processes are going in the right direction
- Threshold – The minimal degree of alignment to ensure organizational survival.

- Harmony – General and continuing alignment
- Perfect alignment – Provides a competitive advantage to the firm.

Luftman (1996) developed a computer-based model to assess the alignment of businesses and IT as well as to determine alignment enablers and inhibitors. Fifty percent of the respondents believed that their business and IT strategies were properly aligned. In their opinion, the top enablers were executive support, ability to achieve IT strategic goals, and identification with the business plan. They listed the top inhibitors as lack of coordination between the business and IT strategic plans, poor prioritization of IT issues, and the failure of IT to meet its commitments or achieve strategic goals.

Researchers have discovered that organizations' responses to IT strategic planning cover the entire spectrum: some organizations spend too much time and money on the planning process, others skip it completely, but most organizations fall somewhere in between the extremes (Cassidy 1998, xv).

Organizational Culture Model

Another way of approaching IT strategy is through organizational culture. Many researchers have acknowledged a relationship between culture and organizational effectiveness (Barney 1986, Fiol 1991, Martin 1992, Abrahamson and Fombrun 1994). Only recently has that research been extended to explicitly include IT strategy formation and execution (Caldow and Kirby 1996). The concept relies on the idea that organizational culture must fit the IT strategy selected.

Barney (1986) touched on the relationship by relating culture to competitive advantage. Much like his argument for strategy as a competitive advantage, he

argued that a culture must be rare, valuable, and not inimitable in order to be a source of advantage.

LINKING ORGANIZATIONAL CULTURE TO THE STRATEGIC ALIGNMENT MODEL

Caldow and Kirby (1996) argue that not every culture has the capability to implement every strategy. For example, a culture that is built on the values of stability and efficiency would find it difficult to embrace a strategy calling for flexibility and fast-paced change. They use that rationale to link organizational culture to the strategic alignment model. They provide four generic cultural profiles that are generally most appropriate for the four generic business strategies of invention, mass production, continuous improvement and mass customization.

- Entrepreneurial Culture Profile -- This cultural profile is most appropriate for businesses pursuing the invention strategy. It requires a culture that emphasizes risk-taking and flexibility. Executives must be willing to make decisions quickly with minimal information and excuse mistakes by subordinates. Human resource practices are flexible and sometimes customized to the individual employee. Because of the volatile nature of the IT environment, this is the culture most closely associated with IT projects.
- The Hierarchical Culture Profile -- This profile is most appropriate for the mass production strategy and is completely different from the previous culture. This culture wants to promote stability and control over processes. Maintenance of the status quo is highly valued. Risk-taking is discouraged and usually punished. The organizational design reflects a command and control nature and goes by established standardized procedures. The seniority system is usually in effect.

- The Partnership Culture Profile -- This cultural profile supports continuous improvement strategies. It is based upon a set of stable products, but with flexible processes. The organization is usually characterized by a team-based participative management style that values employees and supports them in reaching their full potential.
- The Modular Culture Profile -- The modular culture fosters stable processes and flexible products. The idea is to maintain stability in the business and production processes while being able to provide a wide range of products that are suitable to a variety of tastes. The organization is more often than not a network of some type, thus providing maximum flexibility in suppliers and buyers. Although not as much as the Entrepreneurial Cultural profile, this culture is also associated with IT advances because of the ability to automate standard design and production facilities to provide custom products.

WHERE STRATEGY IS GOING

Moore (1995) and Marshall et al (1999) advocate a comprehensive approach where the public strategic manager aligns democratic ideals with strategic management and understands the value as well as the implementation of the strategy.

Kessler and Kelley (2000) take a different approach and call for nothing less than a new public leadership method that includes the business strategy as opposed to management strategies that we have become used to. According to their research, business strategies focus on outcomes - the value that an organization expects to provide to the customers. Management strategies focus on internal adjustments

necessary to carry out the business strategy. Thus, although both are important, business strategy must precede management strategy.

JOINT TOTAL ASSET VISIBILITY

The JTAV literature primarily consists of two analyses conducted by the General Accounting Office (GAO). The GAO performed one analysis of the DoD Logistics Strategic Plan and made some observations and comments concerning JTAV and how it fits into that overall logistics picture. The GAO also conducted an evaluation of the JTAV project in accordance with the Government Performance and Results Act of 1993 (GPRA). JTAV documentation which is not analytical in nature, but is more descriptive, such as the JTAV Strategic Plan and the various architectures are more correctly considered part of the documentation about the project and are discussed in the data collection and data analysis sections.

GAO Review of DoD Logistics Strategic Plan

The GAO concluded that the DoD Logistics Strategic Plan is not comprehensive and does not provide an adequate overarching logistics strategy. The plan is organized around six broad objectives (of which JTAV is number 4) and what the GAO termed "associated generic performance measures" (page 2). The GAO reported that with one exception the objectives and actions in the plan are almost exclusively related to supply and inventory management issues and do not fully address other important logistics areas such as maintenance and transportation. The one exception was JTAV, which almost exclusively focused on transportation (to the exclusion of the other major elements of logistics - supply and maintenance). The result is that the objectives are neither complete nor internally consistent. The GAO also said that the plan was unclear how the future long range (2010 and beyond) logistics architecture fits into the department's overall

logistics strategy. Regarding the component's implementation plans, the GAO reported that they also have a number of fundamental weaknesses. Regarding the JTAV project, the GAO noted that the components were relying on other asset visibility systems not yet completed. As a result, performance targets and measures had yet to be defined.

GAO Review of JTAV Program

In GAO/NSIAD-99-40; *Defense Inventory: DOD Could Improve Total Asset Visibility Initiative with Results Act Framework*, the GAO concluded that DoD lacks an adequate Department-wide management framework for information sharing. This condition prevents DoD from being able to clearly determine the progress made in realizing JTAV goals. While some component and theater asset tracking capabilities are operational, Department-wide information on progress is minimal. As a result, although implementing JTAV is a high priority, DoD cannot clearly understand the extent to which it is achieving its objectives. The GAO also concluded that planning at the strategic and implementation levels was inadequate. In addition, DoD does not have a department-wide JTAV strategic plan to show how the various TAV initiatives contribute to DoD's goals. Further, while JTAV has in implementation plan, that plan has some key weaknesses. It does not describe how TAV will be integrated into work processes, so it is unclear who will use TAV and how it will be used. Additionally, the plan identifies neither needed resources nor problems with systems that are critical to the successful implementation.

Chapter 4: Procedure

INTRODUCTION

Two primary methodologies are advanced in the social research community - qualitative and quantitative. Creswell (1994) defines the qualitative study as "an inquiry process of understanding a social or human problem, based on building a complex, holistic picture formed with words, reporting detailed views of informants and conducted in a natural setting". He defines a quantitative study as "an inquiry into a social or human problem, based on testing a theory composed of variables measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true."

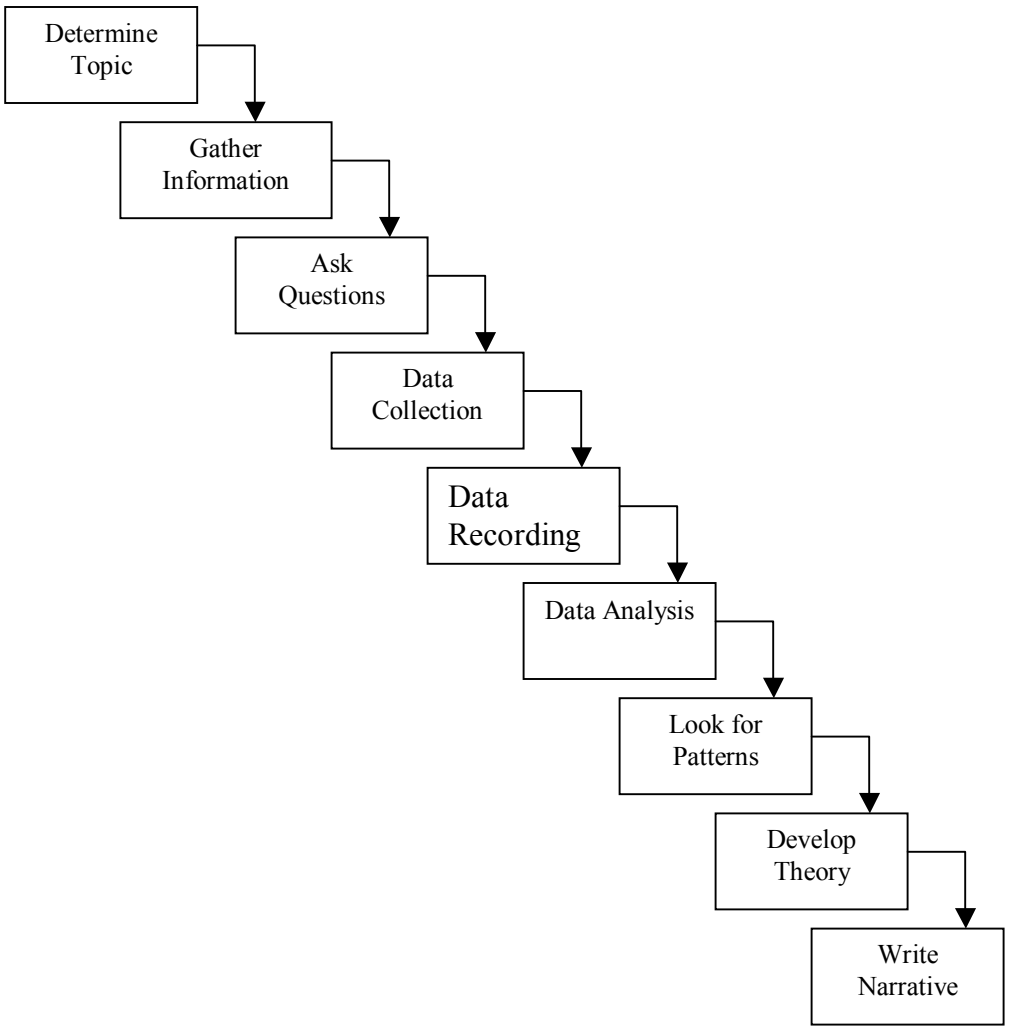
RATIONALE FOR QUALITATIVE METHODOLOGY

I selected the qualitative methodology because I am looking for the forces acting upon strategy implementation that will emerge from the study. Although I plan to use Porter's five forces model and some of the principles underlying implementation and agenda setting as guides for analysis, I am not attempting to test the JTAV strategies against them or any other approach. The goal of my research is to determine a conceptual framework of the forces acting in the implementation environment. This will be an inductive process - determining implementation forces as the study evolves.

Unlike the general agreement concerning procedures for quantitative studies, there is little agreement on the procedures for qualitative studies. Creswell (1994) offers one of the more accepted models, which combines the research of Marshall and Rossman (1989), Wolcott (1990) and his own experience. His model includes the research methodology, the specific type of design used, the role of the researcher, data collection

procedures, data recording procedures, data analysis procedures, methods for verification, and the outcome. I will use a modified version of Creswell's model as the basis for this study. Figure 4-1 is a model of the classic inductive analysis process as it works in theory.

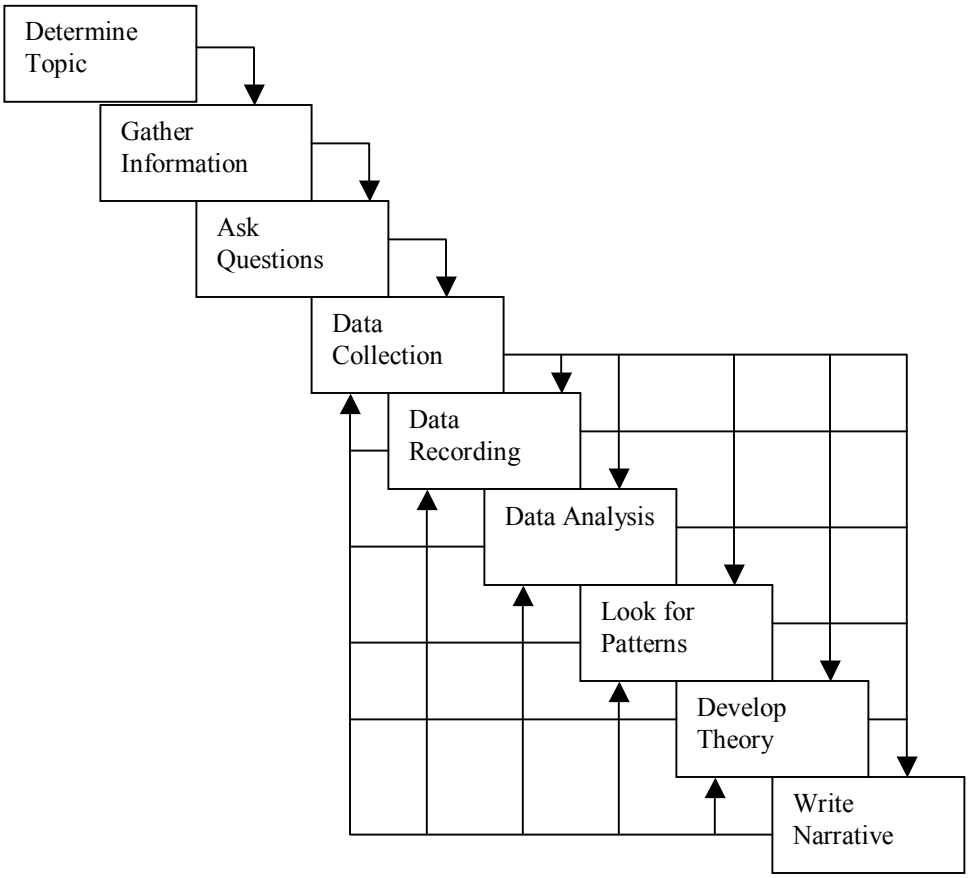
Figure 4-1. Inductive Mode of Research (Theory)



Although this model presents a neat and orderly way for research to be conducted, qualitative analyses rarely follow such an orderly path. More often than not the stages above are performed somewhat simultaneously and not in a strict sequence. For

example, the researcher can be engaged in data analysis, data collection, data interpretation and the writing of the narrative at the same time. This model would look more like that depicted in Figure 4-2.

Figure 4-2. Inductive Mode of Research (Actual)



In Figure 4-2, I closed the distance between boxes to make them contiguous to indicate the blurring of one activity to the other. As a result, the data collection, data recording, data analysis, data interpretation and report writing can all be carried on simultaneously. In fact, it is in this respect that the qualitative analysis clearly differs from the quantitative approach of dividing and engaging in the activities separately. Additionally I drew more relationship lines to indicate that at any stage in the process, it

may be necessary to go back to an earlier stage of the process.

SPECIFIC TYPE OF QUALITATIVE DESIGN USED

The type of qualitative design is the primary determinant of how data will be collected, stored, analyzed and interpreted. Smith (1987), for example, categorized qualitative research into the interpretive approach, the artistic approach, the systematic approach, and the theory-driven approach. Tesch (1990) identified 20 types of qualitative designs and categorized them into groups addressing language, regularities, comprehension of meaning, and reflection. Lancy (1993) noted sociological perspectives, biological perspectives, the case study, personal accounts, cognitive studies, and historical inquiry. Creswell (1994) focused on four qualitative research designs frequently found in human and social science research and each drawn from a different disciplinary field: ethnographies (anthropology), grounded theory (sociology), phenomenological studies (psychology) and case or field studies (many social sciences – including political science).

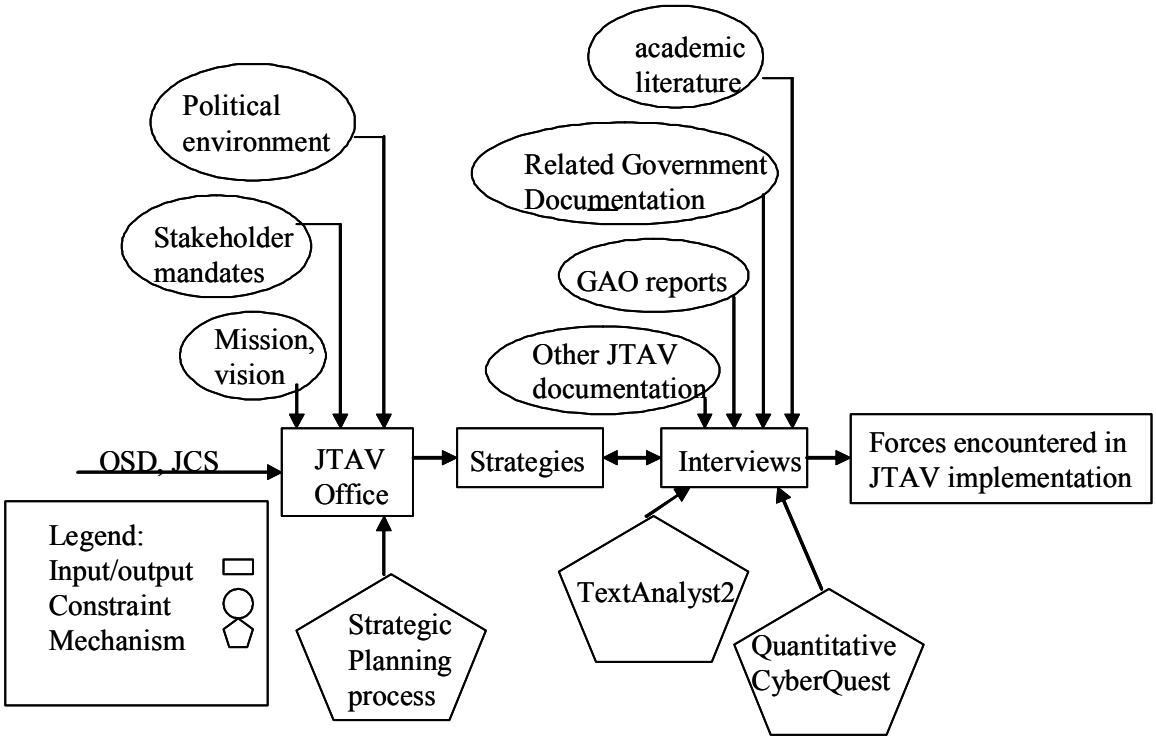
In ethnographies, researchers collect data by observing a cultural group in a natural setting over a prolonged period. The research is flexible and evolves contextually in response to the realities encountered in the field. In grounded theory, the researcher tries to derive a theory by using multiple stages of data collection and the refinement and interrelationship of categories of information. Two primary characteristics of grounded theory are the constant comparison of data with emerging categories, and theoretical sampling of different groups to maximize the similarities or differences of the information. In phenomenological studies, the researcher studies human experiences through detailed descriptions of the people being studied. It involves studying a small

number of subjects through extensive and prolonged engagement to develop patterns and relationships. In case/field studies, the researcher explores a single entity (the case) bounded by time and activity (a program, event, process, social group) and collects detailed information by using a variety of data collection methods. Studying JTAV implementation most closely describes the case/field study; however, I will use some aspects of grounded theory such as multiple stages of data collection and refinement and interrelationships of categories.

ANALYTIC MODEL

Prior to beginning a study it is generally a good idea to develop a model of the analytic process that will be undertaken. This exercise affords a visual overview of the process that provides several advantages. First, it allows the researcher to see each element of the analytic process and its relationship to other elements of the process. Second, it highlights any obvious voids in the process, for example an element that may be missing. Third and probably most important, it forces the researcher to think through the steps of the analysis in a systematic manner. An initial high-level analytic model for this study is at Figure 4-3.

Figure 4-3. High-Level Analytic Model



In the development of this model I borrowed heavily from the Integrated Definition Activity Model originally developed by the United States Air Force and extensively used by government agencies to model organizational activity. As the legend indicates, the model consists of inputs and outputs, constraints and mechanisms. The inputs consist of the energy, information or other resources put into a system or process. The output is the result of that which is produced from the input. Constraints are those things that limit, restrict or otherwise have an effect on the production of the output. The mechanism is the process by which something is produced. In the model above, the Office of the Secretary of Defense (OSD) and the Joint Chiefs of Staff (JCS) chartered the JTAV Office. The JTAV Office used a strategic planning process to develop its strategies, but was constrained in that effort by the political environment, stakeholder mandates and the mission and vision. The strategies were the output of that process. The

interviews were the participants' evaluation of the implementation of those strategies and served as the unit of analysis for my study. Other JTAV documentation, GAO reports, and other government documents and academic literature informed my analysis of the interviews. I used both TextAnalyst2 and Quantitative CyberQuest as mechanisms for analysis. The framework of forces was the output.

TEXTANALYST2

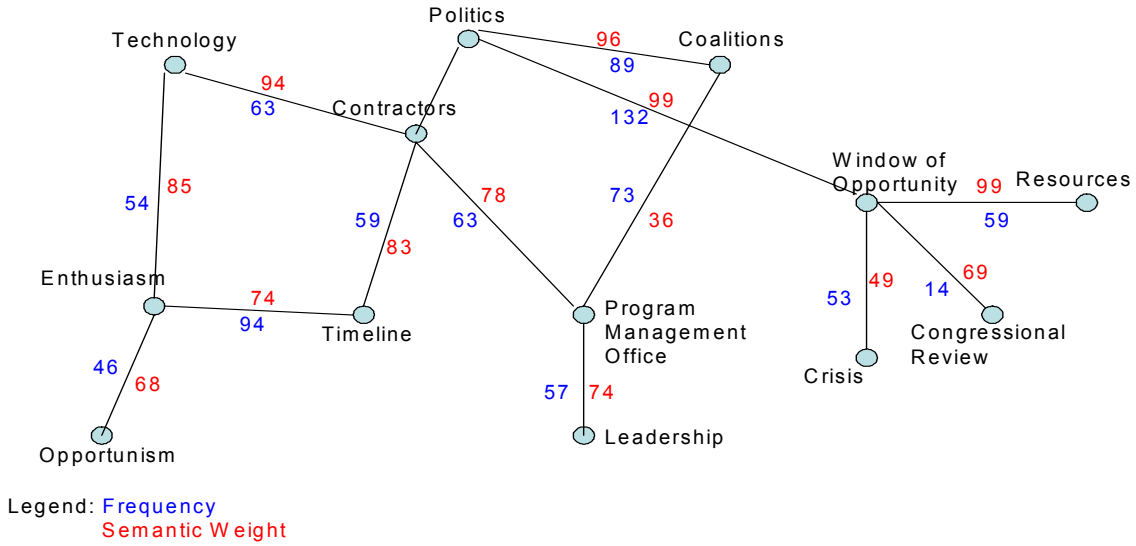
TextAnalyst2 (TA2) is a text analysis software system that can perform a variety of functions on an investigated text. As TA2 analyzes text, it determines what concepts are most important, labels each concept as a node and assigns it a numeric semantic weight – the measure of the probability that this concept is important in the studied text. Internal algorithms inside TA2 are used to determine the semantic weight. These algorithms are built on the results of twenty years of research by a team of mathematical linguists. There is a direct relationship between the semantic weight of the word and the relationship between the word and the overall theme of the text. There are 4 basic steps in creating the semantic network:

- Break the text into sentences and the sentences into words.
- Feed the words into a hierarchical network that records frequencies
- Identify relationships between concepts (e.g. joint occurrence in a sentence)
- Create preliminary semantic network, assign semantic weights and continually renormalize.

The concepts, nodes, semantic weights and frequencies can be arranged in a network structure called the Semantic Network. If one were to visualize the Semantic Network, it would be similar to a molecular structure. Figure 4-4 is a semantic network

created for illustrative purposes using only part of the data derived from the TA2 analysis.

Figure 4-4 Notional Semantic Network



One of the key advantages of TA2 is that it can create the semantic network without using background knowledge of the subject. In other words it is not necessary for the user to develop a subject specific dictionary. In fact, the user does not have to provide TextAnalyst with any background knowledge of the subject – the system acquires this knowledge automatically.

TextAnalyst2 is used by numerous government and commercial organizations such as The Gallup Organization, Center for Disease Control, U.S. Navy, Dow Chemical, Pfizer, McKinsey and Company, and the Environmental Protection Agency.

QUANTITATIVE CYBERQUEST

Quantitative CyberQuest (QCQ) is a program for developing analytical relationships and employing them to make forecasts. QCQ combines scientific research methodology, qualitative research, cause/effect questioning, regression, scenario

generation, and forecasting. The QCQ software guides the user through a seven step process, starting with envisioning the problem situation and ending with making forecasts under various policy/decision scenarios.

QCQ was developed to compensate for shortcomings in conventional forecasting tools and traditional statistical regression analysis techniques. QCQ's focus is on real world problems, where marginal data, ambiguous issues, and conflicting priorities are the rule. Although QCQ contains several unique features such as checklists for variable identification and cause and effect analysis, I primarily used the categorization function to assist in comparing the data and to develop a hierarchy of forces.

THE EMERGENCE OF THEORY

Because a primary tenet of the qualitative study is the "emergence" of theory, it would be somewhat self-defeating to state a theory in the beginning as is commonly done in quantitative studies (Creswell, 1994). Consequently, the use of theory in this study is not nearly as clear as it would be in a quantitative dissertation. I did use the rationale of some theories as reference points to guide me through the wilds of strategy implementation, however. In fact, as it is my previous experience and research that has led me to this point, I used certain theories as guidelines to develop the questions. Although I did not test any specific theories against my research to determine if they were valid or invalid in the particular instance of JTAV, I drew comparisons that I believed to be informative.

ROLE OF THE RESEARCHER

As the researcher in this study, I served practically every role. I conceived the idea for the study, I determined the boundaries and parameters and I decided upon the

research design. I identified the key questions, and collected, recorded, analyzed and interpreted the data. My role was comprehensive and universal for this study.

Prior to embarking on this study, I served for almost 22 years in the United States Air Force and for 8 years as a consultant, where I participated in several strategic planning activities. My last military assignment was as the JTAV Project Officer in the Office of the Secretary of Defense in the Pentagon. Upon my retirement I worked for a defense contractor that had the primary software development contract for JTAV. Later, I worked for a non-profit public service organization that specializes in studies and analyses for government agencies – primarily DoD. In that role, I led a team that developed the JTAV Operational Architecture and I was the primary author of the JTAV Strategic Plan. I will admit to having some biases concerning strategic planning, strategic management and JTAV as a result of these experiences. These biases are a two edged sword. On the one hand, it is primarily because of them that I decided to pursue this particular topic. On the other hand, much as any researcher comes to a study, I carry certain perceptions that may affect my interpretation of what I discovered.

DATA COLLECTION PROCEDURES

The data collection steps are often overlooked but are critical to a successful study. There are two primary elements in the data collection procedure: setting the boundaries for the study and collecting the information.

Setting the Boundaries

This was not a random selection of a government project. I purposefully selected the project to be examined in this study that I believe best answered the research questions. Although the literature review is a rich vein of information and was a great aid to my analysis, my primary data source was the interviews with participants.

The interview was designed to elicit information concerning the "Grand Tour "question and sub-questions. My goal was to design interview questions that reached to the heart of the study, yet did not require an inordinate amount of time for the interviewee to respond. Some interviews were accomplished in person, some over the phone and some through e-mail. The interview questions are at Appendix B.

Data Collection

Data collection for this study occurred in three phases. The first phase of data collection consisted of my experiences as the JTAV Project Officer. As I stated earlier in the "Role of the Researcher," I have been involved with JTAV in one way or another for most of the last 11 years. My experiences with the project led me to believe that it would provide a useful field study. Likewise, those same experiences provide a source of information that I would be remiss in ignoring. The second phase of data collection was the review of the literature. This included articles and books I had read prior to embarking on this study as well as those that I read specifically to assist me in this study. I read the JTAV and supporting documentation before I began any data collection and jotted down notes as necessary to assist in the identification of forces in this, and later, steps. The third phase of the data collection effort was the most critical to the study -- the administration of the interviews. Participants to be interviewed were drawn from a list of "alumni" who worked on the project over the past 10 years. They were purposively selected to provide a reasonable cross-section of responsibility level, government/contractor, age, etc. Of course a driving factor in who was actually interviewed was availability for the interview.

DATA RECORDING PROCEDURES

The recording of the data was another crucial step in the study. Data that has

been collected but lost through inadequate recording procedures is wasted. In accordance with Creswell (1994), I developed a data recording protocol that served as a template to ensure that the correct and necessary data was recorded. My data recording protocol included:

- Key information about the interviewee/documentation being reviewed
- Indicator of primary or secondary data
- The forces and relationships identified
- The universe of categories (of forces) that could apply to this data

I recorded the data in a plain text file. A plain text file provided the flexibility necessary to import the data into either QCQ or TextAnalyst2, as necessary.

DATA ANALYSIS PROCEDURES

According to Tesch (1990), there is not one "right way" to analyze data in a qualitative study. Despite that characteristic, the heart of the typical qualitative analysis is the process of developing categories and making iterative and subjective comparisons and contrasts of data in relation to those categories.

The actual analysis of the data consisted of the processes of reduction and interpretation. Tesch (1990) referred to reduction as "de-contextualization" and interpretation as "re-contextualization." By whatever name one wishes to apply, the process is one of analysis (breaking the problem into its parts) and synthesis (creating the whole again in a different form) –very much like the strategic process, itself.

The first step in the data analysis procedure was to develop the initial forces. I accomplished that by using TextAnalyst2 to analyze the interviews. TextAnalyst2 provided an initial analysis of interviews that assisted in determining primary themes and

relationships of concepts. TextAnalyst2's pre-programmed algorithm determined the strength of the relationship between concepts offered in the data. The concepts with the strongest relationship provided an initial working list of forces. I then subjectively refined that set of forces. I manually reviewed the interviews comparing and contrasting the TextAnalyst2 results, exactly as Tesch described. This step ensured that TextAnalyst2 did not miss something that I deemed important to the study. In addition, this comparison and contrast step required further re-categorization of factors. Thus, a refined list of forces emerged from that effort.

Once I determined the forces acting in the environment, I returned to my interviewees and asked them to rate each force in terms of impact on the strategies on a 5 point Likert scale:

0 = No opinion

1 = very weak impact

2 = weak impact

3 = moderate impact

4 = strong impact

5 = very strong impact

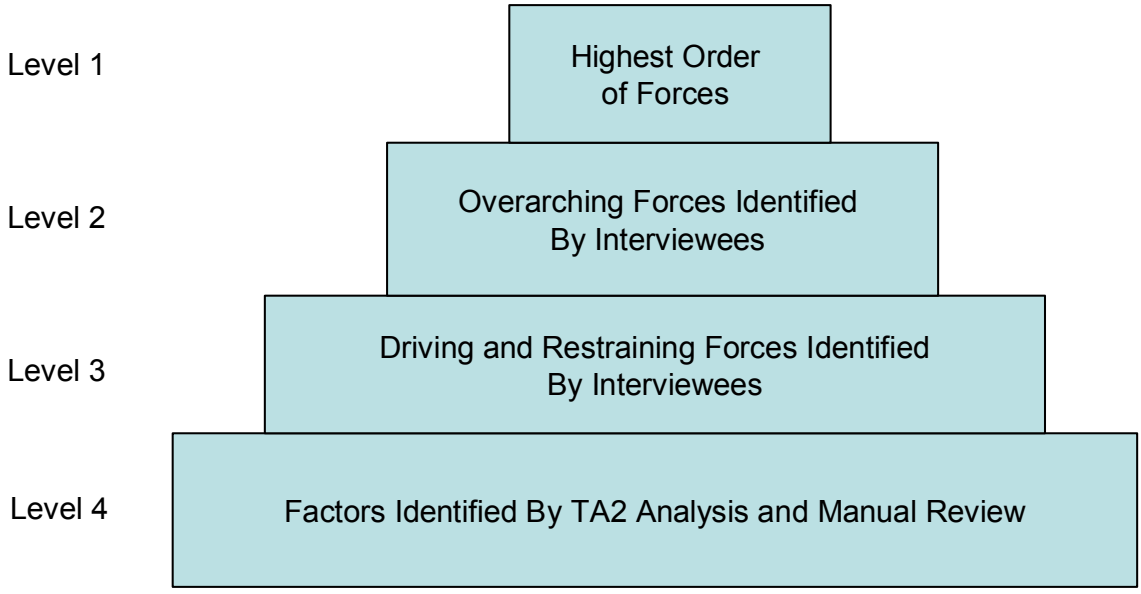
I also asked each interviewee to provide me with their judgment as to the overarching 5-10 driving and the overarching 5-10 restraining forces that could serve as "categories" of forces and could subsume all other forces.

This step provided me with two important pieces of information. First it told me which forces the participants view as the ones that had the greatest impact on JTAV strategies. Second, it assisted me in determining high level categories of forces.

In determining "higher" levels of categories of forces, I needed to recognize two issues. One, that forces were identified at various levels of hierarchy in the strategy implementation environment. In other words, some forces were seen as very specific and detail oriented and others as more broad. Second, forces were identified with various magnitudes or strengths. One of the purposes of the higher level categories was to provide a context in which the forces could be related to each other in terms of hierarchy and magnitude.

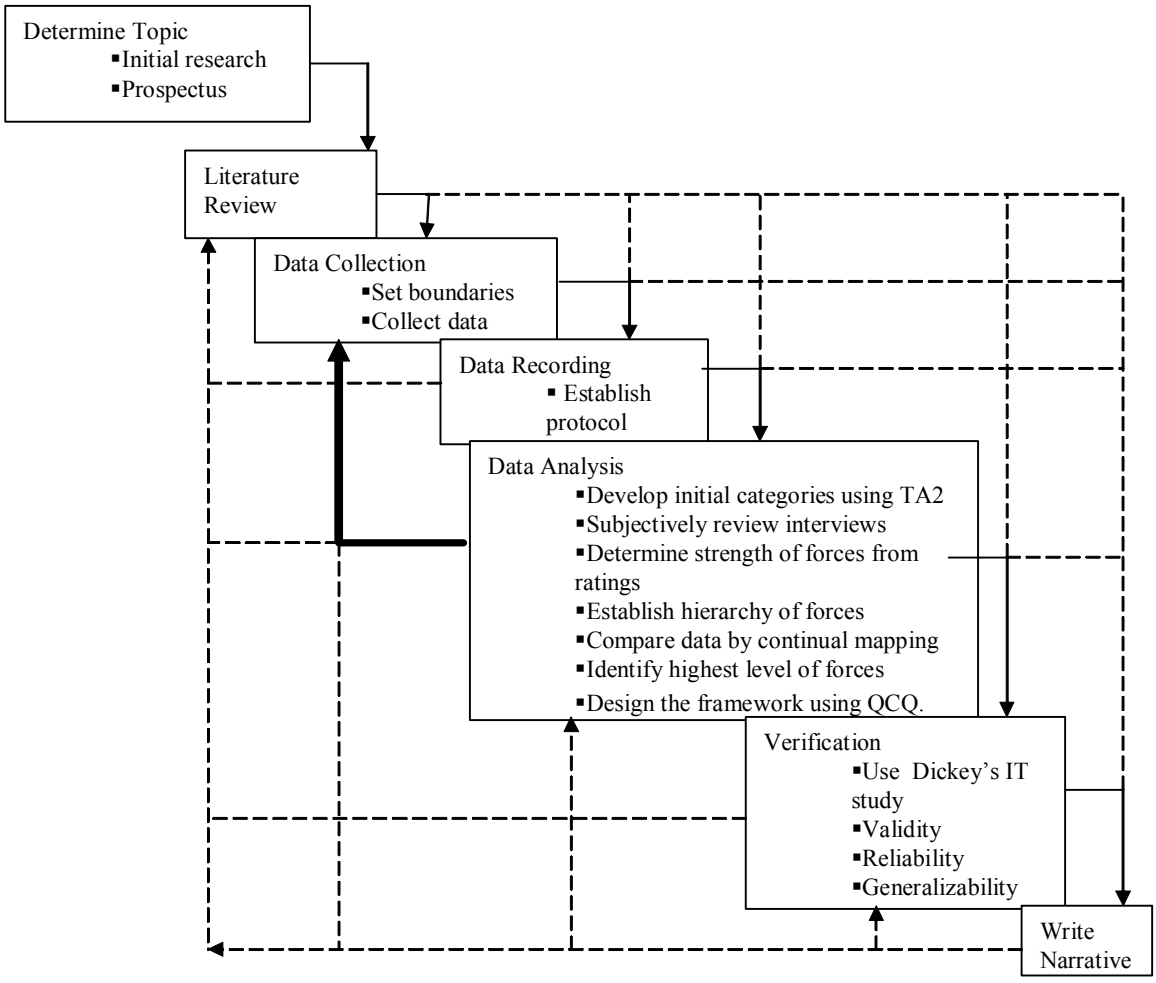
I established a hierarchy of forces acting within the JTAV environment consisting of 4 levels. I used that hierarchy to continually map the lower level forces into the higher level forces. I added and deleted categories at each level as necessary. This continual comparing of data while allowing patterns to emerge is classic qualitative research (Tesch, 1990; Creswell, 1994; Miles and Huberman, 1994). The most basic level (level 4) consisted of the factors identified by the TA2 analysis. These factors were generally value neutral in terms of driving or restraining forces and might apply to either. My next level of forces (level 3) consisted of the driving and restraining forces that I identified in my manual review of the interviews. These forces were at a higher level than level 4 by virtue the contextual relationships used in their identifications. I identified level 2 forces with the use of the interviewees. I compiled the lists of overarching driving and restraining forces that they provided in the "magnitude survey". Finally, I used the literature to provide me with a list of draft level 1 forces (the highest level). I then used my research data to allow patterns to emerge and I modified those 'draft" forces based upon my findings. The hierarchy of forces is at Figure 4-5.

Figure 4-5. Four Levels of Forces



Finally, I used those results to develop the implementation forces framework. I entered the information concerning the categories of the identified forces and nature and relative strength of association of each into QCQ. QCQ assisted me in determining commonalities and relationships between forces acting on implementation. The inductive mode of research (Figure 4-2) applied to this study might look like Figure 4-6.

Figure 4-6. Inductive Mode of Research Applied to This Study



In the figure above I use dotted lines to indicate that it is not a linear process and any of those steps could be accomplished at any other time with another step. In addition, I used a hard feedback line from data analysis to data collection to indicate that after I have analyzed the initial interviews, I will return to data collection to ask the interviewees to rate the resulting forces on the Likert scale. The non-linear process and re-visitation of previous steps such as data collection are characteristics of the classic qualitative study (Tesch, 1990; Creswell, 1994).

Chapter 5: Data Analysis

INTRODUCTION

Although data collection and data analysis are separate steps requiring distinct tasks, they are closely related . When considering the type of analysis to be performed, the researcher must also take into consideration what information is available for collection and how it will be collected. If the researcher ignores that relationship, it would be entirely possible to collect the wrong data, or collect the right data in a non-usable format. Likewise, the researcher must also consider the analysis in the data collection step, and in fact, the analysis often drives the data collection effort. For example, the data collection effort for a quantitative study would be different than the data collection effort for a qualitative study. Because of that close relationship, I have included both steps in this chapter

DATA COLLECTION

As stated in Chapter 4, the two primary elements in the data collection procedure are setting the boundaries and collecting the information.

Setting the Boundaries

The boundaries for data collection are established by the informants and the type of data collected. One of the tenets of qualitative research is to purposefully select informants that will best answer the research question (Creswell, 1994). Random selection of informants is not a qualitative research tool. I purposefully selected informants to try to gain a cross-section of military/civilian, executive management/worker, government/contractor, etc. The purpose of this selection protocol was to ensure a cross-section of perspectives based upon the task processes performed in

the implementation of the project by informants. With one exception, all informants worked on the JTAV project. The one exception worked closely with JTAV, but had no real vested interest in the project. All informants were personally known to me prior to the interview. In addition, Miles and Huberman (1984) suggest two other parameters that should be addressed:

- The setting (where the research takes place) – The interviews for this study were conducted in person, by telephone and by e-mail. With one exception, the personal interviews were conducted either in the individual's work place or at a restaurant in northern Virginia. The exception was conducted at the individual's home. Telephone interviews were conducted either at the individual's work place or at their home. E-mails were sent to their work e-mail address.
- The events (what the informants will be interviewed about) – Informants were interviewed concerning JTAV implementation and using the list of questions in Appendix B[5].

Data collection is bounded by the four basic types of procedures: observations, interviews, documents, and visual images (pictures, photos, etc). My personal observations of project implementation from my time as the project officer are included; however, the data for this study is primarily interview data. The questions in the interview establish the data collection boundaries for this study by determining the data that is collected. To develop my interview questions, I went back to the "Grand Tour" question and sub-questions and used them to construct my interview questions. Thus the

[5] In true qualitative research fashion, I began the interview process in the early stages. Consequently, 5 interviews were conducted prior to my proposal defense. At my proposal defense, my committee suggested that I reduce the number of questions in the interview. Thus, 5 interviews were conducted with a 22 question interview and the remaining interviews were conducted using a 14 question interview.

data collection process was bounded by those specific research questions. My goal was to design interview questions that reached to the heart of the study, yet did not require an inordinate amount of time for the interviewee to respond.

Data Collection

As stated in Chapter 5, data collection occurred in three phases. The first phase consisted of personal experience. Although this phase offered a rich vein of thoughts concerning JTAV implementation and reasons for success or nonsuccess, this study is about more than my personal opinion. The second phase was the review of the literature. While this phase of data collection provided very valuable background and contextual frames, I could find only one documented study that discussed JTAV implementation (GAO/NSIAD: 99:40; *Defense Inventory: DoD Could Improve Total Asset Visibility Initiative with Results Act Framework*. The third phase was the administration of the interviews. Clearly this phase is the most important, as it provides the largest amount of analyzable data necessary to conduct the study.

My interview technique did not strictly conform to either the structured or unstructured interview (Fontana and Frey, 2000). Rather, I used an interview technique that contained elements of both and which I believed to be more appropriate to this study. Like the structured interview, I asked all respondents the same series of pre-established questions. However unlike the structured interview, I did not limit the response categories – I made the questions open-ended, much like an unstructured interview. Like the structured interview, I used a coding scheme; however, unlike the structured interview, I did not establish the codes prior to the interview and record responses according to the pre-established codes, rather I established the codes as patterns emerged

in the analysis. The variations in interview technique allowed me to establish a structure to my data collection while still allowing the maximum flexibility for inductive reasoning to flourish.

I administered the interviews to 25 people who had worked or still work on the JTAV Project. They include current military officers, current DoD civilians, contractors who are retired military officers and contractors with no military experience. They range from two Assistant Secretaries of Defense and the Director of Material Management for the Department of Defense to very junior software engineers. Although the names were drawn from a list of JTAV "alums," all interviewees were known personally to me. See Appendix D for a list of interviewees by job title. Fourteen interviews were conducted in person, 8 interviews were conducted over the telephone and 3 interviews were conducted via e-mail. The in-person interviews were often conducted over dinners or lunches and it is difficult to separate the actual interview from friendly discussions. However, it is estimated that the actual interview time was around 75 minutes. The telephone interviews were more structured and the actual interview time averaged around 60 minutes.

DATA RECORDING

I developed a data recording protocol (See Appendix C) that served as a template to ensure that the correct and necessary data was recorded. A protocol is a format for recording information needed to note observations, or in this case responses to interview questions (Creswell, 1994). My data recording protocol included some brief demographic information, the key research questions to be asked, some probes to follow key questions, and space to record observations. I designed the protocol to include

essential elements of information related to the research questions. I also used those essential elements of information from the research questions to develop a provisional "start list" of data codes (Miles and Huberman, 1994). The essential elements of information from the data protocol are related to the interview questions (Appendix B) in Table 5-1.

Table 5-1. Research Questions Related to Essential Elements of Information and Codes

Research Question	Essential Element of Information	Codes[6]
Key information about the interviewee/documentation being reviewed	Demographics	DM
Indicator of primary (PRIMARY) or secondary (SCNDARY) data	Type of Data	PR/SC
Identification of the driving forces that contributed to the success of the strategies	Driving Force	DF
Identification of the restraining forces that hindered strategy implementation	Restraining Force	RF
How the forces are affected by the strategy	Forces Affect Strategy	FA
The common theme of the forces	Common Theme	CT
The causes and effects of the forces	Causes and Effects	CA/EF
Forces worked either independently or in concert	Independent Forces / Concerted Forces	IF/ CF
How the forces came together	Came Together	CT
Identification of 'windows of opportunity" for accelerated or more successful implementation	Window of Opportunity	WO

DATA ANALYSIS

There is no hard rule concerning what constitutes data analysis for a qualitative study. The process is eclectic (Creswell, 1994) and there is no "right way" (Tesch, 1990). On the other hand both Creswell and Miles and Huberman (1994) present principles to guide the researcher in the analysis of qualitative data. First, unlike the quantitative counterpart, it is not necessary for the analytic steps to be accomplished in a linear fashion. On the contrary it is important for data analysis to be performed in conjunction with data collection, data recording and the writing of the narrative. The

simultaneous performance of analytic steps better serves inductive inquiry.

Second, qualitative analysis is generally based on the reduction and interpretation of collected data. I will reduce the interviews to data protocols, reduce the data protocols to key words and concepts and further reduce the key words and concepts to data codes. I will then interpret and synthesize those data codes into a "higher level" analysis (Creswell, 1994) that will reveal the high level forces at work in the implementation of the strategies for JTAV. Third, they suggest that data be displayed to the reader in matrices. Matrices are a spatial format that presents information clearly and systematically to the reader. Matrices can display data by informant, site, demographics, time, or role and can also show relationships. Last, the researcher should identify an appropriate coding procedure and explain it to the reader. Rules governing the coding of data are relatively flexible (Creswell, 1994); however, the codes become the basis for establishing categories which are the foundation for the emerging story to be told by the study. This process involves what has been referred to as "segmenting" the information (Tesch, 1990) and "generating categories, themes or patterns" (Marshall and Rossman, 1989). My coding schema is based upon Miles and Huberman (1994) while remaining compatible with the coding format in Quantitative Cyberquest. This data code consists of seven digits (to fit QCQ requirements)[7]. The first two digits correspond to the codes relating to the research question and essential elements of information as determined by the data protocol (Table 5.1). The last four digits correspond to the initial data codes developed in the TextAnalyst2 analysis (explained in the following paragraph and displayed in Table 5.2). The third digit is a constant colon for ease of reading and

[6] My coding format is based upon Miles and Huberman (1994)

separation of the two subordinate codes. Thus, the code "DF:GRID" would indicate that one of the driving forces identified in an interview was that JTAV was a "***gr***eat ***id***ea".

Developing Initial Data Codes

The first step in data analysis was to develop the initial data codes (the bulk of the codes will emerge from the study). As stated above, I adopted Miles and Huberman's suggestion to create a "start list" of codes and I used my research questions as the starting point (see previous paragraph). My next step was to develop an initial list of forces identified in the interviews. I accomplished that task by using TextAnalyst2 (TA2).

I saved the interviews as text files and ran them through TA2. One of the products provided by TA2 is a semantic network, in tabular form, showing the concept frequency and semantic weight. Frequency merely means the number of times that word appears in the analyzed text. As stated earlier, the semantic weight is the measure of the probability that this concept is important in the studied text.

In order to more readily determine the concepts with the strongest relationships, I sorted the results based upon highest frequency and largest semantic weight. I selected the 15 concepts with the highest frequency and any other concept with a semantic weight above 50. This provided me with a list of 260 variables[8] (See Appendix E). I reviewed and adjusted that list to eliminate obvious redundancies or words that were

[7] Although this data code and the QCQ code did not necessarily have to be identical, I decided to make them the same to avoid having to continually cross-:reference them.

[8] Although I realize that 'variable" has certain connotations, I will use the term "variable" to be consistent with Quantitative CyberQuest terminology. Every concept is a variable if viewed in terms of its presence or absence and the degree of its presence or absence. Take, for example, the first term in Table 4.1, "strategy." Are strategies variables? Yes. Several respondents claimed that the strategies in JTAV appeared to change based upon personalities. The fact that they change makes them a variable. Another perspective might say that while the strategies themselves might have been constants, the effect they had on implementation varied based on how that strategy interacted with other factors present in the environment. Since the focus of the study is on implementation, the second viewpoint may be more appropriate to this study.

inconsequential (e.g. many, year, etc). I then coded each of the remaining concepts much as I had coded the research questions that provided my initial data code list. The codes only correspond to the last four digits of my coding schema because the first two digits will be determined within context of the interview and assist in determining the higher order categories. The resulting list of concepts, frequencies, semantic weights and codes is at Table 5-2

Table 5-2. TextAnalyst2 Results of Interviews with Codes

Number	Variable	Frequency	Semantic weight	Code[9]
1	strategy	327	100	STRA
2	success	170	99	SUCC
3	Program mgt office	149	99	PMO
4	Implementation	139	99	IMPL
5	management	113	99	MNGM
6	system	80	99	SYST
7	development	78	99	DVLP
8	contractor	65	99	CNTR
9	timeline	54	99	TMEL
10	government	53	99	GOVR
11	software	51	99	SFTW
12	capability	51	99	CPBL
13	opportunity	41	99	OPRT
14	concept	39	99	CONC
15	effort	34	99	EFFO
16	windows of opportunity	33	99	WO
17	military	32	99	MILT
18	information	30	99	INFO
19	visibility	27	99	VISB
20	personnel	26	99	PRSN
21	asset	24	99	ASET
22	cooperation	17	99	COPR
23	retired military personnel	14	99	RTML
24	datum	93	98	DATM
25	user	50	98	USER
26	Logistics	28	98	LOGS
27	Fusion processor	6	98	FUSP

[9] My coding format for TA2 codes is restricted to four digits because they will be combined with the data protocol codes in Table 1 to provide the coding structure for the data in the interviews. Those combined codes are restricted to seven digits by the QCQ format.

Table 5-2. TextAnalyst2 Results of Interviews with Codes (Continued)

Number	Variable	Frequency	Semantic weight	Code
28	DoD	29	97	DOD
29	database	26	97	DTBS
30	Asset visibility	11	97	ASTV
31	requirement	41	96	RQRM
32	relationship	10	96	RLTN
33	problem	41	95	PROB
34	technology	29	95	TCHN
35	idea	53	94	IDEA
36	internal	37	94	INTR
37	direction	21	93	DIRC
38	Funding (money)	35 (31)	91(44)	FUND
39	organization	42	90	ORGN
40	prototype	19	90	PROT
41	source system	10	90	SRSY
42	OSD	8	90	OSD
43	communication	5	90	COMM
44	opinion	26	89	OPIN
45	role	22	89	ROLE
46	Nonsuccess	15	88	NONS
47	politics	18	85	POLT
48	financial strategy	4	85	FNST
49	goal	105	83	GOAL
50	external	28	83	EXTR
51	theater	10	83	THEA
52	cohesiveness	7	82	COHS
53	Great idea	6	80	GRID
54	customer	24	79	CTMR
55	deployment	10	79	DPLY
56	poor	8	79	POOR
57	ambition	7	79	AMBN
58	quality	10	77	QUAL
59	Public	7	77	PUBL
60	Authority	6	77	AUTH
61	environment	14	76	ENVR
62	vision	8	76	VSON
63	DLA	15	71	DLA
64	DUSD	13	69	DUSD
65	Knowledge	8	66	KNOW
66	disparate	5	66	DSPR
67	Subcontractor	7	64	SBCR
68	Loyalty	3	64	LYLT
69	Infrastructure	3	64	INFR
70	individual	12	58	INDV
71	Perspective	4	56	PRSP
72	Perception	3	56	PRCP
73	warfighter	6	54	WFTR
74	community	12	51	CMNT
75	operational capability	4	50	OPCP

Although it is somewhat interesting to note that words such as strategy, success, Program Management Office, implementation, contractor, development, timeline, government, and windows of opportunity appear frequently in the interviews, those words without their context does not shed very much light on our inquiry. Consequently, my next step was to analyze the interviews manually.

Manual Analysis of Interviews

I performed a manual analysis of the interviews for two reasons. First, I wanted to ensure that I picked up any concepts, forces, etc that may have been overlooked by the TA2 analysis. Second, I wanted to discover and identify contextual references that provide more substantial meaning to the TA2 analysis. My manual analysis of the interviews yielded 20 additional potential forces that were not included in my original list in Table 5-2. I recognize that Table 5-2 is the result of my having trimmed the complete TA2 list by including only the 15 concepts with the highest frequency and any other concept with a semantic weight above 50. In addition, I trimmed the list further by eliminating obvious redundancies or words that were inconsequential (e.g. many, year, etc). Consequently, I was curious if the 20 new concepts were included in the original TA2 analysis but were trimmed by my somewhat arbitrary criteria in an effort to keep the list manageable. I reviewed the original list of 2839 concepts identified by TA2 and found each concept that I identified manually, or a closely related concept. The concepts that I identified through the manual review are presented in Table 5-3.

Table 5-3. Additional Forces Identified By Manual Review of Interviews

Number	Variable	Code
1	Solution	SLTN
2	Parochialism	PRSM
3	Competition	COMP
4	Resources	RSRC
5	Delay	DLAY
6	Leadership	LEDR
7	Players	PLYR
8	Stakeholders	STAK
9	Advocate	ADVO
10	Change	CHNG
11	Mixed	MIXD
12	Enthusiasm	ENTH
13	Improvement	IMPR
14	Opportunism	OPPR
15	Worker	WRKR
16	Crisis	CRIS
17	Personality	PRLT
18	Customer Support	CRST
19	Services	SRVS
20	Turnover	TNOV

Combining the Initial List of Forces with the Data Protocol

My final step in the data reduction process was to examine each interview in depth and assign a data code to essential elements of information from the data protocols that answer my research questions. Thus, I would be combining the data protocol essential element of information with the list of forces identified by either TA2 or my manual review to create a data code of seven digits as described earlier. My manual analysis yielded a list of forces and concepts identified by both TA2 and myself that have been associated to the research questions through the data protocol (Table 5.1). An additional benefit is the manual count of the number of times that concept was mentioned in the interviews. This data is presented in Tables 5.4 through 5.12.

DRIVING FORCES

Table 5-4 lists the driving forces that I identified in the manual review of interviews. Interestingly, the 25 interviewees provided a total of 21 separate driving

forces. Over half (62%) responded that one of the driving forces was the fact that JTAV was simply a great idea. The next most popular single response (43%) was the quality of the contractor support.[10] Fifty three percent of the respondents indicate that it is important to have some kind of advocacy, whether it is from the customer (warfighters), stakeholders, or merely a vocal advocate. One respondent said, "We had an advocate in European Command. We had a warfighting command that made no bones about the fact that they needed and generally liked what we gave them." Although I was surprised that leadership was considered a driving force by only 38% of the respondents, it is interesting to note that leadership was mentioned by eight of the interviewees as a driving force, and none mentioned management. Also, only 19% of the respondents noted relationships as a driving force - a finding that would appear to minimize the impact of both personal and organizational coalitions – a somewhat surprising find. Technology appears as a driving force because without technological advances in computer hardware, software and information technology, JTAV would not even be feasible. Also, a large number of retired military personnel worked on this project as contract employees. Eight of the 25 interviewees were contractors who were retired from the military. They were mentioned as a driving force in light of their knowledge and attitude toward support of the warfighters and making something positive happen. Interestingly, all of the comments concerning the retired military as driving forces were made by contractors who had no military experience.

[10] This is probably not a surprising answer because 60% of the respondents were contract employees.

Table 5-4. List of Driving Forces Identified from the Manual Review of Interviews

Number	Code	Driving Force	Count
1	DF:GRID	Great idea	13
2	DF:CNTR	Contractor Support	9
3	DF:LEDR	Leadership	8
4	DF:TCHN	Technology	6
5	DF:POLT	Politics – Top cover	5
6	DF:WFTR	Warfighter Support	5
7	DF:STAK	Stakeholder support	4
8	DF:RLTN	Relationships	4
9	DF:ENTH	Enthusiasm	3
10	DF:RQRM	Customer requirements driving improvements	3
11	DF:ADVO	Advocate support	2
12	DF:OPCP	Solution to improved operational capability	2
13	DF:AUTH	Authority to accomplish	2
14	DF:SLTN	Solution to better management practices	1
15	DF:TMEL	Time available	1
16	DF:COPR	Cooperation of players	1
17	DF:CRST	Customer support provided	1
18	DF:PRLT	Personalities	1
19	DF:KNOW	Knowledge/expertise of the team	1
20	DF:RTML	Retired military	1
21	DF:VSON	Strong vision	1

RESTRAINING FORCES

Table 5-5 lists the restraining forces identified in the manual review of interviews. A total of 31 restraining forces were identified by the 25 interviewees. The most common single restraining force was "parochialism", mentioned by almost half of the interviewees. A closer review of the interviews indicates that all interviewees were talking about the parochialism of the components. In other words, the Army wanted to do JTAV, but wanted all of DoD to do it their way. The Navy wanted to do JTAV, but wanted the other services to do it their way. The Air Force had no real interest in JTAV, but if forced to do it, wanted everyone to do it their way. Even the agencies, such as the Defense Logistics Agency, had their own ideas for how JTAV should be designed, built and managed. As one interviewee put it, "Everyone wanted to do it his or her way. The

not invented here syndrome was very prevalent across the enterprise. It was without fail the dominant theme."

If variations of management and leadership are taken together, it becomes the largest collective concept of restraining forces, with 19 of the 25 interviewees (76%). It is interesting to note that exactly the same number of interviewees (eight – 32%) mention leadership as a driving force and a restraining force. Technology also appears as a restraining force because the constant fascination with new technology by senior management caused a diffusion of effort at times.[11] Knowledge and expertise appeared as a restraining force because the government team did not have people with the necessary and appropriate expertise in the correct positions. Senior management in the program management office, in particular, was very weak concerning technical requirements such as information technology, data base design, and telecommunications. Finally, retired military personnel also show up as a restraining force. They were cited as a negative in terms of having a rigid and inflexible approach. Again, all comments concerning the retired military were by contractors with no military experience.

It also appears that establishing and maintaining a firm requirement was a problem. Taking the three restraining forces with a requirement element together indicates that 20% of the interviewees mentioned requirements as a restraining force.

[11] A colleague of mine refers to management's fascination with technology as "raccoon management." He describes it as a raccoon that is fascinated by bright and shiny objects that will starve because it is does not notice another animal eating its food.

Table 5-5. Restraining Forces Identified from the Manual Review of Interviews

Number	Code	Restraining Force	Count
1	RF:PRSM	Parochialism	12
2	RF:LEDR	Poor leadership	8
3	RF:POLT	Politics – Infighting	7
4	RF:RSRC	Lack of resources (money, people, etc)	7
5	RF:PMO	Poor program management office	6
6	RF:COMP	Competition for support	6
7	RF:LYLT	Lack of loyalty to project	5
8	RF:TCHN	Different technological approaches diffused the effort	4
9	RF:MNGM	Poor management	4
10	RF:RQRM	Unstable requirements	3
11	RF:VSON	Lack of vision	3
12	RF:ADVO	Lack of advocacy	3
13	RF:PRSN	Personalities	2
14	RF:PRCP	Perception	2
15	RF:KNOW	Lack of knowledge/expertise on the team	2
16	RF:TNOV	Turnover of management team	2
17	RF:STAK	Stakeholder requirements drove diffusion of effort	1
18	RF:FUND	Competition for funding	1
19	RF:AUTH	Lack of authority	1
20	RF:TMEL	Took too long – enthusiasm waned	1
21	RF:IMTC	Immature technology	1
22	RF:ENTH	Lack of enthusiasm	1
23	RF:INHD	Hoarding of information	1
24	RF:RQCR	Customer requirement creep	1
25	RF:COST	Financial costs to the services	1
26	RF:FNST	Lack of financial strategy	1
27	RF:GOAL	No clear goals	1
28	RF:RLTN	Poor relationships	1
29	RF:RTML	Retired military	1
30	RF:CNTR	Contractor support	1
31	RF:CHNG	Change	1

INDEPENDENT OR CONCERTED FORCES

Table 5-6 displays the responses to the question concerning whether the forces worked independently or together. From the perspective of the interviewees, most of the forces worked independently, at least part of the time (84%). In fact, almost half (44%) of the respondents said the forces worked only independently. One interviewee believed that the executive levels actually worked in concert to sabotage the program. Two respondents (one of whom was an Assistant Secretary of Defense) said that not only did the forces work independently, but that they also worked in direct opposition. One

person said that the forces had to be independent because things were not organized well enough to get them to work together. Forty percent of the interviewees said that the forces worked both independently and together. Two said that at the higher management levels the forces worked independently and that at the lower worker levels they worked in concert, and one person said the contractors worked well together, but the government program management office could not work externally or internally together. Only four people (16%) said the forces worked in concert, and of those half (two) of them said that although it happened, it was very rare.

Table 5-6. Independent or Concerted Forces

Force	Code	Count
Independent	IF	11
Mixed	MF	10
Concerted	CF	4

FACTORS THAT BROUGHT THE FORCES TOGETHER

Table 5.7 displays the factors that brought the forces together (when they actually did come together). What is interesting from this table is that although only 4 people in the previous table said that the forces worked in concert, twenty factors were cited as reasons why the forces came together. It is also interesting to note that although 24% of the people view the management of the PMO as a restraining force, the PMO was cited 32% of the time as the reason the forces came together. Two people said that competitors brought the forces together to try to kill JTAV. The number of people mentioning leadership was the same as the number that mentioned happenstance as the reasons the forces came together. One person said that "we want the forces to be together to create conditions for JTAV to succeed", and that "is the main job of the Director." He also said that if the forces are aligned against JTAV, "we want them to work independently".

Although that may be the desired case, if the factors come together in JTAV's favor, they are a driving force, and if they come together against JTAV, they are a restraining force. Thus, each of the factors mentioned in Table 5-7 could be either a driving for restraining force. Hence, I have employed the necessary ambivalent coding scheme.[12]

Table 5-7. Factors Bringing the Forces Together

Factor	Code	Count
PMO	DF/RF:MGMN	8
Contractor	DF/RF:CNTR	3
Leadership	DF/RF:LEDR	2
Competitor	DF/RF:COMP	2
Happenstance	DF/RF:HAPP	2
Crisis	DF/RF:CRIS	1
Issues	DF/RF:ISSU	1
Self-preservation	DF/RF:SLFP	1

COMMON THEME

Forty four percent of the interviewees indicated that they saw no common theme to the forces (Table 5-8). On the other hand, of those who did mention common themes, the themes concerning people (stakeholders, parochialism, personalities, warfighter support, and military culture) constitute 32% of the responses. One respondent even stated that the common theme was that "all the forces originate with the people involved." One Assistant Deputy under Secretary of Defense mentioned the "organization's personality" as a force to be reckoned with. By that comment, he meant that while the people in an organization come and go, the basic personality of the organization remains the same.

[12] When a force has been identified as both a driving and restraining force, and I am not necessarily discussing it as either in particular, but rather as a general force, I will use both "DF" and "RF" designators in the coding scheme.

Table 5-8. Common Theme of the Forces

Theme	Code	Count
None	NONE	11
Stakeholders	DF:STAK	2
Parochialism	RF:PRSM	2
Personalities	DF/RF:PRSN	2
Funding	RF:FUND	2
Warfighter support	DF:WFTR	1
Military culture	DF/RF:MILT	1
Competition	RF:COMP	1

CAUSES OF THE FORCES

According to the interviewees for this study, the causes of the forces were fairly diffuse. (Table 5-9). The 25 interviewees provided 14 causes for the forces with the single most popular response (personalities) only accounting for 20% of the total responses. Again it is interesting to note that causes relating to people (personalities, parochialism, players, opportunism, relationships, lack of loyalty, knowledge/expertise) account for 50% of the causes cited and 61% of the total responses. One person said, "The causes were domino-driven based on the personalities that were in charge of the program." Another interviewee said, "The forces were caused by people – people set the budget, give the support, and make the decisions. They shape the forces." Another person said, "The forces were caused by people's desires for something such as power, respect, promotions, etc. Their efforts to get what they want from the program caused the forces acting on the program."

Table 5-9 Causes of the Forces

Cause	Code	Count
Personalities	DF/RF:PRSN	5
Parochialism	RF:PRSM	4
Players	DF/RF:PLYR	4
Change	RF:CHNG	4
Opportunism	RF:OPPR	4
Relationships	DF/RF:RLTN	3
Competition	RF:COMP	2

Table 5-9 Causes of the Forces (Continued)

Cause	Code	Count
Resources	RF:RSRC	2
Improvements	DF:IMPR	2
Operational needs	DF:OPND	2
Technology	DF:TCHN	1
Lack of Loyalty	RF:LYLT	1
Contractor	DF/RF:CNTR	1
Knowledge/expertise	DF/RF:KNOW	1

EFFECTS OF THE FORCES

Table 5-10 displays the effects of the forces. Again, the results are fairly diffuse. Twelve separate effects were cited, with a total of 28 responses. The single most popular response was that the forces delayed the project and it received 36% of the responses. Twenty four percent of the responses indicated that the forces' primary effect was to make the job more difficult. Of the 12 separate effects noted, nine of them or 75% were effects that would have a negative impact on the project. Also these 9 responses accounted for 82% of the total responses. Only two of the responses (8%) suggested effects with a positive impact and two responses indicated that the forces had mixed results. Only two interviewees (8%) suggested that the effect of the forces was a successful implementation. This is an interesting finding. It appears that most people working on the project see the forces as reasons that the project derails. Conversely, if no forces are present would they believe that inertia will drive the project to success?

Table 5-10. Effects of the Forces

Effects	**Code**	**Count**
Time delay	RF:TMEL	9
Make job harder	RF:JBHD	6
Successful Implementation	DF:IMPL	2
Mixed	DF/RF:MIXD	2
Loss of funding	RF:RSRC	2

Table 5-10. Effects of the Forces (Continued)

Cause	Code	Count
Management turnover	RF:TNOV	1
Morale boost	DF:SUCC	1
General harm	RF:HARM	1
Disorganization	RF:NONS	1
Not meet performance parameters	RF:PERF	1
Interpersonal conflict	RF:RLTN	1
Loss of direction	RF:DCTN	1

STRATEGY EFFECT ON FORCES

A majority of the people interviewed did not see that the strategies had any effect on the forces. Four people (16%), however, noted that the effect of the strategies on the forces occurred through the stakeholders. Three people (12%) showed exceptional insight and noted that the purpose of strategies is to affect the forces, leading to a successful implementation. One of those interviewees was the original project officer who said, "The strategies tried to get the forces to support JTAV, so yes. That was the purpose of the strategies, to affect the forces in a positive way."

Table 5-11. Strategies Effect on Forces

Effects	**Code**	**Count**
None	NONE	17
Through stakeholders	DF:STAK	4
That's the purpose of strategies	DF:STRA	3
Relationships	DF:RLTN	1

FACTORS AFFECTING WINDOWS OF OPPORTUNITY

Table 5-12 displays the factors that the interviewees suggested might affect any windows of opportunity for accelerated or successful implementation. Two of the 25 respondents (8%) did not see a window of opportunity and the remaining 23 respondents

suggested 12 factors. Resource confluence accounted for 20% of the responses. As one interviewee said, "the windows of opportunity were when the funding was at its fullest, the resources to do the job were plentiful and powerful enough." Another person saw the windows of opportunity in terms of external events. "There were several windows of opportunity. They were usually associated with either combat activity (Bosnia, Somalia, Haiti, Afghanistan, and Iraq) or a Congressional review (Inventory reduction Plan, Risk Analysis). Some event in the news could trigger it." External forces (crisis, combat activity, Congressional review) accounted for 3 (25%) of the factors and 20% of the total responses. It is interesting to note that four of the 12 (33%) factors closed windows of opportunity rather than opened them. Those four factors accounted for only 17% of the thirty five total responses.

Table 5-12. Factors that Affect Windows of Opportunity

Factor	Code	Count
Resource Confluence	DF:RSRC	7
Crisis	DF:CRIS	5
Leadership	DF:LEDR	4
Coalition	DF:CLTN	4
Enthusiasm	DF:ENTH	4
PMO closed windows	RF:PMO	3
None	NONE	2
Infighting closed windows	RF:INFT	1
Service cooperation	DF:COPR	1
Loss of leadership closed windows	RF:LEDR	1
Congressional review	DF:CONG	1
Diversion of money closed windows	RF:FUND	1
Combat activity	DF:CMBT	1

Summary of Analysis Phase

This procedure leaves me with:

1. A coded list of research questions with essential elements of information

necessary to answer those questions (Table 5-1).

2. A coded list of potential forces identified by TA2 (Table 5-2).
3. A coded list of potential forces added by my manual review of the interviews (Table 5-3), and
4. A coded list of potential answers for the research questions (Tables 5-4 through 5-12).

This completes the reduction stage of the analysis. I have reduced the interviews to data protocols, have further reduced the data protocols to key words and concepts and have further reduced the key words and concepts to data codes. The next step is to synthesize the data in order to build the responses to the research questions, specifically the primary question revolving around forces acting on strategy implementation.

DATA SYNTHESIS

I accomplished the synthesizing process in two ways. For the sub-questions, the data protocol was designed to cross-reference essential elements of information to each of the research questions. This cross-reference process informs my results for each research question, assists in developing key points and aids in the crafting of the narrative. Upon completion of the analysis step, I have essential elements of information grouped under each research question (i.e. in each table) to aid in the development of the narrative. Thus, for the research "sub-questions" the synthesis was accomplished simultaneously with the analysis. However, for the "grand tour" question, more synthesis is necessary.

Synthesis of Primary Research Question Data

In chapter 1, I alluded to the development of a conceptual framework. In Argyres and McGahan (2002), Porter says that a framework captures the "full richness of

phenomenon" with the most limited number of dimensions. He goes on to say that if those dimensions are presented to the practitioner, they must make sense in the context of his or her industry. In order to make sense of specific details or discrete events, we intuitively put them into broad categories that are more easily related to each other. Arranging the categories, naming them, and determining their relationships are the essence of a conceptual framework.

In determining broader levels of categories of forces, I needed to recognize two issues. One, that forces were identified at various levels of hierarchy in the strategy implementation environment. In other words, some forces were seen as very specific and detail oriented and others as more broad. Second, forces were identified with various magnitudes or strengths. One of the purposes of the higher level categories was to provide a context in which the forces could be related to each other in terms of hierarchy and magnitude.

Consequently, to gather data concerning hierarchy and magnitude, as well as to satisfy Porter that my list of forces makes sense to the practitioners, my next step was to return to my interviewees. To gather data concerning magnitude, I asked them ask to rate each force in terms of impact on the strategies on a 5 point Likert scale designed as follows:

0 = No opinion

1 = very weak impact

2 = weak impact

3 = moderate impact

4 = strong impact

5 = very strong impact

To gather data concerning hierarchy, I asked them to select the forces that would serve as overarching concepts and encompass most of the other forces. Of the 25 original interviewees, I received 21 magnitude and hierarchy surveys. The survey instrument is at Appendix F. The lists of driving and restraining forces and their respective average Likert scale rating are at Tables 5-13 and 5-14.

LIKERT SCALE RATING OF DRIVING FORCES

The only driving force selected by every respondent as having a "very strong impact" on the implementation of JTAV strategies was the "great idea." Support from the warfighter was also seen as key for successful strategy implementation. This is an interesting observation, because the warfighters were the actual customer, (JTAV was being developed for their use and it would be to their primary benefit); however, they provided no financial support to JTAV. Although the warfighters were strong JTAV advocates to OSD and the services (who provided most of the money); none of the warfighter support was financial in terms of development, software, etc. The warfighters did help in identifying requirements and they served as test beds, so they did expend some resources, but not the "hard cash" used to contract out for technical support such as writing code, or for any of the support of the JTAV Program Management Office. Other driving forces seen as having an impact ranging from "strong" to "very strong" were politics[13], contractor support, leadership, technology and enthusiasm. Leadership and technology are not surprises on the list, but contractor support appears on the surface, to be rated higher than one might think. However, it has to be remembered that the primary

role of the JTAV Office was to manage contracts and the contractors did all the actual design, development, software engineering, testing, fielding and customer support. In that context, contractor support is very important. It is also interesting to see enthusiasm rated as such a strong force on strategy implementation.

Some basic statistics for Table 5-13 reveals a mean (of the means) of 3.43, and median (middle ordinal value) falling between 3.44 and 3.39, and a mode (most common value) of 5. These numbers indicate that despite what the interviewees said in their response to the question, they see the driving forces as a significant factor in JTAV implementation.

Table 5-13. Average Likert Scale Rating of Driving Forces

Number	Code	Driving Force	Average
1	DF:GRID	Great idea	5
2	DF:WFTR	Warfighter Support	4.83
3	DF:POLT	Politics – Top cover	4.44
4	DF:CNTR	Contractor Support	4.33
5	DF:LEDR	Leadership	4.22
6	DF:TCHN	Technology	4.17
7	DF:ENTH	Enthusiasm	4.11
8	DF:STAK	Stakeholder support	3.72
9	DF:SLTN	Solution to better management practices	3.5
10	DF:COPR	Cooperation of players	3.44
11	DF:KNOW	Knowledge/expertise of the team	3.44
12	DF:RTML	Retired military	3.39
13	DF:OPCP	Solution to improved operational capability	3.33
14	DF:ADVO	Advocate support	3.17
15	DF:PRSN	Personalities	3.11
16	DF:RLTN	Relationships	3
17	DF:AUTH	Authority to accomplish	3
18	DF:CRST	Customer support provided	2.61
19	DF:TMEL	Time available	2.56
20	DF:RQRM	Customer requirements driving improvements	2.17
21	DF:VSON	Strong vision	1.5

[13] In this context, "politics" does not refer to national party politics (Republican vs. Democrat), rather it is referring to the internal politics of the public sector and primarily The Pentagon. This version of politics revolves around personalities, power, promotions and perceptions.

LIKERT SCALE RATING OF RESTRAINING FORCES

The survey results concerning the restraining forces were more diffused. There was not one restraining force that was selected on every survey as having a "very strong impact." Two of the driving forces (great idea and warfighter support) were seen as having a stronger impact than the highest rated restraining force (parochialism). Other restraining forces seen as having an impact ranging from "strong' to 'very strong" were politics, change, personalities and lack of loyalty to the project. It may be notable that politics is the only force that appeared in the strong to very strong category of both driving and restraining forces.

Some basic statistics for Table 5-14 reveals a mean (of the means) of 3.01, and median (middle ordinal value) of 2.43.

Table 5-14. Average Likert Scale Rating of Restraining Forces

Number	Code	Restraining Force	Average
1	RF:PRSM	Parochialism	4.78
2	RF:POLT	Politics – Infighting	4.39
3	RF:CHNG	Change	4.33
4	RF:PRSN	Personalities	4.28
5	RF:LYLT	Lack of loyalty to project	4.11
6	RF:PRCP	Perception	3.56
7	RF:RQRM	Unstable requirements	3.56
8	RF:COMP	Competition for support	3.5
9	RF:RQCR	Customer requirement creep	3.39
10	RF:RLTN	Poor relationships	3.39
11	RF:KNOW	Lack of knowledge/expertise on the team	3.22
12	RF:LEDR	Poor leadership	3.17
13	RF:PMO	Poor program management office	3
14	RF:TMEL	Took too long – enthusiasm waned	3
15	RF:ADVO	Lack of advocacy	2.89
16	RF:COST	Financial costs to the services	2.83
17	RF:AUTH	Lack of authority	2.78
18	RF:RSRC	Lack of resources (money, people, etc)	2.72
19	RF:TNOV	Turnover of management team	2.72
20	RF:INHD	Hoarding of information	2.67
21	RF:FUND	Competition for funding	2.61
22	RF:TCHN	Different technological approaches diffused the effort	2.61
23	RF:CNTR	Contractor support	2.5
24	RF:IMTC	Immature technology	2.5
25	RF:ENTH	Lack of enthusiasm	2.5
26	RF:FNST	Lack of financial strategy	2.5
27	RF:STAK	Stakeholder requirements drove diffusion of effort	2.33
28	RF:MGMN	Poor management	2.11
29	RF:GOAL	No clear goals	1.83
30	RF:RTML	Retired military	1.83
31	RF:VSON	Lack of vision	1.72

OVERARCHING DRIVING FORCES

When the respondents were asked to select the forces they believed to be the most overarching that would be at a high enough level to encompass other forces, three forces stood out. Leadership was named on 17 of the 21 surveys and both the "great idea" and support (from the customer, stakeholders and advocates) were named on 16 surveys. Interestingly, politics was not high on the list of overarching driving force (28%).

Table 5-15. Overarching Driving Forces

Number	Code	Driving Force	Number
1	DF:LEDR	Leadership	17
2	DF:GRID	Great idea	16
3	DF:SUPP	All Support	16
4	DF:COPR	Cooperation of players	10
5	DF:TCHN	Technology	8
6	DF:POLT	Politics – Top cover	7
7	DF:SLTN	Solution to problems	6
8	DF:ENTH	Enthusiasm	3
9	DF:RLTN	Relationships	3
10	DF:CNTR	Contractor Support	1

OVERARCHING RESTRAINING FORCES

The results for the restraining forces were again more diffused than for the driving forces. Three driving forces were mentioned on more surveys than the restraining force with the most mentions (parochialism). Parochialism and change were the only restraining forces to be on at least 50% of the surveys. Politics appeared on 48% and personalities on 43%.

Table 5-16 – Overarching Restraining Forces

Number	Code	Restraining Force	Number
1	RF:PRSM	Parochialism	13
2	RF:CHNG	Change	12
3	RF:POLT	Politics – Infighting	10
4	RF:PRSN	Personalities	9
5	RF:LEDR	Poor leadership	7
6	RF:COMP	Competition for support	7
7	RF:RSRC	Lack of resources (money, people, etc)	4
8	RF:RQRM	Unstable requirements	4
9	RF:COST	Financial costs to the services	3
10	RF:TMEL	Took too long – enthusiasm waned	2
11	RF:ADVO	Lack of advocacy	1
12	RF:PRCP	Perception	1
13	RF:KNOW	Lack of knowledge/expertise on the team	1
14	RF:RQCR	Customer requirement creep	1

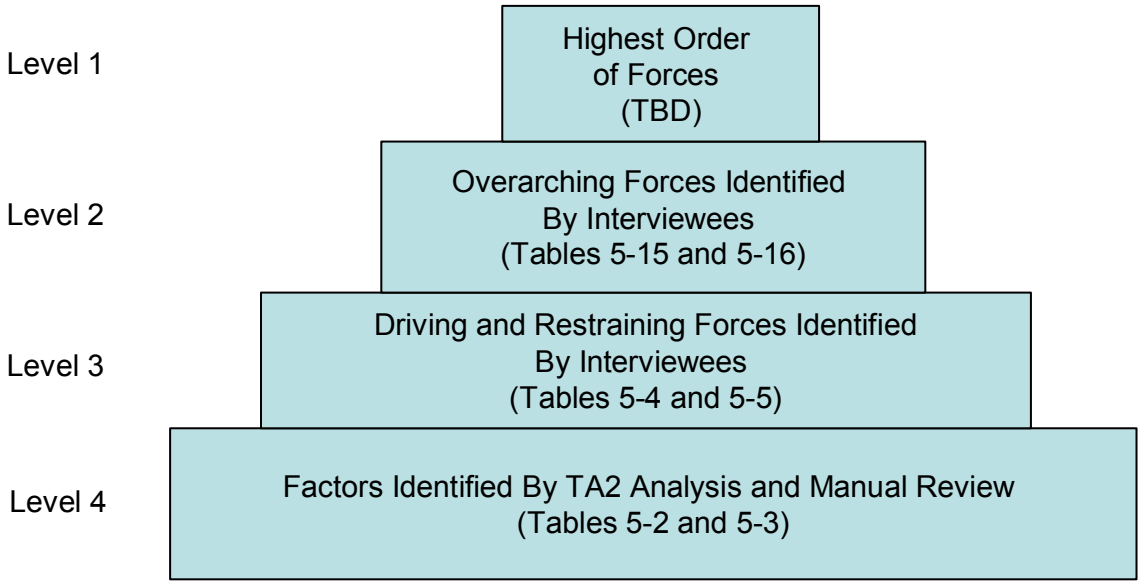
Purpose of Likert Ratings

The Likert ratings step provided me with two important pieces of information. First it told me which forces the participants view as the ones that had the greatest impact on JTAV strategies. Second, it assisted me in determining a hierarchy of forces. This determination is critical because if I am to satisfy Porter (as quoted earlier in Argyres and McGahan, 2002), my framework must capture the "full richness of phenomenon" with the *most limited number of dimensions* (my italics). Therefore I must determine the highest order of forces that will encompass the largest number of other forces for my framework. These will be the forces that will satisfy my 'grand tour' question.

DETERMINATION OF HIGHER ORDER FORCES

In order to develop a list of higher order forces, it is necessary to place the data in a hierarchy – otherwise there can be no "higher" order. To this point, three levels of forces have been identified. At the lowest level of analysis, I have the individual forces as identified by the TA2 analysis and my manual review of the interviews. At the next higher level of analysis are the driving and restraining forces identified by the interviewees in response to the direct question concerning driving and restraining forces. At the highest level of current analysis, I have the overarching forces identified by the interviewees at the time they were rating the strength of the forces. My goal is to use QCQ to develop a fourth level of analysis, the highest order of forces present (See Figure 5-1), through a continuous process of comparing the lower forces with the next higher level by using the higher level topics as categories in which to place the lower level forces.

Figure 5-1 – Hierarchy of Forces



For example, I will use the Level 3 driving and restraining forces as categories in QCQ and map each of the Level 4 forces identified by TA2 in one of those categories. I will consider eliminating level 3 categories if they fail to map to level 4 TA2 forces. Conversely, I will add level 3 categories if I find level 4 forces that do not map into a currently identified level 3 force. I will then perform the same mapping procedure between level 3 and level 2. I will use the level 2 overarching forces as categories and associate level 3 categories to them. Finally, I will use the literature to develop draft level 1 categories and then map the level 2 categories to those draft categories. This procedure should provide me with level 1 categories of forces that are grounded in the literature yet primarily derived from my research. This process of continuously comparing data and allowing patterns to emerge is totally consistent with the qualitative methodology as laid out by Miles and Huberman (1994) for the development of a conceptual framework.

MODIFIED DELPHI TECHNIQUE

Although my methodology is not strictly a Delphi approach, it does have some common features with the Delphi Technique developed by the Rand Corporation in 1948. Originally, the technique was applied to military strategy, but its application has expanded to other areas such as education, transportation, medicine, information technology and budgeting (Dunn, 1994). According to Dunn the Delphi technique emphasizes five basic principles:

- Anonymity – All respondents are separate individuals and their anonymity is preserved throughout the process. In the case of my study, all interviewees remained anonymous to each other.
- Iteration – The judgments are aggregated and communicated back to participants. Normally, Delphi requires 2 or more rounds, whereas I only communicated 1 round back to the participants in my study.
- Controlled feedback – In Delphi, aggregated judgments are communicated as summary measures. In my study, I aggregated data from initial interviews and communicated it back to my participants. Also, I summed the value of forces based upon Likert Scale responses, but did not communicate that information to my participants.
- Statistical group response – In Delphi, summaries of responses are usually presented in the form of descriptive statistics (mean, median, mode) and frequency polygons. In my study, I determined mean, median and mode as well as frequency charts for the Likert scale ratings.

- Expert consensus – In Delphi, the goal is to create conditions for a consensus to emerge. I did not have my interviewees arrive at a consensus concerning the forces acting on JTAV strategy implementation.

DRILL DOWN CAPABILITY

In addition, the mapping of lower orders of forces into a higher order allows the researcher to "drill down" into the data to determine what lowest level forces comprise the general force categories. This added feature allows any researcher in the future to have a structured method to determine which forces I mapped to create the level 1 categories of forces. For example, the level 1 restraining force category "internal structural" consists of the level 2 forces of "competition, politics and resources." The level 2 restraining force 'resources" consists of the level 3 forces of "politics, resources[14] and timeline". The level 3 restraining force of "resources" consists of the level 4 forces of "contractor, financial strategy, funding, personnel, and subcontractor.

COMPARING LEVEL 3 AND LEVEL 4 FORCES

The print outs of my QCQ categorizations of level 4 factors into level 3 driving and restraining forces are at Appendices G and H respectively. Five categories of driving forces emerged from this process and were added to level 3 (Goals, Process, Context of the issue, Window of opportunity and Problem). There were eight categories of restraining forces with no level 4 factors associated. I deleted four of them (Immature technology, Variety of technology, Contractor support and Stakeholder requirements diffusing the effort) because they did not readily associate to any categories already identified. I merged four of those categories with other level 3 categories of forces

previously identified. I merged "competition for funding" and "financial cost to the services" with "competition for support." I merged "hoarding of information" into "parochialism" and I merged "lack of financial strategy" into "leadership and management". Allowing the patterns to emerge, and modifying the categories of forces to accommodate those patterns, left me with the list of 47 level 3 forces. Of those, 24 are driving forces at Table 5-17, and 23 are restraining forces at Table 5-18.

Table 5-17. Level 3 Driving Forces

Number	Code	Driving Force	Count
1	DF:LEDR	Leadership	25
2	DF:COPR	Cooperation of players	21
3	DF:WOOP	Windows of opportunity	19
4	DF:STAK	Stakeholder support	18
5	DF:ADVO	Advocate support	15
6	DF:TCHN	Technology	14
7	DF:POLT	Politics – Top cover	12
8	DF:RLTN	Relationships	12
9	DF:CNTR	Contractor support	12
10	DF:PROC	Process	12
11	DF:CRST	Customer support provided	11
12	DF:ENTH	Enthusiasm	11
13	DF:GOAL	Goals	10
14	DF:RTML	Retired military	10
15	DF:WFTR	Warfighter support	10
16	DF:VSON	Strong vision	8
17	DF:KNOW	Knowledge/expertise of the team	8
18	DF:SLTN	Solution to better management practices	8
19	DF:PRSN	Personalities	8
20	DF:OPCP	Solution to improved operational capability	8
21	DF:AUTH	Authority to accomplish	6
22	DF:GRID	Great idea	4
23	DF:PROB	Problem	3
24	DF:TMEL	Time available	3

[14] Although it may appear to be redundant to have 'resources" appear at both levels 2 and 3, it is important to note that they consist of different lower orders of forces. Thus, while they may be 'resources" in a generic sense, they are actually different in their details.

Table 5-18. Level 3 Restraining Forces

Number	Code	Restraining Force	Count
1	RF:ADVO	Lack of advocacy	19
2	RF:PMO	Poor program management office	13
3	RF:LEDR	Poor leadership	13
4	RF:CHNG	Change	12
5	RF:COMP	Competition for support	11
6	RF:KNOW	Lack of knowledge/expertise on the team	11
7	RF:ENTH	Lack of enthusiasm	11
8	RF:TNOV	Turnover of management team	10
9	RF:LYLT	Lack of loyalty to project	9
10	RF:AUTH	Lack of authority	9
11	RF:POLT	Politics – infighting	8
12	RF:RSRC	Lack of resources (money, people, etc)	8
13	RF:PRSN	Personalities	7
14	RF:PRCP	Perception	7
15	RF:RQCR	Customer requirement creep	7
16	RF:MNGM	Poor management	7
17	RF:RQRM	Unstable requirements	6
18	RF:GOAL	No clear goals	6
19	RF:RLTN	Poor relationships	6
20	RF:PRSM	Parochialism	5
21	RF:VSON	Lack of vision	5
22	RF:RTML	Retired military	4
23	RF:TMEL	Took too long – enthusiasm waned	1
Merged into RF:LEDR and RF:MGMN	RF:FNST	Lack of financial strategy	0
Merged w/ RF:PRSM	RF:INHD	Hoarding of information	0
Merged w/ RF:COMP	RF:COST	Financial costs to the services	0
Merged w/ RF:COMP	RF:FUND	Competition for funding	0
Dropped	RF:TCHN	Different technological approaches diffused the effort	0
Dropped	RF:STAK	Stakeholder requirements drove diffusion of effort	0
Dropped	RF:IMTC	Immature technology	0
Dropped	RF:CNTR	Contractor support	0

An interesting point about this table is the close (and sometimes seemingly paradoxical) relationships between categories. For example, as a driving force, "leadership" is associated to 25 level 4 factors and as a restraining force "poor

leadership" is associated to 13. As a driving force, "relationships" is associated to 12 level 4 factors and as a restraining force "poor relationships" is associated to 6. As a restraining force, "lack of vision" is associated to 5 Level 4 forces and as a driving force "a strong vision" is associated to 8 level 4 forces. Rather than contradicting each other, these associations verify the importance of that force, because the basic characteristic of that force – for example, a vision – can be either a driving force or a restraining force. The same analysis would hold for forces such as "leadership" and "relationships".

COMPARING LEVEL 2 AND LEVEL 3 FORCES

My categorizations of level 3 driving and restraining forces into level 2 driving and restraining forces are at Appendices I and J, respectively. The forces mapped rather neatly leaving me with the following 30 forces (Tables 5-19 and 5-20).

Table 5-19. Level 2 Driving Forces

Number	Code	Driving Force	Number
1	DF:LEDR	Leadership	13
2	DF:WOOP	Window of opportunity	12
3	DF:SUPP	All support	9
4	DF:COPR	Cooperation of players	9
5	DF:ENTH	Enthusiasm	7
6	DF:CNTR	Contractor support	7
7	DF:GOAL	Goal	7
8	DF:GRID	Great idea	5
9	DF:KNOW	Know/exp on team	5
10	DF:TCHN	Technology	4
11	DF:RLTN	Relationships	4
12	DF:SLTN	Solution to problems	3
13	DF:PROB	Problem	3
14	DF:POLT	Politics – top cover	2

Table 5-20. Level 2 Restraining Forces

Number	Code	Restraining Force	Number
1	RF:ENTH	Lack of enthusiasm	9
2	RF:TNOV	Turnover of mgt team	7
3	RF:LEDR	Poor leadership	7
4	RF:CHNG	Change	6
5	RF:COMP	Competition for support	5
6	RF:POLT	Politics – infighting	5
7	RF:KNOW	Lack of knowledge/expertise on the team	5
8	RF:PEPL	People	5
9	RF:PRSN	Personalities	4
10	RF:PRCP	Perception	4
11	RF:RQRM	Unstable requirements	3
12	RF:RSRC	Lack of resources (money, people, etc)	3
13	RF:PRSM	Parochialism	3
14	RF:RQCR	Customer requirement creep	3
15	RF:TMEL	Took too long	1
16	RF:COST	Financial costs to the services	1
	Merged with RF:RSRC	Lack of support	0

DETERMINING LEVEL 1 FORCES

In determining the level 1 forces, I adhered to Porter's admonition (Argyres and McGahan, 2002) that a framework must capture the "full richness of the phenomenon" with the *most limited number of dimensions* (my italics). The operative question remains, "What is that "limited number of dimensions?"

Vinzant and Vinzant (1996b) present an interesting framework for strategy implementation analysis. They posit that successful efforts to implement strategy must address a complex mix of both internal and external factors.[15] They note two primary external factors: organizational autonomy and stimuli. Organizational autonomy is nothing more than self-directing freedom or independence, while stimuli consist of crises which can produce either threats or opportunities. They also note four primary internal

[15] As the basic strategic formulation model is based upon an internal and external environmental scan (SWOT analysis), their suggestion is intuitively agreeable

factors: human and behavioral issues, structural and technical factors, prior experience and process design. Human and behavioral issues include leadership, management style and organizational culture. Structural and technical factors include the size design and infrastructure of the organization. Prior experience primarily refers to experience in planning, budgeting and other administrative areas. Process design encompasses the issues of who, what, when, and how in the strategic management approach.

I used Vinzant and Vinzant to establish my draft set of level 1 forces. However, the forces proposed by Vinzant and Vinzant differ markedly from mine in that they do not assume a value such as a positive (driving) force or a negative (restraining) force. Consequently, I established each of their proposed factors as both driving and restraining forces for the purposes of identifying draft level 1 forces. This will allow my data to determine whether each of Vinzant and Vinzant's forces is either a driving or restraining force. As I map the level 2 forces into them, I will modify them accordingly based upon my data. For example, if one of their factors does not map to any of my level 2 forces, I will consider its elimination. Conversely, if I have to add a new category to provide a level 1 category for level 2 forces, I will do so. This process will provide some initial structure for the analysis, yet not restrict findings to arbitrarily agree with any pre-conceived notions. From a scholarly perspective, it will provide a framework grounded in the literature, while also allowing patterns to emerge from my research. The mapping results are at Table 5–21 in descending order of number of level 2 forces mapped.[16] My QCQ categorizations are at Appendices K and L, respectively.

[16] Although I did not plan to have seven higher order categories, I identified seven forces that can be either driving or restraining forces depending on the characteristics of any particular program. That number fits well with George Miller's classic 1956 article wherein he concluded that seven is about the number of pieces of information that we can retain in our short term memories.

Table 5-21. Level 1 Categories of Forces

Number	Level 1 Categories of Forces	Number of Mapped Level 2 Forces
1	RF: Internal – Human/Behavioral	7
2	DF: Internal – Human/Behavioral	7
3	RF: Internal -- Technical knowledge	6
4	DF: Internal – Requirements	5
5	DF: Internal – Process design	4
6	DF: External - Stimuli	4
7	DF: Internal – Technical Knowledge	4
8	DF: Internal – Structural	4
9	RF: Internal – Requirements	3
10	RF: Internal – Structural	3
11	RF: External - Stimuli	3
12	RF: Internal – Process design	2
13	RF: External – Organizational Autonomy	2
14	DF: External – Organizational Autonomy	2
	RF: Internal -- Prior experience	0
	DF: Internal -- Prior experience	0

The level 2 forces mapped rather neatly into the draft categories. I did have to add 2 categories to the Internal and External groups: "requirements" and "technical knowledge" (a total of 4 added categories.) I added "requirements" because Vinzant and Vinzant's categories provided no place for the forces associated with the problem, solution, or the technical requirements of the project. My interviewees were very adamant that one of the greatest forces in JTAV's favor was that it was a great idea and potentially solved some serious long-standing logistics problems for DoD. Second, I added "technical knowledge"-- because Vinzant and Vinzant's categories did not provide a mapping home for the contractor support (which is primarily technical knowledge), for the expertise on the DoD team, or for the technology itself.

I also deleted one of Vinzant and Vinzant's categories (prior experience) from both the internal and external groups because none of the level 2 forces mapped to it and

the interviewees did not specifically call it out as an important force. This process left me with 14 total forces, 5 internal driving forces and 5 internal restraining forces and 2 external driving forces and 2 external restraining forces. The Level 1 forces and the associated level 2 Forces that mapped to them are displayed in Figure 5-22.

Table 5-22. Level 2 Forces that Map to Level 1

Number	Level 1 Categories of Forces Level 2 Forces	Number of Mapped Level 2 Forces
1	RF: Internal – Human/Behavioral	7
	Enthusiasm	
	Leadership	
	People	
	Politics	
	Perceptions	
	Parochialism	
	Personalities	
2	DF: Internal – Human/Behavioral	7
	Contractor	
	Cooperation	
	Enthusiasm	
	Leadership	
	Politics	
	Relationships	
	Support/Coalitions	
3	RF: Internal -- Technical knowledge	6
	Knowledge	
	Perceptions	
	Customer Requirement Creep	
	Technology	
	Resources	
	Turnover of management team	
4	DF: Internal – Requirements	5
	Goal	
	Great idea	
	Problem	
	Solution	
	Technology	
5	DF: Internal – Process design	4
	Contractor	
	Goal	
	Problem	

Table 5-22. Level 2 Forces that Map to Level 1 (Continued)

Number	Level 1 Categories of Forces Level 2 Forces	Number of Mapped Level 2 Forces
	Solution	
6	DF: External - Stimuli	4
	Cooperation	
	Relationship	
	Technology	
	Window of Opportunity	
7	DF: Internal – Technical Knowledge	4
	Contractor	
	Knowledge	
	Solution	
	Technology	
8	DF: Internal – Structural	4
	Contractor	
	Politics	
	Problem	
	Window of Opportunity	
9	RF: Internal – Requirements	3
	Cost	
	Customer requirements creep	
	Unstable requirements	
10	RF: Internal – Structural	3
	Competition	
	Politics	
	Resources	
11	RF: External - Stimuli	3
	Competition	
	Politics	
	Perceptions	
12	RF: Internal – Process design	2
	Change	
	Timeline	
13	RF: External – Organizational Autonomy	2
	Politics	
	Perceptions	
14	DF: External – Organizational Autonomy	2
	Politics	
	Window of Opportunity	
	RF: Internal -- Prior experience	0
	DF: Internal -- Prior experience	0

By dropping down one level of analysis one can see that the one on one relationship (every characteristic force is a driver and restrainer) does not necessarily hold true. However it is interesting to note that many of the same level 2 characteristic forces do map into the opposing level 1 forces. For example, a lack of enthusiasm helps to comprise the restraining human and behavioral force, whereas the presence of enthusiasm helps to comprise the driving human and behavioral force. Also, good leadership helps to comprise the driving human and behavioral force, whereas bad leadership helps to comprise the restraining human and behavioral force. However, people, perceptions, parochialism and personalities also help to comprise the restraining human and behavioral force but do not appear in the driving human and behavioral force. Likewise, contractors, cooperation, relationships and coalitions help to comprise the driving human and behavioral force but do not appear in the restraining human and behavioral force.

Strength of Forces

Force field theory requires not only that the researcher identify the forces, but also determine a magnitude or strength. In determining the strength of the forces, I used the strengths from the Likert Scale questionnaire as determined by my interviewees. The forces that they were asked to rate were the level three forces. I rolled those ratings up as I mapped those level 3 forces into level 2 and then rolled them up one more time into level 1 forces. In other words, I used the average rating for the level 3 forces and summed those level three forces that mapped into a level 2 force. I then used the same procedure to sum the level 2 forces that mapped into the level 1 forces. Therefore, the magnitude of that level 1 force is the sum of the level 3 and level 2 forces that map to it.

The level 1 driving and restraining forces and their respective strengths, as determined by that method are at Table 5-23. The table has been re-ordered from Table 5-21 in descending order of strength.

Table 5-23. Strength of Level 1 Categories of Forces

Number	Level 1 Categories of Forces	Strength
1	DF: Internal – Human/Behavioral	199
2	RF: Internal – Human/Behavioral	147
3	RF: Internal -- Technical knowledge	105
4	DF: Internal – Process design	102
5	RF: External - Stimuli	84
6	RF: Internal – Process design	81
7	DF: Internal – Requirements	76
8	DF: External - Stimuli	70
9	RF: Internal – Structural	69
10	DF: Internal – Technical Knowledge	66
11	DF: Internal – Structural	63
12	RF: External – Organizational Autonomy	58
13	RF: Internal – Requirements	46
14	DF: External – Organizational Autonomy	45

Table 5-24 displays each of the characteristic forces as they relate to their counterpart. The difference is reflected as a positive number if it favors the driving force and a negative number if it favors the restraining force.

Table 5-24. Relative Strength of Each Characteristic Force

Number	Characteristic Force	Driving	Restraining	Difference
1	External: Organizational Autonomy	45	58	- 13
2	External: Stimuli	70	84	- 14
3	Internal: Human/ Behavioral	199	141	58
4	Internal: Process Design	101	81	20
5	Internal: Technical Knowledge	66	105	- 39
6	Internal: Requirements	76	46	30
7	Internal: Structural	63	69	-6
Total		620	584	36

Table 5-24 indicates a slight advantage for the driving forces. This result bears out my memory that JTAV moved slowly and sometimes painfully toward it goals, while having to overcome numerous obstacles to success.

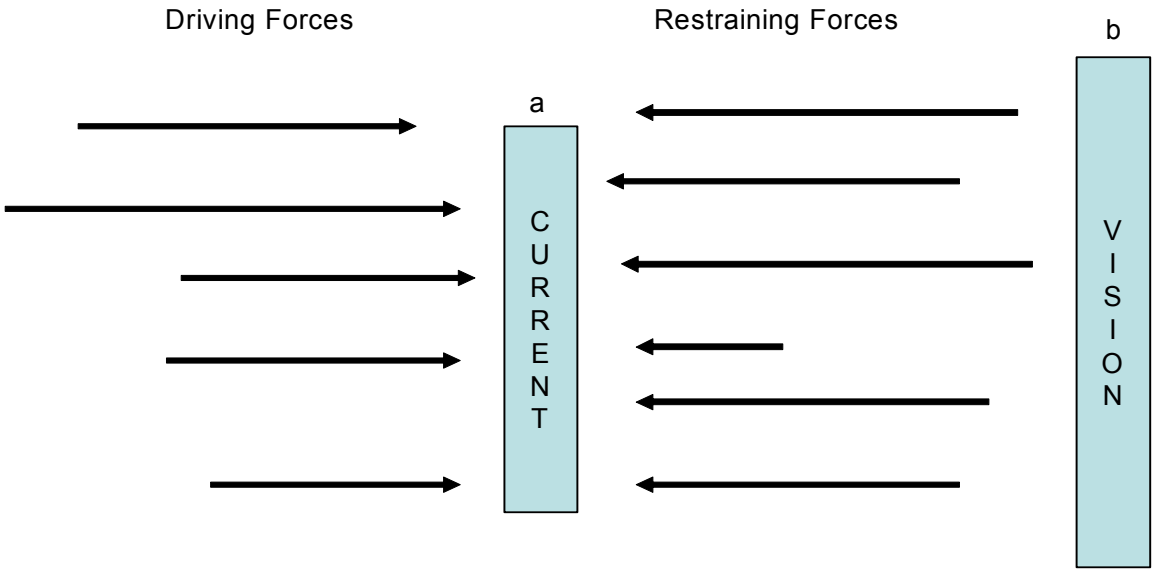
The Framework

In order to develop the framework, it may be informative to review Lewin's Force Field Analysis (FFA). FFA was introduced in the early 1950's as a technique for introducing change in organizations. FFA has been used in organizational development as a technique for implementing changes in structure, technology and people. FFA has also been included in organizational behavior texts as a technique for evaluating forces affecting change (Steers, 1981).

The generic FFA framework from Chapter 1 is displayed at Figure 5-2. The current state of the organization is depicted at "a" and the desired state, or vision, is depicted at "b". A number of forces operate within the organization and the environment. The forces are represented by the arrows or vectors. Some of these forces favor the proposed change to the vision and some of the forces oppose the change, favoring the status quo. The relative strength of each force is represented by the length of its respective arrow.

An equilibrium point is achieved when the sum of each set of forces is equal. Movement from "a" to "b" requires that forces for the change exceed forces resisting the change. Movement can be achieved by either increasing the forces for change, or decreasing the forces resisting change.

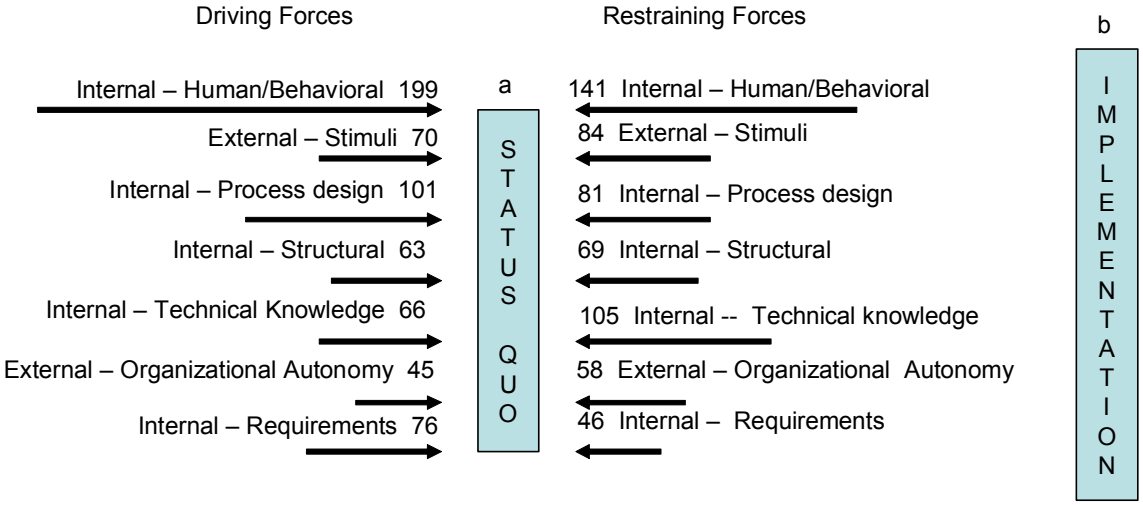
Figure 5-2. Generic Force Field Framework



As stated earlier, FFA has been used to implement change in organizations, but Thomas (1985) and Ajimal (1985) are the only instances I can find in the literature where FFA was used specifically to evaluate strategy. Thomas was focused on the private sector and his forces included "changes in the market share, changes to the rate of return." By adapting Thomas's basic construct and combining it with Vinzant and Vinzant and my own research I was able to develop a framework for depicting the forces acting in the environment surrounding strategy implementation for JTAV.

Figure 5.3 provides a pictorial representation of the conceptual framework that I developed based on force field analysis. The planned strategy can be represented at "a", the status quo, and the successfully implemented strategy can be represented at "b".

Figure 5-3. Level 1 Driving and Restraining Forces in the JTAV Environment



Chapter 6: Verification

INTRODUCTION

Unlike their quantitative counterparts' concepts of validity and reliability, qualitative researchers have no agreed consensus on addressing the verification of results. The "verification" pendulum has swung from crude associations with reliability and validity in the early qualitative research to later attempts to completely disassociate qualitative studies from the positivist paradigm. In that regard Lincoln and Guba (1985) posit verification criteria such as trustworthiness and authenticity. Kirk and Miller (1986) see the pendulum swinging back the other way and suggest qualitative concepts of validity and reliability as verification methods. Creswell (1994) supports their view. Historically, three factors are considered adequate evidence of a scholarly study (Janesick, 2000)

- the accuracy of the findings (validity),
- the possibilities of replicating the study (reliability), and
- the generalizability of the findings.

VALIDITY

To determine the internal validity of my study, I will triangulate information from other authors, other studies or other methods of data collection and analysis. The initial validation step will be a comparison with Dickey's information technology implementation database.

Information Technology Implementation

Dickey has developed, with the help of numerous students, a database of factors that affect information technology implementation. As JTAV is an information technology project, there should be some correlation between my findings and his.

Dickey's database is indented, so there are higher and lower orders of factors. There are 16 factors which comprise the highest order. Per Porter, in order to establish a tight framework, I have made the conscious attempt to consolidate and map forces into the "most limited number of dimensions" possible. Therefore it is reasonable to expect that my categories would be a little more general and over-arching than Dickey's. I mapped my forces to Dickey's factors and the results are at Table 6-1.

Table 6-1. Mapping of Dickey's Factors Affecting Implementation of Information Technology Projects to the Results of this Study

Dickey's Information Technology Implementation Factors	The Results of this Study
Clients	External – Stimuli Internal - Requirements
Culture	Internal – Human/ Behavioral
Economics	External – Organizational Autonomy Internal - Structural
Ethics	Internal – Human/Behavioral
External Forces	External – Organizational Autonomy External – Stimuli
Finance	External – Organizational Autonomy Internal - Structural
Information	Internal – Human/Behavioral Internal – Structural
Information technology	Internal – Technical Knowledge
Management	Internal – Human/Behavioral
Organizational Form	Internal – Structural
Personnel	Internal – Human/Behavioral Internal - Structural
Planning	Internal – Process Design
Politics	External – Organizational Autonomy Internal – Human/Behavioral
Training	Internal – Human/Behavioral Internal – Process Design
Values	External – Organizational Autonomy Internal – Human/Behavioral

All of Dickey's highest order factors mapped rather cleanly into my Level 1 categories of forces. Although our differences are minor, even those may be mostly attributable to semantics at the higher order, because some of the lower level forces for

each of us were stated using the same words (i.e. customer service/support, contractor support, crisis events, processes, and stakeholders). It is interesting to note that Dickey's study refers to "external forces" - using the same terminology as my study.

Government Documentation

I attempted to validate my study through other government documents, but could only find two official studies related to the JTAV project. Both were conducted by the GAO and are also referenced in the literature review. The GAO performed one analysis of the DoD Logistics Strategic Plan and made some observations and comments concerning JTAV and how it fits into that overall logistics picture. The GAO also conducted an evaluation of the JTAV project in accordance with the Government Performance and Results Act of 1993 (GPRA).

Most GAO comments concerning the DoD Logistics Strategic Plan concerned the quality of the plan and strategy but did not focus on implementation. However, there was one reference to the components' implementation plans. The GAO reported that those plans also have a number of fundamental weaknesses. Regarding the JTAV project specifically, the GAO noted that the components were relying on other asset visibility systems not yet completed. As a result, performance targets and measures had yet to be defined. This observation would fall neatly under my "Internal – Process Design" category.

In GAO/NSIAD-99-40; *Defense Inventory: DOD Could Improve Total Asset Visibility Initiative with Results Act Framework*, the GAO concluded that DoD lacks an adequate Department-wide management framework for information sharing. This condition prevents DoD from being able to clearly determine the progress made in

realizing JTAV goals, clearly impacting implementation. The GAO also concluded that planning at the implementation level was inadequate. While JTAV has an implementation plan, that plan does not describe how TAV will be integrated into work processes, so it is unclear who will use TAV and how it will be used. Additionally, the plan identifies neither needed resources nor problems with systems that are critical to the successful implementation. All of those problems noted with JTAV implementation would cleanly fall under the Internal – Process Design category in my study

Academic Literature

Finally, the academic literature can provide another data point for validation of my results. I revisited the literature with specific attention on problems and issues in strategy implementation. Of course, Vinzant and Vinzant (1996b) would significantly support my findings. In addition, Bryson (1995) says that in the larger view, successful strategy implementation is dependent on what he calls "implementation structures" that manage and coordinate the implementation activities and coalitions of implementers, advocates and interest groups – all included in my analysis. Nutt & Backoff (1992) focus almost exclusively on stakeholder and resource management for successful strategy implementation – again included in my analysis.

Thompson and Strickland (1998; 269) say that "strategy implementation is the least charted, most open-ended part of strategic management. Unfortunately there are no 10-step checklists, no proven paths, and few concrete guidelines for tackling the job." But they do offer some general homilies. They say that successful strategy implementation is dependent on good leadership, working with others, allocating resources, building and strengthening competitive capabilities, installing policies, and

matching business processes to strategy execution tasks. Again, all are included in my analysis.

RELIABILITY

To get at the reliability issue, I must examine the possibilities and limitations of replicating the study. The evolving and inductive nature of qualitative studies mitigate against identical replication, however the detailed recording of information such as the central assumptions, sources of data, values of the researcher enhance the possibility of replication at some point. For case studies, Yin (1989) suggested a data collection protocol to aid the replication of that part of the study. I developed a data collection protocol (Appendix C). I also established a rigorous methodology of continually comparing data, which could be fairly easily replicated.

In my prospectus I suggested the possibility of having another person review my final categories of forces with a view to determining if other categories may be more appropriate given the data collected. I asked someone not on my interview list to perform this task. Again, as a qualitative study, selection of cases and interviewees is not random but rather selected specifically to answer the research question. I selected this individual for a specific reason. This particular person is very familiar with the JTAV project; however was not a member of the JTAV team. Hence, the person is knowledgeable, but objective. This person also happens to be a PhD candidate so is familiar with scholarly research. I went to Northern Virginia and spent about 2 hours talking about my dissertation, discussing rationale, walking through the data analysis and describing the task. Using QCQ I developed a categorization scheme that shows the complete mapping from level 4 through level 1. I asked the person to review that report and let me know if

there were any factors or indented (level 2 or 3) forces that should be categorized differently. The response consisted of an e-mail and follow-up telephone conversation. In brief, the reviewer said, "I read your dissertation, concentrating on Chapter 5 (Data Analysis). I can follow the logic and sequence of what you did, but it requires concentration. Bottom line, I could follow your mapping process, and it did make sense, but it requires a close read - you can't just skim it."

GENERALIZABILITY

Generalizability is always a difficult subject in qualitative studies. In the quantitative counterpart it is possible to compute a "confidence factor" relating to results. Qualitative studies do not lend themselves to such calculations – they must be more subjective. However, in reviewing the commonalities between my study and Dickey's, it is not inappropriate to suggest that there "may" be some similarities between the implementation of this project and other information technology projects.

The important point to remember for this study is that my goal is not to provide the "final" word on forces affecting strategy implementation. Thus generalization of my study was never a goal. Rather, as the subject of forces affecting strategy implementation in the public sector is immature, my goal is provide the kindling to spark discussion. My goal was consistent with Merriam (1988) -- the intent of qualitative research is not to necessarily generalize the findings but rather to discover a new and unique understanding of the results.

RELATIONSHIP TO PUBLIC ADMINISTRATION

Finally, I wanted to relate the study to Public Administration in a somewhat tangible way and to examine the degree to which this study captured the public nature of

the strategy issue. As all of my comparisons to this point were between my strategy research and other strategy research or literature, I thought it would be informative to compare my strategy research Public Administration research. Consequently, I compared the forces identified by TA2 in my interviews with Dickey's Public Administration Genome Project. I compared the 78 keywords from my interviews (as determined by TA2) with the PA Genome database. There were 38 matches. Considering that Dickey's database covers all aspects of PA – not just strategy - a successful match rate of almost half (49%) seems fairly high.

Chapter 7: Conclusions and Research Questions

INTRODUCTION

According to Creswell (1994) a qualitative study should end with a few comments that emerge from the analysis. The narrative for this study will cover three specific areas:

- An understanding of the forces acting on the implementation of strategies for the JTAV project.
- More general contextual insights that I gained more indirectly from the study, and
- Research questions generated by the study.

In discussing any conclusions, perhaps it would be informative to review the initial research question.

PRIMARY RESEARCH QUESTION

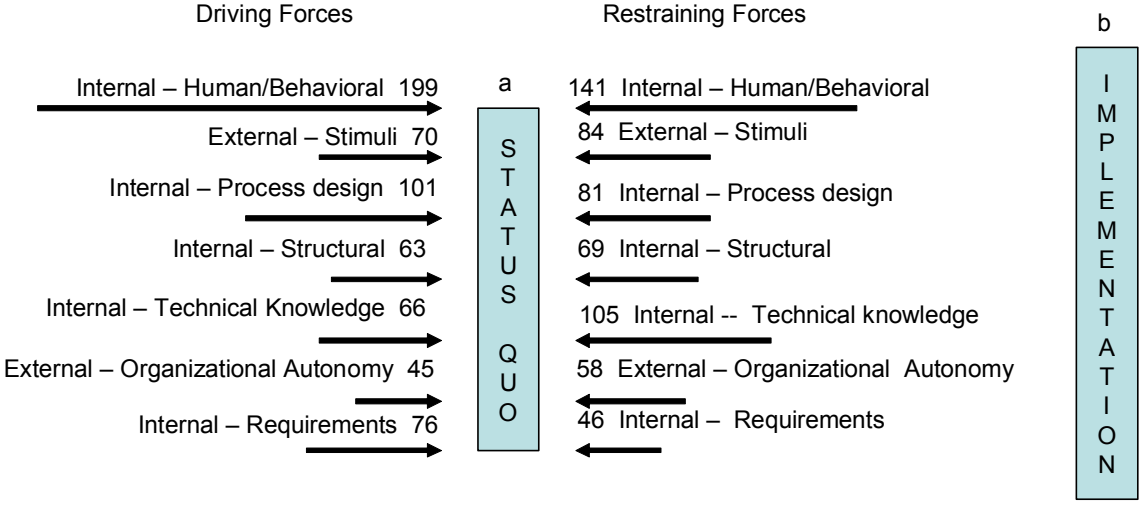
The primary research question was, "What are the general categories of forces acting on strategy implementation in a selected public sector project?" One way of looking at the general categories of forces acting on strategy implementation in the JTAV project is displayed in Tables 5-20 through 5-24, and at Figure 5-4. It is informative that the essential characteristic of driving and restraining forces at the highest level was exactly the same, the difference being whether the characteristic force was a driver or restrainer. It was not my intent to arrive at that conclusion, and it was not at all what I expected to discover. However, upon reflection, that construction of forces is somewhat intuitive because it exists in almost every aspect of our lives.[17] This discovery has some

[17] For example, take the general force of hunger. If hunger is a strong force, it would drive us to eat. If hunger is not a strong force, it would restrain us from eating. Hunger is the characteristic force and its strong presence or strong absence would either drive us to eat or restrain us from eating. This is another example of how a force can also be a variable.

interesting implications. For example, if one were to increase the technical knowledge it would presumably increase the strength of the driving factor and correspondingly reduce the strength of the restraining factor. Thus, it should be possible to increase the driving forces and reduce the restraining forces in one action. On the other hand, a world crisis that stimulates interest in the project would not necessarily reduce the strength of the restraining force "stimuli." This situation indicates that the forces must be evaluated on a case by case basis. The second implication is that it would appear, at least in the case of JTAV, that for every high level driving force there is an opposite (not necessarily equal) restraining force (and vice-versa) with the same basic characteristic.

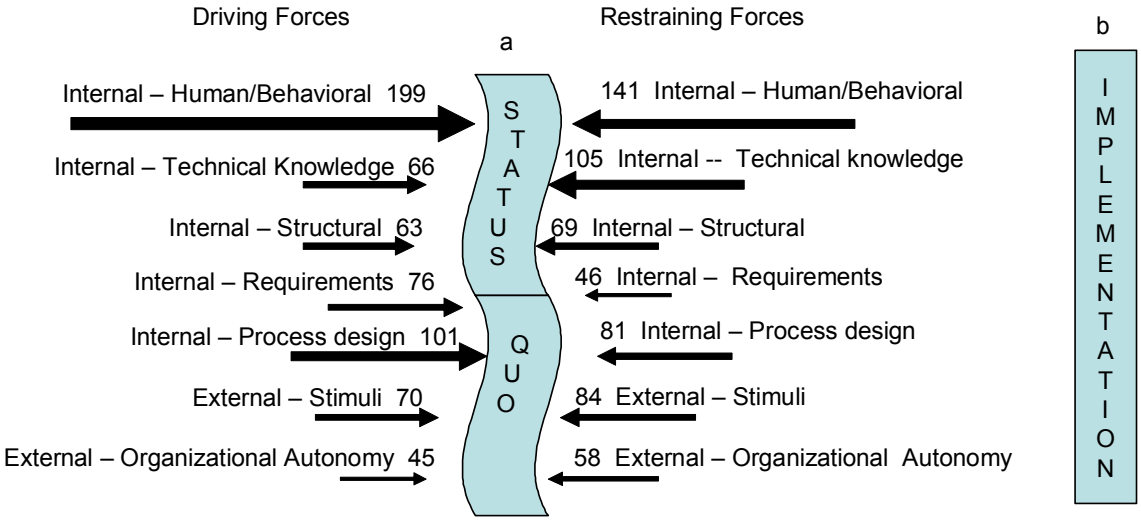
Force Field theory assists in describing the interrelationships between forces. In Figure 7-1 it is clear that a change, however so slight, in any of the forces, would alter the equilibrium of the system and thus also alter the other forces involved. Force Field theory may also help to explain why some aspects of a project are completed successfully and other aspects are not. For example, in Figure 7-1, the driving and restraining forces appear to be equally applied because the status quo appears to move as a single entity.

Figure 7-1. Level 1 Driving and Restraining Forces in the JTAV Environment



The diagram is unable to capture the dynamic nature of the force field and the strategy implementation environment. If we allowed those vector arrows to actually push the status quo in the direction in which the force was the strongest (the difference between the forces), it might look like this:

Figure 7-2. Effect of Forces on the Status Quo



Although still a snapshot, Figure 7-2 better represents the fluid nature of strategy implementation. The forces are not equally applied, thus the status quo is at some points closer to successful implementation than it is at others. My experience would indicate that this depiction is closer to what an implementer actually faces. Some aspects of the project are going well, because the forces that drive it are stronger than the restraining forces. Some aspects of the project are not going as well, because the restraining forces are stronger than the driving forces.

EXPLANATION OF FORCES

Although it is informative to review the framework of driving and restraining forces in Figure 7-2, it is also only partly revealing. Figure 7-2 displays the forces acting

on JTAV strategy implementation, but it does not provide an explanation of those forces. Why is the human/behavioral category of forces a net driving force, and what underlying (levels 2, 3 and 4) forces comprise that category? Why is the technical knowledge category of forces a net restraining force?

Internal - Human Behavioral Category of Forces

In 'drilling down" through my levels in the human/behavioral category, I found that leadership and management appeared as both driving and restraining forces. Even more interesting, exactly 50% of those mentioned it as both in the same interview. They explain the apparent contradiction by placing temporal parameters on their answer. They say that the leadership was good at times and bad at times. Two individuals were cited for particularly good leadership and one cited for weak leadership. Sometimes, they said, leadership was dependent on the personality. One respondent said, "The JTAV project saw its greatest achievements during the time that Col. _____ was the program manager. (This person) was a great proponent of JTAV and its ability to help the warfighter in the trenches. Ever since Col. _____ retired from the Army and left the JTAV Office, there has been a lack of direction for the project. The new personnel lacked the drive to push the project forward. Many decisions made by the JTAV Office were not well thought out." Speaking of a different Director, another respondent said, "The Director of the JTAV Office for most of the time was not a strong leader. The person gave excellent briefings and provided good public relations, but was a weak leader and had no real in-depth knowledge. (This person) had several O-6s in the office and did not rein them in. They did their own thing and fought amongst each other for the glory available."

As the civilian Resource Manager (Budget Officer) for the JTAV PMO said, "…there was too much infighting. Each service wanted either to lead the project or to be completely left alone. None of the services wanted to spend their money to fix their own system to provide better data for others or to even develop interfaces. They all wanted to keep their own information."

Also, human perceptions were a problem. Many participants saw the JTAV PMO as too "green." In other words, they thought it favored the Army at the expense of the other services. Part of the reason for that was because the Director of the JTAV PMO was an Army civilian, the Deputy was an Army Colonel, and the chief advocate in OSD was a retired Army general. This perception proved to be a problem for the PMO when it came to building coalitions and gaining support for initiatives.

Another interviewee said, "…each service had their own ideas as well as their own internal projects for making asset visibility work. The Army had 'Army TAV' which used their software, their hardware, and was designed to solve their issues. The Navy had 'Navy TAV' which had their software, their hardware and their screens to solve their issues. The Air Force had their own version of visibility that worked for them as did the marines. None of them wanted to change. They did not want to give up information because they were afraid it would result in losing property – property they had paid for. These divisions fragmented the project and hindered our progress, funding and support."

External – Stimuli

External stimuli include forces such as cooperation with outside agencies, enthusiasm, technology and politics. Although external stimuli emerged as an overall

restraining force, it has some significant driving force characteristics. For example, U.S. military intervention, such as in Bosnia could create a situation where the need for JTAV would be highlighted at the highest levels – providing a strong driving force. On the other hand, competition from other projects and internal DoD politics (external to JTAV) were constant sources of friction that made it difficult to sustain traction causing the external stimuli to be a net restraint. As one interviewee said, "massive budget cuts put JTAV into a sustainment mode." Those budget cuts were the result of competition for funds that created stimuli external to the JTAV PMO negatively affecting the project.

Internal – Process Design

Process design is the force category that includes programmatic issues such as cost, schedule and performance. It also includes how the project was initially planned and designed as well as management processes such as performance measure and internal reviews. Process design was determined to be a net driving force, in large part because the initial planning and design was considered to be excellent. The Assistant Director of the JTAV PMO said that cost was often an issue because many service leaders had a short term view of not wanting to invest for the long term. Their attitude was "If I spend resources on my watch – I expect results on my watch."

Another significant process design issue was performance measures. The JTAV project never had structured quantifiable performance measures. One of the software programmers said, "Progress was generally measured in terms of software releases. We would have a date for a software release and if we made the date, it was a successful release. We worried about problems later. We determined if we were a success or failure based on the reaction from the customer. If they liked our product, we were a success."

The Assistant Director determined success from other measures. He said that the JTAV PMO "had specific milestones in a strategic plan and program management plan that we wanted to accomplish – such as memorandums of agreement with other organizations for data access, software releases, those kinds of things." One interviewee even suggested an inherently bureaucratic measure of success - the size of the budget.

Internal - Technological Knowledge

Technology also appears on both lists. The technology appeared as a driving force because without advances in computer hardware, software and information technology, JTAV would not be feasible. On the other hand, technology was a restraining force because the constant fascination with new technology by management caused a diffusion of effort. One interviewee said, "In the 90's DoD was trying very hard to 'keep up', as it were, in terms of information technology. We not only had to keep up in terms of actual support to the warfighter, we also had to keep up in terms of the perception of our stakeholders. Many times I would read articles in the paper, or even op-ed pieces that would ask why the military can't do as well as the commercial sector. Favorite comparisons were…FedEx and Wal-Mart. These public perceptions caused a bit of a knee-jerk reaction on the part of the politicians in that they wanted all the information technology capability possible in order to keep up with the private sector. The result was a proliferation of management information projects, sometimes with very little, or no, regard as to how they fit together and how they would relate to each other in actual practice."

Knowledge and expertise of the JTAV team also appears on both lists. A closer review of the interviews indicates that the knowledge of the functional requirements of

supply, transportation and maintenance was a definite positive force; however the government management team was very weak concerning technical requirements such as information technology, database design, and telecommunications. One of the functional analysts said, "They brought in people who had little or no software development experience. One of the lead government people had to ask me what 'GUI' meant." One of the functional requirements data engineers said, "We were trying to develop a very technical process with a skill set that knew less and less about more and more. We needed skills that knew more and more about less and less.

External – Organizational Autonomy

Organizational autonomy refers to the ability of the organization to be self-directing and independent. Several factors caused the JTAV Project to suffer in this regard. First, the leadership was not fully committed throughout the life of the project. One interviewee said that "the sponsors in DLA were never fully committed. As a result JTAV had very little top cover with DoD." Another participant said that the project "had top cover when …… was at OSD. When he left so did much of the interest and support."

A lack of support at the executive level caused another problem – the appearance of numerous 'bosses." One of the military members said, "I thought the JTAV strategies were pretty explicit. The problem was that we received explicit strategies from various sources. We received guidance from OSD, DLA, the services, DISA, Congress and the CINCs. Much of the time the overall guidance was fairly consistent, but the means of implementation was not – and the devil's in the details."

Internal – Structural

The structural category of forces includes those that are generated by infrastructure and organizational issues. One of the more significant structural problems was the method used to provide manpower to the JTAV PMO. The people assigned to the JTAV PMO were all on loan from other organizations, primarily the services. They knew that the JTAV job was temporary and that they would eventually go back to their service. One of the retired military contractors said, "Allegiance of the people assigned to JTAV was not to OSD or even to the project, but rather to their service/agency. That was where they got promoted and they knew it." This lack of loyalty weakened the structural integrity of the JTAV PMO.

Another structural issue was the manner in which JTAV was structured to be presented to senior DoD leadership. JTAV was not managed through the normal information technology project procedures because JTAV leadership believed the procedures to be unwieldy and it would slow the project's progress. As one of the contractors said, "It (JTAV) was always considered an evolving capability. As a result it did not go through all the administrative wickets – this was good and bad. The good was that it allowed us to backdoor a lot of our efforts and move quickly without the red tape; the bad was that we did not get official sanction and lacked legitimacy."

Internal – Requirements

Requirements is the category of forces associated with the requirements of the issue the project was trying to resolve and the requisite features of the solution. Several of the interviewees believed that the goals for JTAV were reasonable, clearly understood and widely accepted. In fact there was universal agreement that JTAV was a "great idea." The problems began appearing as the specific functional, technical and

information requirements began to be identified. The myriad requirements generated a corresponding myriad number of alternate solutions. It was very difficult to achieve any degree of consensus because each of the stakeholders had a different "show stopping" requirement.

Another problem associated with requirements was that they continually changed. As a result, the requirements were unstable creating a difficult environment to develop solutions and write software programs. Also, the JTAV PMO was unwilling to tell the warfighters and services that there had to be some point where requirements would have to be held for the next version. Consequently, the requirement list began to grow without corresponding additions in resources such as time and money.[18] This situation caused the contractor to try to do more with less until that philosophy eventually began to negatively affect performance.

WINDOWS OF OPPORTUNITY

In the case of JTAV, it would appear that there were several windows of opportunity where the project could have made accelerated progress. Ninety two percent of the interviewees indicated that they saw a window of opportunity for accelerated progress at some point in the project. Thirty-two percent of the interviewees saw the Program Management Office (PMO) as the primary mover in bringing the forces together for that purpose. The interviewees generally believed that one of the primary responsibilities of the Director of the PMO was to bring together the forces favoring project success. Resource confluence accounted for 20% of the responses and some external events (crisis, Congressional inquiry, combat activity) accounted for another

[18] This situation is commonly referred to as "requirements creep."

20%. If JTAV leaders could have effectively marshaled the forces, it is possible that the strategies might have been implemented faster and more effectively by taking advantage of the available windows of opportunity.

I borrowed the concept of windows of opportunity from Kingdon's (1995) multiple streams approach to agenda setting. Kingdon, in turn, borrowed the concept from the "garbage can" model of organizational choice (Cohen, M., March, J., and Olsen, J., 1972). Kingdon modified the original garbage can model and proposed three streams (problem, policy, politics) that had to be brought together in order to get an item on the public agenda. In some previous research using Baile's dissertation, I applied the multiple streams concept to strategy implementation and showed how at the very highest levels there are striking similarities. The research from this project appears to confirm those results.

CONTEXTUAL INSIGHTS

This study offered me some interesting insights while providing some support for other insights I had gained through my career in the Air Force. First, it appears to me that strategy is really a bridge from the "is" to the "ought". In other words, we know where we are and we know where we want to go. The strategy is the bridge that should allow us to get from where we are to our goal. This conception of strategy also allows it to serve as a connection between the descriptive and the prescriptive. Interestingly, once that connection is made, they become the two ends of a continuum and the point at which one becomes the other is always a matter of degree and discussion. Strategy helps to bring the descriptive and prescriptive together.

The study of the forces acting in the strategy implementation environment for JTAV has also helped me to reconcile the rational and post modern perspectives. This study underscored to me the difficulties in executing a plan. One of the factors that make execution so difficult is an uncertain future. The future can not be determined with certainty – until it is the past – and even then the truthfulness of the account is sometimes called into question. All actions in the future take place in an atmosphere of uncertainty – what Clausewitz referred to as the "fog of war." One of our jobs is to reduce that uncertainty as much as possible by gathering information. Regardless of the amount of information we gather, it is impossible to eliminate uncertainty from the future, thus all future actions will be based on incomplete, inaccurate or even contradictory information. This description of the future is a post modern perspective (Powell, 1998). The underlying premise of strategy on the other hand is a classic rational idea (De Kluyver, 2000). It is pure cause and effect; if I pursue Strategy A, Event X should happen. Thus, strategic management is an attempt to impose a rational process on a non-rational environment -- one of the apparent paradoxes in regard to strategy.

In a related vein, strategy is integrative in nature. The formulation of unique strategies integrates divergent ideas, disparate concepts, and differing perspectives. The implementation of those strategies integrates money, processes, human nature, problems and solutions. This integrative nature of strategy is perhaps one of the reasons it has been so difficult for scholars to get a clear handle on a single foundational theory of strategy.

Another insight that I have gained a greater appreciation of is the fact that a project can have serious problems, yet still push on toward success. Figure 6-2 is an excellent example of this idea. While there are some significant issues that may be

holding a project back in some areas, there may also be others that are driving it to success. When viewed from a certain perspective the project may appear to be doomed to failure, but when viewed from another perspective, the project may be in relative good health.

In addition, often managers and leaders can develop a degree of tunnel vision by focusing exclusively on issues that are continually in their sight. This study provides a methodology to systematically identify forces acting upon strategies, thus allowing managers to potentially see a larger number of factors at work that might otherwise go unnoticed.

Finally, this study has confirmed for me that much like in human nature, one's perspective on strategy implementation is highly dependent on the job one has and the roles one plays. The JTAV Resource Manager saw the strategies in terms of getting and managing more money. The software engineers saw JTAV strategies in terms of software releases. The functional analysts saw JTAV strategies in terms of improving the supply, transportation and distribution processes. The warfighters saw the JTAV strategies in terms of increased combat capability.

QUESTIONS GENERATED BY THIS STUDY

Answers end the quest for knowledge; questions are the fuel that drives knowledge forward. Creative thinking is driven by questions, not answers. Every intellectual pursuit is born out of a cluster of essential questions and every academic field stays alive and vibrant only to the extent that fresh questions are generated. When the field ceases to pursue answers to essential questions, it dies. In this regard, my study has been eminently successful as it has raised many more questions than it has delivered solid

answers. Some of the questions generated by my study include:

- Does every force (in the context of strategy implementation) have an opposite force?
- How do the forces involved in strategy implementation fit into the strengths, weaknesses, opportunities and threats analysis?
- How do the forces involved in strategy implementation help us deal with the inevitable ambiguity inherent in any strategic effort?
- Does the concept of forces involved in strategy implementation provide insight into the Great Strategy Paradox?[19]
- Does the concept of forces involved in strategy implementation provide insight as to how to evaluate strategies – other than the failure or accomplishment of goals?
- Does the concept of forces involved in strategy implementation assist in formulating generic strategies for the public sector?
- Does the concept of forces involved in strategy implementation provide insights as to how strategy relates to competition in the public sector?
- Does the concept of forces involved in strategy implementation provide insights as to a redesign of the strategy process to make it less cumbersome?
- Does the way strategy performance is measured affect the measurement?
- Can a strategic plan inhibit strategic thinking?
- Is strategic thinking appropriate in the public sector, or does the pervasive notion

[19] The Great Strategy Paradox states that strategic thinking is less accurate, but more necessary in an environment of chaos, complexity and ambiguity. Conversely, strategic thinking is more accurate but less necessary in an environment of stability, simplicity and certainty. The paradox consists of the fact that strategies are less needed where they are more accurate and most needed where they are less accurate.

that strategies involve competition, invalidate the need for strategy in the public sector?

CONCLUDING REMARKS

This study has provided me with two key insights – one very specific and the other more broad. The first, specific insight concerns the actual implementation of the JTAV project. Although much of what I discovered was somewhat intuitive from my experience, I gained a greater understanding and appreciation for how some of the forces that I had encountered worked as both drivers and restrainers in terms of successful JTAV implementation. In addition, I also have a better understanding of where we possibly should have applied additional emphasis, in order to transform an overall restraining force into a driving force. Finally, in regards to JTAV, I understand more clearly how strategy implementation is not necessarily an all or nothing proposition, but can be viewed as partially successful depending upon the forces arrayed against it.

In the broader perspective, this study has provided a potential new way of viewing how strategies are implemented – by identifying, observing and influencing the forces that act on them. Although the specific forces observed in this study may or may not be found in any other study, evidence in the study suggests that forces in the environment effect strategy implementation. This concept has the exciting potential of complementing the Balanced Scorecard's tenets of "lagging and driving indicators" of success. Further research of some of the suggested research questions may prove fruitful.

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Appendix A QCQ Literature Review

VARIABLES ALONG WITH INFLUENCES
CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES
---
* 1* 3ITERAS 3 IT eras related to strat planning
{ }[t](0) ERA1REC Era 1 - resource control
{ }[t](0) ERA2ENT Era 2 - Enterprise design
{ }[t](0) ERA3STA Era 3 - strategic alignment
* 1* 5ELGMTH 5 elements to game theory
{ }[t](0) ADDVALU Added value
{ }[t](0) PLAYERS Players
{ }[t](0) RULES Rules
{ }[t](0) SCOPE Scope
{ }[t](0) TACTICS tactics
* 1* 8STRATS Eight strategies
{ }[t](0) ACCOMOD Accomodators
{ }[t](0) BUREAUC Bureaucrat
{ }[t](0) COMPROM Compromiser
{ }[t](0) DIRECTO Director
{ }[t](0) DOMINAT Dominators
{ }[t](0) DRIFTER Drifters
{ }[t](0) MUTUALS Mutualists
{ }[t](0) POSTRRS Posturers
* 3* AGNTHEO Agency theory
{ }[t](0) INFOASY Information assymetry
{ }[t](0) OPORTUN Opportunism - self-int with guile
* 4* AMILMA Ancient Military - Machiavelli
{ }[t](0) AMILST Ancient Military Philosopher Sun Tzu
* 1* AMILMM Ancient Mil - Miyamoto Musashi
{ }[t](0) AMILOCP Ancient Mil Phil - Lord Shang,Han Fei-tzu
{ }[t](0) AMILST Ancient Military Philosopher Sun Tzu
{ }[t](0) AMILSTR Ancient Military Strategems
* 3* AMILOCP Ancient Mil Phil - Lord Shang,Han Fei-tzu
{ }[t](0) AMILST Ancient Military Philosopher Sun Tzu
* 2* AMILSTR Ancient Military Strategems
{ }[t](0) AMILOCP Ancient Mil Phil - Lord Shang,Han Fei-tzu
{ }[t](0) AMILST Ancient Military Philosopher Sun Tzu
* 1* BALSCOR Balanced Scorecard
{ }[t](0) CL&TRVS Clarify and translate vision and strat
{ }[t](0) COMM&LI Communication and limking
{ }[t](0) PLN&TRG Planing and target setting
{ }[t](0) STISHOL Strat think is holistic - bal scorecard ide
{ }[t](0) STRATFA Strategy failure - 70-90%
{ }[t](0) STRFDBL Strategic feedback and learning
* 1* BRYSON Bryson theories
{ }[t](0) BRYCHPC Bryson change Planning cycle
{ }[t](0) DCSNMKN Decisionmakig in pub v pri sectors

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

{ }[t](0) HBSSWOT Harvard Bus school SWOT analysis
* 1* CAPABLT Capabilities
{ }[t](0) STRNGTH Strengths
{ }[t](0) WEKNESS Weaknesses
* 3* CCASWOT Core competencies and SWOT
{ }[t](0) METT-T Enviro analysis by small group mil ldrs
{ }[t](0) OPRTNTY Opportunities
{ }[t](0) STRNGTH Strengths
{ }[t](0) THREATS Threats
{ }[t](0) WEKNESS Weaknesses
* 1* CLTCMAD Culture and competitive advantage
{ }[t](0) INIMITB Inimitable
{ }[t](0) RARE rare characteristics
* 1* CMILSUM Military Vietnam strategic analysis
{ }[t](0) AMILMA Ancient Military - Machiavelli
{ }[t](0) AMILST Ancient Military Philosopher Sun Tzu
{ }[t](0) FOGOWAR Fog of war
{ }[t](0) FRICTIO Friction - von Clausewitz
{ }[t](0) MILVCLA Mil - von clausewitz
* 1* COMPACT Competitor actions
{ }[t](0) COMPSTR Competitor strategy
* 1* COMPADV Competitive advantage
{ }[t](0) COADACC Comp adv accepted in strat mgt courses
{ }[t](0) NOCADID No comp adv in identical firms
{ }[t](0) POCMPAD Comp adv - value, scarce, inimit, nonsub,
{ }[t](0) RESPCAD Rsources provide competitive advantage
{ }[t](0) STBOCAD Any leading strat theory based on comp adv
* 1* COMPANL Competitor analysis
{ }[t](0) ASSMPTN Assumptions
{ }[t](0) CAPABLT Capabilities
{ }[t](0) COMPACT Competitor actions
{ }[t](0) DRIVERS Drivers of competition
* 1* COSCTHE Complex sciences theory of strat
{ }[t](0) FRACTAL new concept in geometry -Mandlebrot
* 2* COVSRAT Construct vs realist theory of strat
{ }[t](0) CNSTRCT Constructivism is best for strat research
{ }[t](0) CRTREAL Critical realism is best for strat research
{ }[t](0) EPLG&ET Epst lgic and evdnt thry bst for strt rsrch
* 1* DCSNMKN Decisionmakig in pub v pri sectors
{ }[t](0) FMLRTNL Formal rational - provate sector
{ }[t](0) POLRTNL Political rational
* 1* DEDREAS Deductive reasoning
{ }[t](0) AGMTDIP Agreement difficult in public orgs
{ }[t](0) AGMTGLS Agreement on goals
{ }[t](0) AGMTPOL Agreement on policies
* 1* DEFSUM Sum of definitions

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

{ }[t](0) DEFANDR Andrews - rvlry amng peers 4 przs in game
{ }[t](0) DEFDICT Dictionary Def - sci or art of mil cmd
{ }[t](0) DEFMIL Milirary Def - art & sci emply Armed Force
{ }[t](0) DEFMINT Mntzbrg - pln, pttrn, pstn, prspctv, ploy
{ }[t](0) DEFN&B Nut & Back Def - pos org 2 face unc future
{ }[t](0) DEFOHMA Ohmae Def - cre8 cond fav 2 your side KD
{ }[t](0) DEFPORT Porter Def - Cre8 defend pos and sup roi
{ }[t](0) DEFRAND Rand Def - Cncpt to relate means to ends
* 1* DRIVERS Drivers of competition
{ }[t](0) FUTGOLS Future Goals
* 1* DUNNPP Dunn's policy process
{ }[t](0) EVALUAT Evaluate alternatives
{ }[t](0) FORMALT Formulate alternatives
{ }[t](0) IMPLEME Implement alternatives
{ }[t](0) PUTONAG Put issues on the agenda
{ }[t](0) SELEALT Select alternative
* 3* ECONTHE Economic theory - strat theoretical tool
{ }[t](0) AGNTHEO Agency theory
{ }[t](0) CCASWOT Core competencies and SWOT
{ }[t](0) COVSRAT Construct vs realist theory of strat
{ }[t](0) ECN=RAT Econ persp rooted in rationalism
{ }[t](0) IMFODI1 Imp/form dichotomy ref 1 (Andrews)
{ }[t](0) IMFODI2 Imp/form dichotomy ref 2
{ }[t](0) IMFODI3 Imp/form dichotomy ref 3
{ }[t](0) IMFODI4 Imp/form dichotomy ref 4
{ }[t](0) IMFODI5 Imp/form dichotomy ref 5
{ }[t](0) IMFODI6 Imp/form dichotomy ref 6
{ }[t](0) IMFODI7 Imp/form dichotomy ref 7
{ }[t](0) IMFODI8 Imp/form dichotomy ref 8
{ }[t](0) IMFODI9 Imp/form dichotomy ref 9
{ }[t](0) OREFECA Org efffectiveness can be a comp adv
{ }[t](0) ORGINST Orgn of strat thory in econ orgs and bureau
{ }[t](0) SC>L>PF Strat is link btwn strat choice and perf
{ }[t](0) SC3STRU Scott's 3 structures - reg/cog/norm
{ }[t](0) TRCOECO Transaction Cost economics
* 1* EXTRNIS External issues
{ }[t](0) BUSCOPE Busness scope
{ }[t](0) PRTNRSH Partnerships and alliances
* 1* FIVFORC Five Forces
{ }[t](0) BAGPBUY Bargaining power of buyer
{ }[t](0) BAGPSUP Bargaining power of supplier
{ }[t](0) RIVALRY Rivalry among existing firms - force 1
{ }[t](0) THRNWEN Threat of new entrants
{ }[t](0) THRSUBP Threat of subs products
* 1* FMLRTNL Formal rational - provate sector
{ }[t](0) DEDREAS Deductive reasoning

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

* 1* FRACTAL new concept in geometry -Mandlebrot
{ }[t](0) SELFSIM Self similar
{ }[t](0) SSACRSC Self sim across scales
* 1* GAMETHE Game theory in strat
{ }[t](0) 5ELGMTH 5 elements to game theory
{ }[t](0) GMAECBE Games and economic behavior
{ }[t](0) PLYRSIN Players are interdependent
{ }[t](0) VALUNET Value net concept of game theory
* 1* GAOSUM Sum of GAO criticisms
{ }[t](0) GAO2106 GAO criticisms of DoD Log Strat Plan
{ }[t](0) GAO9940 GAO criticisms of JTAV
* 1* GENSTRA Generic strategies
{ }[t](0) CSTLEAD Cost leadership
{ }[t](0) DIFFERN Differentiators in product or service
{ }[t](0) FOCUS Focus on market segment
* 1* GUDSTRF Good strat fit - half compmnies surveyed
{ }[t](0) TOPENAB Top enabler for strat fit
{ }[t](0) TOPINHI Top inhibitors
* 1* HAMNFRE hambrick and Fredrickson framework
{ }[t](0) ARENAS Where the org will be active
{ }[t](0) DIFRENT Differentiators - How will we win the marke
{ }[t](0) ECONLOG Economic logic - How obtain returns
{ }[t](0) STAGING Speed & sequence of moves
{ }[t](0) VEHICLE How will we get there
* 1* HBSSWOT Harvard Bus school SWOT analysis
{ }[t](0) CCASWOT Core competencies and SWOT
{ }[t](0) CORPSTR Corporate strategy
{ }[t](0) EFIVSEF Efficiency vs. effectiveness dist
{ }[t](0) METT-T Enviro analysis by small group mil ldrs
{ }[t](0) MEVSORG Mechanistic vs organic pers or organization
{ }[t](0) STAVSTU Strat vs structure opposing (Chandler) view
* 1* IMFOSUM Sum of implementation/formulation
{ }[t](0) IMFODI1 Imp/form dichotomy ref 1 (Andrews)
{ }[t](0) IMFODI2 Imp/form dichotomy ref 2
{ }[t](0) IMFODI3 Imp/form dichotomy ref 3
{ }[t](0) IMFODI4 Imp/form dichotomy ref 4
{ }[t](0) IMFODI5 Imp/form dichotomy ref 5
{ }[t](0) IMFODI6 Imp/form dichotomy ref 6
{ }[t](0) IMFODI7 Imp/form dichotomy ref 7
{ }[t](0) IMFODI8 Imp/form dichotomy ref 8
{ }[t](0) IMFODI9 Imp/form dichotomy ref 9
{ }[t](0) IMFOIN1 Imp/form integration ref 1
{ }[t](0) IMFOIN2 Imp/form integration ref 2
{ }[t](0) IMFOIN3 Imp'form integration ref 3
{ }[t](0) IMFOIN4 Imp/form integration ref 4
{ }[t](0) SM=FCIM strat mgt = formulation, content & implemen

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

{ }[t](0) SM=SP+I Strat mgt equals strat plan plus implementa
{ }[t](0) SPLIMPL Strat planning effective when linked to imp
* 1* INDREAS Inductive reasoning
{ }[t](0) CNFISUS conflict over issues
{ }[t](0) SOLEVLV Politically acceptable Solutions evolve
* 1* INSTHEO Strat theory based on institutionalism
{ }[t](0) INSTPSP Institutional perpective
{ }[t](0) SC3STRU Scott's 3 structures - reg/cog/norm
* 1* INTRNIS Internal issues
{ }[t](0) ADMINIS Aministrative issues
{ }[t](0) FUNCPRC Functional processes
{ }[t](0) HUMNRES Human resources
{ }[t](0) ORGANIS rganizational issues
* 0* JTAVSUM Sum of JTAV literature issues
{ }[t](0) GAOSUM Sum of GAO criticisms
* 1* LGCHLNG Local gov't chalenge
{ }[t](0) STRATAL Strategic alignemnt
* 1* MCMLMAT McMillan Matrix - tool to asses pub strats
{ }[t](0) ALTCOVG Alt coverage - Similar services available
{ }[t](0) COMPOSI Competitive position
{ }[t](0) FITWORG Program fit with org
{ }[t](0) PROGATT Program Attractiveness - Attract resources
* 1* MECNORG mechanistic and org again
{ }[t](0) MEVSORG Mechanistic vs organic pers or organization
* 2* METT-T Enviro analysis by small group mil ldrs
{ }[t](0) ENEMY enemy
{ }[t](0) MISSION mission
{ }[t](0) TER&WEA terrain and weather
{ }[t](0) TIMAVAL timeavailable
{ }[t](0) TRP&EQU troops and equipment
* 1* MILJOMI Military influence of Jomini
{ }[t](0) AMILMA Ancient Military - Machiavelli
* 2* MILSTRA Military Strategy
{ }[t](0) ACWINFL Influence on Civil War - Jomini
{ }[t](0) AMILALX Ancient Military - Alexander
{ }[t](0) AMILMA Ancient Military - Machiavelli
{ }[t](0) AMILMM Ancient Mil - Miyamoto Musashi
{ }[t](0) AMILOCP Ancient Mil Phil - Lord Shang,Han Fei-tzu
{ }[t](0) AMILST Ancient Military Philosopher Sun Tzu
{ }[t](0) AMILSTR Ancient Military Strategems
{ }[t](0) CMILBAU Current Military - coalitions
{ }[t](0) CMILCOL Current Military - Collins
{ }[t](0) CMILGRA Current Military - Graham
{ }[t](0) CMILMOW Current Military - Fabyanic Framework
{ }[t](0) CMILSUM Military Vietnam strategic analysis
{ }[t](0) FOGOWAR Fog of war

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

{ }[t](0) FRICTIO Friction - von Clausewitz
{ }[t](0) MILINDA Indirect approach
{ }[t](0) MILJOMI Military influence of Jomini
{ }[t](0) MILSTRA Military Strategy
{ }[t](0) MILUSNS US Navy security Group Strategy Study
{ }[t](0) MILVCLA Mil - von clausewitz
* 2* MILVCLA Mil - von clausewitz
{ }[t](0) AMILMA Ancient Military - Machiavelli
* 1* NUT&BKF Nutt and backoff theories
{ }[t](0) 8STRATS Eight strategies
{ }[t](0) STRVENV Strategy vs environment
* 1* ORGCULT organizational culture
{ }[t](0) COMMUNI Communication
{ }[t](0) NORMS Norms of behavior
{ }[t](0) REWARDS Rewards
{ }[t](0) VALUES Values
* 1* ORGECON Organizational economics
{ }[t](0) AGNTHEO Agency theory
{ }[t](0) TRCOECO Transaction Cost economics
* 1* ORGTHEO Strat theory based on orgs
{ }[t](0) STAVSTU Strat vs structure opposing (Chandler) view
{ }[t](0) STRU=HI Structure is norm hierarchy
{ }[t](0) STRVSST Strat vs structure - struc follows strat
* 0* ORIGIN Origin of the word
{ }[t](0) AGEIN Greek for "to lead" - a root
{ }[t](0) LASTRGQ La strategique - de Guibert usage - a root
{ }[t](0) STRATOS Greek for army - root
{ }[t](0) STRTGEM Strategem - Chinese artifice - a root
{ }[t](0) STRTGIA Strategia - Roman territories - a root
{ }[t](0) STRTGOI Strategoi - Athenian Council of War
{ }[t](0) STRTGUS Strategus - Athenian govt official - a root
* 1* PBPVSUM Public/private differences sum
{ }[t](0) COLNPUB Collaboration in public sector
{ }[t](0) COMNCOO non-profits have compet & coop strats
{ }[t](0) DICONRE pub/pri diff in commo & rewards
{ }[t](0) FNDRCLI Funders, not clients r cust for non-profits
{ }[t](0) GOLCMPL pub/pri goal cmplxty and frmal org structur
{ }[t](0) INDIEXC Int diffs/ext constraints - pub'pri differe
{ }[t](0) MCMLMAT McMillan Matrix - tool to asses pub strats
{ }[t](0) PUPRCOM Diff in comp in public and pri sectors
{ }[t](0) PUPRDI1 Public'private dichotomy ref 1
{ }[t](0) PUPRDIF pub/pri diff - ownrshp, bdgts, oversight
{ }[t](0) PUPRDMD Public\private decision-making differences
{ }[t](0) PUPRSMD Public/private strat mgt differences
{ }[t](0) SSNPUSC Sole source in public sector
* 1* POLICY Policy

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

{ }[t](0) DUNNPP Dunn's policy process
{ }[t](0) POL=COA Policy is course of action
{ }[t](0) POL=STR Policy actions are on going strategies
{ }[t](0) POLCOST Policies carry out strategy
{ }[t](0) POLIS Greek for city/state
{ }[t](0) SABATPP Sabatier's policy process
{ }[t](0) SMGT=PL Strat management often called policy
{ }[t](0) STRP=PP Strat plan process has same ele as pol proc
{ }[t](0) STRT=PO Strategy fulfills policy
* 1* POLRTNL Political rational
{ }[t](0) INDREAS Inductive reasoning
* 1* POMOTHE postmodern theory of strat
{ }[t](0) 1THRYNS In pm world, 1 theory not sufficient
{ }[t](0) COVSRAT Construct vs realist theory of strat
{ }[t](0) DERRIDA Derrida and deconstruction
{ }[t](0) NIETZSC Nietzsche set stge for postmod
{ }[t](0) STRCWEN Strat change with environment
{ }[t](0) STRTWAS Strat is waste; can't pred or cntrl future
{ }[t](0) WRLDARB World is arbitrary
* 1* PORTER Michael porter's theorys
{ }[t](0) COMPANL Competitor analysis
{ }[t](0) ECONTHE Economic theory - strat theoretical tool
{ }[t](0) FIVFORC Five Forces
{ }[t](0) GENSTRA Generic strategies
* 1* PRISECT Private sector strategy
{ }[t](0) AGNTHEO Agency theory
{ }[t](0) BALSCOR Balanced Scorecard
{ }[t](0) CCASWOT Core competencies and SWOT
{ }[t](0) COMPADV Competitive advantage
{ }[t](0) CORPSTR Corporate strategy
{ }[t](0) ECONTHE Economic theory - strat theoretical tool
{ }[t](0) EFIVSEF Efficiency vs. effectiveness dist
{ }[t](0) HAMNFRE hambrick and Fredrickson framework
{ }[t](0) INSTCOM Institutional competencies
{ }[t](0) MECNORG mechanistic and org again
{ }[t](0) MEVSORG Mechanistic vs organic pers or organization
{ }[t](0) ORGECON Organizational economics
{ }[t](0) PORTER Michael porter's theorys
{ }[t](0) RESBVEW Resource based view - inward looking
{ }[t](0) RIOFCSO Rise of CSO - To central planning
{ }[t](0) SCIOFWO Science of work
{ }[t](0) STAVSTU Strat vs structure opposing (Chandler) view
{ }[t](0) STRAPRA Strat is practical not elegant theory
{ }[t](0) STRVSST Strat vs structure - struc follows strat
{ }[t](0) TRCOECO Transaction Cost economics
* 1* PUBLCNS publicness

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

* 1* PUBSECT Public Sector Strategy
{ }[t](0) 3ITERAS 3 IT eras related to strat planning
{ }[t](0) BRYSON Bryson theories
{ }[t](0) CLTCMAD Culture and competitive advantage
{ }[t](0) CLTORGE Culture and organization effectiveness
{ }[t](0) CMPADRE Competitive advantage is relational not abs
{ }[t](0) COLITSC Coalition success - mutual interests
{ }[t](0) FND=CEP Fundrs exrt coerc prsre on non-profits
{ }[t](0) INSTPSP Institutional perpective
{ }[t](0) ISAFFGL Issues affect orgs ability to reach goals
{ }[t](0) ISSP&PS Issues push and pull org simultaneously
{ }[t](0) LGCHLNG Local gov't chalenge
{ }[t](0) NATINTS Nat. Interests underpin nat. strat @ hi lvl
{ }[t](0) NOCLTNE Not client needs or demand
{ }[t](0) NUT&BKF Nutt and backoff theories
{ }[t](0) ORGCULT organizational culture
{ }[t](0) PARTPLN Participatory planning
{ }[t](0) PBMGRVL Public managers create value
{ }[t](0) POLISNT Policy isue ntworks exist in gov't programs
{ }[t](0) PUBLCNS publicness
{ }[t](0) RELCADV Comp adv in religious orgs
{ }[t](0) RES&FND Resoure and funding conditions
{ }[t](0) SMSKILS Strategic mgr skills
{ }[t](0) SP1QRTR cities > 25K; 1/4 inst strat plan in commun
{ }[t](0) SPISPS Strat planning affects IS in public sector
{ }[t](0) STRATAL Strategic alignemnt
{ }[t](0) STRLGOV Strategy appropriate for local gov't
{ }[t](0) STRP16% Cities > 100K; 16% use SP for cit part.
{ }[t](0) STRTFIT Strategic Fit
{ }[t](0) STRVDEM Strategy vs. Democracy
{ }[t](0) WHYADPT Why states adopt strat planning
* 1* PUPRDI1 Public'private dichotomy ref 1
{ }[t](0) BLVSTL Bottom line vs Top line
{ }[t](0) MORSCRU More scrutiny in public sector
{ }[t](0) PERMEAS Perf measurement more diff in public
{ }[t](0) PUGLSUN Public goals are often unclear
* 1* PUPRSMD Public/private strat mgt differences
{ }[t](0) DISTKIN Diverse stakeholde intersts in pub sector
{ }[t](0) FSHBWLS Openness of gov't - fishbowls
{ }[t](0) HITRNPO High turnover in public officials
{ }[t](0) POLAMB Policy ambiguity in public sector
{ }[t](0) SHAKECO Shakey coalitions that can't withstand impl
* 1* RBVASSM RBV assumptions -
{ }[t](0) FIHETRE Firms heterogenous in re: strat resources
{ }[t](0) RBVRTAU RBV assmptions are tautologies - crit
{ }[t](0) RSNOMOB Resources not mobile across firms

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

* 1* RELCADV Comp adv in religious orgs
{ }[t](0) INSTPSP Institutional perpective
{ }[t](0) RESBVEW Resource based view - inward looking
* 2* RESBVEW Resource based view - inward looking
{ }[t](0) POCMPAD Comp adv - value, scarce, inimit, nonsub,
{ }[t](0) RBVASSM RBV assumptions -
{ }[t](0) RBVRTAU RBV assmptions are tautologies - crit
{ }[t](0) RESPCAD Rsources provide competitive advantage
* 1* SABATPP Sabatier's policy process
{ }[t](0) EVALUAT Evaluate alternatives
{ }[t](0) FORMALT Formulate alternatives
{ }[t](0) IDISSUS Identify isues
{ }[t](0) IMPLEME Implement alternatives
{ }[t](0) PUTONAG Put issues on the agenda
{ }[t](0) REVISE Revise alternaitve
{ }[t](0) SELEALT Select alternative
* 1* SMSKILS Strategic mgr skills
{ }[t](0) ANLSKIL Analytical Skills
{ }[t](0) INFPROS Information processing
{ }[t](0) POLSKIL Political skills
* 1* SPFUFAL Strat planning fundamental fallacies
{ }[t](0) PLSEPOP Planners can be separated frm operators
{ }[t](0) PREDFUT Future can be predicted
{ }[t](0) STPROFO Strategy process can be formalized
* 1* SPIRHSC Strat planning in Rock Hill, SC
{ }[t](0) CITTHGP Citizens serve on Theme Groups
{ }[t](0) INFKOMT Informal kickoff meetings
{ }[t](0) STGCMTE Steering Comm - include ALL stakeholders
{ }[t](0) SUCSFAC Success factors
* 1* SPISPS Strat planning affects IS in public sector
{ }[t](0) NQITISC New Question - How IT imp strat choice
{ }[t](0) OQISSBS Old question- How IS supports bus strat
* 1* SRATPLA Strategic planning
{ }[t](0) DLWFUTU Planning is dealing with the future
{ }[t](0) SM=SP+I Strat mgt equals strat plan plus implementa
{ }[t](0) SMISSP+ Strat magt is strat planning plus more
{ }[t](0) SPBOURG Strat plan - future goals and stages, integ
{ }[t](0) SPBRYSO plan Bryson - disc effort; fund desics
{ }[t](0) SPCORSM Strat planning is cornerstone of strat mgt
{ }[t](0) SPFUFAL Strat planning fundamental fallacies
{ }[t](0) SPGRFAL Strat planning grand fallacie
{ }[t](0) SPINCPE Strat plan orgs outperform thos that don't
{ }[t](0) SPISWOT Strat plannin draws on heavily SWOT
{ }[t](0) SPLEGIT Strat planing legitimizes work
{ }[t](0) SPLI2MG Strat plan linked to mgt processes
{ }[t](0) SPLIMPL Strat planning effective when linked to imp

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

{ }[t](0) SPNOTEF Strat planning not effective
{ }[t](0) SPVSSM1 planning vs mgt ref 1 - resource mgt
{ }[t](0) STOVRSP Engage in strat think vice strat planning
* 3* STAVSTU Strat vs structure opposing (Chandler) view
{ }[t](0) NCHRCWC Don't change rather cope with change
{ }[t](0) STU=SOR Structure taken care of by self-org process
{ }[t](0) STUASTA Structure affects strat also
{ }[t](0) STUEPE? Rel btwn struc and econ perf may not be eff
* 3* STRATAL Strategic alignemnt
{ }[t](0) CITEGMT Citizen engagement
{ }[t](0) FUNCINT Functional integration
{ }[t](0) PERFMST Performance measurement
{ }[t](0) POLIMPL Policy implementation
{ }[t](0) STRALEV Strat aligment is evolving - not static
{ }[t](0) STRTFIT Strategic Fit
* 1* STRATEG strategy
{ }[t](0) DODFRNT Doing things different
{ }[t](0) POL=STR Policy actions are on going strategies
{ }[t](0) POLCOST Policies carry out strategy
{ }[t](0) SMGT=PL Strat management often called policy
{ }[t](0) STRP=PP Strat plan process has same ele as pol proc
{ }[t](0) STRT=PO Strategy fulfills policy
{ }[t](0) STRXTHT Strategy is executed through tactics
{ }[t](0) STTATCH Tech will inc emph on strat vice tactics
{ }[t](0) STTCHAR Strat and tactics must be in harmony
{ }[t](0) USENGAG Using engagemetns to achieve overall obje
* 1* STRATHI Strategic thinking
{ }[t](0) SMADVST Strat magt is advanced strat thinking
{ }[t](0) STACITR Strat think is active and iterative
{ }[t](0) STISHOL Strat think is holistic - bal scorecard ide
{ }[t](0) STISSPE Strat thinking is strat perspective
{ }[t](0) STISYNT Strategic thinking is synthesis
{ }[t](0) STOVRSP Engage in strat think vice strat planning
* 1* STRATMG Strategic management
{ }[t](0) SM=FCIM strat mgt = formulation, content & implemen
{ }[t](0) SM=SP+I Strat mgt equals strat plan plus implementa
{ }[t](0) SMADVST Strat magt is advanced strat thinking
{ }[t](0) SMDECPE Strat mgt is entire mgrl decisions det perf
{ }[t](0) SMFUN4R Strat mgt is fundamental for results
{ }[t](0) SMISSP+ Strat magt is strat planning plus more
{ }[t](0) SMNOTLI Strat magt not linear process
{ }[t](0) SMREQSM Strat magt requires senior management
{ }[t](0) SMSTEIS Strat mgt - decide on future, who, how
{ }[t](0) SPCORSM Strat planning is cornerstone of strat mgt
{ }[t](0) SPVSSM1 planning vs mgt ref 1 - resource mgt
* 3* STRTFIT Strategic Fit

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

{ }[t](0) EXTRNIS External issues
{ }[t](0) GUDSTRF Good strat fit - half compmnies surveyed
{ }[t](0) INTRNIS Internal issues
* 1* STRTHER Strategy theory
{ }[t](0) COSCTHE Complex sciences theory of strat
{ }[t](0) ECONTHE Economic theory - strat theoretical tool
{ }[t](0) GAMETHE Game theory in strat
{ }[t](0) INSTHEO Strat theory based on institutionalism
{ }[t](0) ORGTHEO Strat theory based on orgs
{ }[t](0) POMOTHE postmodern theory of strat
{ }[t](0) STNOTHE Strategy has no theory-func of practicality
{ }[t](0) SYMBTHE Symbolic theory of strat
{ }[t](0) SYSTHEO Systems theory of strat
{ }[t](0) THEIMPO Theory most impm and dist human activity
{ }[t](0) WNDWOPP Window of opportunity
* 1* STRVDEM Strategy vs. Democracy
{ }[t](0) SP1QRTR cities > 25K; 1/4 inst strat plan in commun
{ }[t](0) SPIRHSC Strat planning in Rock Hill, SC
{ }[t](0) SPNCILG Strat planning not complete in local gov't
{ }[t](0) STRLGOV Strategy appropriate for local gov't
{ }[t](0) STRP16% Cities > 100K; 16% use SP for cit part.
* 1* STRVENV Strategy vs environment
{ }[t](0) NED4ACT Need for action
{ }[t](0) RESPNSV Responsiveness
* 1* SUCSFAC Success factors
{ }[t](0) COMPETE Competetence of the people involved
{ }[t](0) LDRSHPC Leadership commitment
{ }[t](0) LDRSHPV Leadership vision
* 1* SYMBTHE Symbolic theory of strat
{ }[t](0) IMFODI1 Imp/form dichotomy ref 1 (Andrews)
{ }[t](0) IMFODI2 Imp/form dichotomy ref 2
{ }[t](0) IMFODI3 Imp/form dichotomy ref 3
{ }[t](0) IMFODI4 Imp/form dichotomy ref 4
{ }[t](0) IMFODI5 Imp/form dichotomy ref 5
{ }[t](0) IMFODI6 Imp/form dichotomy ref 6
{ }[t](0) IMFODI7 Imp/form dichotomy ref 7
{ }[t](0) IMFODI8 Imp/form dichotomy ref 8
{ }[t](0) IMFODI9 Imp/form dichotomy ref 9
{ }[t](0) SRTNTRA Strats not rational
{ }[t](0) STRTEME Strats emrg from prces and luck
* 1* SYSTHEO Systems theory of strat
{ }[t](0) MILINDA Indirect approach
{ }[t](0) PRTWHLM Pat/Whole mgt - maximize the whole not part
{ }[t](0) STRATAL Strategic alignemnt
{ }[t](0) STRTFIT Strategic Fit
* 2* TACTICS tactics

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
INTERMEDIATE VARIABLES

{ }[t](0) DOBETTR Doing things better
{ }[t](0) ENGAGEM Engagments - Ind acts of combat
{ }[t](0) STTATCH Tech will inc emph on strat vice tactics
{ }[t](0) STTCHAR Strat and tactics must be in harmony
{ }[t](0) TACTOS Greek for arranged; cmdr arranges troops
* 1* TOPENAB Top enabler for strat fit
{ }[t](0) EXECSUP Exec support
{ }[t](0) IDWBUPL Identification with the business plan
{ }[t](0) RECHGOL reach Goals
* 1* TOPINHI Top inhibitors
{ }[t](0) FALCOMT Failure to meet comitments
{ }[t](0) FALGOLS Failure to meet goals
{ }[t](0) LAKCOOR Lack of coordination between plans
{ }[t](0) PORPRYR Poor priorities
* 3* TRCOECO Transaction Cost economics
{ }[t](0) ASETSPC Asset Specificity
{ }[t](0) BNDDRAT Bounded rationality
{ }[t](0) OPORTUN Opportunism - self-int with guile
* 1* VALUNET Value net concept of game theory
{ }[t](0) CMPLMNT Complementors
{ }[t](0) CUSTMRS Customers
{ }[t](0) SBSTTTR Substitutors
{ }[t](0) SUPPLRS Suppliers
* 1* WHYADPT Why states adopt strat planning
{ }[t](0) CLS2BUS Agency closeness to businesses
{ }[t](0) DIFASTA Diffusion across states
{ }[t](0) LDRCYCL Leadership cycle
{ }[t](0) RES&FND Resoure and funding conditions
* 1* WNDWOPP Window of opportunity
{ }[t](0) STRTEMP Strategy is temporal
,,
,,,

VARIABLES ALONG WITH INFLUENCES

CASE: Dissertation Lit review
DATE: 4/13/04
GOAL VARIABLES
----
* 0* UNDSTRA Understand strategy
{ }[t](0) BUZWORD Strat is merely buzzword for "importance"
{ }[t](0) DEFSUM Sum of definitions
{ }[t](0) IMFOSUM Sum of implementation/formulation
{ }[t](0) MILSTRA Military Strategy
{ }[t](0) PBPVSUM Public/private differences sum
{ }[t](0) POLICY Policy
{ }[t](0) PRISECT Private sector strategy
{ }[t](0) PUBSECT Public Sector Strategy

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
GOAL VARIABLES

{ }[t](0) SRATPLA Strategic planning
{ }[t](0) STRATEG strategy
{ }[t](0) STRATHI Strategic thinking
{ }[t](0) STRATMG Strategic management
{ }[t](0) STRTHER Strategy theory
{ }[t](0) TACTICS tactics
,,

VARIABLES ALONG WITH INFLUENCES

CASE: Dissertation Lit review
DATE: 4/13/04
EXTERNAL [Data] VARIABLES

* 1* 1THRYNS In pm world, 1 theory not sufficient
* 1* ACCOMOD Accomodators
* 1* ACWINFL Influence on Civil War - Jomini
* 1* ADDVALU Added value
* 1* ADMINIS Aministrative issues
* 1* AGEIN Greek for "to lead" - a root
* 1* AGMTDIP Agreement difficult in public orgs
* 1* AGMTGLS Agreement on goals
* 1* AGMTPOL Agreement on policies
* 1* ALTCOVG Alt coverage - Similar services available
* 1* AMILALX Ancient Military - Alexander
* 6* AMILST Ancient Military Philosopher Sun Tzu
* 1* ANLSKIL Analytical Skills
* 1* ARENAS Where the org will be active
* 1* ASETSPC Asset Specificity
* 1* ASSMPTN Assumptions
* 1* BAGPBUY Bargaining power of buyer
* 1* BAGPSUP Bargaining power of supplier
* 1* BLVSTL Bottom line vs Top line
* 1* BNDDRAT Bounded rationality
* 1* BRYCHPC Bryson change Planning cycle
* 1* BUREAUC Bureaucrat
* 1* BUSCOPE Busness scope
* 1* BUZWORD Strat is merely buzzword for "importance"
* 1* CITEGMT Citizen engagement
* 1* CITTHGP Citizens serve on Theme Groups
* 1* CL&TRVS Clarify and translate vision and strat
* 1* CLS2BUS Agency closeness to businesses
* 1* CLTORGE Culture and organization effectiveness
* 1* CMILBAU Current Military - coalitions
* 1* CMILCOL Current Military - Collins
* 1* CMILGRA Current Military - Graham
* 1* CMILMOW Current Military - Fabyanic Framework

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
EXTERNAL [Data] VARIABLES

* 1* CMPADRE Competitive advantage is relational not abs
* 1* CMPLMNT Complementors
* 1* CNFISUS conflict over issues
* 1* CNSTRCT Constructivism is best for strat research
* 1* COADACC Comp adv accepted in strat mgt courses
* 1* COLITSC Coalition success - mutual interests
* 1* COLNPUB Collaboration in public sector
* 1* COMM&LI Communication and limking
* 1* COMMUNI Communication
* 1* COMNCOO non-profits have compet & coop strats
* 1* COMPETE Competetence of the people involved
* 1* COMPOSI Competitive position
* 1* COMPROM Compromiser
* 1* COMPSTR Competitor strategy
* 2* CORPSTR Corporate strategy
* 1* CRTREAL Critical realism is best for strat research
* 1* CSTLEAD Cost leadership
* 1* CUSTMRS Customers
* 1* DEFANDR Andrews - rvlry amng peers 4 przs in game
* 1* DEFDICT Dictionary Def - sci or art of mil cmd
* 1* DEFMIL Milirary Def - art & sci emply Armed Force
* 1* DEFMINT Mntzbrg - pln, pttrn, pstn, prspctv, ploy
* 1* DEFN&B Nut & Back Def - pos org 2 face unc future
* 1* DEFOHMA Ohmae Def - cre8 cond fav 2 your side KD
* 1* DEFPORT Porter Def - Cre8 defend pos and sup roi
* 1* DEFRAND Rand Def - Cncpt to relate means to ends
* 1* DERRIDA Derrida and deconstruction
* 1* DICONRE pub/pri diff in commo & rewards
* 1* DIFASTA Diffusion across states
* 1* DIFFERN Differentiators in product or service
* 1* DIFRENT Differentiators - How will we win the marke
* 1* DIRECTO Director
* 1* DISTKIN Diverse stakeholde intersts in pub sector
* 1* DLWFUTU Planning is dealing with the future
* 1* DOBETTR Doing things better
* 1* DODFRNT Doing things different
* 1* DOMINAT Dominators
* 1* DRIFTER Drifters
* 1* ECN=RAT Econ persp rooted in rationalism
* 1* ECONLOG Economic logic - How obtain returns
* 2* EFIVSEF Efficiency vs. effectiveness dist
* 1* ENEMY enemy
* 1* ENGAGEM Engagments - Ind acts of combat
* 1* EPLG&ET Epst lgic and evdnt thry bst for strt rsrch
* 1* ERA1REC Era 1 - resource control
* 1* ERA2ENT Era 2 - Enterprise design

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
EXTERNAL [Data] VARIABLES

* 1* ERA3STA Era 3 - strategic alignment
* 2* EVALUAT Evaluate alternatives
* 1* EXECSUP Exec support
* 1* FALCOMT Failure to meet comitments
* 1* FALGOLS Failure to meet goals
* 1* FIHETRE Firms heterogenous in re: strat resources
* 1* FITWORG Program fit with org
* 1* FND=CEP Fundrs exrt coerc prsre on non-profits
* 1* FNDRCLI Funders, not clients r cust for non-profits
* 1* FOCUS Focus on market segment
* 2* FOGOWAR Fog of war
* 2* FORMALT Formulate alternatives
* 2* FRICTIO Friction - von Clausewitz
* 1* FSHBWLS Openness of gov't - fishbowls
* 1* FUNCINT Functional integration
* 1* FUNCPRC Functional processes
* 1* FUTGOLS Future Goals
* 1* GAO2106 GAO criticisms of DoD Log Strat Plan
* 1* GAO9940 GAO criticisms of JTAV
* 1* GMAECBE Games and economic behavior
* 1* GOLCMPL pub/pri goal cmplxty and frmal org structur
* 1* HITRNPO High turnover in public officials
* 1* HUMNRES Human resources
* 1* IDISSUS Identify isues
* 1* IDWBUPL Identification with the business plan
* 3* IMFODI1 Imp/form dichotomy ref 1 (Andrews)
* 3* IMFODI2 Imp/form dichotomy ref 2
* 3* IMFODI3 Imp/form dichotomy ref 3
* 3* IMFODI4 Imp/form dichotomy ref 4
* 3* IMFODI5 Imp/form dichotomy ref 5
* 3* IMFODI6 Imp/form dichotomy ref 6
* 3* IMFODI7 Imp/form dichotomy ref 7
* 3* IMFODI8 Imp/form dichotomy ref 8
* 3* IMFODI9 Imp/form dichotomy ref 9
* 1* IMFOIN1 Imp/form integration ref 1
* 1* IMFOIN2 Imp/form integration ref 2
* 1* IMFOIN3 Imp'form integration ref 3
* 1* IMFOIN4 Imp/form integration ref 4
* 2* IMPLEME Implement alternatives
* 1* INDIEXC Int diffs/ext constraints - pub'pri differe
* 1* INFKOMT Informal kickoff meetings
* 1* INFOASY Information assymetry
* 1* INFPROS Information processing
* 1* INIMITB Inimitable
* 1* INSTCOM Institutional competencies
* 3* INSTPSP Institutional perpective

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
EXTERNAL [Data] VARIABLES

* 1* ISAFFGL Issues affect orgs ability to reach goals
* 1* ISSP&PS Issues push and pull org simultaneously
* 1* LAKCOOR Lack of coordination between plans
* 1* LASTRGQ La strategique - de Guibert usage - a root
* 1* LDRCYCL Leadership cycle
* 1* LDRSHPC Leadership commitment
* 1* LDRSHPV Leadership vision
* 3* MEVSORG Mechanistic vs organic pers or organization
* 2* MILINDA Indirect approach
* 1* MILUSNS US Navy security Group Strategy Study
* 1* MISSION mission
* 1* MORSCRU More scrutiny in public sector
* 1* MUTUALS Mutualists
* 1* NATINTS Nat. Interests underpin nat. strat @ hi lvl
* 1* NCHRCWC Don't change rather cope with change
* 1* NED4ACT Need for action
* 1* NIETZSC Nietzsche set stge for postmod
* 1* NOCADID No comp adv in identical firms
* 1* NOCLTNE Not client needs or demand
* 1* NORMS Norms of behavior
* 1* NQITISC New Question - How IT imp strat choice
* 2* OPORTUN Opportunism - self-int with guile
* 1* OPRTNTY Opportunities
* 1* OQISSBS Old question- How IS supports bus strat
* 1* OREFECA Org efffectiveness can be a comp adv
* 1* ORGANIS rganizational issues
* 1* ORGINST Orgn of strat thory in econ orgs and bureau
* 1* PARTPLN Participatory planning
* 1* PBMGRVL Public managers create value
* 1* PERFMST Performance measurement
* 1* PERMEAS Perf measurement more diff in public
* 1* PLAYERS Players
* 1* PLN&TRG Planing and target setting
* 1* PLSEPOP Planners can be separated frm operators
* 1* PLYRSIN Players are interdependent
* 2* POCMPAD Comp adv - value, scarce, inimit, nonsub,
* 1* POL=COA Policy is course of action
* 2* POL=STR Policy actions are on going strategies
* 1* POLAMB Policy ambiguity in public sector
* 2* POLCOST Policies carry out strategy
* 1* POLIMPL Policy implementation
* 1* POLIS Greek for city/state
* 1* POLISNT Policy isue ntworks exist in gov't programs
* 1* POLSKIL Political skills
* 1* PORPRYR Poor priorities
* 1* POSTRRS Posturers

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
EXTERNAL [Data] VARIABLES

* 1* PREDFUT Future can be predicted
* 1* PROGATT Program Attractiveness - Attract resources
* 1* PRTNRSH Partnerships and alliances
* 1* PRTWHLM Pat/Whole mgt - maximize the whole not part
* 1* PUGLSUN Public goals are often unclear
* 1* PUPRCOM Diff in comp in public and pri sectors
* 1* PUPRDIF pub/pri diff - ownrshp, bdgts, oversight
* 1* PUPRDMD Public\private decision-making differences
* 2* PUTONAG Put issues on the agenda
* 1* RARE rare characteristics
* 2* RBVRTAU RBV assmptions are tautologies - crit
* 1* RECHGOL reach Goals
* 2* RES&FND Resoure and funding conditions
* 2* RESPCAD Rsources provide competitive advantage
* 1* RESPNSV Responsiveness
* 1* REVISE Revise alternaitve
* 1* REWARDS Rewards
* 1* RIOFCSO Rise of CSO - To central planning
* 1* RIVALRY Rivalry among existing firms - force 1
* 1* RSNOMOB Resources not mobile across firms
* 1* RULES Rules
* 1* SBSTTTR Substitutors
* 1* SC>L>PF Strat is link btwn strat choice and perf
* 2* SC3STRU Scott's 3 structures - reg/cog/norm
* 1* SCIOFWO Science of work
* 1* SCOPE Scope
* 2* SELEALT Select alternative
* 1* SELFSIM Self similar
* 1* SHAKECO Shakey coalitions that can't withstand impl
* 2* SM=FCIM strat mgt = formulation, content & implemen
* 3* SM=SP+I Strat mgt equals strat plan plus implementa
* 2* SMADVST Strat magt is advanced strat thinking
* 1* SMDECPE Strat mgt is entire mgrl decisions det perf
* 1* SMFUN4R Strat mgt is fundamental for results
* 2* SMGT=PL Strat management often called policy
* 2* SMISSP+ Strat magt is strat planning plus more
* 1* SMNOTLI Strat magt not linear process
* 1* SMREQSM Strat magt requires senior management
* 1* SMSTEIS Strat mgt - decide on future, who, how
* 1* SOLEVLV Politically acceptable Solutions evolve
* 2* SP1QRTR cities > 25K; 1/4 inst strat plan in commun
* 1* SPBOURG Strat plan - future goals and stages, integ
* 1* SPBRYSO plan Bryson - disc effort; fund desics
* 2* SPCORSM Strat planning is cornerstone of strat mgt
* 1* SPGRFAL Strat planning grand fallacie
* 1* SPINCPE Strat plan orgs outperform thos that don't

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
EXTERNAL [Data] VARIABLES

* 1* SPISWOT Strat plannin draws on heavily SWOT
* 1* SPLEGIT Strat planing legitimizes work
* 1* SPLI2MG Strat plan linked to mgt processes
* 2* SPLIMPL Strat planning effective when linked to imp
* 1* SPNCILG Strat planning not complete in local gov't
* 1* SPNOTEF Strat planning not effective
* 2* SPVSSM1 planning vs mgt ref 1 - resource mgt
* 1* SRTNTRA Strats not rational
* 1* SSACRSC Self sim across scales
* 1* SSNPUSC Sole source in public sector
* 1* STACITR Strat think is active and iterative
* 1* STAGING Speed & sequence of moves
* 1* STBOCAD Any leading strat theory based on comp adv
* 1* STGCMTE Steering Comm - include ALL stakeholders
* 2* STISHOL Strat think is holistic - bal scorecard ide
* 1* STISSPE Strat thinking is strat perspective
* 1* STISYNT Strategic thinking is synthesis
* 1* STNOTHE Strategy has no theory-func of practicality
* 2* STOVRSP Engage in strat think vice strat planning
* 1* STPROFO Strategy process can be formalized
* 1* STRALEV Strat aligment is evolving - not static
* 1* STRAPRA Strat is practical not elegant theory
* 1* STRATFA Strategy failure - 70-90%
* 1* STRATOS Greek for army - root
* 1* STRCWEN Strat change with environment
* 1* STRFDBL Strategic feedback and learning
* 2* STRLGOV Strategy appropriate for local gov't
* 2* STRNGTH Strengths
* 2* STRP=PP Strat plan process has same ele as pol proc
* 2* STRP16% Cities > 100K; 16% use SP for cit part.
* 2* STRT=PO Strategy fulfills policy
* 1* STRTEME Strats emrg from prces and luck
* 1* STRTEMP Strategy is temporal
* 1* STRTGEM Strategem - Chinese artifice - a root
* 1* STRTGIA Strategia - Roman territories - a root
* 1* STRTGOI Strategoi - Athenian Council of War
* 1* STRTGUS Strategus - Athenian govt official - a root
* 1* STRTWAS Strat is waste; can't pred or cntrl future
* 1* STRU=HI Structure is norm hierarchy
* 2* STRVSST Strat vs structure - struc follows strat
* 1* STRXTHT Strategy is executed through tactics
* 2* STTATCH Tech will inc emph on strat vice tactics
* 2* STTCHAR Strat and tactics must be in harmony
* 1* STU=SOR Structure taken care of by self-org process
* 1* STUASTA Structure affects strat also
* 1* STUEPE? Rel btwn struc and econ perf may not be eff

VARIABLES ALONG WITH INFLUENCES (CONT.)

CASE: Dissertation Lit review
DATE: 4/13/04
EXTERNAL [Data] VARIABLES

* 1* SUPPLRS Suppliers
* 1* TACTOS Greek for arranged; cmdr arranges troops
* 1* TER&WEA terrain and weather
* 1* THEIMPO Theory most impm and dist human activity
* 1* THREATS Threats
* 1* THRNWEN Threat of new entrants
* 1* THRSUBP Threat of subs products
* 1* TIMAVAL timeavailable
* 1* TRP&EQU troops and equipment
* 1* USENGAG Using engagemetns to achieve overall obje
* 1* VALUES Values
* 1* VEHICLE How will we get there
* 2* WEKNESS Weaknesses
* 1* WRLDARB World is arbitrary

’’

xx Number of Other Variables Directly Influenced By That Variable
{xx} Type of Relationship (e.g., {+ } is Monotonically Increasing)
[xx] Time Relationship (e.g., [t-2] is a Delay of 2 Time Periods)
(xx) Number of Cause-Effect Quesions Answered Possitively (Out of 6)
<C> Catalyst (Affects the Reaction Time of the Relationship)
23

Appendix B: Interview Questions

1. What was your role in relation to JTAV?
2. What are the inclusive dates that you worked on JTAV?
3. What was your overall impression of the JTAV project in general terms? For example, was it a good idea? Was it managed well? Did it have enough top-cover? Were the goals well defined? Did it have enough resources?
4. To the best of your memory, what were the JTAV strategies?
5. Not all strategies are implemented equally well. Some are more successful than others. In your opinion, how successful was the implementation of the JTAV strategies, or alternatively, if you cannot remember the strategies, how successful was the implementation of the project?
6. In every project, there are forces that contribute to its success or failure. These forces can be internal to the organization or external. The forces can affect only parts of the project or the entire project.
    a. What are the forces that aided in the success of the JTAV strategies/project or portions thereof?
    b. What are the forces that contributed to the nonsuccess of the JTAV strategies/project or portions thereof?
7. Did the forces work independently or in concert?
8. If they worked together, how did that come about? Was it happenstance, luck (good or bad), or was it done by something or somebody? If someone brought the forces together, how did they do it? Was it a matter of timing, arm-twisting, good negotiations, etc?

9. Did the forces exhibit a common theme?
10. What were the causes of the forces?
11. What were the effects?
12. Were the forces affected by the strategies?
13. I assume the JTAV Office worked to a plan that contained milestones to be accomplished at certain times, thus dictating that the project would be completed on a schedule. Did you notice any 'windows of opportunity" for accelerated implementation or for more successful implementation – or could JTAV have had the same degree of success at any time along the scheduled timeline?
14. Is there anything else you would like to say about JTAV, particularly in respect to the strategies and implementation?

I very much appreciate your taking the time to answer my questions. If I need clarification on a point, may I contact you further?

Would it be more convenient for you by e-mail or telephone?

If you think of anything else and would like to contact me my details are:

Ian Birdsall
950 Oak Drive
Christiansburg, VA 24073
Phone: 540-998-0602
ibirdsal@vt.edu

Appendix C: Data Protocol

I developed a data recording protocol (Creswell, 1994) that served as a template to ensure that the correct and necessary data was recorded. My data recording protocol included essential elements of information related to the research questions. I also used those essential elements of information from the research questions to develop a provisional "start list" of data codes (Miles and Huberman, 1994).

1. Key information about the interviewee/documentation being reviewed (demography) -- DEMOGR

2. Indicator of primary (PRIMARY) or secondary (SCNDARY) data

3. Identification of the driving forces that contributed to success of the strategies (Driving Forces) -- DRVFORC

4. Identification of the restraining forces that hindered strategy implementation (Restraining forces) -- RSTFORC

5. How the forces are affected by the strategy (strategy affects forces)-- STRAFFR

6. The common theme of the forces (common theme of forces) -- CMNTHFR

7. The causes and effects of the forces (causes & effects of forces) -- CS&EFFR

    - restraining forces causes – RSTFRCA
    - driving forces causes – DRVFRCA
    - restraining forces effects – RSTFREF
    - driving forces effects – DRVFREF

8. The Forces worked independently (INDFORC) or in concert (FRCNCRT) (independent forces) -- INDFORC; (forces in concert) – FRCNCRT

9. Identification of 'windows of opportunity" for accelerated or more successful implementation (windows of opportunity) – WINDOPP

OBSERVATIONS:

Appendix D – List of Interviewees By Job Title

1. Past Assistant Deputy Secretary of Defense for Logistics Business Systems
2. Assistant Deputy Secretary of Defense for Materiel and Distribution Management
3. The First JTAV Project Officer, Office of the Secretary of Defense, now retired
4. Director of Materiel Management, Department of Defense
5. Director, Department of Defense Activity Address Code (DODAAC)
6. Past Director, JTAV Program Management Office
7. Chief of Integration, JTAV Program Management Office
8. Resource Manager, JTAV Program Management Office
9. Past Program Manager, Computer Sciences Corporation (Prime software developer)
10. Program Manager, CSC
11. Past Project Manager, Automated Research Systems
12. Project Manager, ARS
13. Systems Analyst, Computer Sciences Corporation
14. Lead Functional Analyst
15. Functional Analyst for Fuels area. Secondary responsibility for tracking System Change Requests submitted to the Configuration Control Board. Tertiary `responsibility as functional test lead
16. Functional Requirements Data Engineer
17. Program Administrator/Program Control
18. Functional Requirements Analyst
19. Database Analyst/Systems Engineering Manager
20. Senior Functional Analyst
21 Senior Functional Analyst/Deployment and Operations Division Chief
22. Senior Database Analyst
23. Team Leader, National Level Ammunition Capability
24. Software Engineer
25. Software Engineer

Appendix E: TextAnalyst2 Analysis of Interviews

Parent	Frequency	Weight
year	10	65
world	2	47
working	2	27
windows of opportunity" for accelerated implementation	14	99
windows of opportunity	19	99
willis	3	59
warfighters	8	3
vision	4	60
visibility capability	4	76
visibility	27	99
version	2	42
user	50	98
two	6	66
turnover	2	39
transportation	2	47
timing	19	90
timeline	14	99
thought	4	52
thing	4	41
theatre	3	56
telling	2	42
technology	29	95
tav strategy	8	83
tav office	17	89
tav goal	4	75
tav	78	96
system	80	99
sustainment	3	64
successful than others	21	91
successful implementation	14	99
success or failure	30	94
success	119	99
strategy measured	7	82
strategy considered	7	99
strategy and implementation	22	92
strategy	298	99
specific	10	44
source system	10	90
source	32	98

I used this database to construct initial categories which will be my coding categories.

I selected the 15 parents with the highest frequency and any other parent with a weight above 50.

When I finish, I will subjectively review the interviews to refine my categories

numeric semantic weight – the measure of the probability that the concept is important in the text.

solution	3	48
software development	4	75
software developer	3	64
software	47	99
several	15	74
server	6	52
senior functional analyst	2	42
sei-cmm	4	70
role	22	89
rice	3	50
retired military personnel	5	99
retired military	9	99
response	2	42
resistance	2	39
requirement	41	96
relationship	10	96
relation	21	90
rapid prototyping	4	75
rapid	4	54
quality	10	77
public	7	77
prototype	19	90
property	2	39
product	5	50
problem	41	95
priority	2	47
prior	3	59
principle	3	56
primary	3	56
potential	5	66
possible	9	66
positive	3	44
poor	8	79
politics	14	85
political	2	27
policy	2	47
platform	4	75
perspective	4	56
personnel	26	99
personality	4	47
personal	2	42
period	2	36
perception	3	56
percentage of effort	7	82
percent managed	6	66
others	21	77
osd	8	90
os	2	47
original	10	98
organization or external	21	91

organization	42	90
opposition	2	47
opportunity	41	99
opinion	26	89
operational capability	4	75
operation	17	99
ongoing operation	7	99
office	101	99
objective	4	54
nonsuccess	15	88
nlac	2	36
negotiation	19	91
necessary	7	74
navy	3	59
multiple	3	56
money	5	44
mode	3	59
mobile	6	80
mindset	2	47
military	32	99
milestone	40	98
might	6	61
memory	27	93
member	14	85
meeting	2	34
means	8	79
marine	4	63
many	45	87
manager	31	99
management	76	99
managed opportunity	6	80
making	2	42
maintenance	3	46
main	7	47
loyalty	3	64
loss	3	48
logistics	28	98
location	2	39
life	2	42
legacy system	5	78
leadership	3	37
leader	3	46
knowledge	8	66
kind of thing	4	75
kind	4	51
jtav strategy inclusive	7	99
jtav strategy	93	100
jtav office	54	99
jtav goal	8	83
jtav database	4	90

jtav	451	99
jlog	11	82
internal	37	94
infrastructure	3	64
information	30	99
individual	6	66
impression	16	88
implicit strategy	12	87
implementation of jtav	8	83
implementation	139	99
idea	53	94
ide	3	48
hardware	5	61
gui	4	56
growth	2	47
great idea	6	80
great	7	63
government	53	99
goal	105	83
general	18	83
fusion processor	6	98
funding	35	91
freedom	2	47
frasier	4	75
financial strategy	4	85
few	3	64
feedback	3	53
fact	3	53
external	28	93
explicit strategy	6	80
explicit	16	86
executive agent	6	80
executive	6	67
executive	2	29
execution	3	59
example	6	56
eucom	3	48
etc	19	87
environment	14	76
entire jtav	7	99
entire	31	91
enthusiasm	2	30
eight	6	77
effort	34	99
dusd	13	69
doe	3	50
dod	29	97
dla	9	74
disparate	5	66
director	3	38

direction	21	93
dii	3	64
didn	2	22
development of jtav	4	75
development and deployment	4	75
development	70	99
deputy	3	53
deployment	10	79
delivery	4	63
defense for logistics	4	75
defense	5	66
decision	3	48
day	4	49
datum source	8	84
datum	85	98
database	26	97
customers	2	29
customer	24	79
current	2	42
csc	44	99
contractor	65	99
concept	39	99
computer	2	39
competitor	2	32
competition	2	27
community manager	4	75
community	5	60
communication	5	90
common theme	27	93
common knowledge	8	83
common	27	84
commercial	2	42
commander	2	47
col	4	75
cohesiveness	7	82
coalition	2	42
client	5	57
civilian	3	50
certain	22	91
centcom	3	56
caps	7	82
capability	51	99
cannot	8	85
business	3	50
building	4	60
briefing	2	39
being	6	53
beginning	3	50
aware of jtav strategy	7	82
authority	6	77

asset visibility	11	97
asset	24	99
aspect	2	47
ars	7	64
army	4	42
area	8	79
april	2	36
application	2	47
ans	21	99
ambition	7	79
ait	2	39
agreement	5	66
agency responsible	4	75
agency	19	80
affected implementation	7	82
activity	2	39
active	5	95
acting	14	83
accomplished at certain	14	93
ability	2	36

Appendix F: Magnitude and Hierarchy Survey

As I mentioned during the initial interview, I would come back later and ask you to rate the forces I discovered from the interviews, in terms of 2 characteristics: 1) magnitude of effect on implementation of JTAV strategies and 2) a placing the forces in a hierarchy acting on those strategies. I compiled all the data from the interviews, coded the concepts, reduced the data to essential elements of information and have developed the following lists of driving and restraining forces.

1. Please review these two lists (one of driving forces and one of restraining forces) and rate each force as to its magnitude on the implementation of JTAV strategies. Please rate them on the following scale.

0	1	2	3	4	5
No opinion	very weak impact	weak impact	moderate impact	strong impact	very strong impact

You may merely place the appropriate number next to the force. For example if you think that the fact that JTAV was a "great idea" had a very strong impact on the implementation of the JTAV strategies, then you would merely place a 5 next to "great idea".

Table 1 - Driving Forces

Driving Force	Rating
Great idea	
Contractor Support	
Technology	
Leadership	
Politics – Top cover	
Warfighter Support	
Stakeholder support	
Enthusiasm	
Customer requirements driving improvements	
Advocate support	
Competition driving requirements	
Solution to improved operational capability	
Authority to accomplish	
Relationships	
Solution to better management practices	
Time available	
Cooperation of players	
Customer support provided	

Personalities	
Knowledge/expertise of the team	
Retired military	
Strong vision	

Table 2 – Restraining Forces

Restraining Force	Rating
Parochialism	
Poor leadership	
Politics – Infighting	
Lack of resources (money, people, etc)	
Poor program management office	
Competition for support	
Lack of loyalty to project	
Different technological approaches diffused the effort	
Poor management	
Unstable requirements	
Lack of vision	
Lack of advocacy	
Personalities	
Perception	
Lack of knowledge/expertise on the team	
Turnover of management team	
Stakeholder requirements drove diffusion of effort	
Competition for funding	
Lack of authority	
Took too long – enthusiasm waned	
Immature technology	
Lack of enthusiasm	
Hoarding of information	
Customer requirement creep	
Financial costs to the services	
Lack of financial strategy	
No clear goals	
Poor relationships	
Retired military	
Contractor support	
Change	

2. From the list of driving forces and restraining forces above, please select the ones in each list that you feel to be the most over-arching forces that would encompass most of the others.

Driving Forces
1.
2
3.
4.
5.
6.
7.
8.
Restraining Forces
1.
2
3.
4.
5.
6.
7.
8.

3. Is there anything you would like to add to this survey or to the initial interview?

I know you are busy and I very much appreciate your time in both the initial interview and this survey. I will be pleased to send you a cop of the approved dissertation. I think you will find it interesting.

Best regards,

Ian

Appendix G: Level 3 Driving Forces

CATEGORIES AND ASSOCIATED VARIABLES
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,
ADVO Advocate support: Category Description

ADVO Advocates
CNTR Contractor
CTMR Customer
DLA Defense Logistics Agency
DUSD Deputy Under Sec of Defense
LYLT Loyalty
MILT Military
OSD Office of the Secretary of Defense
POLT Politics
RTML Retired military personnel
SRVS Services
STAK Stajeholder
USER User
WFTR Warfighter
WO Windows of Opportunity

,,
AUTH Authority to acc mission: Category Description

AUTH Authority
LEDR Leadership
MNGM Management
OSD Office of the Secretary of Defense
PMO Program Management Office
POLT Politics

,,
CNTR Contractor support: Category Description

ADVO Advocates
CNTR Contractor
DTBS Database
DVLP Development
KNOW Knowledge
PROT Prototype
RLTN Realationship
RTML Retired military personnel
SBCR Subcontractor

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

SFTW Software
TCHN Technology
WO Windows of Opportunity
,,
COPR Cooperation of players: Category Description

CMNT Community
COHS Cohesiveness
COMM Communication
COMP Competition
COPR Cooperation
CRIS Crisis
ENTH Enthusiasm
GOAL Goal
GRID Great idea
LEDR Leadership
LYLT Loyalty
OPPR Opportunism
PLYR Player
POLT Politics
PRCP Perception
PRLT Personality
PRSM Parochialism
PRSP Perspective
RLTN Realationship
SUCC Success
WO Windows of Opportunity
,,
CRST Cust supp provided: Category Description

CNTR Contractor
CRST Customer support
CTMR Customer
DPLY Deployment
KNOW Knowledge
RQRM Requirement
SLTN Solution
TCHN Technology
USER User
WFTR Warfighter

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

WRKR Worker
,,,
ENTH Enthusiasm: Category Description

ADVO Advocates
CRIS Crisis
ENTH Enthusiasm
GOAL Goal
GRID Great idea
LEDR Leadership
OPRT Opportunity
PRLT Personality
SUCC Success
VSON Vision
WO Windows of Opportunity
,,,
GOAL Goals: Category Description

ASTV Asset Visibility
CRST Customer support
GOAL Goal
IMPL Implementation
IMPR Improvement
OPCP Operational capability
SLTN Solution
SUCC Success
VISB Visibility
VSON Vision
,,
GRID Great idea: Category Description

ASTV Asset Visibility
CPBL Capability
GRID Great idea
VSON Vision
,,
KNOW Know/expertise on team: Category Description

CNTR Contractor
KNOW Knowledge

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

LEDR Leadership
MNGM Management
PMO Program Management Office
RTML Retired military personnel
SBCR Subcontractor
WRKR Worker
,,,
LEDR Leadership: Category Description

AUTH Authority
CHNG Change
CMNT Community
COHS Cohesiveness
COMM Communication
COPR Cooperation
CRIS Crisis
CRST Customer support
DIRC Direction
DLA Defense Logistics Agency
DOD Department of Defense
DUSD Deputy Under Sec of Defense
ENTH Enthusiasm
FNST Financial strategy
FUND Funding
GOAL Goal
GRID Great idea
KNOW Knowledge
LEDR Leadership
LYLT Loyalty
OSD Office of the Secretary of Defense
PMO Program Management Office
POLT Politics
RLTN Realationship
WO Windows of Opportunity
,,,
OPCP Sol to operational capab: Category Description

ASTV Asset Visibility
COMM Communication
CPBL Capability

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

CRST Customer support
OPCP Operational capability
RQRM Requirement
SLTN Solution
WFTR Warfighter
,,
POLT Politics Top Cover: Category Description

CRIS Crisis
DUSD Deputy Under Sec of Defense
FUND Funding
LEDR Leadership
LYLT Loyalty
OSD Office of the Secretary of Defense
POLT Politics
PRCP Perception
PRLT Personality
RSRC Resources
SUCC Success
WO Windows of Opportunity
,,
PROB Problem: Category Description

CHNG Change
DLAY Delay
PROB Problem
,,
PROC Process: Category Description

CHNG Change
CPBL Capability
DPLY Deployment
DVLP Development
FUND Funding
IMPL Implementation
LEDR Leadership
MNGM Management
POLT Politics
RQRM Requirement
RSRC Resources

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

SLTN Solution
,,
PRSN Personalities: Category Description

AMBN Ambition
DSPR Disparate
ENTH Enthusiasm
INDV Individual
LEDR Leadership
PLYR Player
PRCP Perception
PRLT Personality
,,
RLTN Relationships: Category Description

CMNT Community
COHS Cohesiveness
COPR Cooperation
CTMR Customer
LYLT Loyalty
PLYR Player
POLT Politics
PRCP Perception
PRLT Personality
RLTN Realationship
ROLE Role
WO Windows of Opportunity
,,
RTML Retired military: Category Description

ADVO Advocates
CMNT Community
CNTR Contractor
ENTH Enthusiasm
KNOW Knowledge
LEDR Leadership
MILT Military
PRLT Personality
PRSP Perspective
RTML Retired military personnel

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)
,,
SLTN Sol to mgt problems: Category Description

ASTV Asset Visibility
CPBL Capability
IMPR Improvement
MNGM Management
PROB Problem
RQRM Requirement
SLTN Solution
VISB Visibility
,,
STAK Stakeholder support: Category Description

ADVO Advocates
CMNT Community
COPR Cooperation
CRIS Crisis
ENTH Enthusiasm
GRID Great idea
LEDR Leadership
OPCP Operational capability
PMO Program Management Office
POLT Politics
PRCP Perception
PRLT Personality
PRSP Perspective
RLTN Realationship
STAK Stajeholder
USER User
WFTR Warfighter
WO Windows of Opportunity
,,
TCHN Technology: Category Description

CNTR Contractor
CONC Concept
CPBL Capability
DTBS Database
DVLP Development
FUSP Fusion Processor

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

INFO Information
OPRT Opportunity
PROT Prototype
SFTW Software
SLTN Solution
SYST System
TCHN Technology
WO Windows of Opportunity
,,,
TMEL Time availalbe: Category Description

DLAY Delay
ENTH Enthusiasm
TMEL Timeline
,,,
VSON Strong vision: Category Description

DIRC Direction
DUSD Deputy Under Sec of Defense
GOAL Goal
IMPL Implementation
LEDR Leadership
MNGM Management
OSD Office of the Secretary of Defense
VSON Vision
,,,
WFTR Warfighter support: Category Description

ADVO Advocates
CRIS Crisis
ENTH Enthusiasm
MILT Military
OPCP Operational capability
PRSP Perspective
THEA Theater
USER User
WFTR Warfighter
WO Windows of Opportunity

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)
,,,
WOOP Window of opportunity: Category Description

ADVO Advocates
CMNT Community
COPR Cooperation
CRIS Crisis
CTMR Customer
DLA Defense Logistics Agency
DOD Department of Defense
DVLP Development
ENTH Enthusiasm
GRID Great idea
LEDR Leadership
OPRT Opportunity
OSD Office of the Secretary of Defense
POLT Politics
RLTN Realationship
SLTN Solution
TCHN Technology
WFTR Warfighter

Appendix H: Level 3 Restraining Forces

CATEGORIES AND ASSOCIATED VARIABLES
CASE: Level 3 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,
ADVO Lack of advocacy: Category Description

ADVO Advocates
AMBN Ambition
CMNT Community
COHS Cohesiveness
COMM Communication
COMP Competition
COPR Cooperation
LEDR Leadership
LYLT Loyalty
MNGM Management
OPPR Opportunism
PLYR Player
POLT Politics
PRCP Perception
PRLT Personality
PRSM Parochialism
PRSP Perspective
RLTN Realationship
TNOV Turnover

,,
AUTH Lack of authority: Category Description

AUTH Authority
DOD Department of Defense
DUSD Deputy Under Sec of Defense
GOVR Government
LEDR Leadership
MNGM Management
OSD Office of the Secretary of Defense
PMO Program Management Office
PRSM Parochialism

,,
CHNG Change: Category Description

CHNG Change
COHS Cohesiveness

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

COMM Communication
COPR Cooperation
CRIS Crisis
GRID Great idea
LEDR Leadership
POLT Politics
PRCP Perception
PRLT Personality
PRSM Parochialism
TCHN Technology
,,,
COMP Comp for support: Category Description

COMP Competition
FNST Financial strategy
FUND Funding
GOVR Government
INFR Infrastructure
LEDR Leadership
POLT Politics
PRCP Perception
PRSN Personnel
RSRC Resources
SRVS Services
,,,
ENTH Lack of enthusiasm: Category Description

CHNG Change
DLAY Delay
ENTH Enthusiasm
LEDR Leadership
MNGM Management
POLT Politics
PRCP Perception
PRLT Personality
PRSM Parochialism
PRSP Perspective
TNOV Turnover
,,,

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

GOAL No clear goals: Category Description

DIRC Direction
GOAL Goal
IMPL Implementation
LEDR Leadership
SLTN Solution
VSON Vision
’’
KNOW Lack of know/exp on team: Category Description

CNTR Contractor
DIRC Direction
IMPL Implementation
KNOW Knowledge
LEDR Leadership
MILT Military
MNGM Management
ROLE Role
RTML Retired military personnel
TCHN Technology
TNOV Turnover
’’
LEDR Poor leadership: Category Description

AUTH Authority
CHNG Change
COMM Communication
COPR Cooperation
CRIS Crisis
DIRC Direction
KNOW Knowledge
LEDR Leadership
MILT Military
MNGM Management
PMO Program Management Office
PRLT Personality
STRA Strategy

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

””

LYLT Lack of loyalty to JTAV: Category Description

AMBN Ambition
CMNT Community
LEDR Leadership
LYLT Loyalty
OPPR Opportunism
PRCP Perception
PRSM Parochialism
PRSP Perspective
TNOV Turnover
””
MGMN Poor management: Category Description

AUTH Authority
COMM Communication
FNST Financial strategy
KNOW Knowledge
PMO Program Management Office
POLT Politics
PRLT Personality
””
PMO Program Mgt Office: Category Description

AMBN Ambition
AUTH Authority
DIRC Direction
LEDR Leadership
LYLT Loyalty
MNGM Management
PMO Program Management Office
POLT Politics
PRLT Personality
STRA Strategy
TNOV Turnover
VSON Vision
WO Windows of Opportunity

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,
POLT Politics infighting: Category Description

AMBN Ambition
COMP Competition
FUND Funding
GOVR Government
LEDR Leadership
LYLT Loyalty
POLT Politics
PRSM Parochialism
,,
PRCP Perceptions: Category Description

NONS Nonsuccess
POLT Politics
PRCP Perception
PRLT Personality
PRSP Perspective
RLTN Relationship
SUCC Success
,,
PRSM Parochialism: Category Description

PRCP Perception
PRLT Personality
PRSM Parochialism
PRSP Perspective
SRVS Services
,,
PRSN Personalities: Category Description

AMBN Ambition
INDV Individual
LEDR Leadership
PLYR Player
PMO Program Management Office
PRLT Personality
RLTN Relationship

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,
RLTN Poor relationships: Category Description

CMNT Community
COMP Competition
COPR Cooperation
PRLT Personality
PRSM Parochialism
RLTN Realationship
,,
RQCR Cust requirement creep: Category Description

CHNG Change
CTMR Customer
GOAL Goal
PROB Problem
RQRM Requirement
SFTW Software
SLTN Solution
,,
RQRM Unstable requirements: Category Description

CHNG Change
CRIS Crisis
OPCP Operational capability
RQRM Requirement
SFTW Software
TMEL Timeline
,,
RSRC Lack of resources: Category Description

CNTR Contractor
FNST Financial strategy
FUND Funding
POLT Politics
PRSN Personnel
RSRC Resources
SBCR Subcontractor
TMEL Timeline

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 3 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

’’
RTML Retired military: Category Description

OPIN Opinion
PRCP Perception
PRSP Perspective
RTML Retired military personnel
’’
TMEL Took too long: Category Description

TMEL Timeline
’’
TNOV Turnover of mgt team: Category Description

AMBN Ambition
CHNG Change
CMNT Community
KNOW Knowledge
LEDR Leadership
LYLT Loyalty
MNGM Management
OPPR Opportunism
PMO Program Management Office
TNOV Turnover
’’
VSON Lack of vision: Category Description

DIRC Direction
GOAL Goal
LEDR Leadership
PMO Program Management Office
VSON Vision
’’

Appendix I: Level 2 Driving Forces

CATEGORIES AND ASSOCIATED VARIABLES
CASE: Level 2 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,,

CNTR Contractor support: Category Description

ADVO Advocates
CNTR Contractor
KNOW Knowledge
PROC Process
RLTN Realationship
RTML Retired military personnel
TCHN Technology

,,,

COPR Cooperation of players: Category Description

COPR Cooperation
ENTH Enthusiasm
GOAL Goal
GRID Great idea
LEDR Leadership
POLT Politics
RLTN Realationship
TMEL Timeline
WOOP Window of opportunity

,,,

ENTH Enthusiasm: Category Description

ADVO Advocates
ENTH Enthusiasm
GOAL Goal
GRID Great idea
LEDR Leadership
TMEL Timeline
VSON Vision

,,,

GOAL Goals: Category Description

CRST Customer support
GOAL Goal
OPCP Operational capability
PROC Process

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 2 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

SLTN Solution
VSON Vision
WOOP Window of opportunity
„„
GRID Great idea: Category Description

ENTH Enthusiasm
GRID Great idea
PROC Process
SLTN Solution
VSON Vision
„„
KNOW Know/expertise on team: Category Description

CNTR Contractor
KNOW Knowledge
LEDR Leadership
PROC Process
RTML Retired military personnel
„„
LEDR Leadership: Category Description

AUTH Authority
COPR Cooperation
CRST Customer support
ENTH Enthusiasm
GOAL Goal
GRID Great idea
KNOW Knowledge
LEDR Leadership
POLT Politics
PROC Process
RLTN Realationship
TMEL Timeline
WOOP Window of opportunity
„„„
POLT Politics Top Cover: Category Description

LEDR Leadership
POLT Politics

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 2 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,,
PROB Problem: Category Description

PROB Problem
PROC Process
WOOP Window of opportunity
,,,
RLTN Relationships: Category Description

COPR Cooperation
POLT Politics
RLTN Realationship
WOOP Window of opportunity
,,,
SLTN Sol to mgt problems: Category Description

PROB Problem
PROC Process
SLTN Solution
,,,
SUPP All support: Category Description

ADVO Advocates
CNTR Contractor
COPR Cooperation
CRST Customer support
POLT Politics
PRSN Personalities
RLTN Relationship
STAK Stakeholder
WFTR Warfighter
,,,
TCHN Technology: Category Description

CNTR Contractor
SLTN Solution
TCHN Technology
WOOP Window of opportunity

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 2 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,,
WOOP Window of opportunity: Category Description

ADVO Advocates
COPR Cooperation
ENTH Enthusiasm
GRID Great idea
LEDR Leadership
POLT Politics
RLTN Relationship
SLTN Solution
TCHN Technology
TMEL Timeline
WFTR Warfighter
WOOP Window of opportunity

Appendix J – Level 2 Restraining Forces

CATEGORIES AND ASSOCIATED VARIABLES
CASE: Level 2 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

„„
CHNG Change: Category Description

CHNG Change
LEDR Leadership
POLT Politics
PRCP Perception
PRSM Parochialism
PRSN Personality

„„
COMP Comp for support: Category Description

COMP Competition
LEDR Leadership
POLT Politics
PRCP Perception
RSRC Resources

„„
COST Cost to services: Category Description

RSRC Resources

„„
ENTH Lack of enthusiasm: Category Description

CHNG Change
ENTH Enthusiasm
LEDR Leadership
MNGM Management
POLT Politics
PRCP Perception
PRSM Parochialism
PRSN Personality
TNOV Turnover

„„
KNOW Lack of know/exp on team: Category Description

KNOW Knowledge
LEDR Leadership
MNGM Management

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 2 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

RTML Retired military personnel
TNOV Turnover
,,,
LEDR Poor leadership: Category Description

AUTH Authority
CHNG Change
KNOW Knowledge
LEDR Leadership
MNGM Management
PMO Program Management Office
PRSN Personality
,,,
PEPL People: Category Description

ADVO Advocates
LEDR Leadership
LYLT Loyalty
PRSN Personality
RLTN Realationship
,,,
POLT Politics infighting: Category Description

COMP Competition
LEDR Leadership
LYLT Loyalty
POLT Politics
PRSM Parochialism
,,,
PRCP Perceptions: Category Description

POLT Politics
PRCP Perception
PRSN Personality
RLTN Realationship
,,,
PRSM Parochialism: Category Description

PRCP Perception
PRSM Parochialism

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 2 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

PRSN Personality

’’

PRSN Personalities: Category Description

LEDR Leadership
PMO Program Management Office
PRSN Personality
RLTN Realationship

’’

RQCR Cust requirement creep: Category Description

CHNG Change
GOAL Goal
RQRM Requirement

’’

RQRM Unstable requirements: Category Description

CHNG Change
RQRM Requirement
TMEL Timeline

’’

RSRC Lack of resources: Category Description

POLT Politics
RSRC Resources
TMEL Timeline

’’

TMEL Took too long: Category Description

TMEL Timeline

’’

TNOV Turnover of mgt team: Category Description

CHNG Change
KNOW Knowledge
LEDR Leadership
LYLT Loyalty
MNGM Management
PMO Program Management Office
TNOV Turnover

Appendix K: Level 1 Driving Forces

CATEGORIES AND ASSOCIATED VARIABLES
CASE: Level 1 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,
External Org Autonomy: Category Description

LEDR Leadership
POLT Politics
WOOP Window of opportunity

,,
External Stimuli: Category Description

COPR Cooperation
ENTH Enthusiasm
RLTN Relationship
TCHN Technology
WOOP Window of opportunity

,,
Internal Human Behavioral: Category Description

CNTR Contractor
COPR Cooperation
ENTH Enthusiasm
LEDR Leadership
POLT Politics
RLTN Relationship
SUPP All Support
WOOP Window of opportunity

,,
Internal Process Design: Category Description

CNTR Contractor
GOAL Goal
GRID Great idea
KNOW Knowledge
LEDR Leadership
PROB Problem
SLTN Solution

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 1 Driving Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

’’’
Internal Requirements: Category Description

GOAL Goal
GRID Great idea
LEDR Leadership
PROB Problem
SLTN Solution
TCHN Technology
’’’
Internal Structural: Category Description

CNTR Contractor
POLT Politics
PROB Problem
SUPP All Support
’’
Internal Technical Knowledge: Category Description

CNTR Contractor
GRID Great idea
KNOW Knowledge
SLTN Solution
TCHN Technology

Appendix L: Level 1 Restraining Forces

CATEGORIES AND ASSOCIATED VARIABLES
CASE: Level 1 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)

,,
External Org Autonomy: Category Description

LEDR Leadership
POLT Politics
PRCP Perceptions

,,,
External Stimuli: Category Description

COMP Competition for support
ENTH Enthusiasm
POLT Politics
PRCP Perceptions

,,,
Internal Human Behavioral: Category Description

ENTH Enthusiasm
KNOW Knowledge
LEDR Leadership
PEPL People
POLT Politics
PRCP Perceptions
PRSM Parochialism
PRSN Personalities

,,,
Internal Process Design: Category Description

CHNG Change
KNOW Knowledge
LEDR Leadership
RQCR Cust requirement screep
RQRM Unstable requirements

,,,
Internal Requirements: Category Description

COST Cost to services
LEDR Leadership
RQCR Cust requirement screep
RQRM Unstable requirements

CATEGORIES AND ASSOCIATED VARIABLES (CONT.)
CASE: Level 1 Restraining Forces
DATE: 4/10/04
CATEGORIES AND ASSOCIATED VARIABLES
ID CODE and DESCRIPTION (Subject and Action/Status)
,,,
Internal Structural: Category Description

COMP Competition for support
LEDR Leadership
POLT Politics
RSRC Resources
,,
Internal Technical Knowledge: Category Description

KNOW Knowledge
LEDR Leadership
PRCP Perceptions
RQCR Cust requirement screep
RQRM Unstable requirements
RSRC Resources
TNOV Turnover of mgt team

[i] He recalled a conversation with a North Vietnamese Colonel after the fall of Saigon. "You know you never defeated us on the battlefield," said the American Colonel. The North Vietnamese Colonel pondered this remark a moment. "That may be so," he replied, "but it is also irrelevant."

[ii] Machiavelli was born in Florence in 1469. He joined the Florentine diplomatic corps as a middle level civil servant. He knew his business well and soon rose to be the most trusted agent of Piero Soderini, a man who in 1502 had been elected for life to the highest office in the Florentine Republic. In 1512, the Florentines were abandoned by their traditional allies, the French, and left to the mercies of a hostile pope. Machiavelli tried to form a militia but was defeated by the Spanish and the Florentine Republic fell. After the obligatory torture, Machiavelli was allowed to retire to the country, where he wrote The Prince, in 1513. The Prince is a tour de force of political power and strategies for political leaders. The mere word "Machiavelli" conjures up images of ruthless power, autocratic rule and political deceit

[iii] Musashi was born in Southern Japan in 1584. He was a Samurai warrior and by the age of 30 had fought and killed more than 60 other samurais. During this time a new emperor had seized power and disbanded the provincial armies. Musashi was made redundant and roamed Japan for several years pursuing the ideal of the warrior through the art of kendo, sword fighting. By his own estimation, Musashi did not understand strategy until he was about 50 years old. In 1643, at the age of 59, he retired to a cave, and several weeks before his death in 1645, wrote The Book of Five Rings, which according to Musashi is not thesis about strategy, but a book "for men who want to learn strategy."

[iv] Ironically, Napoleon, considered one of the greatest strategic generals, was not a strategist in the purest sense of the word. His strength was in developing existing theories and applying them to perfection. He left no written record of his concepts or philosophies save 115 maxims. The originators of many of those theories are Clausewitz and Jomini, although they came at their task from differing perspectives. Where Jomini wrote of the strategies for winning battles, Clausewitz concerned himself with the basic nature of war.

[v] Chapter 3 of Jomini's book is titled *Strategy*, and in it he provides thirteen strategic principles:

- Selection of the theater of war,
- Determination of the decisive points and the most favorable direction for operations,
- Selection and establishment of the fixed base,
- Selection of the objective point,
- Selection of the strategic front, lines of defense, and fronts of operation,
- The choice of lines of operation,
- The best strategic line and different maneuvers,
- Bases of operation and strategic reserves,

- The march of the army,
- The positions of the depots,
- Sieges of fortresses,
- Points for entrenched camps, and
- Diversions to the route.

[vi]This insight was to be codified as The Powell Doctrine, named after the Chairman of the Joint Chiefs during the First Gulf War.

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EDUCATION

Doctor of Philosophy, Public Administration (2004)
Virginia Tech, Blacksburg, Virginia

Dissertation Title: "It Seemed Like a Good Idea at the Time: A Study of Forces Acting on Strategy Implementation of a Logistics Information Technology Project in the Department of Defense"
Committee Chair: John W. Dickey

Master of Science, Management Science (1979)
State University of New York at Binghamton, New York

Bachelor of Science, Industrial Management (1973)
Georgia Tech, Atlanta, Georgia

PROFESSIONAL EXPERIENCE

More than 29 years of broad based logistics experience developing policy, setting goals, and overseeing implementation of materiel tracking and asset management processes and systems throughout the Department of Defense (DoD). Developed logistics procedures for DoD-wide systems including requisition and issue, transaction reporting and accounting, and supply and transportation evaluation. Provided supply support at field units with operational combat missions. Managed and led a support staff, prepared and worked within budgets. Provided leadership at practically every level within the DoD.

WORK HISTORY:

August 2001 – Present
Consultant
LMI Government Consulting
McLean, Virginia

- Performs studies and analyses of logistics processes and systems for DoD
- Provides briefings to key personnel within the Institute as well as DoD
- Led the study and was primary author of the vision and implementation plan integrating the Common Access Card, a smart card that serves as the new military identification card, into the logistics systems and processes for the US Army
- Participated in a study to assist the US Army in developing more effective and efficient logistics management of chemical warfare defense equipment

- Authored the Concept of Operations for the Navy's Advanced Technology Ordnance Surveillance project, to incorporate micro-electromechancial sensors with radio frequency tags to remotely sense environmental conditions of Naval ordnance

August 1999 – August 2001
Graduate Assistant
Center for Public Administration and Policy
Virginia Tech
Blacksburg, Virginia

- Performed assessments and evaluations
- Assisted the MPA coordinator in administering the master's program
- Served on the College of Architecture Honorifics Committee
- Served as primary author of the marketing plan for Travel Shenandoah, an intelligent transportation system project serving the Shenandoah valley
- Served as primary author for the report to ensure continued accreditation of the Center for Public Administration and Policy

March 1997 – July 1999
Research Fellow
Logistics Management Institute
McLean, Virginia

- Performed studies and analyses of logistics processes and systems for DoD
- Led a Joint Integrated Process Team developing operational and system architectures for the Joint Total Asset Visibility Project, to gain visibility of logistics and personnel assets throughout the DoD logistics pipeline and across services
- Assisted in development of a global automatic identification technology architecture
- Key member of a team studying total ownership costs and effects of investments to minimize logistics supports costs
- Sole author of the Joint Total Asset Visibility Strategic Plan

April 1995 – March 1997
Senior Logistics Engineer
Computer Sciences Corporation
Springfield, Virginia 22151

- Led a group of senior executives in strategic planning sessions
- Analyzed user needs and determined functional requirements
- Performed business process reengineering analysis
- Led the contractor team that installed the first Computer Aided Logistics System in a program management environment
- Served as the Director of the Focus Center, an interactive meeting facility
- Facilitated numerous meetings on subjects ranging from joint mine countermeasures to transportation control management documents.

February 1993 – March 1995
DoD Total Asset Visibility and Automatic Identification Technology Project Officer
Office of the Secretary of Defense

The Pentagon
Washington, DC
- Formulated and assessed implementation of policy for asset management, munitions, automatic identification technology, and packaging throughout DoD
- Drafted and reviewed legislation
- Responded to Congressional inquiries and internal and external audits
- Led the DoD TAV Project to integrate and connect all necessary logistics management information systems into a DoD-wide asset visibility capability
- Revolutionized asset management thought within the Department by forging unprecedented agreements between the services to redistribute retail property
- Laid the foundation for DoD adoption of Portable Data File (PDF) 417 as the DoD standard for 2 dimensional bar code symbology
- Deployed to Haiti with the Army's 82nd Airborne Division to assist in providing asset visibility throughout the logistics pipeline
- Chairman of the Defense Policy Packaging Group
- OSD point of contact on all logistics matters concerning conventional ammunition

February 1991 – February 1993
Logistics Systems Analyst
Headquarters Defense Logistics Agency
Defense Logistics Management Standards Office
Alexandria, Virginia 22312
- Served as Deputy Program Manager for the Defense Logistics Management System (DLMS), reengineering all standard joint DoD logistics systems to comply with national standards for electronic data interchange (EDI)
- Developed functional procedures for various logistics processes including requisition and issue, and supply and transportation evaluation
- Led DLMS to successful initial operating capability

February 1989 – February 1991
Commander/Chief of Supply
501st Tactical Missile Wing
RAF Greenham Common, England
- Commanded over 250 people supporting the Air Force's largest tactical missile wing and largest munitions depot in Europe
- Provided inventory control, warehousing, and distribution for over 30,000 line items
- Managed $3.5 million budget and $6 million petroleum product inventory
- Simultaneously supported the combat mission, and Operation Desert Storm, while redistributing over $200 million worth of property in accordance with base closure under the Intermediate-nuclear Forces Treaty
- Squadron awarded Supply Effectiveness Award for efficiency and customer support
- Personally selected "best squadron commander" on base for two consecutive years.

June 1986 – January 1989
Chief of Aircraft Support
Headquarters Strike Command, Royal Air Force

RAF High Wycombe, England
- As an exchange officer, led a Royal Air Force staff element of officers and enlisted ranks in providing all aircraft related supply support to more than 400 RAF combat aircraft worldwide
- First non-British Officer selected to lead RAF logistics inspection teams to combat-ready units including RAF Forces Belize.
- Hand-picked to lead the inspection team for the logistics support of The Queen's Flight – the Royal equivalent to Air Force One – an unprecedented honor for a non-British officer.

June 1984 – June 1986
Munitions Supply Staff Officer
Headquarters Air Force Logistics Command
Logistics Operations Center
Wright-Patterson, AFB, Ohio 45433
- Developed logistics management policies for nuclear and non-nuclear munitions for all 350 USAF munitions accounts worldwide
- Wrote the Air Force regulations for supply management of conventional ammunition as well as nuclear weapons
- Leader in development and USAF-wide implementation of the Combat Ammunition System
- Standardized data, developed system interfaces, and solved related problems
- Supervised budgetary preparation, evaluated logistics improvements, and prepared program decision packages presented to Congress

August 1982 – May 1984
Chief of Customer Support
31st Supply Squadron
Homestead AFB, Florida
- Led over 90 people in 8 work centers responsible for validating requirements, requisitioning, and stock control for over 50,000 line items
- Operated a retail outlet for administrative and janitorial supplies, tools, and controlled items, averaging $30,000 in sales per month
- Served as the squadron single point of contact for customer service
- Maintained the lowest "not mission capable – supply" rate in Tactical Air Command

August 1979 – June 1982
Assistant Professor of Aerospace Studies
AFROTC Detachment 835
North Texas State University
Denton, Texas
- Responsible for recruiting, retaining, and academic/military education and training Air Force Reserve Officer Training Corps students
- Prepared course outlines and lesson plans
- Taught, counseled, and motivated cadets
- Administered scholarship programs

- As Commandant of Cadets ensured realistic leadership experiences
- Advisor to award winning extra-curricular activities
- Served on the university "Gift of Life" Committee
- Selected one of 32 "Top Profs" on campus from a full time faculty of over 700

July 1976 – July 1979
Munitions Supply Officer
416th Bombardment Wing (Heavy)
Griffiss AFB, New York
- Provided total munitions supply support to a wing of B-52 and KC-135 aircraft as well as a Fighter Interceptor Squadron
- Served over 26 supply points at 5 locations throughout New York state
- Responsible for all inventory management, warehousing, and distribution for all munitions
- Prepared and monitored squadron budgets
- Office was selected as the "Best Munitions Supply" in Strategic Air Command.

September 1975 – May 1976
Munitions Supply Officer
635th Munitions Maintenance Squadron
U-Tapao Royal Thai Airfield, Thailand
- Managed munitions supply account valued in excess of $50 million
- Responsible for audit trail and timely redistribution of over 98,000 tons of munitions from 4 separate bases throughout Thailand during US withdrawal from mainland Southeast Asia.

November 1973 – July 1975
Logistics Planner
Air Force World-wide Ammunition Control Point
Ogden Air Logistics Center, Utah
- Responsible for timely and accurate re-supply of munitions to Southeast Asian allies
- Developed munitions programs, analyzed support posture, and coordinated supply actions
- Collected, reviewed, and analyzed data and prepared reports to headquarters.

TEACHING EXPERIENCE

Strategic Thinking in the Public Sector – Master's level course at the Center for Public Administration and Policy at Virginia Tech
- covered theoretical foundations, formulation, implementation, evaluation
- emphasized seminar learning and group work

National Defense Policy- Senior undergraduate course in Air Force ROTC at North Texas State University
- covered role of military in society, history of national defense, theories of national defense, current events in national defense

- emphasized student briefings to teach the lessons

Military Leadership –Experiential learning for all Air Force ROTC students at North Texas State University

- Each cadet had a leadership position corresponding to a real job in an active Air Force Wing.
- Cadets were responsible to each other for their performance and the organization's performance was responsible to me

Introduction to Air Power – Freshman undergraduate course in Air Force ROTC at North Texas State University

- Emphasized lectures, movies and personal experiences

Invited Guest Lectures, Virginia Tech, Blacksburg, Virginia

"Applying Kingdon's Multiple Streams Model to Strategic Planning, Logistics Technology and the Human Genome", PAPA 6624, Public Policy

"How the Planning, Programming and Budgeting System (PPBS) Works in DoD", PAPA 6314, Public Budgeting

SCHOLARLY ACTIVITY

Publications

Under Review

"A Study of Wilson and De Toqueville: Public Administration and Civil Society", *Administration and Society* (revise and resubmit)

Manuscripts in Progress

"How Strategic Plans Inhibit Strategic Thinking"

"The Great Strategy Paradox: Where Strategies are Most Needed They are Less Accurate; Where They are Less Needed, They are More Accurate"

Conference Papers and Presentations

"An Economic Framework for Assessing the Benefits of Logistics Data Management Standards", (co-authored with John Dickey) presented at the 7th International Symposium of Logistics, Melbourne, Australia, July 2002

"Data Sharing: The Supply Chain Enabler", (co-authored with John Dickey) presented at the International Purchasing & Supply Education & Research Association Conference, Catania, Italy, April 2004

Professional Reports

"Mobility Inventory Control Accountability System: A Plan for Transition of Program Management from the US Air Force to the US Army," draft, a plan to transfer logistics program management of gas masks, filters, suits and other chemical warfare equipment from the Air Force to the Army. The plan also included the Memorandum of Understanding between the services agreeing to the management procedures after the transition is complete.

"The Future of RFID in Army Distribution Management", draft, (co-authored with Ron Durant and Jack Vandenberghe), a vision and plan for radio frequency technology in Army logistics support

"The Advanced Technology Ordnance Surveillance Concept of Operations", May 2003, the concept of operations to combine micro-electromechanical sensors and radio frequency tags and install them on Navy ordnance to remotely monitor environmental conditions

"The Common Access Card and US Army Logistics: A Vision and a Plan", July 2002, the plan to integrate smart card technology into Army logistics systems and processes

"Self-Study Report", September 2001, the report submitted to the National Association of Schools of Public Administration and Affairs to ensure continued accreditation of the Center for Public Administration and Policy at Virginia Tech

"Travel Virginia: Final Report", September 2000, (co-authored with Richard Worrall) a plan to extend Travel Shenandoah across the state of Virginia.

"Travel Shenandoah Marketing and Strategy Plan", April, 2000, (co-authored with Richard Worrall) an intelligent transportation system project serving as a travel advisory system for the Shenandoah Valley

"The Joint Total Asset Visibility Strategic Plan", January 1999, the strategic plan to gain visibility of all assets in the DoD logistics pipeline across all services and across the functional areas of supply, transportation, maintenance and procurement

"An Investment Strategy for Providing Asset Visibility to the War Fighting CINC's", March 1996, a white paper to justify funding for the Total Asset Visibility project.

SERVICE

- Volunteer background briefer to award winning debate team, North Texas State University
- Member Gift of Life Committee, North Texas State University
- Volunteer Tutor, Adopt-a-School Program, Defense Logistics Agency, Alexandria Virginia

- Volunteer lacrosse coach, Robert E. Lee High School, Springfield Virginia
- Member of College of Architecture Honorifics Committee, Virginia Tech

OTHER PROFESSIONAL EDUCATION

- Graduate of Program Manager Course – Defense Systems Management College – 1992
- Outstanding graduate of Industrial College of the Armed Forces – National Defense University – 1988
- Graduate of Royal Air Force Staff Officer Course – RAF Staff College – 1986
- Graduate of Marine Corps Command and Staff College – 1985
- Graduate of Air Force Command and Staff College – 1982
- Graduate of Air Force Academic Instructor School – 1979

JOB RELATED HONORS AND AWARDS

- Hand-picked to lead the Total Asset Visibility project (DoD's number one logistics project) - 1992
- Selected as "best squadron commander" – 1989 and 1990
- Led squadron to highest ratings ever achieved by a ground launched cruise missile supply unit on a NATO tactical evaluation – 1989
- Chief of Supply/Commander of unit receiving Supply Effectiveness Award – 1989
- First non-British officer selected by the RAF to lead inspection of logistics support of front-line combat-ready units, as well as The Queen's Flight – the Royal equivalent to Air Force One – an unprecedented honor for a non-British officer - 1988
- Selected a "Top Prof" (one of 32 from a faculty of over 700) at North Texas State University – 1981
- Officer in Charge, "Best Munitions Supply in Strategic Air Command" – 1978

PROFESSIONAL ORGANIZATIONS

- Member, Pi Alpha Alpha, the Public Administration Honor Society
- Member, American Society of Public Administration
- Past member, National Institute of Packaging, Handling, and Logistics Engineers
- Past member, Council of Logistics Management

TECHNICAL SKILLS

- Microsoft Office Applications (Excel, Word, PowerPoint, Access, Outlook)
- NCSS statistical package
- TextAnalyst2 (qualitative software package)
- Quantitative CyberQuest: For Analytic Discovery
- Substantial experience with numerous online databases and web applications within DoD