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MBA PROFESSIONAL REPORT

**Organizational Design Analysis of Fleet Readiness Center Southwest
Components Department**

**By: Jose F. Montes
December 2007**

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**ORGANIZATIONAL DESIGN ANALYSIS OF FLEET READINESS
CENTER SOUTHWEST COMPONENTS DEPARTMENT**

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Submitted in partial fulfillment of the requirements for the degree of

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ORGANIZATIONAL DESIGN ANALYSIS OF FLEET READINESS CENTER SOUTHWEST COMPONENTS DEPARTMENT

ABSTRACT

The U.S. Navy's, Naval Aviation Enterprise has combined its Depot aircraft maintenance activities with the Aircraft Intermediate Maintenance facilities to form the Fleet Readiness Centers across the U.S. The merger creates newly formed organizations responsible for providing comprehensive aircraft maintenance support by combining personnel, technical expertise, equipment and facilities. The purpose of this MBA Project is to analyze the proposed organizational design elements of the FRCSW Components Department that resulted from the integration of the Naval Aviation Depot at North Island (NADEP N.I.) and the Aircraft Intermediate Maintenance Department North Island (AIMD NI) in San Diego, CA. The goal of this project is to evaluate possible misalignments in the current organizational design and structure of the organization, identify design gaps, and areas of duplication of effort. This project evaluates the current design through personnel interviews and is conducted with the sponsorship and assistance of the Fleet Readiness Center Southwest.

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I. INTRODUCTION

This research study provides an analysis of existing organizational design elements of the Fleet Readiness Center Southwest (FRCSW) Components Department. The FRCSW is a newly established organization in naval aviation maintenance that integrates personnel, equipment and technical expertise from the former Naval Aviation Depot, North Island (NADEP N.I.) and the Aircraft Intermediate Maintenance Department, North Island (AIMD N.I.) into a single organization. The research work focuses on the analysis and evaluation of the current organizational design, structure, critical processes, lateral capabilities and key areas of responsibilities of the FRCSW Components Department, and their alignment with overarching command goals and vision. Particular areas of interest include the identification of potential areas of process duplication and inefficiencies or disconnects in the organization's lateral processes. The study also reviews organizational design elements to verify that they provide value to the Components Department.

Partnering our military & civilian maintainers with our logisticians, engineers, maintainers, program managers and industry partners creates the all star team the warfighter needs for greater efficiency, agility and velocity of operations. Based on the great work you performed as former Depots and AIMDs, we have a strong foundation from which to build FRCs.

RDML Michael Hardee, Commander Fleet Readiness Centers, (2006).¹

A. BACKGROUND

Naval aviation maintenance support has remained relatively unchanged for several decades. During this time, the dominant trend was providing the highest possible level of military readiness without implementing revolutionary cost management initiatives. However, the naval aviation maintenance community is currently undergoing

¹ RDML Michael Hardee, Commander's 100 day plan, 2006.

what is considered by many to be the most significant transformation in the way naval aviation maintenance support is accomplished during the past 50 years, because revolutionary cost management initiatives have become more important.² Government mandates resulting from the 2005 Base Realignment and Closure (BRAC) Commission findings, as well as internal Department of Defense (DoD) and Department of the Navy (DoN) recommendations, provided the foundation for the integrations of two separate and distinct levels of aircraft maintenance support with the goal of increasing readiness for the warfighter at the lowest cost possible.

1. FRC Implementation Across the Naval Aviation Enterprise

The 2005 BRAC concluding findings and recommendations to the President of the United States dictated the implementation of the Navy's Fleet Readiness Centers (FRCs) initiative effectively merging shore-based Depots and Aircraft Intermediate Maintenance Detachments (AIMDs) into a single streamlined organization. The BRAC law empowered the Naval Aviation Enterprise (NAE) body to make the necessary changes to begin the merger and establishment of the new commands. In 2006, the NAE Board of Directors approved the FRC concept developed by Commander, Naval Air Systems Command (NAVAIR) to integrate and realign Continental United States (CONUS) AIMDs with Naval Aviation Depot maintenance facilities and personnel in order to combine and streamline support for shore-based, off-flight line maintenance. The goal and emphasis of merging the two organizations continues to be to reduce duplication of maintenance processes and improve service to U.S. Naval and Marine Corps Air Forces, while achieving cost-wise readiness.³

The merger of the two activities supporting aeronautical and related equipment maintenance efforts created six FRCs that combined civilian Depot artisans and military AIMD personnel under the same organization. The newly established FRCs offer a new kind of capability to better service aeronautical equipment by eliminating redundancy in

² First Fleet Readiness Center Stands Up at Coronado, 2006.

³ Susu Kulow, Navy Implements Fleet Readiness Centers, 2007.

previous processes and generating cost-savings. According to DoD initial estimates, maintenance process improvements, and reductions in maintenance costs and supply overhead would yield a one-time savings of about \$648 million and an estimated \$4.7 billion over the next 20 years.⁴ Figure 1 shows the six newly established FRCs.

An unprecedented challenge for leadership and managers who are tasked with supporting the integration initiatives has been the implementation of an organizational design and structure that supports the NAE vision and goals. Carefully managed integration of critical aspects of the former AIMD N.I. and Depot N.I. into the FRCSW has been a key element to a smooth transition period.⁵ Initial implementation of the FRC concept required merging two distinct organizations that performed maintenance activities at different levels of complexity, traditionally used different operation processes and were funded in different ways. Ongoing integration efforts require that command objectives, structure and organizational processes for the proposed new organization be clearly defined and understood. A challenge for leadership is identifying an organizational design and structure that supports command-wide integration efforts effectively, while simultaneously eliminating redundancies, and clearly delineating areas of responsibility and lines of communication.

⁴ United States. Government Accountability Office, 2007.

⁵ FRCSW, FRCSW Home, 2007.

3. Scope

The scope of the research project is limited to examining one of the six FRCs, the FRCSW, and within the FRCSW, only the Components Department. It is important to note that at this time there are distinctions in the way in which the different FRCs operate and therefore generalizations can only be made in areas that are governed by law directives or instructions. The research focuses on analytical evaluation of the alignment of Components Departments design with the overarching organizational vision and goals.

4. Methodology

The project delivers an analysis of organizational responsibilities for the FRCSW Components Department and a suitable organization design that will support strategic, operational and evolutionary FRCSW goals. The design process analysis focuses on identifying the largest gaps between the current state and future design of the Components Department. The analysis is accomplished by examining the alignment between the Organizational Strategy, Departmental Structure, and Processes and Lateral Capability components using Galbraith et al.'s Star Model⁷ and Burton et al.'s Five Step-by Step Process⁸.

The three components of the Star Model applicable to this research project are the Strategy, Structure, and Processes and Lateral Capability components. Likewise, only the Goal, Strategy, Configuration and Complexity, Task Design, and Coordination and Control Space of the Five Step-by-Step Process are used in this study. The remaining components of the Star Model, (i.e., People Practices and Reward Systems) in addition to several of Burton et al.'s Two-dimension Space analysis areas (e.g., People and Incentives) are not part of this research, but they provide ground for future research projects.

⁷ After Ref. Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 2.

⁸ From Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), xv.

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II. FRCSW CONCEPTS

A. BACKGROUND

Dating back to 1919, the Assembly and Repair Department of Naval Air Station North Island (NASNI), was responsible for repairing and servicing aircraft for the fleet. Today, the FRCSW continues to support the fleet needs through the capabilities established by over 3100 military and civilian personnel that specialize in the maintenance, modification services, repair, overhaul and inspection of aeronautical equipment. Although the FRCSW headquarters are located at NASNI, the command has field sites and detachments that are geographically dispersed throughout the continental U.S. and Hawaii. Other sites include Naval Air Warfare Center (NAWC) Point Mugu, Marine Corps Base (MCB) Camp Pendleton, Marine Corps Air Station (MCAS) Miramar in California, MCAS Yuma, Arizona and MCAS Kaneohe Bay, Hawaii. Additional on-demand services to operational units are provided through Voyage Repair and Field Service mobile teams that bring in-depth technical expertise to customers in the U.S. and abroad.⁹

B. FRCSW PROGRAMS

The FRCSW receives aircraft, engines and a multitude of components from activities within the U.S., as well as forward deployed units, for maintenance, modification and repair needed from normal operations or battle related damage. Requests to manufacture new replacement items for components that can no longer be repaired, refurbished or are not commercially available are also received from fleet units as well as other DoD components. These demands are satisfied by the services provided through one or more the following seven FRCSW programs:¹⁰

⁹ FRCSW, (2007b).

¹⁰ FRCSW, (2007b).

1. Components Program

The Components Program at FRCSW has capabilities to repair and refurbish over 19,000 different types of Navy, Marine Corps aircraft components, supply system and DoD assets. It currently employs close to 650 Depot artisans and 260 AIMD military personnel.¹¹ The Components Department existed as a program within the Depot prior to the merger, but as a result of the FRC implementation initiative it now integrates the AIMD repair capabilities with Depot artisan skills into a single organization. The new organization has personnel, equipment and facilities specialized in the repair and refurbishment of Avionics, Aircraft Supports and Surfaces, Instruments and Generators, Landing Gear and Hydraulics components for units ashore and afloat. The focus of this study is the Components Department and its current organizational design and structure.

2. E-2/C-2 Program

The E-2/C-2 Program is comprised of five groups that include Planned Maintenance Interval (PMI) One and Two for repair and refurbishing (PMI-1/-2), PMI-3/Service Life Extension Program (SLEP)/Rewire (C-2), In-Service Repair (ISR), Foreign Military Sales (FMS), and E-2 Super Modules.

3. F/A-18 Program

The F/A-18 Program supports PMI-1/-2, Special Rework/Crash Damage Repair (SR/CD) and Center Barrel Replacement Plus (CBR+).

4. Manufacturing Program

The Manufacturing Program has machining, sheet metal fabrication, tube/hose/duct repair, foundry, welding and heat treatment capabilities that support the aircraft and helicopter rework programs as well as the overhaul of the LM2500 marine gas turbine engine used on surface naval ships. This department also manufactures and

¹¹ Personnel assigned to the FRCSW Components Department as of November, 2007.

repairs over 150 different configurations of mobile VANS, large steel container with special equipment, that support deployed Marine Corps Units.

5. Engineering and Logistics Program

The Engineering and Logistics Program is part of the In-Service Support Center (ISSC) and consists of a full Materials Laboratory and the Navy Primary Standards Laboratory (NPSL). This program is responsible for developing the safest, most reliable and cost-effective engineering solutions needed to meet or exceed the repair, refurbishment and modification requirements for products.

6. Helicopters Program

The Helicopters Program supports PMI-1/-2 for UH-1/HH-1 Huey, CH-53 Super Stallion, AH-1W Super Cobra and SH-60/MH-60/HH-60 Seahawk helicopters for the Navy and the Marine Corps.

7. Field Service/Voyage Repair Program

The Field Service/Voyage Repair Program is comprised of Voyage Repair teams, Field Service teams, paint/finish and surface/structural repair support for AV-8B Harrier aircraft in Yuma, Arizona.

C. FRCSW ORGANIZATIONAL STRUCTURE

1. FRCSW Organizational Structure

At the time of this research, the organizational structure of the FRCSW was going through a developmental and assessment period. The organization was using executive steering groups (ESGs) to evaluate alternatives for a final design and refinement of the structure based on results from Lean Six Sigma (LSS) improvement initiatives and other ongoing studies. In its current form, (Figure 2), the proposed organizational structure is functionally designed and places the Components Department along with Aircraft

Programs, Manufacturing (Engines) and Services (Flight Test Line), as one of four departments within the Production segment of the organizational chart.

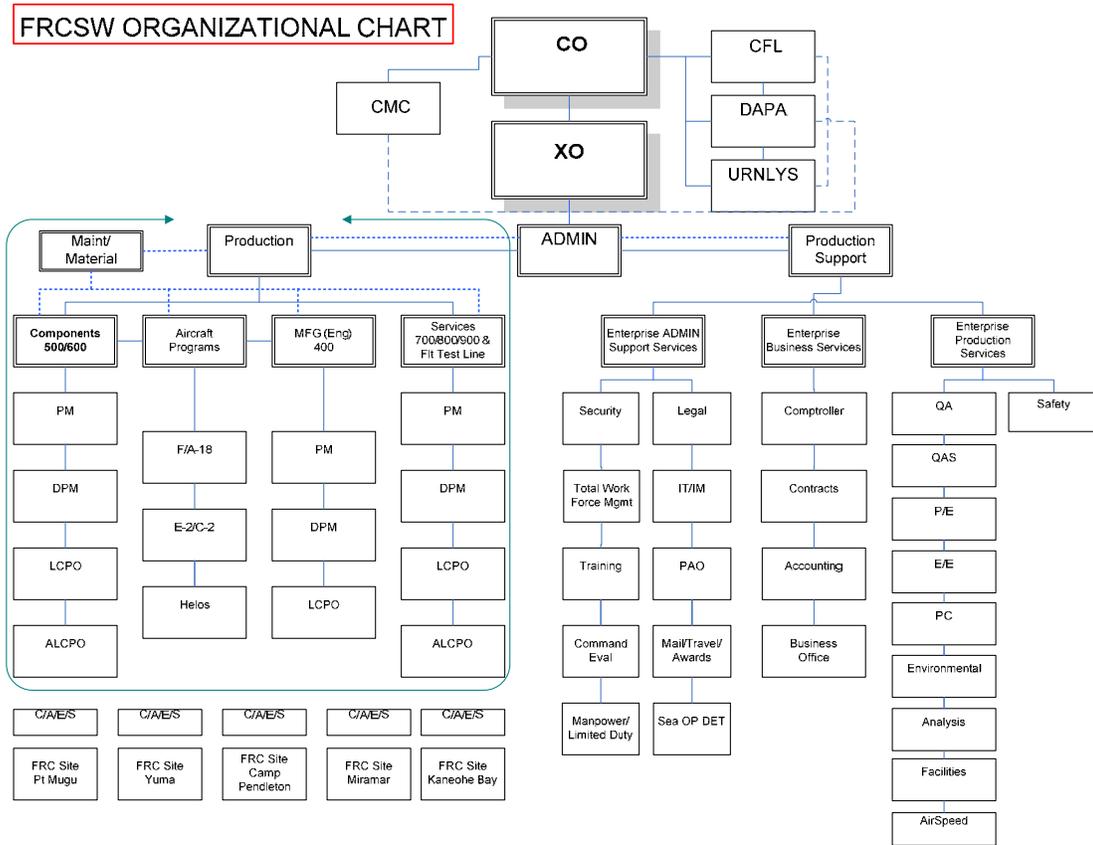


Figure 2. FRCSW Organizational Chart (Draft).¹²

2. Components Department Organizational Design

The Components Department specializes in areas that include but are not limited to machining, plating, fatigue enhancement/surface preparation, non-destructive inspection, paint and heat treat. The department also provides developmental capabilities through specialized equipment and technical skills that are critical to accelerating the

¹² After Ref. from preliminary organizational chart provided by FRCSW staff, July, 2007.

insertion of emerging technologies into existing weapons systems.¹³ These unique capabilities exponentially increase the availability of up-to-date fleet assets by extending their operational service life and by enabling new mission capabilities in weapons systems that otherwise would have been considered outdated legacy systems.

The new organizational structure being implemented by Components Department is different from the traditional hierarchical design used by AIMD N.I. and Depot N.I. Components Program structures prior to the two organizations merging. The new organizational structure is a hybrid design combining matrix and hierarchical type designs to interconnect four product divisions (formerly AIMD) with seven production support code offices from the former Depot (Figure 3). The traditional military hierarchical framework is supplemented by a matrix organizational support structure that provides engineering, administrative and financial services.

Another major difference from the legacy structure in AIMD or the Depot, is that the 700 and 800 Divisions now process work through two separate Departments within the FRCSW. The Components Department and the Services Department now share maintenance support responsibilities for 700 and 800 divisions based on off-flight line and on-flight line maintenance requirements. The Components Department continues to be responsible for performing maintenance and overhaul on repairable equipment (7R) equipment coming off aircraft, while the Services Department is responsible for on-aircraft type/flight line maintenance and servicing as well as equipment pool activity.

¹³ FRCSW, 2007a

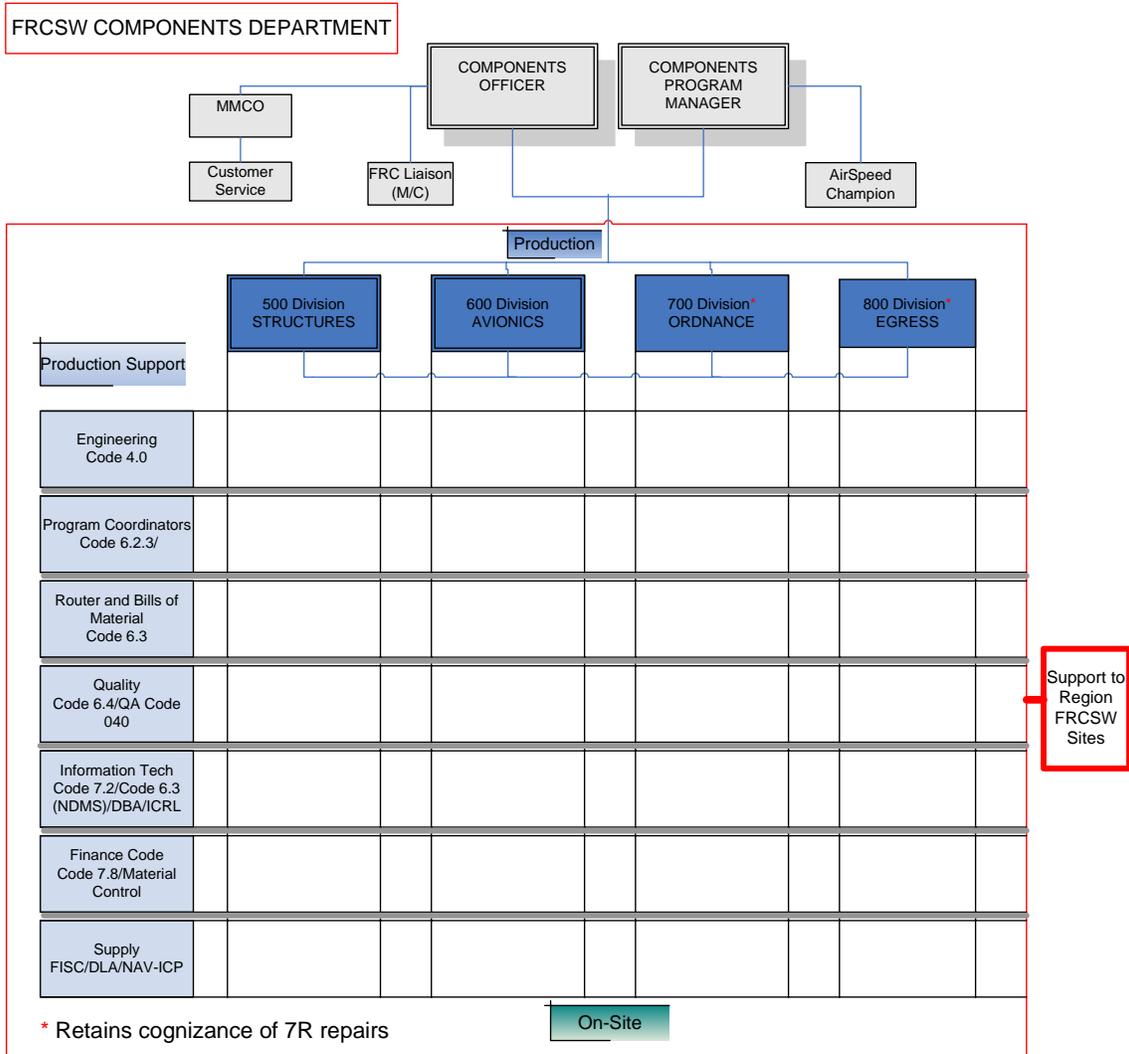


Figure 3. FRCSW Components Department & Associated Production Support (Draft).¹⁴

3. Components Department Functional Areas

The Components Departments is subdivided into the following four functional areas:¹⁵

¹⁴ After Ref. from FRCSW (2007c), *Integrating Intermediate and Depot Activity at FRC Southwest* (Does not include Divisional Branches or workcenters), 18 April, 2007.

¹⁵ FRCSW, 2007a.

a. Landing Gear/Hydraulics Division

The landing Gear/Hydraulics Division is responsible for the repair and overhaul of Hydraulic Motors/Servo Hydraulics, Ordnance launchers/Racks, Mechanical Gearboxes, Pneudraulic Actuators, Wheels/Brakes and Arresting/Catapult Gear.

b. Aircraft Support and Surfaces

The Aircraft Support and Surfaces overhauls and repairs Horizontal Stabilators, Flaps, Canopies, Windscreens, Inner/Outer Wings, Fuel Tanks, Ejection Seats and Fire Bottles.

c. Avionics

The Avionics Division is responsible for the overhaul and repair of Radar, Radios, Navigation, Communications, Test Equipment and Automatic Test Equipment (ATE), Rotodomes and Piezoelectric Instruments.

d. Instruments and Generators

Instruments and Generators Division performs overhauls and repairs on General Instruments, Ground Support Equipment, Generators, Electrical Cables and Electrical Actuators.

D. FRCSW INTEGRATION (FRCSW PRODUCTION IMPLEMENTATION PLAN)

Merger of two large and well-established organizations such as NADEP N.I. and AIMD N.I. is a demanding task. The ability to formulate, communicate and implement a transition plan with a clear vision for those involved in the transformation process is of the utmost importance. The Production Implementation Plan is the guiding vision for the FRCSW and contains the necessary elements that ultimately will define the design for the organization as a whole. It is composed of four main sections (i.e., Purpose, Background, Planning and Execution) and several subsections. The first three sections delineate the

standard guidance provided to all FRCs, and the last section provides the response strategy to the guidance provided by the first three sections. All four sections of the implementation “roadmap” are briefly described below.¹⁶

1. Purpose

The purpose of the Production Implementation Plan is to provide a systematic implementation approach and transition guidance for the FRCSW. It also delineates the integration requirements for the two organizations in order to provide Off-Flight Line maintenance support for repairable components.

2. Background

The Commander Naval Air Forces (CNAF), Naval Air Systems Command (NAVAIR), Supply and the FRC Implementation Team (FIT) are responsible for transitioning the Depot, AIMD/MALS, and the Fleet Industrial Supply Center (FISC)/Aviation Supply Department (ASD) into an FRC site that is realigned with supply support functions and all applicable logistics elements. It is also required that a Site Implementation Team (SIT) be formed at each FRC site to be responsible for the planning and execution of establishing and/or expanding the maintenance capabilities for repairable components.

3. Planning

The planning section provides a time-phased approach to accomplish all of the integrated logistics necessary to establish the appropriate level of maintenance and repair task capabilities at the FRCSW. It is divided into seven major subsections addressing FRCSW issues such as Key Personnel, Return on Investment Summary, Depot to Intermediate (D2I) Integration Summary by Commodity, Sequence 4 National Identification Number (NIIN) List, Sequence 5 NIIN List, New or Additional NIIN Recommendations and Implementation Plan of Action and Milestone (POA&M). The

¹⁶FRCSW, *Production implementation plan for fleet readiness center (FRC) southwest*. (14 June 07), ii.

planning section also discusses the responsibilities and support provided by the FRCSW Site Implementation Team (SIT) Commander Fleet Readiness Center (COMFRC) Fleet Implementation Team (FIT) and the FRCSW Commodity Group Integration Team.

4. Execution

The Execution section provides a customized and detailed plan of implementation of the FRC concept at the FRCSW. This phase is subdivided into four sections. The History background section describes the command's relationship with the community and the transition from Intermediate to Depot (I2D) and Depot to Intermediate (D2I) efforts. The second section, the AIMD and Depot Integration Process section discusses NIIN interdiction and integration goals. The third section is the Implementation Plan of Action and Milestones (POA&M) and highlights barriers to implementation. The fourth and last section deals with the cost of implementation, including an itemized list of BRAC funding request to support consolidation and physical move actions.

E. CURRENT STAGE OF IMPLEMENTING PLANNED DESIGN

The FRCSW began working on constructing a local design process with the goal of becoming a fully integrated organization, including administrative and production chain of command, in January of 2006. Once official direction was given to establish the FRCSW, the Components Department was tasked with initiating consolidation of Depot and AIMD personnel, facilities and Information Systems through initiatives termed "Petri Dish" experiments. The first Petri Dish attempt to integrate both organizations took place in the 93600 Division of Components Department APX-100 cell. The merger of this workcenter into a cell meant that Sailors and Artisans would sit side-by-side using the same technical information system, parts, parts requisition systems and Quality Assurance processes.¹⁷

¹⁷ FRCSW, *Production implementation plan for fleet readiness center (FRC) southwest*. (14 June 07), 9-10.

The results and lessons learned achieved from the APX-100 workcenter integration served a template for the future design of other cells and workcenters in 93500 and 93600 Divisions of Components Department, as well as other departments within the organization. In January of 2007, the first events took place to establish FRCSW Components Department in accordance with the guidelines established by the Commander Fleet Readiness Centers. Because of the complexity and scope of this merger, the integration and implementation of the planned design is currently an ongoing effort at the FRCSW. The Plan of Action and Milestones (POA&M) lead by the FRCSW Site Implementation Team (SIT) has targeted timeframes to complete the implementation plan for 93600 Division during the 4th Quarter of 2007 and for 93500 Division during the 2nd Quarter of 2008.¹⁸

F. FRCSW ORGANIZATIONAL TRANSFORMATION

Organizational change is driven by many different factors including changes in goals and mission of the enterprise. The mission and goals of the organization establish boundaries for the organization and are the basis for organizational redesign.¹⁹ Some organizations decide to grow in order to cope with product or market changes or external environment changes in the form of new competitors. Other reasons that can force change include rapid advances in technology, new regulations, or indicators that the organization's performance is not at the level it needs to be.²⁰ In the case of the FRCSW, the organizational transformation process was triggered by regulatory change that originated from the 2005 BRAC mandate.²¹ In order to comply with the new law, internal realignment of capabilities and consolidation of naval aviation maintenance support resources were necessary to achieve desired cost savings.

¹⁸ FRCSW, *Production implementation plan for fleet readiness center (FRC) southwest*. (14 June 07), 12-15.

¹⁹ Richard M. Burton & Borge Obel, *Strategic Organizational Diagnosis and Design*, 2d ed. (Boston, Mass.: Kluwer Academic Publishers, 1998), 13.

²⁰ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 9.

Organizational change is usually disruptive in nature and requires a significant amount of energy from the leadership to effect process reengineering, while taking into account resources, capabilities and the mission. Usually, the organizational structure and design have to change along with the strategy using management tools such as the Production Implementation Plan,²² which was used at the FRCSW as systematic guidelines to achieve desired changes. Ultimately, the changes implemented help shape the strategy, and the manner in which the organization plans to achieve its goals. McShane and Glinow provide an organizational strategy definition that is appropriate at this stage of implementation for the FRCSW. They define organizational strategy as the way in which “an organization positions itself in its setting in relation to its stakeholders, given the organization’s resources, capabilities and mission”.²³

Most commonly, organizations change their strategy to achieve a critical source of competitive advantage, but if the change is not well-executed, it can have disastrous results for the organization. Leaders and managers have the responsibility to effectively manage organizational change from its current “as is” state to a desired “to be” state through the transitional period in the shortest time possible, while ensuring minimal impact on the organization²⁴ The FRCSW is in a transitional design period. It is critical for leadership and management to have a plan that continually improves their core business practices, and at the same time deals with issues such as control, resistance to change, and political pressures quickly with minimal impact on daily operations.

G. FRCSW STRATEGIC IMPROVEMENT MODEL

The FRCSW has implemented a Strategic Improvement Model (Figure 4), in order to provide guidance to management and leadership on the changes that need to be

²¹ Defense Base Closure and Realignment Commission, 2005.

²² FRCSW, *Production implementation plan for fleet readiness center (FRC) southwest*. (14 June 07)

²³ Steven L. McShane & Mary Ann Von Glinow, *Organizational behavior : Essentials*. (New York: McGraw-Hill 2007), p. 304.

²⁴ Michael Tushman & Charles A O’Reilly. *Winning through innovation : a practical guide to leading organizational change and renewal*, (Boston: Harvard Business Press 2002), p. 184.

made. The model establishes axes, a horizontal (X) Process Axis and a vertical (Y) Product Axis that interconnects a series of product focused, value stream improvement projects designed to meet cost and NAE inventory goals. Improvement projects in manufacturing, repair, logistics and testing are implemented using Lean Six Sigma (LSS) principles and are facilitated by the technical expertise of LSS Green and Black Belt qualified personnel.²⁵ The design implications of this model are that it point towards the need to have a Matrix-type organizational design that can support various product line improvement projects such as the E2/C2 Lean Six Sigma Effort with the support of Supply and Manufacturing units.

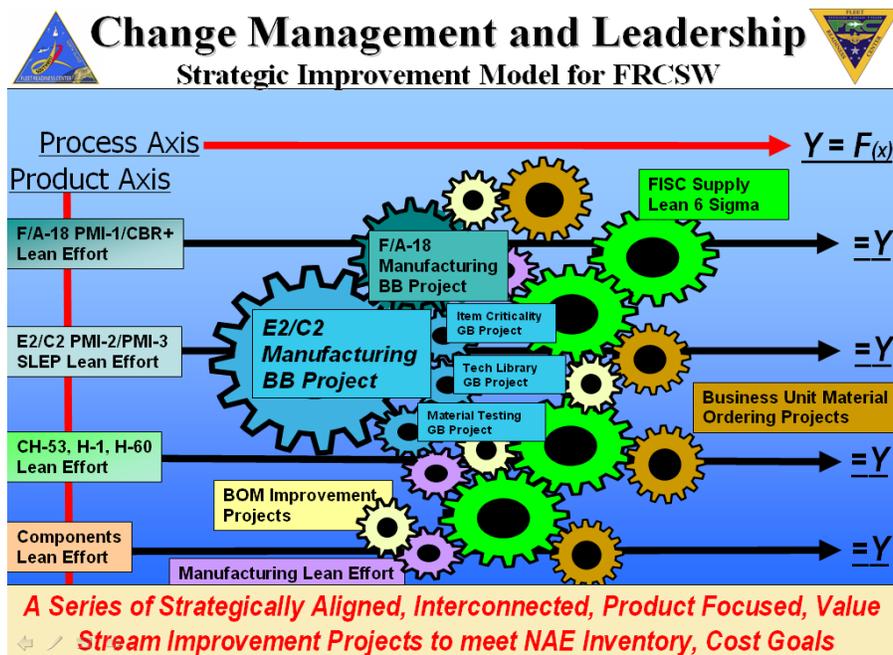


Figure 4. FRCSW Strategic Improvement Model.²⁶

H. COST-WISE READINESS

The Strategic Improvement Model is one of several local tools used by leadership to define the strategic approach and plan execution. Other external NAE-wide tools are

²⁵ FRCSW Command Brief, 2007, slide 35.

²⁶ From Ref. FRCSW Command Brief, 2007, slide 35.

part of an arsenal of managerial strategies that help align the organization's cost management techniques with other initiative being implemented throughout the fleet. The FRCSW employs three separate management tools to achieve and deliver Cost-Wise Readiness in their operations: Total Force Management, AirSpeed, and Facilities Management. The FRCSW, and its individual business units, uses the concept of Total Force Management to ensure that the appropriate number of personnel, with the right skills, is available at the right time. AirSpeed is another NAE initiative that is employed at the FRCSW to reduce turn-around-time (TAT), resulting in less work-in-progress (WIP) and additional ready for tasking (RFT) aircraft at a reduced cost. Facilities management aims at shrinking the operational footprint and to maintain state of the art infrastructure in order to provide the highest value at the lowest cost.²⁷ The aggregate of all the initiatives and plans previously mentioned form the aggregate concept that drives the strategy adopted by the FRCSW.

²⁷ FRCSW Command Brief, 2007, slide 38.

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III. LITERATURE REVIEW

A. INTRODUCTION

This chapter describes frameworks used to construct, evaluate and analyze the design and structure of existing or newly formed organizations resulting from mergers. The frameworks discussed have a combination of academic, theoretical and consulting origins using both experience and scientific rigor to build systematic organizational design analysis tools that have real-world applications for leaders and managers. The selected frameworks are discussed and framework components pertinent to this research are identified. The summary section gathers overarching concepts for each framework and identifies similarities and differences of each approach.

B. ORGANIZATIONAL DESIGN AND STRUCTURE PRINCIPLES

Organizations throughout the world vary in size, type and structure, and are nothing new to academic and business strategists who study their characteristics. According to Burton and Obel, the concept of organizations as old artifacts dates back to places such as China, 5000 BC and the Middle East, 2000 BC or earlier. In general, organizations are considered artifacts in the sense that they are of “man’s making and not natural. They are also artifacts of abstraction because they exist as a restriction and guide on behavior, while facilitating purposeful information processing.²⁸

One of the principal characteristics of organizations is that they are purpose-built, based on a vision of what they should be, or what they should accomplish in the future. Traditionally, the responsibility of building, designing and implementing change in organizations falls under the purview of the leaders and managers of that organization.²⁹

²⁸ Richard M. Burton & Borge Obel, *Strategic Organizational Diagnosis and Design*, 2d ed. (Boston, Mass.: Kluwer Academic Publishers, 1998), 281.

²⁹ Richard M. Burton & Borge Obel, *Strategic Organizational Diagnosis and Design*, 2d ed. (Boston, Mass.: Kluwer Academic Publishers, 1998), 281.

One clarification that needs to be made before discussing design and structure relationships is that organizational design and structure are not the same concepts, even though they are commonly used interchangeably.³⁰

In the context of this research project, organizational design can be defined as the deliberate process of configuring structures, processes, reward systems, personnel practices and policies to create an effective organization capable of achieving the organization's strategy. McShane and Von Glinow state that in the past it was believed that if the right person was hired for the job, he or she would be able to figure out things on their own without the leader's or manager's help. For this reason, the design of organizations received very little attention from leadership; even though it is a lever that has as much importance as any other lever of change available to them. On the other hand, organizational structure is a less broad concept that deals with the physical arrangement of boxes on an organizational chart. Although not as complex as developing a successful strategy, the particular organizational chart arrangement does determine the formal power structure, which directs activities, division of labor, lines of communication, and work flows.³¹

Achieving the organization's strategy becomes an important goal for successful enterprises, but defining the strategy of an organization becomes an elusive concept when attempts are made to put in practice, and when the relationship between design and strategy is considered. According to experts, strategy can also be defined in at least four different ways, as a plan, as a pattern of actions, as a competitive position, and as an overall perspective. In each case, the strategy is affected by changes adopted by the organization's leadership.³²

In terms of organizational design change, leaders have three key levers of change at their disposal. The first lever attempts to establish the organization's strategy and

³⁰ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 2.

³¹ Steven L. McShane & Mary Ann Von Glinow, *Organizational behavior : Essentials*. (New York: McGraw-Hill 2007), 304.

³² Robert Simons, *Levers of control : How managers use innovative control systems to drive strategic renewal*. (Boston, Mass.: Harvard Business School Press, 1995), 8.

vision, which provides direction and purpose. The second selects the executive team-members, which distributes leadership roles throughout the enterprise and provides peace of mind for stakeholders. The third and last lever designs an organization whose structure, processes, metrics, reward systems, personnel practices and activities are focused on achieving the organization's strategy. A well-developed organizational design creates a community of collective effort that produces more than the sum of the efforts and results of each individual in the organization. The goal of an effective organizational design today, regardless of size, is one that enables and empowers employees to operate as a highly interdependent, team-oriented group in the work environment, and that possesses a level of flexibility and adaptability for change in response to aggressive competition.

External factors like competition, as well as internal factors force managers and leaders to continually assess the fit of their organization with their environment. This process of continuous reassessment eventually results in some form of change, which leads to the necessity for organizational redesign. Provided that an accurate assessment of the current organization is made and that necessary changes are identified and implemented, the end result is an adaptable organization that is physically and strategically structured to overcome future challenges. In recent years, the pursuit of efficiency and effectiveness in a changing environment, has led managers to develop new radical designs such as virtual, learning and cellular organizations to cope with new challenges. Even with these innovative, non-traditional organizational designs, the need to conform to fundamental organizational design principles and to have a formal structure continues to exist. Some of the fundamental design principles for an organization can easily be identified by answering the following questions:³³

1. What are our goals?
2. What are the basic tasks?
3. Who makes which decisions?
4. What is the structure of communications?

³³ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 3.

5. What is the incentive structure?

However, the answers to these simple questions do not provide the degree of information refinement or detail necessary to conduct an in-depth analysis of the current organizational design. Leaders and managers therefore have a need for more advanced leadership tools and skills to accurately evaluate and analyze the “as is” organization, and to determine whether or not the proposed “to be” design is in alignment with the structure, processes, workflows and desired outcomes. Organizational theories have ideas that fit well in some organizational scenarios but not in others. These are the contingencies of organizational design and include factors such as the external environment, size of the organization, technology and organizational strategy.³⁴

The guiding principles for organizational design are incredibly complex. Organizational structures can be categorized as functional, divisional, matrix, formal or not, and centralized or not, resulting in 12 possible different designs. Then there are several other possible organizational contingencies and conditions in which the organization is going to operate making the number of variations become too large for any realistic design analysis.³⁵ Experts in organizational science, present additional organizational architecture types including Mechanistic, Organic, Simple and Team-Based, which further increases the complexity and number of possible design options.³⁶ The complexity and variability of possible organizational designs creates the need for a systematic approach using tailored tools to perform design and structure analysis.

C. ORGANIZATIONAL DESIGN ANALYSIS FRAMEWORKS

Based on the need that leaders have for systematic design analysis tools and knowledge of fundamental organizational design concepts, two dynamic frameworks

³⁴ Steven L. McShane & Mary Ann Von Glinow, *Organizational behavior : Essentials*. (New York: McGraw-Hill 2007), 244.

³⁵ Richard M. Burton & Borge Obel, *Strategic Organizational Diagnosis and Design*, 2d ed. (Boston, Mass.: Kluwer Academic Publishers, 1998), xix.

³⁶ Steven L. McShane & Mary Ann Von Glinow, *Organizational behavior : Essentials*. (New York: McGraw-Hill 2007), 238-243.

have been identified here for future discussion. The two frameworks are Galbraith et al.'s Star Model³⁷ and Burton et al.'s Five Step-by-Step Approach to Organizational Design.³⁸

1. Star Model

Galbraith's Star Model constitutes a framework designed to take a holistic approach to organizational design analysis. The model divides an organization's design into five major components labeled Strategy, Structure, Processes and Lateral Capability, Reward Systems, and People Practices. Each point on the Star Model represents one of these five components. (Figure 5).

Galbraith et al. establish a systematic process in which the strategy of an organization sets the framework for all design decisions and becomes the basis for designing the organization in a logical way. The strategy becomes a future vision that clarifies the things that need to be changed and the things that need to be preserved to accomplish the vision. Galbraith stresses the importance of fully understanding how the organization is operating in its current state in order to achieve the future state.³⁹ For the purpose of this study, only the Strategy, Structure, Processes and Lateral Capability components are utilized. The People Practices and Reward Systems components are beyond the scope of this research project, but are presented in Appendix B.

³⁷ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 24.

³⁸ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), XV.

³⁹ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 24.

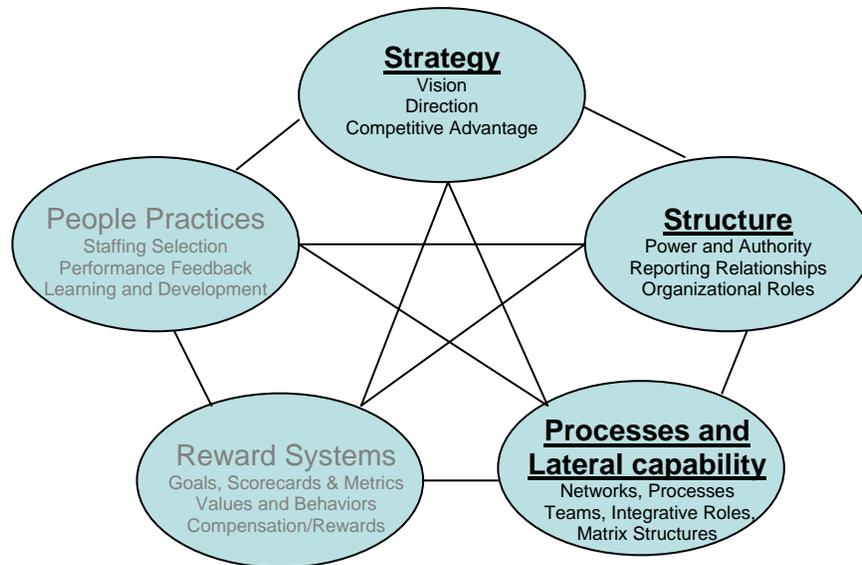


Figure 5. Galbraith's Star Model⁴⁰

a. The Strategy

The first of five points on the Star Model is the Strategy point. Considered the cornerstone of the design process, the strategy must be clear and agreed upon by leadership teams so shared criteria exists during decision making processes. It represents a broad term that sets the direction that the organization will take based on its vision, mission, short and long-term goals. The design criteria that result from defining the Strategy point are structured by organizational capabilities such as skills, processes, technologies, and personnel abilities, which are sources of competitive advantage that help to achieve the desired strategy.⁴¹

⁴⁰ After Ref. Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 2.

⁴¹ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 3.

b. The Structure

The *Structure* point of the Star model defines the location of formal power and authority within the organization, as well as internal components (departments, divisions, and workcenters), their hierarchy and relationships. Differentiation of internal components is established around functions, products, markets or geographical locations, and then arranged hierarchically based on management and decision making capabilities. In this respect it is important to understand the interdependencies that exist between subunits such as departments or divisions so cross-functional teams can be implemented effectively. In a typical organization structure is represented by an organizational chart.

c. Processes and Lateral Capability

Processes and Lateral Capability must be identified and made part of the design in order to overcome barriers to collaboration that are inherent to organizational architectures. Integration of information and decision making through technological networks, interpersonal actions, teamwork, lateral processes become the binding force that brings and keeps an organization working together. Lateral processes can be defined as cross-organizational, formal or informal processes that can remain in place for years or be flexible enough that they can be regularly reconfigured. They are designed to connect and team-up the right people, regardless of position, to solve problems and create opportunities for the organization.

Galbraith et al. suggest assessing each component of the Star Model in a particular way. The Strategy component suggests a picture of the future for the organization but in order to achieve this, a complete understanding of how the organization operates in its current state is necessary. Understanding the organization in its “as is” state can be accomplished using the following three activities:⁴²

- Translating the strategy into design criteria. This is done in three steps:
 1. Identify Success Indicators

⁴² Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 24.

2. Understand the Value Proposition
 3. Determining the Design Criteria
- Clarifying limits and assumptions. Identify limits or boundaries that determine what is and what is not included in the design process
 - Assessing the current state. Done through interviews, focus groups and/or surveys

The Structure component refers to the formal organization of personnel and work into defined units. Galbraith et al. propose taking the following five steps in determining the organization's structure:⁴³

- Select a structure that is most likely to support development of required organizational capability
- Define new organizational roles in the structure and clarify the points of interface among them
- Reality test the design
- Determine a process to involve others in mapping the design
- Set up a governance structure to move the design process forward

Lastly, Galbraith et al. suggest that Processes and Lateral Capability be assessed by defining the following five types of capabilities in the organization:⁴⁴

- Networks used to coordinate work informally
- Lateral Process used to move information and decisions in a formalized flow
- Teams that can work interdependently and share responsibility for outcomes
- Integrative Roles or positions that coordinate work across the organization
- Matrix Structures

⁴³ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 60.

⁴⁴ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 136.

The Star Model provides a comprehensive and holistic framework on which to define and construct the different components of the organization. The complete design and analysis of a dynamic organization using all available components of the Star Model requires a significant amount of research to collect all the necessary information, and does not constitute the purpose of this study. As stated previously, the focus of this study is to make an assessment of selected components of the organization; and therefore, only the Strategy, Structure, and Processes and Lateral Capabilities components of the framework are used. In addition to the Star Model, this study extensively uses Burton et al.'s Five Step Approach of Organizational Design to assess important aspects of the FRCSW Components Department current organizational design.

2. The Five Step-by-Step Approach of Organizational Design

Burton et al.'s Five Step-by-Step Approach of Organizational Design is a “how to” process that uses five steps to identify misalignments in the design of virtually any type of organization in any setting (Figure 6). This approach to organizational design is based on the fundamental assumption that organizations are information processing entities, and that fundamental design principles such as goals, basic tasks, structure of communication, incentives, and decision making hierarchies are underlying factors in any successful organization. Using this approach, Burton et al. adopt a multi-contingency view of the process, of choosing a design that is multi-dimensional in context, mainly concerned with the structural and human components.⁴⁵

⁴⁵ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 3.

The five steps of organizational design

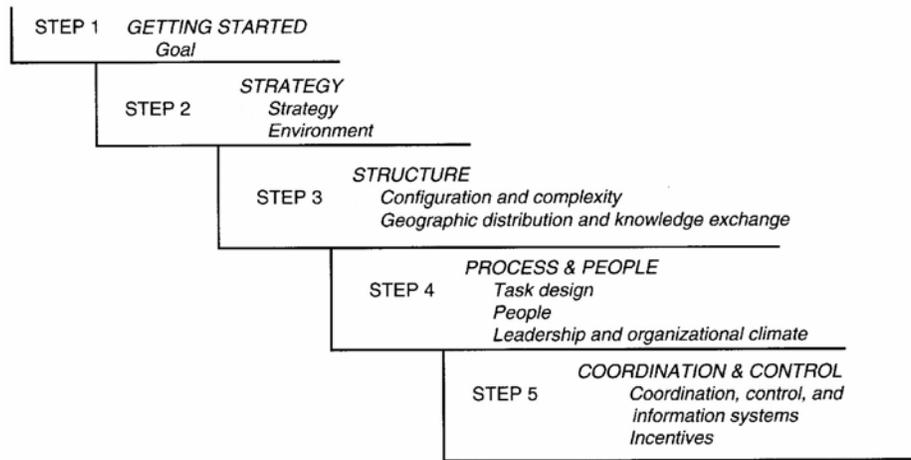


Figure 6. Burton's Five Steps to Organizational Design.⁴⁶

On the one hand, the structural component of the approach is concerned with the organization's goals, structure and strategy. On the other hand, the human components address a different set of factors that include work processes, coordination and control, people and incentive mechanisms. Consideration of each component, starting with the strategy, allows for a top-down, holistic approach to managing the challenges of designing a well-functioning organization. The process of assessing each element of the organization is accomplished through the use of a graphic tool called a two-dimensional model.

Each two-dimensional model contains two competing dimensions such as Exploration and Exploitation as in the case of the Strategy Space, and four quadrants, A, B, C and D, that show relative internal alignment of the organization (Figure 7). In the Strategy Space model, the four quadrants are typified as Reactor (A), Defender (B), Prospector (C) and Analyzer (D) and give the user design options if a misalignment is identified.⁴⁷ Two-dimensional graphs also simplify, show continuity in the analysis

⁴⁶ From Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), xv.

⁴⁷ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 4.

approach, identify misfits, and provide an interlocking mechanism that helps to visualize the relationships between organizational design components.⁴⁸

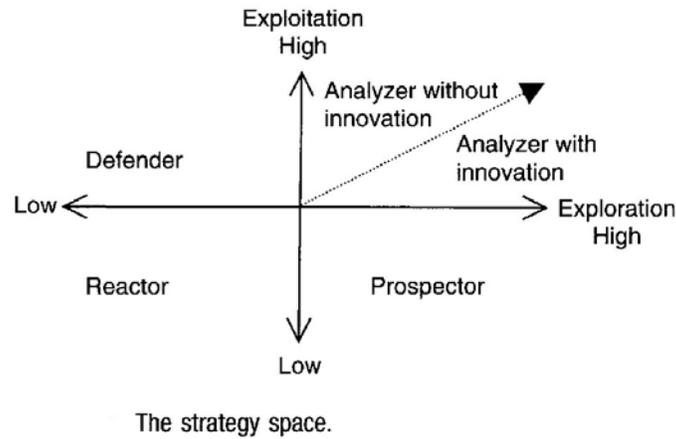


Figure 7. Two-dimensional Model of the Strategy Space.⁴⁹

a. Misfits

Organizational design components that do not align in the same design quadrant when overlaid are referred to as “misfits” and normally considered a source of inefficiencies and ineffectiveness in the organization. The importance of identifying misfits is that it allows the organization to develop organizational design components that support acceptable tradeoffs between competing design dimensions such as efficiency and effectiveness. Research shows that proper alignment of organizational design components results in superior performance for the enterprise.⁵⁰

Each quadrant represents a degree of emphasis or influence the dimension being evaluated has on the organization relative to other competing dimensions. The diagnostic characteristics of the Two-Dimensional Component graph help to identify

⁴⁸ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 4.

⁴⁹ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 25.

⁵⁰ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 16.

where the organization currently is with-in the analysis space and where it needs to be according to its current goals. For example, an organization that exploits its resources and has low emphasis on being innovative is categorized as being a Defender (Quadrant B), in the Strategy Design Space. The “as is” strategy is that of a Defender. However, the same organization has implemented organizational goals, or the “to be” state, that are designed to focus on Effectiveness (Quadrant C) of the Goal Space Two-dimensional Model.

A misalignment or misfit is identified between the organizational goals and the strategy (Figure 8). In the course of the analysis, the organization will have to make a decision to shift its strategy to become a Prospector type organization (Quadrant C) or to change the focus of its goals to Efficiency (Quadrant B) in order to align its strategy with its intended goals. The Goal, Strategy Space and subsequent organizational design Space should align in the same quadrants; in this case, B or C. A brief description of principal organizational design elements used by the Five Steps to Organizational Design process and associated dimensions is as follows.

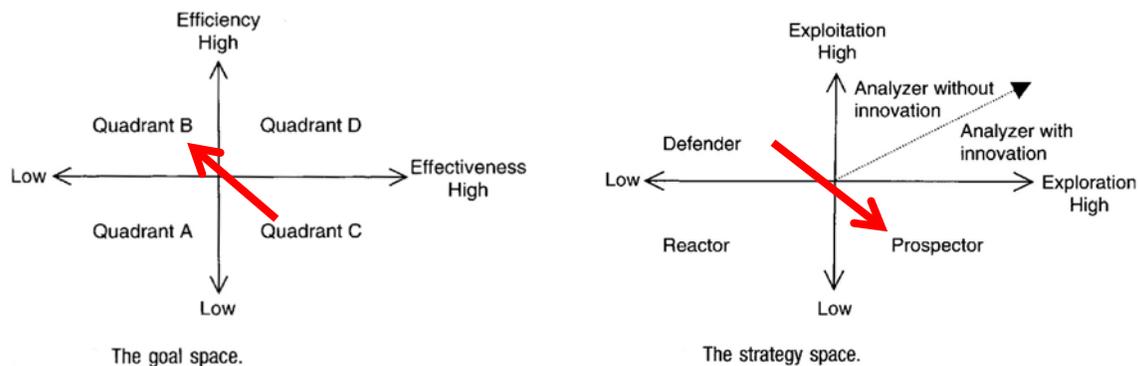


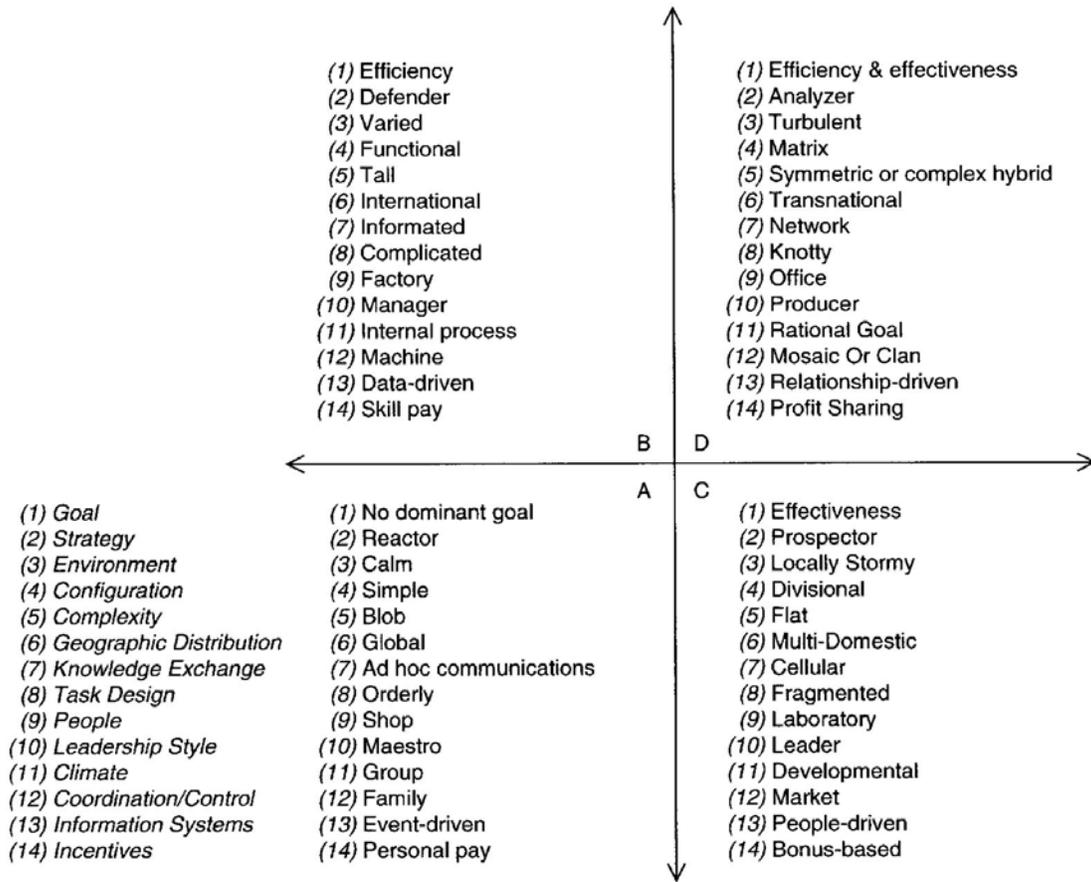
Figure 8. Example of Misfits Between Organizational Goals and Strategy Design Space

b. Integrating the Five Step Process

The Five Step-by-Step process requires a step-linking mechanism that enables managers to assess the organization based on 14 elements of design in four

possible design spaces or quadrants (Figure 9). Each of the 14 elements of design creates competing dimensions that have characteristics that are best “fit” with one of four other categorizations (Quadrants) based on the level of emphasis (High/Low) that the current design places on that dimension. To illustrate this concept, if the organization’s Goal is on high Efficiency and low Effectiveness, the organization is likely to be categorized as belonging in the upper left quadrant (Quadrant B). This suggests that other design elements such as “Configuration” should be characterized in the current organizational design as “Functional” in the design dimension (Quadrant B) and not Divisional (Quadrant C) or Matrix (Quadrant D).

Once the organization has been identified to fit in one of the four design spaces (Quadrants) of the Two-dimensional model, possible misfits become easily identifiable thorough visual misalignments in the design space. For the purposes of this study, only selected elements of design were chosen to be used based on the scope of the project and limitations of available data. The Two-dimensional model and selected diagnostic questions serve as the primary tools for the analysis of the FRCSW Components Department. The complete set of 14 design elements are listed on the left side of Figure 9 and the 56 component types or organizational design types are shown in groups of 14 in their respective quadrants.



The complete set of component types within the 2 × 2 organizational design space

Figure 9. Complete Design Space Model.⁵¹

c. Step 1, Getting Started Goal

Step 1 defines the scope of the design problem, which is the initial step when using this type of analysis, and also assesses the goals of the organization. In this process of the organizational design there are two complementary problems to contend with. The first is how to partition a big task into smaller subunit tasks? And second, how to coordinate these smaller subunits tasks so they fit together to efficiently realize the

⁵¹ From Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 205.

bigger task and the overall organizational task? Once the smaller tasks are defined, then they can be arranged so that they can effectively coordinate and be integrated with each other to achieve goals. In this context, Burton et al. define a “task” as a department or division and what they contribute to the organization. The step-by-step approach is used for each task in the design process starting with the upper echelons of the organization and then moving down to the departments, divisions and workcenters.⁵²

In terms of goals, the Two-dimensional Model is utilized to assess the organization based on two fundamental and competing dimensions, efficiency and effectiveness. In some cases, companies value both dimensions equally or may value one goal more than another depending on their business characteristics. Both Goal dimensions are part of the assessment that results in one of four possible outcomes. The two competing dimensions are presented with the four possible outcomes in each of the four quadrants in Figure 10. Quadrant A is representative of organizations with low emphasis on Effectiveness and Efficiency that have no specific goals and has a low focus on using resources well. Monopolies and new organizations can fall into this category. Organizations in Quadrant B have a goal that places the efficiency dimension as high and the effectiveness dimension as low. In this case this organization’s design focuses on utilizing the least amount of resources necessary to generate its products or services. Quadrant C organizations are focused on goals but not the efficient use of resources. The fourth Quadrant D belongs to organizations that pursue efficiency and effectiveness simultaneously with intense commitment. These organizations operate in competitive environments, are innovative, and focus on maintaining low cost. Determining the goal position of an organization is important because it defines information processing requirements and managerial approaches necessary to deal with emerging environmental challenges.⁵³

Managers and organizational scientists agree that the pursuit of efficiency and effectiveness in the organization must be a simultaneous effort. Others argue that the

⁵² Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 10.

focus in these two dimensions occurs sequentially with one being a disruptive force on the other during evolutionary periods of change.⁵⁴ More recent studies show that in fact successful organizations are able to develop capabilities in both the efficiency and effectiveness dimensions simultaneously.⁵⁵ Using the aforementioned rationale, the ideal organizational design should be one that has the characteristics reflected in Quadrant D, High Efficiency/High Effectiveness.

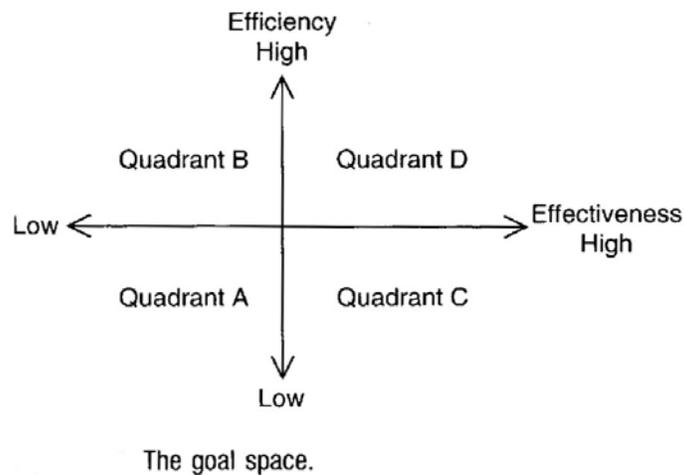


Figure 10. Two-dimensional Model of the Goal Space⁵⁶

d. Step 2, Strategy

In step 2 of the Step-by-Step approach, the organization's strategy is described in terms of the environment in which it operates. In this context, the strategy is defined as the operationalization of the organization's goals of efficiency and/or

⁵³ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 12.

⁵⁴ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 13.

⁵⁵ Cristina Gibson & Julian Birkinshaw. *The antecedents, consequences, and mediating role of organizational ambidexterity*. *Academy of Management Journal*, 47 (2) (2004), 226.

⁵⁶ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 11.

effectiveness. The objective is to identify which strategy is desired in order to achieve the organizational goal defined in step 1. In order to do this, Burton et al.'s Strategy Space Two-dimensional Model presents a simple, but robust typology originally proposed by Miles and Snow, which consists of four categories, Reactor, Defender, Prospector and Analyzer.⁵⁷

Each category occupies a quadrant in the two dimensional model. Each category represents a low or high degree of the Exploration or Exploitation dimensions. The exploration dimension describes the organization seeking new ways of doing things based on innovative technologies. It takes into account factors that define the organization such as risk taking, innovation and innovation. On the other hand, Exploitation takes advantage of current technologies to do things in an innovative way through refinement, efficiency, selection and implementation.

Based on the Strategy Space Two-dimensional Model, the organization falls in to one of the four Quadrant categories. If the organization lacks an intentional strategy towards innovation, or makes adjustments only in the face of need or when forced, it is considered low in the Exploration and Exploitation dimensions, and consequently falls in the Reactor category. Reactor organizations are poor performers in the marketplace, fail to redesign the organization quickly enough to become profitable, and eventually completely fail.

If the organization is innovative and focused in limited areas only, then it is high on exploitation and low on exploration and considered a Defender. Defenders are organizations designed to focus on keeping a competitive position in a niche market and efficiently utilizing its resources. This type of organization can not change quickly because it is focused on process innovation and efficiency and not product variety. On the other hand, Prospectors experiment with change and aggressively seek innovation by systematically searching for new opportunities. Prospectors tend to be market leaders in innovation at the expense of using up their resources fast because of how quickly they must react to be market leaders.

⁵⁷ Raymond E. Miles & Charles C. Snow, *Organizational strategy, structure, and process* (New York: McGraw-Hill, 1978).

The last category in the Strategy Space is Analyzers. In this fourth Quadrant, the category is split in half between those organizations that are Analyzer with Innovations, similar to a Prospector but with more emphasis on Exploitation, and those without Innovation similar to Defenders but with more emphasis on Exploration. Analyzers without Innovation are organizations that are designed to quickly adapt to market trends and imitate others without much change to the organization itself. In this case, the organization is concerned with maintaining its position in the market by utilizing its existing resources efficiently. Similarly, Analyzers with innovation have a market-driven approach, but are innovative with the goal of meeting customer or market needs (Figure 11). Once the organizational strategy has been defined using the Two-dimensional models, the results can be overlaid by quadrants with the goal identified in Step 1, to identify a possible misfit between the two.⁵⁸

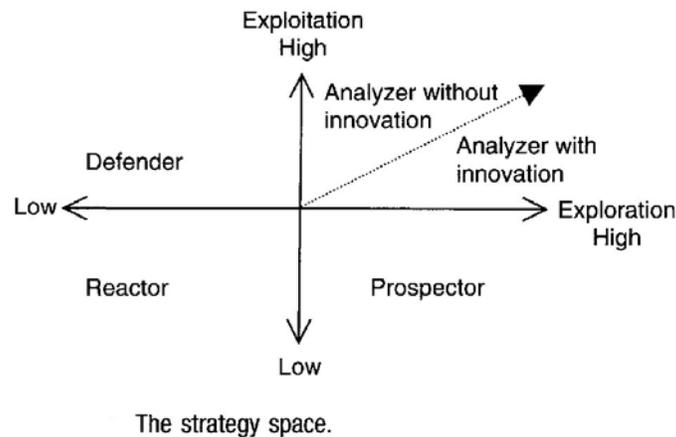


Figure 11. Two-dimensional Model of the Strategy Space.⁵⁹

⁵⁸ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 23-34.

⁵⁹ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 25.

e. Step 3, Structure

Step 3 reviews the Configuration and Complexity, as well as the Geographic Distribution and Knowledge Exchange of the organization. An organization's configuration is also known as its structure or architecture, and as previously mentioned, is usually depicted as an organizational chart. Choosing a configuration that has the right degree of complexity enables the organization to perform well with respect to its goals, strategy and environment. The importance of the configuration is that it defines the way in which the organization divides big tasks into smaller tasks, and indicates formal communication channels and patterns.

Identifying who makes what decisions based on what type of information, who communicates with whom and about what, and what are the communication structures helps to initially determine how the organization will work. The number of vertical levels in the hierarchy and the number of subunits (organizational complexity) is also known as horizontal and vertical differentiations, which further specify the design of the organization. A new dimension to organizational configuration that should be considered is virtualization. Virtualization is a concept that is emerging from the embedded Information Systems Technologies found in today's modern organization.⁶⁰

In order to analyze the organization's configuration using the alternative organizational configurations Model (Figure 12), two dimensions must be established. The first dimension is the Product/service/customer orientation, which reflects an organizational design focused on external, output oriented events. This type of enterprise is organized by departments or divisions with product names. The second dimension is the Functional Specialization dimension, which has a more internally, specialized activities focus. A functionally specialized organization is designed with departments that have function names, such as Marketing Department. These two dimensions

⁶⁰ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 58.

determine how the work will be divided and coordinated, and categorically establish four basic configurations or Quadrants, Simple, Functional, Divisional and Matrix.⁶¹

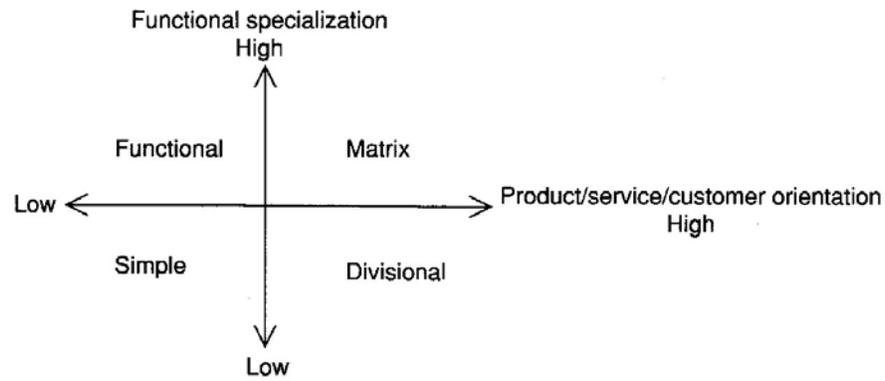
Simple configurations are usually small organizations with few personnel. The leadership is involved in daily operations and job tasks for personnel are not well-defined. Information, vision and success are all dependent on the single leadership element. As the name implies, Functional configurations are focused on the functional specialization of the organization. This type of configuration is characterized by department managers with specified subunits and well-defined job tasks for personnel. Functional departments such as supply and manufacturing develop efficiencies through specialization which greatly benefit the organization as a whole.⁶²

Divisional organizations focus on the products and services they provide, but not on internal specialization. They are characterized by independent subunits that have their own markets and operate under the goals and constraints of a budget. The fourth Quadrant is for Matrix configuration organizations. Also as the name implies, Matrix organizations are characterized by a functional and divisional hierarchies focused on achieving high levels of efficiency and effectiveness. The top leadership is responsible for running the organization, but allows Matrix managers to coordinate and resolve issues at the production levels. Matrix organizations require constant coordination and employ cross-organizational mechanism, such as lateral relations and liaison roles to coordinate and communicate across the dominant components of the enterprise.⁶³ Figure 12 shows the relationship between the four components of the Organizational Configuration

⁶¹ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 58.

⁶² Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 62.

⁶³ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 67.



The alternative organizational configurations of the firm.

Figure 12. Two-dimensional Model of the Organizational Configuration.⁶⁴

f. Step 4. Process

In Step 4, the task design or simply how the organization accomplishes its work becomes the focus of the analysis. Task Design, also known in the past as technology design, attempts to break down the large organizational task into smaller subtasks, while at the same time taking into consideration that these subtasks must be able to successfully coordinate to achieve the organizations goals. The Strategy, Structure, and choice of efficiency and effectiveness Goals are factors affecting the choice of Task design, which determines the coordination requirements for how the organization completes its work. For this reason it is critical to identify and choose a task design that has a good fit with other areas of the organization.

The coordination of tasks has been categorized as sequential, pooled, reciprocal, and parallel between teams and members of the organization in the past. These categories lead to defining tasks along two dimensions, Repetitiveness and Divisibility. The repetitiveness dimension identifies tasks that are standard and well-defined, therefore can be repeated again and again. On the other hand, the Divisibility dimension categorizes tasks with the degree of dependency that exists between subtasks

when a large task is broken down into smaller tasks. The two Task Design dimensions create four Task categories; Orderly, Complicated, Fragmented and Knotty (Figure 13).⁶⁵

Organizations that fall into the Orderly Task Quadrant require minimal coordination between their subtask to complete their work because the work is highly divisible and repetitive. Task processes are standardized so they can be duplicated easily. The Complicated tasks require additional coordination for sequentially connected and repetitive tasks. This design is characterized by organizations that mass produce and where units are interdependent on one another to get the work done.⁶⁶

The Fragmented Tasks requires coordination to adjust to variability across subtasks but not connectedness. A good example is the technology development industry where customer base needs are different from each other making the work non-repetitive. Knotty Tasks are the most difficult to coordinate since they requires adjustments for non-repetitiveness and interdependency at the same time. It requires a large investment for coordinating mechanisms between subtasks in order to provide a customized product for its customers. Organizations where core work is in the form of Knotty Tasks require high coordination of emerging technology and the use of highly skilled personnel.⁶⁷

⁶⁴ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 59.

⁶⁵ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 109-111.

⁶⁶ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 114.

⁶⁷ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 111.

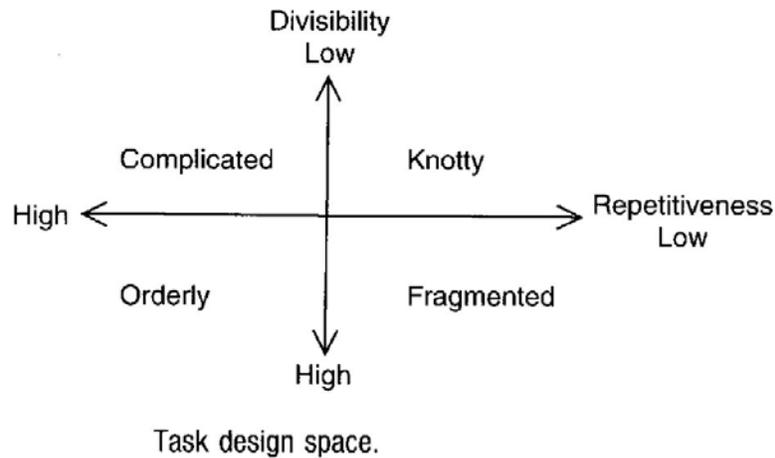


Figure 13. Two-dimensional Model of the Task Design Space.⁶⁸

g. Step 5, Coordination and Control

The last step in Burton et al.'s five steps of organizational design model explores Coordination and Control, Information Systems and Incentives. Coordination, Control and Information Systems are considered to be the organization's infrastructure or channels for information sharing. They are important to the organizational design because they allow monitoring and provide support for managers during the decision making process, support integration in the organization, and coordinate the working relationship between organizational components to ensure that they are aligned toward achieving goals.⁶⁹

Control systems assure quality and efficiency in the flow of information between the higher and lower levels in the hierarchy, and also help monitor and measure the performance of subunits by giving feedback to managers on their performance. The trend of organizations becoming flatter and more distributed in their design, require that there be a greater degree of lateral communication between subdivisions. Coordination systems are those electronic or manual systems within the organizational design that

⁶⁸ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 111.

⁶⁹ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 157.

allow departments and division to know what each other is doing. The two primary design dimensions that govern Coordination and Control systems are Formalization and Centralization.⁷⁰

Formalization is the degree to which formal rules are employed to determine how, who, and under what circumstances work is being accomplished. Classic bureaucracies are a good example of highly formalized entities that usually have detailed rules and communicate them through policy statements. Procedural training, behavior modeling or verbalized codes of work that are learned over time in an organization are other types of Formalization not written on paper. Formalization also establishes strong expectations of how the work should be done through monitoring and feedback mechanism in place for managers. Most organizations operate somewhere between a high and low degree of Formalization.⁷¹

Centralization or decentralization determines the degree to which Coordination and Control of operational kinds of decisions are managed by a person or level of the organization. Organizations where strategic decisions are made at the top layers of management and operational decisions are made at the subunit levels are considered to be decentralized. The trend in today's organizations' design suggests that they are becoming more decentralized and distributed bestowing more responsibilities to managers at the subunit level. Because of this trend, the Two-dimensional model for Coordination and Control Space utilizes decentralization as one of the two dimensions as opposed to Centralization. The Formalization and Decentralization dimensions are used to categorize design options for coordination and control systems, resulting in five approaches, Family, Machine, Market Mosaic and Clan (Figure 11).⁷²

The Family based design model is applicable to organizations where informal and centralized means of control are the norm. The organization operates with

⁷⁰ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 158-159.

⁷¹ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 160.

⁷² Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 161.

few rules and high expectation of cooperation from employees giving it extreme flexibility. Organizations with small staff with informal and centralized coordination, such as new start-up ventures usually start using the family based model. The Machine model is adopted by organizations that are formalized and centralized. They use documentation of rules and procedures on how work should be done, monitored, corrected, and how feedback is provided. Hospitals and companies such as Walmart are good examples of organizations that use the Machine model for Coordination and Control Systems.⁷³

Market models are innovative, risk taking and share formal and informal sources of control, but emphasis is placed on informal approaches like information sharing and problems are freely reported within the organization. Coordination and control systems in Market models are found to be implemented inconsistently across departments with a preference for customized, self-governing initiatives at the subunit level. The last quadrant of the Coordination and Control Space is divided into two segments, Clan and Mosaic with differences primarily in centralization, standardization and formalization. The clan segment is more formalized and less decentralized with strong norms embedded in personnel throughout the organization. Minimal standards are established through written rules from which personnel can customize work routines as necessary. Similarly, Mosaic model organizations are high on formalization and decentralization but with less emphasis than the Clan model on both Formalization dimensions. The norms employed throughout the organization tend to be less standardized with high levels of customization for other Coordination and Control systems. The design implications for Clan and Mosaic organizations are that formalization and standards are greatly valued as control and coordination systems, but vary in degrees of implementation for each type. The Two-dimensional model of the Coordination and Control Space is shown in Figure 14.

⁷³ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 162-163.

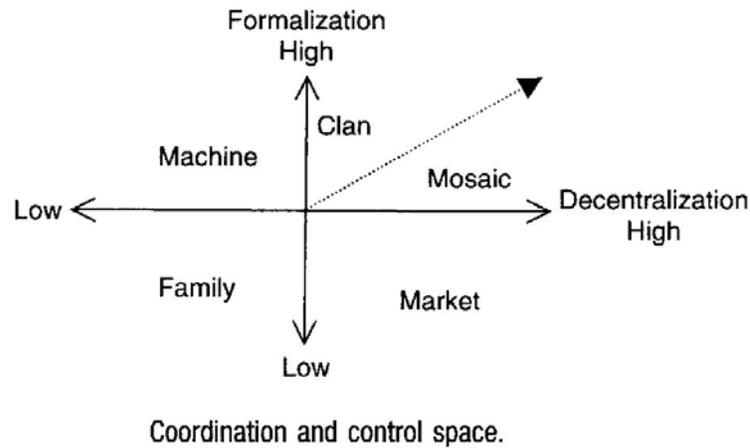


Figure 14. Two-dimensional Model of the Coordination and Control Space.⁷⁴

D. SUMMARY

Each of the organizational design frameworks presented in this chapter propose a model and a process for leaders and managers to use as tools in the design or analysis of the current or proposed organizational designs. Galbraith’s design framework uses five components of organizational design: Strategy, Structure, Process and Lateral Capability, Reward Systems and People Practices, that together comprise the Star Model. The model components are interrelated and serve as a guide in defining important elements to consider when evaluating the current state and defining a future desired state for the organization. Galbraith et al. process enables the user to systematically analyze each area holistically and make decisions that serve as a guide through the process of creating a dynamic organization. Burton et al.’s Five Steps of Organizational Design system is a step-by-step approach to organizational design that systematically assesses design characteristics that enable a determination of “fit” or “misfit” in different domains such as Goals, Climate, Leadership, Coordination or Incentives. The model is a tool that enables leaders and managers to follow five steps to organizational design analysis, while evaluating the organization based on fourteen design components against four possible

⁷⁴ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 161.

design spaces. Burton makes use of the Two-dimensional model to arrive at an assessment where alignments are identified through visual representations of the current organization's design.

Although the way in which Galbraith and Burton et al.'s frameworks are used is different, the authors share similar approaches to organizational design. Galbraith is concerned with designing an organization from the top-down and emphasizes that it is the responsibility of the leader and the leadership team to do so. Burton et al. also propose that organizations should be designed from the top-down by leadership while considering similar concepts, such as strategy, structure and processes used by Galbraith. One area where the two approaches differ is in the way in which organizational misalignments are identified. Galbraith uses survey style, diagnostic tools related to the organization's design and a scale from 1 to 5 for levels of agreement with the analysis statement. Once completed, the tools yield a value for areas analyzed, with lower values identifying areas of concern. Burton on the other hand, uses his Two-dimensional Model to identify misalignments in his design spaces.

Given the scope and limitations of this research stated in Chapter 2, only the Strategy, Structure, and Processes and Lateral capability components of the Star Model are used to assess and define characteristics of the FRCSW Components Department. Similar to the Star Model, only applicable design dimension elements of the Five Steps of Organizational Design system are used to analyze the effectiveness of the current organizational design of the FRCSW Components Department.

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IV. RESEARCH METHODOLOGY

A. OVERVIEW

The focus of this research study is on analyzing the organizational design of the FRCSW Components Department. Initial command integration efforts took place in the Components Department, where a large number of former AIMD N.I. personnel and processes were moved to from their facilities in order to merge with the Depot N.I. Based on that fact, the research methodology for this project is structured as follows:

1. Define the scope of the research through preliminary inquiries.
2. Conduct a literature review of organizational design and analysis frameworks.
3. Execute two site visits to collect relevant information.
4. Conduct informal interviews with FRCSW and Components Department personnel.
5. Have formal Interviews with Components Department personnel.
6. Develop a written analysis of the organizational design using defined frameworks and relevant data collected during site visits.

B. PRELIMINARY RESEARCH AND SCOPE DEFINITION

The preliminary investigation was mainly accomplished by accessing information available on the Internet. Considering the fact that the FRCs are new organizations and the FRCSW has only been established for a little over a year,⁷⁵ there is virtually no information available regarding the specifics of organizational design or initial integration efforts. However, the preliminary research was critical in identifying that Components Department was the focal point of the FRCSW's initial plans to consolidate personnel, processes, equipment and facilities.

⁷⁵ First Fleet Readiness Center Stands Up at Coronado, 2006

C. LITERATURE REVIEW

Chapter Three discusses the literature review in detail. It also provides a description of the organizational design and analysis framework components presented by Galbraith et al. and Burton et al. These frameworks were used to design the methodology for the data gathering necessary to analyze the FRCSW Components Department.

D. SITE VISITS

Two site visits to the FRCSW were conducted by the author four months apart with different objectives. The first site visit provided an opportunity to become familiar with the facility as a whole. It was an opportunity to conduct informal interviews and to observe daily operations, including some of the operational supporting events related to maintenance and production efforts. The initial site visit was critical in the sense that it helped to narrow the scope of the research project to the Components Department. The largest integration of Sailors and Artisans took place in this department. During the first site visit, the FRCSW staff also provided copies of command briefs containing planning and alignment strategies as well as the Production Implementation Plan for Fleet Readiness Center Southwest, which served as a “roadmap” and blueprint for merger concepts.

The second visit was of a more focused nature. Its purpose was to conduct formal interviews of military and civilian personnel at the Components Department. Another objective of the second visit was to evaluate integration progress in specific areas of Components Department identified during the first visit. An example of progress made between the two site visits include the approval and implementation of the organizational structure in Components Department by the time the second visit was completed. At the time of the first site visit a proposal for the department’s design had been made to the chain of command but was not approved.

E. INFORMAL INTERVIEWS

During the first site visit to the FRCSW Components Department, four informal interviews were conducted. One interview was conducted at the executive level and it was primarily an overview of the entire organization that included a complete tour of the facility, and operations in general. Three other interviews involved senior management personnel assigned to the Components Department, one active duty military and two civilian members, who were intimately involved in the integration plans and initiatives of the department. The informal interviews provided basic information and insight used to develop the topic for the project. Other meetings with Components Department personnel were extremely productive at this initial stage given that the personnel providing information were key military and civilian personnel who had been involved in the design of the department prior to the merger. Informal interviews were conducted by the author with more than one staff member present at any given time and responses to pertinent questions were recorded manually.

F. FORMAL INTERVIEWS

Formal interviews were arranged through the FRCSW leadership and schedules of personnel to be interviewed were coordinated by the Components Department leadership. The purpose of formal interviews was to collect information on specific areas important to organizational design analysis and to supplement information previously collected during informal interviews. The interview protocol consisted of 16 questions. Interviews lasted between 45 minutes to one hour. In cases where time allowed more questions, two general discussion back-up questions were also asked. Each interview was conducted privately and with only one interviewee at a time. Permission to record the interview was requested and approved by the interviewee in all cases. Interviews recordings were made using digital media to facilitate the review of interviewee responses and in addition to note taking to record highlights of certain responses.

A Statement of Consent (Appendix B) was read to each interviewee committing to complete anonymity during the interview. During the formal interview process, military and civilian personnel were asked 14 to 16 questions (Appendix B) to learn what interviewees currently knew of the organization's structure and design or what they expected to occur based on their experience as the department moved towards full integration. At the time the formal interviews were conducted, only one workcenter (APX-100) was fully integrated. The rest of the workcenters were in the process of completing physical relocation moves or developing localized integration plans. Consequently, some conceptual or hypothetical responses based on experience were expected from interviewees.

The interview questions shown in Appendix B were grouped by category and organized based on the type of information that was to be elicited. For most of the responses, interviewees were asked to provide examples to substantiate or illustrate their answers, and to help in the analysis and correlation of responses in areas of interest. The questions presented during the formal interviews fall under the categories of Demographics, Strategy, Structure, Processes and Lateral Communication Channels.

1. Demographics

The demographic questions (1-4) identify the two primary groups that make-up the FRCSW, Civilian Artisan and Military Sailors. This section also establishes the military rank or civilian grade of interviewees. Making this distinction is important in the analysis since individuals at different levels of responsibility may view the integration efforts in a different way and have different views of how the integration may affect them. Other questions in this section establish the length of time the interviewee has worked in each organization and in what capacity.

2. Strategy

This group of questions (5-7) is designed to uncover changes observed by personnel that can take the organization in a new direction or create new advantages or disadvantages that have resulted from the merger. The questions also assume that the

person being interviewed has some knowledge of how Components Department is designed to operate and whether or not the individual thinks that the design helps the organization achieve its goals.

3. Structure

The questions dealing with the organization's structure (questions 8 through 10) specifically address the interviewee's understanding of the relationship that exists between the organizational components, roles, responsibilities and hierarchy. These questions are directly related to how the Component's Department organizational chart is designed, how the department is configured, and the relationship that exists between different departmental elements. To the majority of interviewees, the design and formal structure of the Components was not well understood at the time of the interviews. During this group of questions, the FRCSW Components Department and Production Support Units design (Figure 3) was shown to the interviewees to illustrate the operational and relational concepts with which they may have already been familiar. The interviewees were allowed to study the chart and then were asked to answer three questions related to its design.

4. Processes and Lateral Capabilities

Questions 11-14 focus on identifying barriers to collaboration and positive changes in processes that may have resulted from the merger of the two activities. The barriers and changes could result from intended or unintended alterations in the way the organization operates internally. This set of questions asked about the inter-team and, in this case, Matrix relationships that exists in the department. Another aspect that this set of questions attempted to explore was how well formal and informal cross-organization processes and lateral capabilities function in the organization and the level of customer service the organizational provides as a result of the merger.

5. Closing and Back-up Questions

The last four questions of the interview package (15-18) were designed to allow the interviewee to bring up any points he or she thought were important but had not been discussed up that point. If time permitted, interviewees were afforded the opportunity to answer as many of the four questions as possible. The first back-up question asked interviewees to describe what factor he or she considered to have had the most significant impact on the organization since the merger took place. The second question asked to provide any additional comments regarding the organizational design that may not have been discussed earlier in the interview. The third questions asked to describe the effects the merger has had on their capabilities to provide customer service. The final question asked whether or not the time it takes superiors to make decisions has increased or decreased since the merger.

G. WRITTEN ANALYSIS

The written portion of the analysis is based on the data collected through formal interviews and organizational design frameworks by Galbraith et al. and Burton et al. The analysis includes data compilation, interviews, thematic analysis of interviews and descriptions of interview questions results.

1. Data Compilation

During the compilation of data, interviewees were only identified by a sequential code of interview order and whether they were civilian (C1, C2..C9) or military (M1, M2..M8). The name or any other identifying information of the 17 interviewees was not requested in order to protect their anonymity. Every effort was made to make the interview group balanced and representative of the three most significant levels of responsibility for personnel at the Components Department: Technicians (Artisans and Sailors) (8), Managers (6) and Leaders (3). The group interviewed was also divided into

Military (8) and Civilian (9) personnel (Table 2). All other information presented in this study was gathered through analysis of the digital recordings and notes taken during the formal interview process.

2. Interview Question Grouping

Grouping of the 16 interview questions (see Appendix B) was based on four categories necessary to perform the organizational design analysis of Components Department, and one additional category of questions that allowed interviewees to provide more general responses to the effects of organizational redesign. The five categories and corresponding question numbers are as follows:

- Demographics (Q #: 1-4)
- Strategy (Q #: 5-7)
- Structure (Q #: 8-10)
- Processes and lateral Capability (Q #: 11-14)
- Closing Questions (Q #: 15-18)

3. Interview Question Analysis

The interview question analysis was accomplished by reviewing the digital recordings of responses provided by 17 interviewees in the five categories previously mentioned. The responses to the Strategy, Structure, Processes and Lateral Capability categories were coded using three possible responses that later allowed a quantitative comparison. The three coding terms, Yes, No and Don't Know were used to assess interview responses with respect to pertinent topics of this research project. Definitions to the codification used to categorize interviewee responses are presented in Table 1. In addition to specific analysis topics, some themes that emerged during the interviews that are of interest are presented throughout the analysis.

CODING TERM	DEFINITION
YES	Interviewee agrees with question statement. Organizational design/structure changes resulting from integration initiatives have had a noticeable positive impact on the department, division or workcenter.
NO	Interviewee disagrees with question statement. Organizational design/structure changes resulting from integration initiatives have had a noticeable negative impact on the department, division or workcenter.
DON'T KNOW	Interviewee has not experienced or been affected by any change in the respective questions category as a result of organizational design/structure changes or from other AIMD/Depot integration initiatives.

Table 1. Definition of Formal Interview Analysis Coding Terms

V. ANALYSIS

A. OVERVIEW

The analysis of the FRCSW Components Department was conducted using three separate components. The first component consisted of data collected through informal interviews with senior staff personnel during the first site. The second component that served as a source of information was the 17 formal interviews conducted with various personnel during the second site visit. The formal interview questions were designed for the organization as a whole and not to make a differentiation between the two primary groups, Civilians and Military. The purpose of this research project is to address the design process and not the specific reactions of the Military and Civilian personnel. However, the interviewee responses could be used to compare responses between the two groups and in some cases the process does apparently engendered noticeably different reactions by the two groups. In that case, the different reactions are discussed. The third component of the analysis applies of the organizational design frameworks by Galbraith et al. and Burton et al to key themes and findings.

B. INFORMAL INTERVIEWS

Informal interviews were conducted with Components Department senior staff personnel. They provided departmental background information and documentation describing implementation efforts since the merger took place. The important elements obtained through informal interviews include the proposed FRCSW Organizational Chart (Draft), proposed Components Department Organizational Chart (Draft) along with the Production Implementation Plan.

1. FRCSW Proposed Organizational Chart

The FRCSW Proposed Organizational Chart is of traditional Hierarchical design with Functional areas, such as Production and Production Support well defined in the overall physical arrangement (Figure 2). The command chart helped to determine the type of configuration that the organization as a whole intended to create for Components Department and other departments within the FRCSW. Although not a finalized structure, the command's chart was of value in narrowing the scope of the project, establishing relationships between departments and divisions, and identifying areas of focus. The diagram revealed that the functions performed by the Depot N.I. that mirror those of the AIMD N.I. were consolidated under the Components Department and that the Depot would maintain a separate Production Support group for areas that were not part of the AIMD prior to the merger (e.g. Engineering, Program Coordinators and Finance).

2. Proposed Components Department Organizational Chart

The proposed Components Department organizational chart is considered to be a Matrix type design (Figure 3).⁷⁶ A Matrix type design is characterized by a dual hierarchy of function and product that is explicit to this type of arrangement. Matrix configurations are also complex and sensitive to organizational design changes, requiring managers to share responsibility and results, and to frequently coordinate with each other. The Matrix arrangements also allow the organization to focus on the production division efforts, production support or both, while utilizing all available support resources efficiently.⁷⁷

At the top of the Components Department chart, the civilian and military leadership positions share responsibility and authority over personnel and processes in the department as a whole, but not over each of its components. To illustrate, some of the processes that govern civilian and military personnel such as labor hour tracking and

⁷⁶ Adapted from "Integrating Intermediate and Depot Activity at FRC Southwest", 18 April, 2007.

⁷⁷ Richard M. Burton & Borge Obel, *Strategic Organizational Diagnosis and Design*, 2d ed. (Boston, Mass.: Kluwer Academic Publishers, 1998), 62-63.

evaluation systems are not integrated and therefore must be managed independently by the respective leader in the division. With respect to Components Department, the focus of management is on the two product divisions, Structures (93500) and Avionics (93600). There are also seven other production support divisions that originated from the former Depot N.I., each having their own managers and influence on the organization's effectiveness and efficiency. This design enables the Components Department to capitalize on the production effectiveness of the Structures and Avionics Divisions, while simultaneously capturing efficiencies that result from Engineering or Supply support, or the use of any combination of the seven production support units.

3. Production Implementation Plan

The Production Implementation Plan Document was essential to this research in that it provided integration details that served as a blueprint for the organizational design of Components Department. Section 4 of the Plan, termed Execution, consisted of several sections, but the most relevant to this project were AIMD and Depot Integration Process, Integration Goals as well as physical consolidation of divisions and workcenters in Components Department.⁷⁸

The AIMD and Depot Integration Process clearly states that the command intends to become a fully integrated facility, including Intermediate and Depot level maintenance, Artisan and Sailors, administrative, and production chain of command. It also indicated that the Components Department APX-100 cell was to be “the first actual attempt to physically merge” an AIMD and Depot workcenter. The implications for organizational design here are that, at a minimum, Components Department structures, processes, manpower and facilities among other things have to be carefully defined and then combined if it is to become the model for follow-on design and integration efforts.

The Integration Goals focused on clearly defining where Artisan and sailor are in the organization, reassignment of production workloads, and redefining the infrastructure by reducing manpower and facilities. Lastly, the Components Department section of the

⁷⁸ FRCSW, *Production implementation plan for fleet readiness center (FRC) southwest*. (14 June 07), 8-13.

plan discussed in detail the physical consolidation of equipment, facilities and production workload (processes) and elimination of duplication, enabling the establishment of integrated departmental components that reflect the organizational design intended.

C. FORMAL INTERVIEWS

The purpose of the second site visit was to conduct formal interviews and collect specific organizational design information and experiences of Components Department personnel. A total of 17 interviews were conducted over a two day period with the following results.

1. Demographics (Q1-4)

Questions 1 - 4 covered the demographics section of the formal interview questionnaire. The main purpose of this section of the interview questions was to characterize the interviewees by rank if military or grade if civilian, length of time working at the organization, military or civilian and the level of responsibility within Components Departments.

Question 1: What is your rank and rate or equivalent civilian specialty?

Question 1 established the individual's role and level of responsibility in the Components Department. At the same time the question helped determine if the interviewee was a civilian or military member of the organization. Based on the 17 responses and the break-out shown in Table 2, 47 percent of personnel interviewed were military and 53 percent were civilian. Forty Seven percent were Technicians, 35 percent Managers and 18 percent Leaders. This grouping of personnel provides evidence that interviewees were relatively representative of different types of work and levels of responsibility within Components Department.

Question 2: How long have you been at the FRCSW?

Question 2 provided mixed results. The question provided information on the length of time that personnel had been exposed to the current organizational design of the FRCSW Components Department since it was established, which at the time of the interviews was approximately one year.⁷⁹ One hundred percent of civilian personnel interviewed have been at the Components Department for a year or more, as opposed to only 63 percent of the military personnel interviewed. This indicates that 37 percent of military personnel interviewed have not been a part of the organizational design transition since the merger began. Therefore, they may be more limited in their assessment abilities on how the change has affected the department.

Question 3: What is your position in the Components Department?

Question 3 grouped the interviewees based on the type of work performed and level of responsibility into one of three categories, Technician, Manager and Leader. Personnel directly involved in work being performed in cells or workcenters responsible for the carrying out the workload efforts were categorized as Technicians. Personnel involved in the planning, managing and supervisory roles of the department were categorized as Managers. Leaders were personnel whose duties included long-term planning, oversight of an entire department or division and who were involved in strategic decisions that could affect the design of the organization. The results show that 47 percent of personnel were Technicians, 35 percent were Managers and 18 percent were Leaders. This distribution ensured that points of view from different levels of the organization were taken into consideration.

⁷⁹ First Fleet Readiness Center Stands Up at Coronado, 2006.

Question 4: Were you previously assigned to the Depot or AIMD, and for how long?

Question 4 validated without exception that military personnel interviewed originated from AIMD and that civilian personnel interviewed originated from the Depot. It also established that all personnel interviewed had sufficient time in the aircraft maintenance support field and experience to provide valid input to the study. The range of experience of personnel interviewed in this type of work environment ranged from 4 to 33 years of experience with a mean of 12 years.

Type	Position/Job Assignment			Total
	Technician (Artisan/Sailor)	Manager	Leader	
Military	3	4	1	8
Civilian	5	2	2	9
Total	8	6	3	17

Table 2. Interview Personnel Breakout

2. Strategy (Q5-7)

Questions 5-7 identified changes caused by the implementation of new design strategies during the integration process. The questions attempted to establish whether or not changes in the organization’s direction or strategy were evident, if the changes were viewed as positive (Yes) or negative (No), and whether or not strategic or other competitive advantages were created. This section also helped determine if the personnel interviewed considered the new organizational design to be supportive of the goals or vision of the organization. The result for questions 5-7 are shown in Table 3.

STRATEGY									
	(Q5) Direction			(Q6) Competitive Advantage			(Q7) Vision		
	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW
Military	1	4	3	6	1	1	6	2	0
Civilian	5	0	4	9	0	0	7	1	1
Total	6	4	7	15	1	1	13	3	1
%	35%	24%	41%	88%	6%	6%	76%	18%	6%

Table 3. Results of Interview Responses Related to Strategy

Question 5: How is the organization different now from what it used to be prior to the merger?

Question 5 (Q5) responses showed that 59 percent of personnel said that they had experienced changes, 35 percent positive and 24 percent negative as a result of strategy or design changes. In this question there was a disparity between Military and Civilian interviewee responses. The Civilian personnel have been a part of the Components Department since before the merger and have had the opportunity to experience change. The merger has caused a number of changes that have been viewed as positive by the Civilian personnel for the Direction of Components Department. Civilian interviewees stated that since the merger took place, the department is more organized and focused on immediate production goals. The presence of military personnel in the workspaces is also a constant reminder of why the organization exists.

Twenty four percent of Military personnel had a negative opinion of the Direction changes. The merger has displaced them from their previous work environment and caused significant disruptions to their previous routines. They stated that they did not think that the post-merger Direction will immediately benefit the organization as a whole. However, Military personnel also stated that it is possible that long-term benefits other than a high level of BCM interdictions could be achieved. The largest percentage of the

interviewees (41 percent) of responders did not know or were not aware of any changes in the organizational design of Components Departments. According to interviewees, integration efforts or changes had not taken place in their workspaces at the time of the interviews, or they could not make a comparison because they did not know what the organization was like prior to the merger.

Question 6: Do you feel that the merger created new advantages/disadvantages for Components Department?

Responses to question 6 (Q6) had immediate positive comments from the majority of interviewees. The results showed that 88 percent of personnel interviewed said that a competitive or strategic advantage was gained through organizational changes as a result of the merger. Interviewees stated that efficiencies brought on by stronger teamwork between Artisans and Sailors, and better training opportunities for Military personnel were the most significant advantages. The merger and new organizational structure has also minimized barriers to communication and access to technical capabilities. Only 6 percent thought that there was a disadvantage or no competitive advantage gained and 6 percent did not know the effect of the merger on competitive advantage. The interviewees that stated that the merger created disadvantages considered integration efforts as a disruption to what otherwise would be considered an efficient and effective organization.

Question 7: How well does the current organizational design fit what is needed to be successful in meeting departmental/command goals?

Responses to Question 7 (Q7) showed that more than three quarters (76 percent) of personnel are of the opinion that the current organizational design for Components Department will enable the accomplishment of departmental goals. Interviewees stated

that the new organizational structure and design, BCM interdiction capabilities, better teamwork and access to technical expertise contributed to achieving command goals more effectively. Interviewees cited efficiencies gained by having easier access to Engineering and Supply services and in some cases the option to go to a Military or Civilian manager to make decisions. Conversely, 18 percent of personnel said that the design was not supportive of goals established for the organization. The primary causes for negative responses were ambiguity in roles and responsibilities in the chain of command and lack of communication between layers of management created by the new design. One example provided by interviewees was the lack of communication between Production Control workcenters and the workcenters themselves. The remaining interviewees (6 percent) did not know if the organizational design would or would not support command goals.

3. Structure (Q8-10)

Questions 8-10 assesses how well the current organizational structure supports the mission of the department (Q8), if the new design structure creates boundaries for operating units (Q9), and whether personnel interviewed are familiar with the structure and design of the department (Q10a,b,c). The general perception was that personnel were unfamiliar with the intended organizational structure, but had experienced improvement in critical working relationships among the Components Department units, and within the FRCSW as a result of changes in the organization's structure. Responses to questions 8-10 are shown below in Table 4.

STRUCTURE

	(Q8) Mission Accomplishment			(Q9) Facilitates Interaction			(Q10a) Accurate			(Q10b) Effective			(Q10c) Improved		
	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW
Military	7	0	1	6	1	1	6	1	1	7	0	1	7	1	0
Civilian	8	0	1	7	1	1	6	1	2	6	0	3	6	0	3
Total	15	0	2	13	2	2	12	2	3	13	0	4	13	1	3
%	88%	0%	12%	76%	12%	12%	70%	12%	18%	76%	0%	24%	76%	6%	18%

Table 4. Interview Responses for Structure.

Question 8: Does the current structure support mission accomplishment at the division/workcenter level?

The responses to Q8 were very consistent and showed that 88 percent of personnel interviewed thought that the current structure supported accomplishing the organization’s mission at their work level. BCM interdiction capabilities, improvements in teamwork, and networks created through informal working relationships were the most commonly cited reasons for improved capabilities in mission accomplishments at the divisional and workcenter levels. Zero interviewees stated that the organizational design significantly hindered their ability to do their job, and 12 percent did not know the effects that organizational changes had on their ability to accomplish the mission.

Question 9: Do you think that the way the Components Department is structured allows divisions and workcenters to easily interact?

Responses to Q9 revealed that 76 percent of interviewees stated that there was fairly easy interaction between units within Components Department and other units in the organization. As previously mentioned, interviewees stated that the merger removed pre-existing barriers allowing easier interactions between different units within the

FRCSW and in some cases with organization external to the command, such as NAVSUP. Only 12 percent stated that the new barriers had been created, making interaction among elements more difficult. The barriers mentioned by interviewees were the result of transfers or workflows through chains of command that replaced informal networking channels. A similar number of personnel (12 percent), did not know or had experienced noticeable changes in their interaction with other units.

Question 10: Based on the proposed Components Department Organizational Chart (Figure 3):

- a. Is this an accurate portrayal of how you see the Components Department?**
- b. Do you think this design is effective, ineffective? In what ways?**
- c. Do you think that this design is better or worse than before? Examples?**
- d. What would you change about the current structure (organizational chart) to make things better in Components Department?**

The last question (Q10) in this grouping consisted of showing the interviewee a copy of Figure 3, Components Department Organizational Chart, and then asking three questions related to levels of accuracy, effectiveness and improvements reflected on this document. Initially, personnel seemed unfamiliar with the chart, but after a few moments of studying, 70 percent stated that it accurately represented the current structure, 12 percent understood the structure to be different and 18 percent did not know if it was accurate portrayal. As far as effectiveness is concerned, 76 percent agreed that it was an effective structure, 24 percent did not know if it was effective or not, and Zero personnel thought that it was ineffective. The third part of question 10 (Q10c) showed that 76 percent of personnel interviewed said that the current structure was an improvement over the previous structured that they had worked under. Only 6 percent did not think it was an improvement and 18 percent did not know if it was an improvement or change over the previous organizational design and structure.

4. Processes and Lateral Capabilities (Q11-14)

The next group of questions (Q11-14) identifies changes in lateral capabilities, such as levels of cooperation, personnel access to various forms of information, and workflows improvements. These questions also address issues related to changes in organizational teamwork, customer service performance and process effectiveness. At the time of the interviews only the APX-100 cell in Components Department had merged and was working as a fully integrated unit, limiting the exposure to the effects of a totally integrated work area to most personnel in the department. To illustrate, 35 percent of interviewees responding to question 14 could not relate to or discuss the effects that merging the two organizations had on Process Effectiveness. The results for Q11-14 are shown on Tables 5 and 6 below.

Question 11: Have there been improvements since the organizational redesign in (a) cooperation, (b) information access and (c) work flow in the Department, Workcenters, Divisions?

Question 11 identifies improvements since the merger took place in three separate areas (Table 5). The first part of the question, Q11a, deals with determining if levels of cooperation have improved or not. The majority of interviewees (88 percent) stated that cooperation between the different military and civilian element of the organization had significantly improved. Interviewees stated that since the merger they felt they were part of the same team and not belonging to two separate organizations answering to two different chains of command. Another reason for cooperation improvements was attributed to mutual benefits resulting from Military personnel having more access to technical expertise and Civilians being energized by military personnel, new processes, as well as more efficient and organized work areas. None of the interviewees stated that they had experienced a decline. The remainder 12 percent did not know or had not experienced any changes in levels of cooperation.

Information access (Q11b) was a much more difficult topic to discuss during the interviews since the term information can have many meanings. The focus of this question was on identifying information accessibility improvements personnel have experienced through electronic, personal or written communications, in order to be better informed about what is happening in the organization. On the one hand, the results showed that 65 percent of interviewees stated that information flow had improved since the merger took place. On the other, slightly more than a quarter (26 percent) said that information flow declined in some cases. The biggest reason stated for a decline in information stemmed from a lack of computer terminals in work areas, and the absence of some managers tasked with integration projects. Only 6 percent did not notice a change or know if information flow had changed since the merger.

The third part of question 11 (Q11c) revealed that only half (53 percent) of interviewees had noticed an improvement in work flows. More than one quarter of the interviewees (29 percent) remarked on processes disruptions and excessive delays that resulted from changes implemented after the merger. Military and Civilian interviewees stated that in some cases the time that it previously took to get disposition authority for a component that could not be repaired has increased by several days.

PROCESSES AND LATERAL CAPABILITIES									
	(Q11a) Improved Cooperation			(Q11b) Information Access			(Q11c) Improved Work Flows		
	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW
Military	7	0	1	4	3	1	4	4	0
Civilian	8	0	1	7	2	0	5	1	3
Total	15	0	2	11	5	1	9	5	3
%	88%	0%	12%	65%	29%	6%	53%	29%	18%

Table 5. Interview Responses for Lateral Capabilities.

Question 12: Do you think that the integration of Artisans and Sailors has created a better team?

The responses to Q12-14 are shown on Table 6. Question 12 addresses the issues of team dynamics post-integration. Over three quarters of interviewees (76 percent) stated that the teaming of Sailors and Artisans resulting from the merger created a more effective or efficient team. Artisans stated that Sailors would benefit from the added training they could provide, and Sailors stated that they feel empowered by the advanced capabilities that experienced artisans offer. However, 12 percent stated that the team effectiveness and/or efficiencies had suffered a decline since the merger. A number of Military personnel stated that there are mutual cultural differences that preclude civilians from wanting to be part of the team because they feel the military presence threatens their job security. The same number (12 percent) didn't know if the team was improved because of integration or just had noticed no change.

Question 13: Do you think that the new team helps Components Department provide better services to its customers?

Question 13 showed that the majority (82 percent) of interviewees ranked customer service as an improved aspect of the merger. Interviewees agreed that added capabilities, faster repair turnaround times, and better trained military personnel help to provide better services to the warfighter and other FRCSW customers. Only 12 percent stated that the organization's ability to provide better customer service declined because of work flow disruption and team inefficiencies. Six percent did not know or had not noticed a change in levels of customer service.

Question 14: Do you think that Components Department processes are more effective now than before the merger?

The responses to question 14 were consistent with the fact that the organization is actively working on integrating its processes. One half of interviewee (53 percent) agreed that processes were more effective than prior to the merger, such as in the case of BCMs. BCM interdiction reduces the time a component spends in the repair cycle and reduces the amount of time it spends in the Supply Logistics Chain. Civilian interviewees also stated that they have experienced improvements in their processes because of Lean Six Sigma events. Similar to the two previous questions, 12 percent thought that the effectiveness of prior processes had declined since the merger and 35 percent did not know how the merger would affect the efficiency of their processes once the department was fully integrated.

PROCESSES AND LATERAL CAPABILITIES									
	(Q12) Improved Team			(Q13) Better Customer Serv			(Q14) Effective Processes		
	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW	YES	NO	DON'T KNOW
Military	5	2	1	6	2	0	3	2	3
Civilian	8	0	1	8	0	1	6	0	3
Total	13	2	2	14	2	1	9	2	6
%	76%	12%	12%	82%	12%	6%	53%	12%	35%

Table 6. Interview Responses for Lateral Capabilities and Processes.

5. Closing Questions (Q15-18)

Question 15: What do you think is the biggest improvement over the way things used to be?

Question 16: Is there anything else that you would like to tell me about the organization's design?

Question 17: Has the current organizational design improved or reduced your ability to serve the customer better?

Question 18: Has the current organizational design increased or reduced the time it takes leadership to make decisions that affect your ability to do your job?

Questions 15-18 were designed to allow the interviewee to discuss other areas or points that could be relevant to the study that may not have been addressed through the structured questions. Not every interviewee had the opportunity to answer these questions because of limited time. Twelve interviewees had time to answer some of the closing questions and made relevant points to this research as follows:

- Beyond Capable Maintenance (BCM) interdictions enable quicker turnaround times for repairs allowing more parts to be available, and thereby providing better customer service.
- Physical separation for military workcenters has actually had a negative impact in the ability to communicate quickly and effectively. Personnel spend a lot of time traveling between shop that previously were collocated.
- Information flow regarding the integration is not reaching the workcenter/cell level of the organization.
- Integration allowed intranet e-mail workgroups, to become a network.
- More people in charge (Military and Civilian) means that there are more people to answer to making some of the processes more cumbersome than before.
- Currently there is ambiguity regarding the Sailor-Artisan relationship and the way things are supposed to work.

- Chain of Command or who is in charge is not clear.
- There has been drastic improvement in the working relationship with supply support as a direct result of the merger enabling better communication channels.
- The Basic Maintenance Tool (BMT) allows personnel other than management to see workload.
- 3R (Rapid Response Request) documents can now be tracked electronically.
- Duplication of effort in areas where you have a military and civilian leader/manager.
- Information flow has improved because there are two leaders/managers instead of one.
- Workflows are not where they need to be because of problems with turnovers between military and civilians and vice versa.
- Rules have to change to successfully implement integration in some areas (e.g. COMNAVAIRFORINST 4790).
- AirSpeed events provide good results but not everyone understands their intent.

D. ANALYSIS AND APPLICATION OF SELECTED FRAMEWORK

The third component of the analysis utilizes two frameworks to analyze the organizational design of the FRCSW Components Department using informal and formal interview data. The first framework is Galbraith's et al.'s Star Model. The second analysis tool is Burton et al.'s Five Steps of Organizational design. The Star Model is used to analyze specific areas of interdependencies of the current organizational design and once defined, those concepts derived from strategy and structure are applied along with interview data responses to the two dimensional model developed by Burton et al. to identify misfits in the current design.

1. Star Model Analysis

Specific areas of the Strategy, Structure, and Processes and Lateral Capabilities components of the Star model were used to evaluate the current organizational design and structure of the FRCSW Components Department.

a. Strategy

The organization's Strategy can be broadly defined as a potential source of competitive advantage, a set of principles that sets the organization's directions and establishes the criteria that are used as the basis for other decisions. In the case of the FRCSW Components Department's the strategy is synonymous with the FRCSW's Vision, Mission and Goals. In addition to the Mission, and Vision, the organization has established three strategic goals and five strategic objectives in support of the Command's Mission and Vision. These are:⁸⁰

Vision Statement:

To be the leader in innovative aviation maintenance solutions, committed to customer, workforce, and our community.

Mission Statement:

To provide top quality products and services at the best value in the fastest time.

Strategic Goals:

- Organizational Excellence
- Operational Excellence
- Integrated Warfighter Support

Strategic Objectives:

- Provider of Choice
- Employer of Choice
- Workplace Ready
- Workforce Ready
- Customer Intimacy

⁸⁰ Fleet Readiness Center Southwest, 2007, xv.

Based on the organization's current Mission, Vision, Goals and Objectives, is the Strategy for the FRCSW clear? According to Galbraith et al., a strategy should contain information on the markets and products the organization will pursue the source of its competitive advantage and how the organization will differentiate itself in the market place.⁸¹ The Vision Statement above provides a clear definition of the market, which is the market for aviation maintenance solutions including products and services. It is clearly understood through other published material that the aviation maintenance solutions are focused on Navy, Marine Corps, industry and other aerospace organizations.

The source of competitive advantage is not directly defined; however it can be inferred from the organization's current strategic goals of Organizational and Operational Excellence, and Integrated Support for the customer. It is possible that the FRCSW will differentiate itself in the market place by achieving its Strategic objectives. Those objectives are becoming the provider and employer of choice, having the facilities, equipment and personnel ready and establishing a close relationship with its customers, principally, the warfighter. The Mission, Vision, Goals, and objectives project a picture of the future state of the organization.

The enterprise must have the organizational capabilities or skill sets necessary to achieve its strategy. In this case the capabilities existed in Components Department prior to the merger or a change in strategy taking place.⁸² The integration of military and civilian personnel has in fact increased the organizational capabilities and skill sets needed to achieve the strategy, as evidenced by the interview responses to questions 11-13. Seventy six percent of interviewees stated that the merger created a better, more efficient team, and 82 percent stated that the team is now capable of providing better customer service. There is also general consensus among interviewees that the skill sets of Military personnel at the technician level will improve.

⁸¹ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 25.

⁸² FRCSW Command Brief, 2007, slide 26.

The implied strategy for the FRCSW/Components Department has the level of definition and the elements to support guidelines necessary for leadership to implement an organizational design that can achieve command goals. The Strategic focus of the organization is on products.⁸³ Components Department is responsible for legacy and cutting edge component repair of over 11,713 products. The activities of Components Department centered on this concept, even prior to the merger.⁸⁴

b. Structure

The organizational capabilities of Components Department are defined by the product lines that the department supports. The capabilities and skill sets of Components Department are focused in two divisions, Structures Division (93500) and Avionics Division (93600). Additional capabilities and skill sets are provided by Components Department for repairable (7R) components that originate from two external divisions, Ordnance Division (93700) and Egress Division (93800) (Figure 3). Although Ordnance and Egress Divisions are part of the organizational design for skill set support, they are not part of the department.

The matrix structure, with dual hierarchies, interconnects Structures and Avionics Divisions with seven production support units (e.g. Engineering, Supply, and Quality Assurance) as shown in Figure 3. The responsibility for the production divisions is shared between two defined roles, the Program Manager (civilian leader) and the Components Officer (military leader). The current design reflects a structure and capabilities similar to that of the former AIMD, but with integrated Depot level capabilities, along with extensive production support efforts, such as engineering, administrative and financial services that originated from former Depot. The current structure allows the organization to focus on the production division efforts, production support, or both, while utilizing available support resources efficiently.

⁸³ Fleet Readiness Center Southwest, 2007.

⁸⁴ FRCSW. (2007a).

Definition of the new organizational roles in the structure appeared to be secondary to establishing a structure that operationally would support processes after the merger. Although it seems the majority of the roles and points of interface have been defined, the organization is working on finalizing select specific roles that required special attention because of the differences in military-civilian scales and job responsibilities.

The mapping of the structure design and the governance system responsible for moving the design process to its current form was initiated prior to the merger taking place. These are ongoing efforts in the organization supported by the FRCSW leadership and coordinated through the Site Implementation Team.⁸⁵

One significant benefit of structuring the department by product line is that it allows the organization to focus on product improvement and innovation which supports organizational and operational excellence as evidenced by the Petri Dish experiments and the Rapid Improvement Events (RIE) conducted to date.⁸⁶ The current structure and organizational roles established in Components Department support and meet the needs of the strategic design criteria. The structure can provide the Artisan/Sailor and management capabilities to be a leader and innovator in aviation maintenance solutions, specifically component repair capabilities, while maximizing resources. Formal interviews showed that interviewees approve and support the current structure of Components Department with no significant remarks for changes. Some of the benefits of the new Matrix structure include better lateral support from production support units and less barriers for cooperation since each unit now sees itself as part of one team.

⁸⁵ FRCSW, *Production implementation plan for fleet readiness center (FRC) southwest*. (14 June 07), 9, 15.

⁸⁶ FRCSW, *Production implementation plan for fleet readiness center (FRC) southwest*. (14 June 07), 9.

c. Process and Lateral Capability

Processes and Lateral Capabilities are perhaps the most challenging elements to analyze in the current design of the FRCSW Components Department. The current organizational design is still in-process of being implemented and integration is very immature in some areas. Certain components of lateral capabilities such as networks and lateral processes occur naturally and appear to be easily managed, such as informal working relationships. However, they require a relatively long time to establish in comparison to other relationships that are forced to develop quickly, as in the case of Matrix Structured organizations. There are five components to lateral capabilities of Components Department that are discussed, Networks, Lateral Processes, Teams, Integrative Roles, and Matrix Structures.

(1) Networks. Based on responses from interview data questions 11-14, Networks existed between AIMD N.I. and NADEP N.I. prior to the merger simply because they were complementary organizations. The merger of the two enterprises removed organizational barriers and allowed prior interrelationships to become easier to sustain and new ones to be created. The network creation at the Components Department not only resulted from the integration efforts but also from the Matrix design implemented in the department.

Intentional network creation through design has been complemented by other means such as providing access to global e-mail, or special group networks that exponentially increasing the number of network connections that can potentially be made by all personnel. Several workcenter integration initiatives (APX-100 and Calibration Laboratory) have forced Sailors and Artisans to co-locate creating additional work-related networks.

(2) Lateral Processes. The formal channels in which information and decisions move through the organization and work gets done are incorporated into the current Matrix arrangement of the Components Department. The critical business processes in Components Department are related to product-focused processes such as work schedules and workflows. On the one hand, these business

processes are in place but some have not matured to the point where overall efficiencies have been gained. Based on interview responses, a lack of definition has created ambiguity regarding who the point of contact is for certain work requests. On the other hand, the department now has an improved lateral processes with supporting units such as Supply and Engineering production units. More than 25 percent of interviewees commented on the positive impact and improved relationship between the production department and the supporting Supply unit.

Many of the “slow to grow” lateral processes are still being developed along with the roles and responsibilities of key managers. The process of defining and dividing information and decision making responsibilities includes challenges that still remain unsolved while the organization in a transition period. During the interviews Military and Civilian personnel stated that communication channels between Production Control and the workcenters needs to improve so as to build better lateral processes between units. Interviews with Avionics Division personnel revealed that in several production areas, lateral capabilities remain segregated until AirSpeed process improvements events are completed, causing information bottlenecks and ambiguity in decision making processes.

(3) Teams. The Processes and Lateral Capabilities have been greatly improved through the team concept. The merger has created numerous Issue teams responsible for helping to refine segments of the organizational design and strategy development for further integration efforts. Work groups have also been a part and contributed to improving Processes and Lateral Capabilities.

Importantly, there are those workgroups consisting of military and civilian personnel, which have been responsible for defining information flow and dividing responsibilities. Cross-business teams also exist in the Components Department as a result of the interdependencies created by a Matrix design. Personnel with specialized skills, whether they be Engineering, Supply or from another department within the FRCSW pull together to create business or product solution for Components Department. Cross-business concepts are evidenced both by interviewee responses

stating involvement or knowledge of Lean Six Sigma and RIE events and the guidance that is provided to SIT in the FRCSW Production Implementation Plan⁸⁷.

(4) **Integrative Roles.** The responsibility of coordinating work across units in Components Departments is considered to be work in progress. The current Matrix organizational design and structure has caused improvements in this area compared to how it used to be prior to the merger; but until all managerial roles are defined, there will continue to be boundaries and inadequate integration. In some areas, the organization may be constrained by work related laws that govern civilian and military federal employment to create boundary-spanning roles. Some interviewees identified having a civilian and a military manager in similar roles responsible for coordinating work across organizational components as a duplication of effort and not complementary positions.

(5) **Matrix Structures.** Components Department Processes and Lateral Capabilities have used the Matrix structure design to improve product repair capabilities. As previously mentioned, the support gained through the production support units has created significant benefits for the entire organization. The communication channels, both formal and informal, have opened to a degree that the most junior personnel in the organization have noticed the effects. The Matrix design has also enabled the department to laterally establish relationships with other supporting commands such as Naval Air Systems Command (NAVAIR) and Naval Supply Systems Command (NAVSUP). Both of the previously mentioned points were supported by interviewees, especially when responding to questions related to the Structure (Q 5-7) and Processes and Lateral Capability (Q 8-12). The fact that networks are getting stronger, and processes are improving through RIE, indicates that the advantages obtained by employing a Matrix-type organization may continue to improve as well.

⁸⁷ FRCSW, *Production implementation plan for fleet readiness center (FRC) southwest*. (14 June 07), 10.

2. The Five Step-by-Step Approach Analysis

Burton et al.'s Five Step-by-Step approach provides up to 14 organizational design components and 56 distinct organizational design space categories.⁸⁸ For the analysis of the Components Department, only applicable design components that were supported by the data collected were used. The design components evaluated using the Two-dimensional model were Goal, Strategy, Configuration, Task Design, and Coordination and Control Systems with the results shown in Table 7.

Corresponding quadrant in organizational design space	A	B	C	D	
Organizational Goals	Neither	Efficiency	Effectiveness	Efficiency and Effectiveness	
Strategy types	Reactor	Defender	Prospector	Analyzer with innovation	Analyzer without innovation
Configuration	Simple	Functional	Divisional	Matrix	
Task Design	Orderly	Complicated	Fragmented	Knotty	
Coordination and Control	Family	Machine	Market	Clan	Mosaic

Table 7. Fits and Misfits of Organizational Design Analysis of Components Department

a. Step 1. Goal

The assessment of Components Department in the Goal Space revealed that the organization has a high focus on efficiency and effectiveness or Quadrant D of the Goal Two-dimensional Model. This conclusion was reached through data collected

⁸⁸ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 205.

during the first site visit and an analysis of the stated Strategic Goals and Objectives of the Command.⁸⁹ Components Department has a high focus on effectiveness as evidenced by the goal of achieving Organizational Excellence. This goal shows the department is concerned with outputs, products and the services it can provide internally and externally to other units within the FRCSW. The organization goals of Operational Excellence and Integrated Warfighter Support suggest a high focus on efficiency because inputs such as resources are maximized while minimizing costs as a result of DoD budget constraints.

b. Step 2. Strategy

Step 2, the Strategy analysis showed that the Components Department is an Analyzer without innovation, or Quadrant D on the Strategy Two-dimensional Model. The enterprise goal is to maintain a leader position in the market by utilizing resources efficiently. Since the product line is relatively fixed, innovation is not a priority unless innovation in the processes is required to maintain its market position. This is also known as a “passive innovator”.

c. Step 3. Configuration and Complexity

The fit analysis in step 3 showed that the most appropriate organizational design after the merger of the two organizations would be a dual hierarchical design that would support the relationship between the two production divisions, Structures and Avionics, and the Production Support units, such as Supply, Engineering and Program Coordinators (Figure 3). The Matrix configuration in quadrant D was the qualifying choice. This Design shows alignment with both the goal and strategy analysis above.

d. Step 4. Task Design

The Task Design dimension assessed Components Department in how it should be designed to perform its work. The two competing dimensions in this design space are Divisibility and Repetitiveness. The work done in Components Department is considered low divisibility because it requires a high degree of coordination and

⁸⁹ Fleet Readiness Center Southwest, 2007, xv.

interdependencies between workcenters to complete. The work done is also considered repetitive because the components repaired, although of many types, are usually the same for each technical area. The focus is timing of the production process to avoid bottlenecks and coordination of the connected processes.

The analysis showed that based on this design criterion the Task Design should be “Complicated” or Quadrant B. The Task Design dimension “Complicated” is considered a misfit with respect to previously assessed Goals, Structure and Configuration Design Space. Based of previously completed steps of the analysis, the Task Design would better fit work that is characterized as “Knotty” or Quadrant “D” of the Two-dimensional Model. The fact that Task Design is a misfit with the Goal and Strategy is a challenge in design. Steps 1 and 2 suggest that the Structure should fit “organizational” level goals and strategies, often driven by market factors and the environment. But structures also need to fit the task requirements discussed in Step 4. In this case, the solution is not that work should change to “Knotty”, but that the structure needs to accommodate goals and strategy requirements as well as Complicated task work.

In this case, the structure should have a high degree of coordination to support a sequential workflow by different subunits of the organization. It should also able to support a repetitive workload and implement standards across the production workcenters as well as avoid bottlenecks and breakdowns that could impact the whole operation. The characteristics of a “Knotty” design are non-repetitiveness; non-standardized tasks and customized production, which do not represent the characteristics of the work performed by Components Department. Based on the data collected during the site visits, the department is low on divisibility because of the interdependencies that exist to get the work done and the high repetitiveness of product repair in each workcenter.

e. Step 5. Coordination and Control

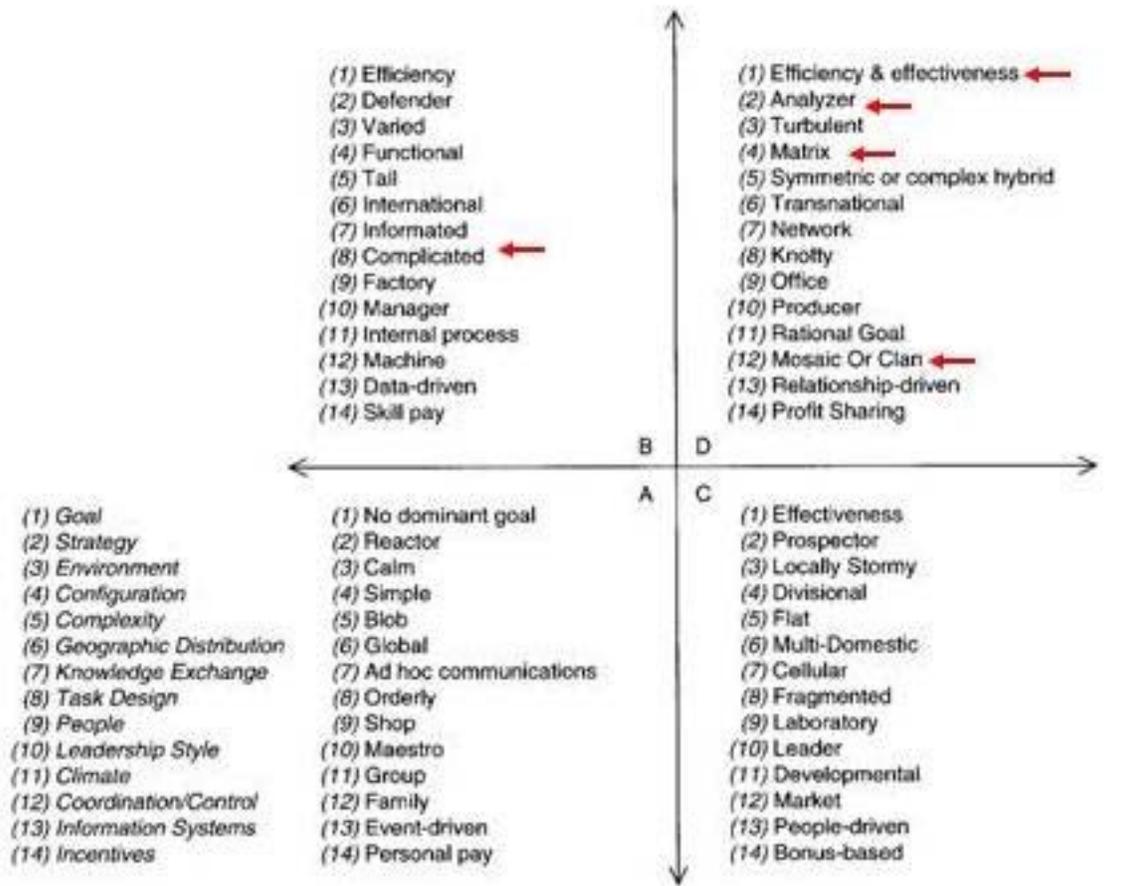
The last assessment of Components Department evaluates the organizational design based on two dimensions, Formalization and Decentralization. The organization is considered high on Formalization because it uses strong norms that guide

how the work is accomplished, and the norms are embedded in the personnel throughout the organization. The organization is also considered decentralized because strategic decisions are made at the top while operational decisions are delegated to the divisions and workcenters. Mainly because formalization is high and standardized throughout the enterprise, it is considered to be “Clan” Coordination and Control or Quadrant D.

f. The Five Step-by-Step Analysis Summary

In summary, the Five Step-by-Step analysis shows that the organizational design fits mostly around Quadrant D as shown in Figure 15. Analysis using the first step of the process shows that the organization’s Goal Space is focused on both the Efficiency and Effectiveness (1) dimensions. The second step shows that the Strategy is that of an Analyzer (2), or an organization with the goals of being a market leader while at the same time maximizing the use of limited resources. Step 3 revealed that the organization’s Configuration and Complexity is of a Matrix (3) design, which is evidenced by the dual hierarchies supporting product and function elements. The fourth Step, Task Design, revealed a misfit with the previous three steps. It shows that the Components Department is low on task Divisibility and High on task Repetitiveness. These characteristics make the organization have a Complicated (8) Task Design in Quadrant B and not considered Knotty (8), which is the corresponding characteristic in Quadrant D. Analysis of the data collected shows that in Step 5, Coordination and Control Systems, the organization is more formalized than decentralized and has strong norms that guide how the work is accomplished. These characteristics categorize the Coordination and Control System as a Clan (12) type, also in Quadrant D.

After analyzing the data collected and applying the Five Step Process to the organizational design of Components Department, it can be concluded that the organization has a good design fit with the exception of the Task Design. This challenge in design does not mean that the current organization has to change, but that the organization needs to ensure that the structure can accommodate the requirements presented by the misfit of the Goal, Strategy, Configuration and Complexity, Coordination and Control Systems with the Complicated Task Design.



The complete set of component types within the 2 x 2 organizational design space

Figure 15. Complete Design Space Model.⁹⁰

⁹⁰ From Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 205.

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VI. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The purpose of this study is to identify possible gaps in the organizational design and lateral organization of Components Department with respects to the integration of military and civilian personnel. The research showed that although the organization is still going through the integration process, the critical aspects of the Strategy, Structure and Processes and Lateral Capability have been successfully implemented or are being addressed systematically by the leadership.

1. On Strategy

The FRCSW strategy is not explicitly stated in any of the literature or data resources readily available; however the components necessary to formulate a strategy are embodied in the Vision and Mission statements and the Command Goals and Objectives discussed in Chapter V. Through these statements, the organization defines the future desired state for the organization. From an organizational design analysis, the strategy type identified was “Analyzer without Innovation”. This supports the current command goals of maximizing efficiency and effectiveness simultaneously.

During the personal interviews it was noted that personnel knew there was a command strategy, and knew that it had changed, but could not state what it was at the time. Forty-one percent of the interviewees were not aware of changes in the department caused by the new command strategy. The interviews also revealed that 88 percent of interviewees said the merger and associated strategy created significant advantages for Components Department. From an organizational design standpoint, the study did not uncover any significant gaps or misalignments with the current command strategy, but there two recommendations for improvement made as follows:

First, the interview data showed that Components Department personnel are aware of the Mission and Vision of the command, and know that there is a strategy, but

do not know what is. Interviewees stated lack of knowledge of the direction of the organization because they were not sure of the command's strategy and that was cause for frustration. A recommendation is made for the command to publish a command strategy, just as it has published a Mission and a Vision. Personnel would then be familiar with not only the future state of the organization, but how that will be accomplished.

The second recommendation is to incorporate command strategy familiarization training into the normal training routine once the strategy has been clearly defined by senior leadership. Routine discussion on the commands strategy during the initial integration efforts would familiarize Military and Civilian personnel with a "guide path" on how to get the organization from where it is today to where it wants to be in the future.

2. On Structure

The data indicated that the FRCSW structure has been well thought out. The research did not uncover any significant issues with the structure in its current form. From an organizational design perspective, the Matrix type design is the best fit with the current command's Goal and Strategy. Personnel in Components Department consistently expressed satisfaction and excitement with the added capabilities and support brought-on by the new Matrix design.

The new structure removed barriers that existed prior to its inception and prior to the merger. Here as well, 88 percent of interviewees said that the structure was conducive to meeting command goals. Seventy-six percent of the interviewees commented that the new structure was more effective and an improvement over the previous structure; and the same 76 percent said that it also facilitated interaction between the different units within Components Department and other FRCSW Departments.

One point of contention with Military and Civilian personnel is that the roles and responsibilities within the Components Department have not been clearly defined to Sailors and Artisans. This uncertainty creates undue stress on personnel and negatively affects process flows because points of contact for specific responsibilities are unclear.

The recommendation is to expedite defining leadership, managerial and supervisory roles, and then publish them as soon as possible in order for personnel to understand their structure or chain of command.

3. On Processes and Lateral Capability

Processes and Lateral Capabilities were a significant part of the study since this is the principle design component used to identify “white space” in Components Department. The information provided by the interviewees showed mixed results between Cooperation, Team work, Customer Service and other areas of the Analysis such as Information Access, Work Flows and Process efficiencies. This section was divided into six areas of interest, cooperation, information access, workflows, team characteristics, customer satisfaction and processes.

In the area of cooperation, the Components Department benefited from rapid network growth between civilian and military personnel and their respective workcenters or divisions. Even though complete integration has only taken place in two Components Department work areas, many other areas of the department are forming informal networks that are having a positive impact on the organization as a whole. The interview data shows that 88 percent of personnel said that cooperation had improved since the merger, no one stated that cooperation had declined, and 12 percent did not know if cooperation had changed in their respective work environments.

The formal interviews showed that information access has not improved as much as other areas of the lateral organization. Of those interviewed, 65 percent stated that information access had improved for them as a result of meetings, intranet access, or more interactions with the chains of command. Nearly a third (29 percent) of interviewees stated that information access had actually not improved for them. The majority of improvements in communication were work related and involved increased access to electronic workload tracking mechanisms such as the Basic Maintenance Tool (BMT) and NALCOMIS.

Work flows and processes received the lowest marks (53 percent) for improvements among the lateral mechanisms discussed during the formal interviews.

Twenty-nine percent of interviewees were dissatisfied with what they characterized as excessive delays and interruptions in their workflows. As previously stated in Chapter IV, at the time the interviews were conducted only one workcenter had completed the integration process. Because of the limited integration at the workcenter level, and as supported by interviewee responses, 18 percent stated that there was no significant change in their workflows and 35 percent reported no change in their processes.

The current organizational design has also shown to be improving the team dynamics of the organization and consequently the ability to provide better customer satisfaction. The coordination and control analysis showed that the “Clan” dimension of current organizational design was aligned with the Goals, Strategy and Configuration. The majority of lateral capabilities of Components Department are in good shape, except in the area of communications and lateral processes, which have shown to have barriers still in place and are discussed further below.

Overall the integration has positively impacted the organization. The research did not uncover any serious gaps in the organizational design or white space. However, it did identify certain aspects of the department that are being negatively impacted by the merger. Unclear chains of command, lack of information regarding integration progress, changes in processes with no participation from personnel at the workcenter level create tension and uncertainty for departmental personnel. In that respect, the following recommendations are made:

Interviewees stated that in Components Department roles and responsibilities were not completely defined. Recommend that every possible effort is made to communicate to all what their respective chains of command are, and whether they are temporary or permanent. Interviewees also stated that they were unaware of the integration progress being made, even though the information is available through newsletters and command briefs. The information from command briefs regarding integration is not reaching all personnel because of infrequent meetings, particularly for civilian personnel. The information is being disseminated, is just not reaching personnel at the workcenter level. Recommend integration progress information be made available

to personnel at the technician level through daily meetings and if that is not possible, at least two to three times per week.

In some areas, the organization may be unable to create boundary-spanning roles because of laws that govern civilian and military federal employment guidelines. It is important for the organization to identify areas where boundaries will not be able to be crossed early on in order to minimize duplication of effort and/or associated cost. One example of this may be the financial responsibilities associated with tracking who works on what type of equipment. The Artisans have a separate system that is managed in a different way when compared how that same process is managed by Sailors. This process may require duplication of effort until external governing factors can be changed to allow a single point of contact for management and communications.

The last recommendation deals with communications. The merger has created a shortage of computers and has tasked many of the organization's leaders with various projects. The lack of communication assets for Sailors and Artisans has left many wondering where the organization is and what the daily activities are focused on. A final recommendation is to increase the attentive use of meetings, e-mails, webpages and electronic newsletters as a means of information sharing with personnel at the workcenter and cell level in Components Department. The Artisans stated during the interview process that meetings were only held weekly and in some cases bimonthly with limited information about the merger being provided.

4. Summary

The goal of this study was to analyze the organizational design of the FRCSW Components Department in order to identify gaps, and misalignments in the current design that could create barriers or hinder the integration process. The project consisted of gathering and reviewing information available through the Internet, reviewing documentation collected during the first site visit and conducting informal and formal interviews during the first and second site visits, respectively. The research generally concluded positive findings with the organizational design, structure and integration work done so far. It's important to note that this research study was preliminary and conducted

only a partial diagnosis utilizing selected parts of organizational design analysis models. The study also was not comprehensive; it only analyzed a section of the FRCSW, Components Department. The recommendation is that a more complete diagnosis of design could be beneficial using Galbraith et al.'s Star Model and/or Burton et al.'s Step by Step Approach after the merger and integration milestones are complete. Additional aspects of the two diagnostic models that were not included in this study, are more completely described in Appendix A and original sources could provide guidance for future studies.

APPENDIX A. SUPPLEMENTAL ANALYSIS COMPONENTS

A. ADDITIONAL STAR MODEL ANALYSIS COMPONENTS

The following two points of Galbraith et al.'s Star Model were not used in the analysis done in this research study. The *Reward System* and the *People Practices* Points are presented below and should be considered in a complete diagnosis of the design of the FRCSW.⁹¹

The *Reward System* Point examines an organization's scorecard and rewards system for personnel. Different metrics and recognition systems influence and align personnel performance, behavior, and communicate to them what the organization values in terms of achievements or competitive milestones. The Reward System has a strong influence on personnel in the organization and has an effect on all other design components of the Star Model.

The *People Practices* component deals with the collective human resource strategies and practices used to create organizational capabilities from the individual talent pool of the organization. The strategy determines the type of personnel, managerial skills and competencies necessary to achieve organizational goals. It also determines the type of people management practices that are used in selection, performance feedback, learning and development of personnel.

B. ADDITIONAL FIVE STEP PROCESS COMPONENTS

There are nine design dimensions that were part of Burton et al.'s Five Step-by-Step Process that were not used in the analysis done in this research study.⁹² Those nine

⁹¹ Jay Galbraith, Diane Downey & Amy Kates, *Designing dynamic organizations: A hands-on guide for leaders at all levels*. (New York: Amacom, 2002), 2.

⁹² From Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), xv.

dimensions are described in the following paragraphs and should also be considered in a complete diagnosis of the design of the FRCSW

The environment analysis portion in Step 2 deals with all things that are external to the boundaries of the organization that could potentially affect the way in which it performs. The boundaries of the organization refer to the unit of analysis, which could be a department, division, an entire organization or system of organizations. Burton et al. clearly postulate that the design and performance of an organization depends on the environment it operates in, and the organization's ability to adapt its strategy to its environment.⁹³ The literature supports this view and presents an Open Systems Theory that views organizations as highly complex artifacts facing uncertainty and requiring constant interaction with their environment.⁹⁴

Two dimensions are used to describe the organization or unit's environment, Complexity and Unpredictability. The Complexity dimension is determined by the number of factors in the organization's environment and their interdependency. Unpredictability in the organization is defined by the level of knowledge of the factors in the environment and their variance. The more variance occurs in environmental factors, the less predictability can be expected. In order to apply the two environmental dimensions, four types of environments are developed in the Quadrants of the Two-Dimensional Model, Calm, Varied, Locally Stormy and Turbulent (Figure 1). These four types of environments define the level of information processing and coordination that has to take place based on the degree of complexity and unpredictability. It goes without saying that the higher the level of complexity and/or unpredictability in the environment the greater the level of information processing is required by the organization.⁹⁵

⁹³ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 37.

⁹⁴ Michael E. Milakovich & George J. Gordon, *Public administration in America*, (Boston: Bedford/St. Martin's, 2001).

⁹⁵ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 43.

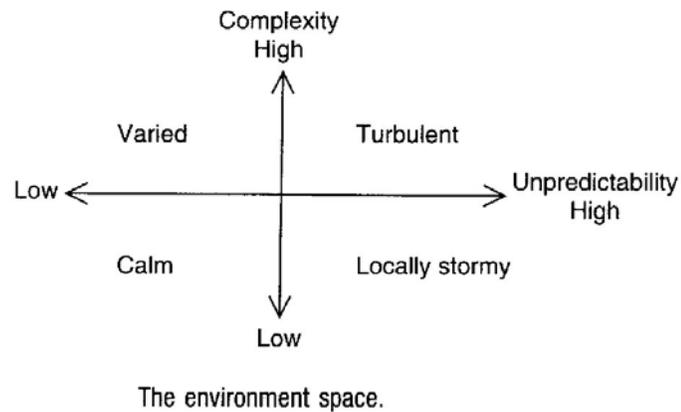


Figure 1. Two-Dimensional Model of the Environment Space.⁹⁶

In reviewing the organizational complexity, Burton et al. establish the differentiation of task management or how the organization is broken down into its subunits. In this instance, complexity is made-up of two dimensions, horizontal and vertical differentiation. Horizontal differentiation can also be viewed as the width of the hierarchy or the degree of specialization across the organization. In a similar way, the vertical differentiation is the depth of the hierarchy, basically from the top to the bottom of the organization. Horizontal and vertical differentiation result in four types of complexities that show how information processing will be carried-out and how work is allocated between subunits. These organizational complexities are Blob, Tall, Flat, and Symmetric and their relationships are shown in Figure 2.⁹⁷

⁹⁶ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 43

⁹⁷ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 69.

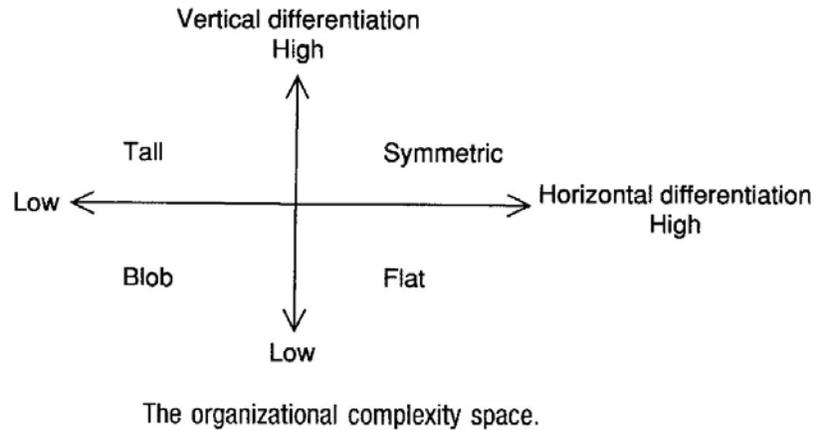


Figure 2. Two-Dimensional Model of the Complexity Space.⁹⁸

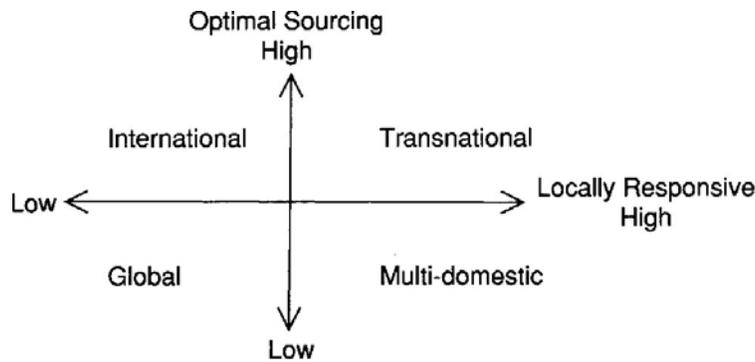
The Geographic Distribution segment of Step three of the Step-by-Step approach deals with those organizations that are geographically dispersed or operate out of multiple locations. It attempts to assess the enterprise's approach to organizing across geographic boundaries that are created by growing trends like business globalization. The challenges brought-on by the growth of the organization into separate geographical areas may cause the organization to reassess the design of the organization across all business units for alignment. The degree of control, laws, the way people link together, and even the way in which relationships are managed may require the organization to evaluate and adopt various design approaches based on location.⁹⁹

The two dimensions that are used in this segment of the approach are Optimal Sourcing and Local Responsiveness representing tradeoffs in organizational design. The Optimal Sourcing dimension places the organization's operations where contact with the customer, cost efficiency, human resource skills and any other objective for the organization is most beneficial. The Local Responsiveness dimension distributes the work to many locations maximizing flexibility to complete work at any time and any

⁹⁸ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 70.

⁹⁹ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 82.

place. The two geographical dimensions result in a design space containing four distinct design configurations, Global, International, Multi-domestic, and Transnational (Figure, 3). It is possible for organizations to combine these approaches based on design requirements of different business units, goals, strategies and the operating environment.¹⁰⁰



The organizational design space of structures for spanning geography.

Figure 3. Two-Dimensional Model of the Spanning Geography Space.¹⁰¹

The Knowledge Exchange segment of this step in the design analysis is concerned with design options for distributed organizations capable of coping with the intense information demands placed on today's organizations. The focus for this component of the design is to maximize efficiencies and effectiveness of knowledge exchange as opposed to information exchange. Knowledge exchange is information in a particular context that requires interpretation to understand and apply. It affects other areas of the design such as coordination, control systems and information capacity. Two dimensions or mechanisms are presented in this segment to manage Knowledge Exchange and to cope with today's modern business environment, Information Technology Infusion and Virtualization. Information Technology Infusion defines the degree to which the

¹⁰⁰ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 86.

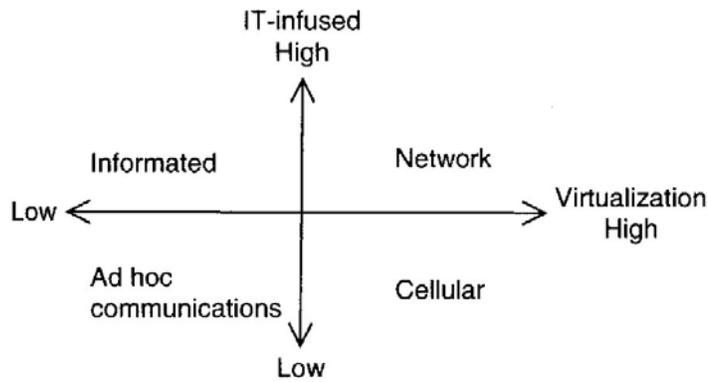
¹⁰¹ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 86.

organization relies on computer-based communication systems and other IT systems, including data processing, to transfer knowledge as opposed to personal interaction. In Virtualization, the organization tries to gain knowledge and organizational reach by linking teams, business units or the organization itself with external parties outside the organization's boundaries. In some cases, virtualization is achieved by acquiring other businesses that possess a desired capability or knowledge.¹⁰²

Four types of organizational designs result from the IT infusion and Virtualization dimensions. These designs are Ad hoc Communications, Informed, Cellular and Network. Ad hoc Communications rely primarily on person-to person communications in small groups on an "as-needed" basis, and have little dependency on IT systems and Virtualization. These groups are usually temporary, autonomous and unstructured in the way they track progress. Informed organizations manage information up and down the structure using computers. Computer technology enables Informed organizations to make their processes visible and measurable allowing redesign and customization possible. The Cellular organization are composed of small business units or groups that operate autonomously, can grow, multiply themselves, and interact with other internal or external business units to gain knowledge. It competes with the Informed organization by rapidly changing or rearranging work processes and by having the ability to easily import and export knowledge while harboring knowledge internally to create a competitive advantage. Lastly, the Network organization, as the name implies, attempts to connect and link internal units with external organizations to gain knowledge. This type of organization is highly dependent on information technology with ideas and links flowing in all directions.¹⁰³ The Knowledge Two-dimensional Space is illustrated in Figure 4.

¹⁰² Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 92.

¹⁰³ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 96.



Structures for managing knowledge exchange.

Figure 4. Two-Dimensional Model of the Knowledge Exchange Space.¹⁰⁴

Burton et al.'s second segment of Step 4 deals with the People design factor through the use of the size and capabilities dimensions of analysis. From an organizational design perspective, the people and the organization must fit together in order for the organization to reach its goals. They further propose that organizational goals, strategy, structure, task design and labor pool size affect people management designs and the amount of information that should flow between personnel. In addition to assessing the number of people, the Professionalization or type of people also become an important dimension. Professionalization deals with the skills, knowledge, and capacities of the workforce as measured by the education, training and experience levels. Burton further adds that knowledge can be tacit, or not readily documented, or explicit which means it can be codified. Tacit knowledge is much more difficult to communicate and requires an organization that ranks high in the area of Professionalization.¹⁰⁵

To illustrate the two dimensions and four resulting approaches to People management, the assessment process uses the People Space Two-dimensional Model (Figure 5). The model categorizes the dimensions of Number of People and Professionalization into four distinct management approaches labeled Shop, Factory,

¹⁰⁴ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 93.

¹⁰⁵ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 123-124.

Laboratory and Office. The Shop approach is pertinent to organizations with few people with low Professionalization. It is followed by the Factory approach, which involves large numbers of people with low Professionalization. Conversely, the Laboratory category is applicable to organizations with low numbers of people and high levels of Professionalization. Lastly, the Office category describes organizations that have many people with high levels of Professionalization.¹⁰⁶

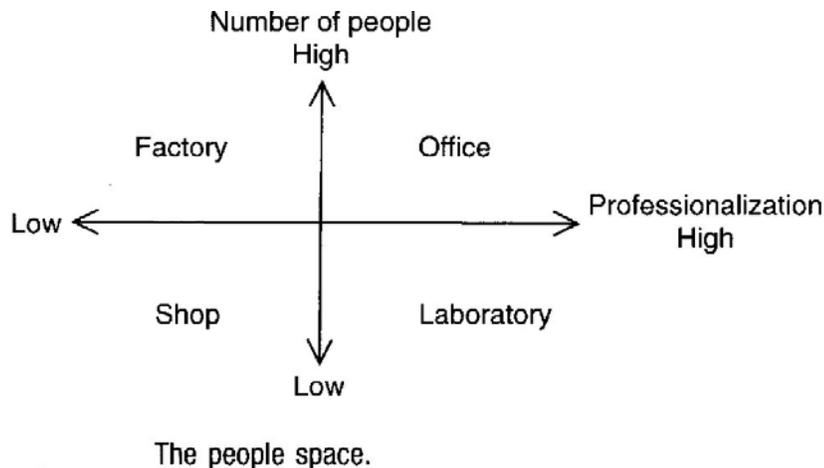


Figure 5. Two-Dimensional Model of the People Space.¹⁰⁷

Leadership and organizational climate have an impact on the organization's personnel ability to make decisions and on their information-processing capabilities. The term Leadership as it applies to organizational design, refers to the individual or group of people at the highest level of the unit of analysis and the predominant mode used by those leaders to manage the employees. Burton et al. present two principle types of leadership descriptions derived from McGregor's Model of Theory X and Theory Y,¹⁰⁸ which will later serve as the basis for the two dimensions of analysis for Leadership. Theory X

¹⁰⁶ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 125.

¹⁰⁷ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 125.

¹⁰⁸ Douglas McGregor, *The human side of enterprise*. New York: McGraw-Hill, 1969).

leaders are considered autocratic, control-oriented and directive while Theory Y leaders are democratic, delegate to subordinates and motivate through inspiration.¹⁰⁹

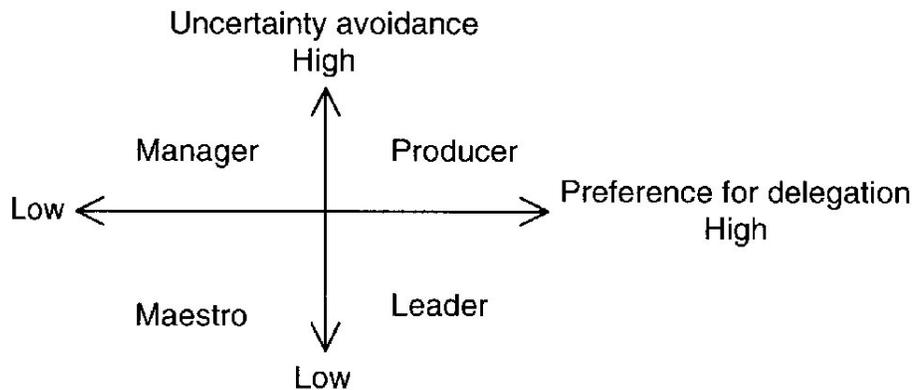
A leader's preference to delegate, motivate and make long-term decisions in order to be more efficient counterpoints a leader who provides detailed direction to employees, motivates via control and makes short-term decisions. On a similar scale, leaders also give subordinates the latitude to make their own decisions with very little or no guidance, but accept future uncertainties. At the opposite side of the spectrum, leaders that provide detailed direction to subordinates minimize uncertainty and reduce the risk of an unknown future. It is important to consider the possibility that leaders can also fall somewhere in between the two types of leaders previously described and establish a type of leader that falls somewhere in between the two dimensions. For the purpose of analyzing leadership using the two-dimension Model, Burton utilizes the Preference for Delegation and Uncertainty Avoidance dimensions.¹¹⁰

Preference for Delegation describes the degree in which managers encourage or allow subordinates to make decisions about how to accomplish the organization's work. Uncertainty Avoidance on the other hand is the willingness of management to make decision based on their level of risk aversion. The resulting four leadership style categories from the two dimensions previously discussed are Maestro, Manager, Leader and Producer. The Maestro prefers not to delegate and accepts uncertainty. The Manager prefers little delegation and avoids uncertainty. In contrast, Leaders delegate decision making to subordinates and accept uncertainty. Producers prefer to delegate and avoid uncertainty.¹¹¹ The Leadership style space Two-dimensional Model is shown in Figure 6.

¹⁰⁹ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 136.

¹¹⁰ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 136.

¹¹¹ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 137.



The leadership style space.

Figure 6. Two-dimensional of the Leadership Space.¹¹²

The internal environment or working atmosphere as it is experienced by personnel within the organizations is termed the Organizational Climate. It is a psychological measure of the organization that affects all its members, superiors and subordinates. There have been up to seven dimensions used to define the Organizational Climate, but Burton et al. propose two dimensions, Tension and Readiness to Change to capture the meaning for the purpose of this analysis. Tension is defined as the degree to which insiders feel stress in the work atmosphere. It includes inversely related factors such as trust, conflict, morale, rewards, leader credibility, and scapegoating. Burton et al. further discuss that having a reasonable degree of stress in the workplace is not necessarily a negative scenario for the organization, especially if it enables insiders to face challenges or if it leads to efficiencies.¹¹³

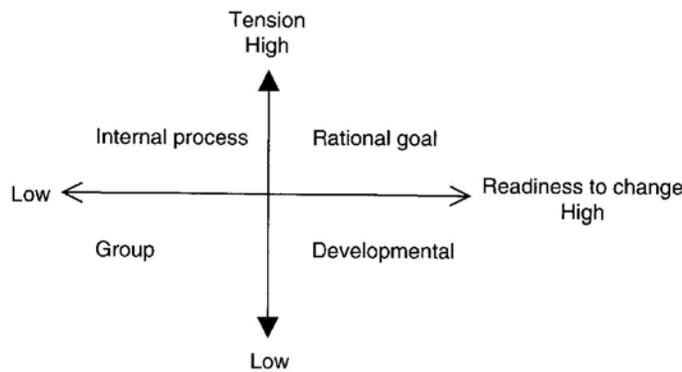
On the other hand, Readiness to Change depicts a dimension that describes the degree to which insiders are willing change direction or change work habits to meet challenges faced by the organization. Routine in work habits can be an asset for an organization if it positively affects work accomplishment, but it can also be a negative force it makes personnel resist change. Personnel must be willing to change and adopt

¹¹² After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 137.

¹¹³ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 140.

new work practices and habits if the organization is expected to last over time. As Organizational Climate dimensions, Tension and Readiness to Change create four types of climates, Group, Internal, Process, Developmental Goal, and Rational Goal (Figure 7).¹¹⁴

The Group climate is described a “quiet” place with low Tension and low Readiness to Change. Opposite, the Rational Goal climate has high Tension, high Readiness to Change and is externally oriented to succeed. The internal process is more “mechanical” with high Tension levels and low Readiness for Change. Lastly, The Developmental climate is externally oriented with low tension and high Readiness for Change.



The climate space.

Figure 7. Two-dimensional of the Climate Space.¹¹⁵

Information Systems are considered computer-based or manual methods such as Memos, or informal meetings that collect, store, and process information in the organization. They are part of the enterprise’s infrastructure, and provide data for the coordination and control system to operate. They also serve as conduits for the flow of meaningful information through the organization. From a design perspective, information systems and coordination, control systems should be designed together since they are intertwined operationally and their differences are primarily conceptual. Although in some cases the information systems may be employed by external

¹¹⁴ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 141.

¹¹⁵ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 142.

stakeholders or customers, they are still considered an internal design concern because they operate as part of a network under the control of the internal organization. Burton states that the two critical factors used to determine the design of the information systems are the Amount of Information and the Tacit nature of the information.¹¹⁶

The Amount of Information is the overall volume of data that must be collected, stored, and processed in an organization. It is a function of the type of work the organization does, and the design of the work task rather than the size of the organization. Organizations that have a large number of repetitive tasks in a short period time, regardless of size, may have a large amount of information to manage. The amount of information to be processed is the driving factor for the approach management takes in designing the information system. The tacit nature of the information exchanged in the organization is a second important factor in the design of the system. As previously mentioned, tacit information is opposite to explicit information which is easily transferred and communicated. In considering the design for this system, a decision must be made as to whether tacit or explicit information is more important to accomplishing the everyday tasks. The decision made will drive a relationship-based system or a data-based system design. The Amount of Information and Tacit dimensions of Information Systems Space analysis suggests four approaches, Event-driven, Data-driven, People-driven and Relationship-driven (Figure 8).¹¹⁷

¹¹⁶ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 166-167.

¹¹⁷ Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 167.

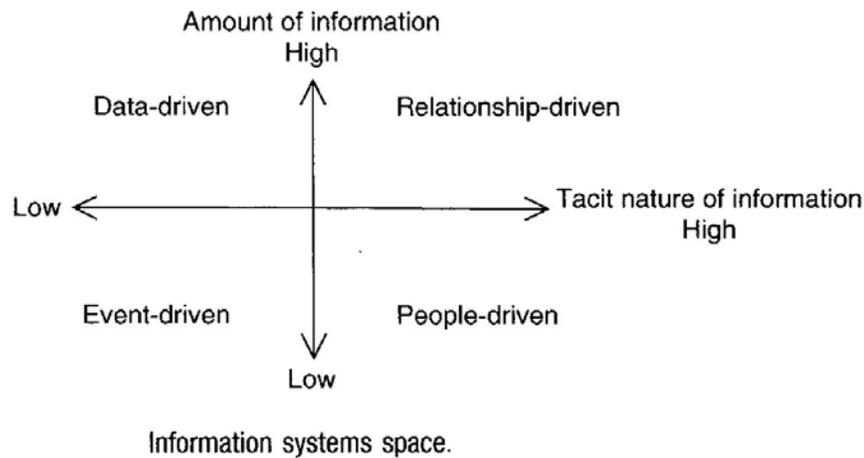


Figure 8. Two-Dimensional Model of the Knowledge Exchange Space.¹¹⁸

The last section of Step 5 in the step-by-step organizational design approach deals with the type of incentives given to internal personnel to motivate them to take actions that are in alignment with other design components previously discussed and the goals of the organization. Burton defines Incentives as the means or instruments used to influence the actions and behaviors of personnel in order to achieve a desired outcome, including organizational goals. Incentives may be provided in the form of money, benefits, formal and informal praise, promotions, and must be internalized by the recipients. In other words, the incentives must be accepted, viewed as fair, equitable and must motivate personnel to do well. However, aligning incentives, desired behavior and outcomes can be problematic. Kerr argues that in many instances reward systems or incentives are misaligned and cause undesired behaviors to be rewarded, while the desired outcome or behavior goes without reward.¹¹⁹

Designing a reward system that addresses this problem becomes a concern for leaders and managers preoccupied with controlling personnel behavior or outcomes. The fundamental design choice for incentives becomes whether or not to base incentives on behaviors or outcomes. Both approaches can be difficult considering the challenges of

¹¹⁸ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 168.

¹¹⁹ Steven Kerr, *On the folly of rewarding A, while hoping for B*. (Academy of Management Journal, 1975), 769.

monitoring the behavior of all personnel, all the time, and the fact that employees are not always involved in all outcomes. This choice becomes the Basis of Evaluation Results dimension used by Burton in his Two-dimensional Model. The second dimension becomes target of Incentives which attempts to identify if incentives should be based on individual or work group performance. The unit of analysis, which could be an individual, group, division or department, drives the design of incentives for the organization. The Basis of Evaluation Results and Target of Incentives dimensions outline a typology consisting of four types of incentive systems, Personal Pay, Skill Pay, Bonus-based and Profit Sharing (Figure 9).

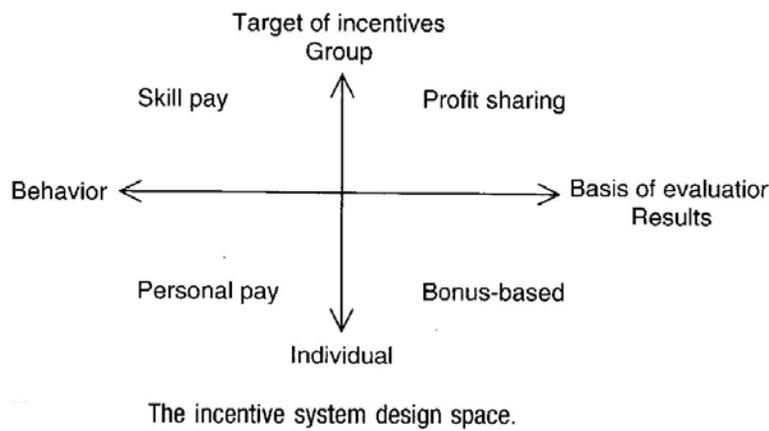


Figure 9. Two-Dimensional Model of the Knowledge Exchange Space.¹²⁰

¹²⁰ After Ref. Richard Burton, Geraldine DeSanctis & Borge Obel, *Organizational design*. (New York: Cambridge University Press, 2006), 187.

APPENDIX B. INTERVIEW QUESTIONS

A. STATEMENT OF CONSENT

First of all, I want to thank you for participating in this Naval Postgraduate School, student research study titled “Organizational Design Analysis of Fleet Readiness Center Southwest Components Department”.

The research and data collected today will be used to help analyze the current organizational design and structure of the FRCSW Components Department. The process will consist of a question and answer interview session with approximately 15 questions, and an estimated 45 minutes to completion.

A copy the research results will be available at the conclusion of the study (via copy of the MBA Research Project).

All records of this study will be kept confidential and the privacy of participants will be safeguarded. No information will be publicly accessible which could identify you as a participant. You will be identified only as a code number on all research forms/data bases.

Your participation is anonymous and strictly voluntary, and if you agree to participate, you are free to withdraw at any time without prejudice.

Do you understand the information I’ve just read? Unless there are any questions, we can start the interview.

POC: LCDR Joe Montes
Naval Postgraduate School

B. INTERVIEW QUESTIONS

1. What is your rank and rate or equivalent civilian specialty?
2. How long have you been at the FRCSW?
3. What is your position in the Components Department?
4. Were you previously assigned to the Depot or AIMD? For how long?
5. How is the organization different now from what it used to be prior to the merger?
How do you know? (e.g.)
6. Do you feel that the merger created new advantages for Components Department?
New disadvantages? What are those advantages and disadvantages? (Value added to processes?) How do you know? (e.g.)
7. How well does the current organizational design fit what is needed to be successful in meeting departmental goals? Command goals?
8. Does the current structure support mission accomplishment at the divisional level?
What about at the workcenter level? What evidence do you have?
9. Do you think that the way the Components Department is structured allows divisions and workcenters to easily interact? Can you give some examples?
10. Show person being interviewed the proposed Components Department Org. Chart (see Figure 3). Ask the following questions:
 - e. Is this an accurate portrayal of how you see the Components Department?
 - f. Do you think this design is effective, ineffective? In what ways?
 - g. Do you think that this design is better or worse than before? Examples?
 - h. What would you change about the current structure (org chart) to make things better in Components Department?
11. Have there been improvements since the organizational redesign in cooperation, information access and work flow in the department? Workcenters? Divisions? Examples?
12. Do you think that the integration of Artisans and Sailors has created a better team? (Effective? / Efficient?) Examples?

- 13.** Do you think that the new team helps Components Department provide better services to its customers? Why/how? What has enabled this improvement/decline? Are other changes needed?
- 14.** Do you think that Components Department processes are more effective now than before the merger?

Additional Questions (Time Permitting)

- 15.** What do you think is the biggest improvement over the way things used to be?
- 16.** Is there anything else that you would like to tell me about the organization's design?
- 17.** Has the current organizational design improved or reduced your ability to serve the customer better? Examples?
- 18.** Has the current organizational design increased or reduced the time it takes leadership to make decisions that affect your ability to do your job?

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