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The Marine Corps FiST: An Interorganizational Analysis of the Fire Support System and Its Environment

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December 2003

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The focus of the U.S. Marine Corps is the maneuver element, most importantly the infantry. The artillery exists to support the maneuver element as the all-weather, all-capable fire supporter. The basic organization and strategy for Marine artillery has remained the same for over fifty years. The objective of this project is to analyze the interaction of Marine Corps Artillery and Maneuver units to determine the congruence of the inter-organizational linkages to the stated strategy and operational need. The Fire Support Team (FiST) is the team used to coordinate fire support at the lowest tactical level. It consists of members from all of the fire support assets available to the maneuver company as well as members of the company command element. Research has been conducted to determine the evaluation of the FiST by various stakeholders and the suggestions they have for improvement. Organizational business literature is applied to the FiST concept in order to frame the analysis and give guidance for improvement. Using organizational analysis, recommendations will be provided to improve the customer/service (infantry/artillery) relationship. These models will provide some additional insight into the relationship between these two partners.

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MARINE CORPS FIST: AN INTER-ORGANIZATIONAL ANALYSIS OF THE FIRE SUPPORT SYSTEM AND ITS ENVIRONMENT

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EXECUTIVE SUMMARY

The United States Marine Corps Fire Support Team (FiST) is the maneuver company level integration tool for fire support coordination at the lowest tactical level. Over the course of the last fifty or so years, it has developed in to a very effective method for providing artillery, naval surface, and mortar fires, and close air support to the company commander. As the past commandant's guidance has spelled out, methods for improving fire support are a priority. This study examines the FiST from a business organization point of view and attempts to optimize the team's structure and operations.

Methodology

In this project, the basic organizational structure and an explanation of the role of the FiST was provided. Organizational and, more specifically, interorganizational literature was researched in order to gain a perspective on the research and models used for improving business coordination. Additionally, Marines, termed stakeholders, who have served with or who have experience with the FiST, were surveyed to determine the evaluations and concerns those operators have with the concept. These included artillery, infantry, armor, air, and logistics Marines.

Findings and Conclusions

Research revealed the following:

- The FiST concept grew out of the need for the company commander to have control of the fire support assets at his disposal. It is the best organizational device to achieve the required degree of coordination from the various assets.
- In business concepts, teams have to be given a priority of stability, continuity, and decision-making power in order to operate at optimal rates.
- The artillery community has a history of fluctuating priorities in how it staffs the Forward Observer (FO) Teams. This has had a detrimental effect on the maneuver/artillery relationship.

- The artillery community has a developed a culture of provincialism and goal displacement in response to pressures from manpower shortages and career progression parameters.

Recommendations

This project recommends the following measures to optimize the FiST:

- Take the FO Team and liaison section from the artillery battery and make it organic to the maneuver battalion.
- The enlisted personnel in these sections would permanently move to the Table of Organization of the maneuver unit.
- Create a one-year block in the artillery officer's three-year initial operational tour in which he fills these FO and/or liaison officer billets.

I. BASIC INTRODUCTION

A. PURPOSE

The Marine Corps Division is the command organization for the main ground combat force of the United States Marine Corps. The coordination of its fire support assets and those provided by the Marine Air Wing through close air support is an ongoing topic of discussion throughout the Marine Corps. Maneuver units, such as infantry, tanks, and Light Armored Reconnaissance (LAR) units rely on fire support, both organic and non-organic, to augment their direct fire capabilities. Artillery units are the primary providers of fire support and are responsible for providing the coordination for using fires. The focus of artillery in general is to provide and integrate efficient and effective fire support. This study analyzes the employment and organization of the Forward Observer (FO) team as a part of the inter-organizational link between the fire support assets and the maneuver units at the lowest level of the tactical chain of command for fire support coordination. Using organizational analysis, recommendations are provided to improve the customer/service (infantry/artillery) relationship. The project provides an analysis of the organizations involved in the fire support process and the relations among them. The final result includes a recommendation for optimizing the inter-organizational link, the Fire Support Team (FiST).

B. QUESTIONS

1. How does the Marine Corps Division coordinate its fire support efforts among the various elements?

In addressing this question, the project focuses down to the tactical, company level. It looks at the use of the FiST in practice and application. The basic structure and work that the FiST does is examined. Interviews and articles from publications were obtained and summarized to give the best description of the actual status of the FiST.

2. Does the FiST provide the optimal level of coordination?

Many models and guides exist describing the most effective ways to organize and operate the interaction between organizations. Studies from Galbraith (1977) and the organizational models of Daft (2001) provide insight into the business solutions for

optimizing inter-organizational relationships and creating environments for efficient interaction. The project uses this guidance to measure the effectiveness of the FiST as a coordination vehicle and as a force multiplier.

3. How can the United States Marine Corps optimize its fire support organization at the FiST level to provide the best solution for the maneuver's needs?

By combining the academic and business models with the stakeholders' perceptions of the requirements of the FiST, alternative solutions are available to improve the concept. The benefits and negatives of each solution are presented as well as a conclusion for the optimal answer.

C. DESCRIPTION OF THE CHAPTER ORGANIZATION

Initially, relevant organizations are identified and described to provide the necessary background, i.e., the problem is set up. Next, the FiST is explained as well as the processes needed to coordinate and conduct fire support. The next chapter presents academic literary research concerning the study of organizations and inter-organizational relationships. The research attempts to offer guidance for improvement by dealing with the fire support system as a customer/service provider relationship. It also provides some insight into the role of an integrating team and ways to enhance its performance. After the organizations are described, relevant stakeholders are identified. Additionally, some members of the stakeholder categories have been surveyed and their responses, as well as other evidence, about the state of the FiST are presented. The purpose of this is to provide descriptions of the positives, negatives, and possible improvements that can be made in the FiST as an inter-organizational link. Finally, the project incorporates the stakeholders' views of the FiST into the academic, business-oriented research. A conclusion of the present situation of the FiST is reached followed by recommendations for optimization.

D. METHODOLOGY

The research for this project was divided into two categories. First, the academic portion of finding and applying business models to this topic consisted of researching texts applicable to inter-organizational relationships relative to the conditions of fire support in the Marine Corps. Multiple resources explained the relationships from a business perspective and suggestions from some of these are used during the evaluation.

First hand experience and background with the fire support system provided much of the impetus for examining this aspect of the Marine Corps. Professional texts and publications were consulted both for fundamental explanations of the FiST concept and also for the editorial opinions found in such periodicals as the Marine Corps Gazette.

Finally, a non-scientific set of interviews and an e-mail questionnaire were used to determine the perceptions and suggestions of the stakeholders in the study. Infantrymen, tankers, LAV Marines, artillerymen, pilots, and manpower types were solicited to provide input about impressions, effects of change, and anecdotal evidence of their perception of the status, utility, and experience with the FiST fire support relationship. This suggestive research has been consolidated to provide generalizations of the perspectives of the stakeholder groups and to create a general picture each group's concerns, including their standards for success. Many interviewees provided input for aspects that need improvement and even solutions for the improvement. Interestingly, some suggestions were parallel to the models that the academic works described and give an idea to the applicability of the business research that is being used.

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II. BACKGROUND

A. MISSION

> A Marine division executes amphibious assault operations and such other operations as may be directed. The Marine division provides ground amphibious forcible entry capability to the naval expeditionary force (NEF) and conducts subsequent land operations in any operational environment. The division commander fights using combined arms tactics and tailors the force to the demands of each mission. (MAGTF Officer's FMF/MAGTF Organization Handbook, p.C-11)

B. ORGANIZATION

A brief description of the Marine division and its significant parts is provided. The Marine division is to conduct amphibious assault operations and other missions such as military operations other than war (MOOTW), sustained combat operations, and forcible entry for follow on forces. The division has two important characteristics: combined arms employment and the ability to organize the force for specific requirements of the given mission. Essentially, this project focuses on two main aspects of the division: maneuver (which includes infantry, tanks, and light armored reconnaissance units) and artillery, which is the main provider and coordinator of fire support.

1. Maneuver

a. Infantry

Figure 1, Infantryman (From HQMC)

"The primary mission of the infantry is to locate, close with, and destroy the enemy by fire and maneuver, or to repel his assault by fire and close combat."

(MAGTF, p. C-18) The infantry Marine is the primary, often singular focus of the combat effort. Every supporting arm and organization exists to allow him to close with and destroy the enemy. Survival on the battlefield and the ability to maintain the initiative necessitate that the infantry units remain as lightly equipped and mobile as possible. The light infantry concept dictates that heavy machine guns, 81mm mortars and, anti-tank missiles will be the heaviest support weapons available organically to the infantry regiment. The other supporting arms will provide heavier support as needed.

b. Tanks

Figure 2, M1A1 (From HQMC)

"The tank battalion provides combat power to the division in the amphibious assault and subsequent operations ashore using fire and maneuver, mobility, armor-protected fire power, and shock action to close with and destroy the enemy." (MAGTF, p. C-26) Tank units are often cross attached with infantry units to form mechanized task forces. This allows the commander to combine the capabilities of the infantry with that of the tanks to create a combined arms force in each unit. Tanks are used to conduct operations where their armor and speed are necessary such as breaching obstacles, assaulting emplacements and providing heavy support in urban environments (MOUT).

c. Light Armored Reconnaissance (LAR)

Figure 3, LAV (From HQMC)

"The mission of the light armored reconnaissance battalion is to locate, close with, and destroy enemy forces by fire and maneuver exploiting high mobility, agility and firepower, and conduct reconnaissance, security, and economy of force missions." (MAGTF, p. C-39) LAR serves as the modern version of Civil War-era cavalry for the Marine division. It is a highly mobile, lightly armored force that provides combat power and the ability to push ahead of the division's main effort to help shape the imminent battles. LAR units fight as mounted units until it is necessary to dismount the Marines for action afoot.

2. Fire Support Units

a. Artillery

Figure 4, M198 Howitzer (From HQMC)

"The mission of the field artillery is to destroy, neutralize, or suppress the enemy by cannon, rocket, and missile fire and to assist in integrating all fire support into combined arms operations." (FM 6-20, p3-21) More specifically, "the mission of Marine artillery is to provide close and continuous fire support by neutralizing or destroying targets that threaten the success of the supported unit." (FM 6-20, p3-45) The main ideas to be extracted from the mission statements are support of maneuver through artillery fires and integration of all other fires into the operational plan. The battalions are composed of three firing batteries of six 155mm howitzers apiece. The artillery is to provide each of the above units with the necessary cannon fire to accomplish the missions.

b. Close Air Support

Figure 5, AH-1 Cobra (From HQMC)

The Marine air wing is composed of the aircraft used by the Marine Corps to support the maneuver elements. It consists of transports, intelligence and electronic warfare aircraft, and refueling craft. In addition, the air wing applies directly to this project in the provision of close air support, which is fire support applied to enemy units engaged within such a proximity of the maneuver that efficient coordination is required. This includes fixed wing and rotary wing assets delivering guided and unguided munitions and automatic gunfire. When delivering close air support, the aircraft are in direct contact with the maneuver units.

c. Mortars

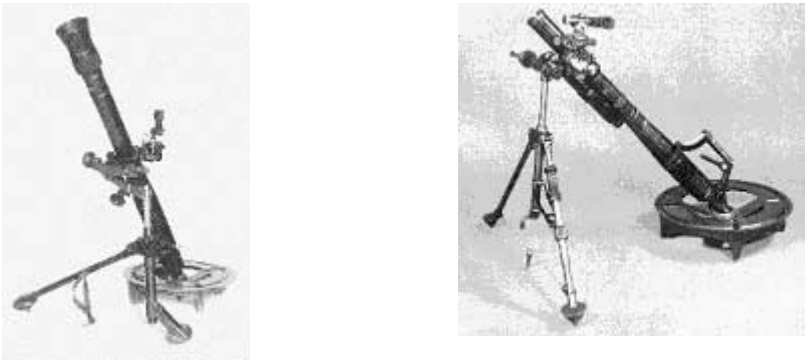

Figure 6, 80mm & 60mm Mortars (From HQMC)

Mortars "(d)eliver fires to support maneuver, especially against dismounted infantry" and "fire smoke missions, mark targets, and provide battlefield illumination." (MAGTF Offense Course Volume II, p.8B-45)

Mortars are the most responsive asset in the infantry company. The company has a complement of 60mm mortars organic to the weapons platoon. These are for direct support for the company and have limited range and casualty effects. The battalion owns a complement of 81mm mortars that are an upgrade in both range and destructive effects than the 60mm mortar. These fires are delegated according to the priority of companies as the main effort and as the situation dictates. They are exceptional in providing smoke munition marks for aircraft performing close air support (CAS).

C. ORGANIZATIONAL LINKAGES

1. USMC Fires

The artillery is a supporting arm of the combined arms operations practiced by the Marine Corps. The basic premise of combined arms is to use all combat power in coordination, providing the adversary with no options for avoiding the effects, for the purpose of closing with and destroying the enemy by fire and maneuver. These assets include:

- indirect Naval surface fires from offshore
- supporting Army rocket fires
- Close Air Support (CAS) from Marine and other service aircraft
- field artillery fires
- direct fire support from armored vehicles (tanks), amphibious armored vehicles (AAVs), and light armored vehicles (LAVs)
- organic fires from heavy machine guns and mortars
- rifleman's M16A2

In order for these elements of the Marine combat force to combine into an orchestrated, singular effort, the element on the ground (the maneuver company) must have the necessary means to use the available tools in the most effective way possible. From here on, infantry, tank, and LAV elements will be aggregately referred to as

maneuver units (companies or battalions). The organization tool used in an attempt to achieve this has been the Fire Support Team (FiST).

2. General Fire Support Organization and Relationships

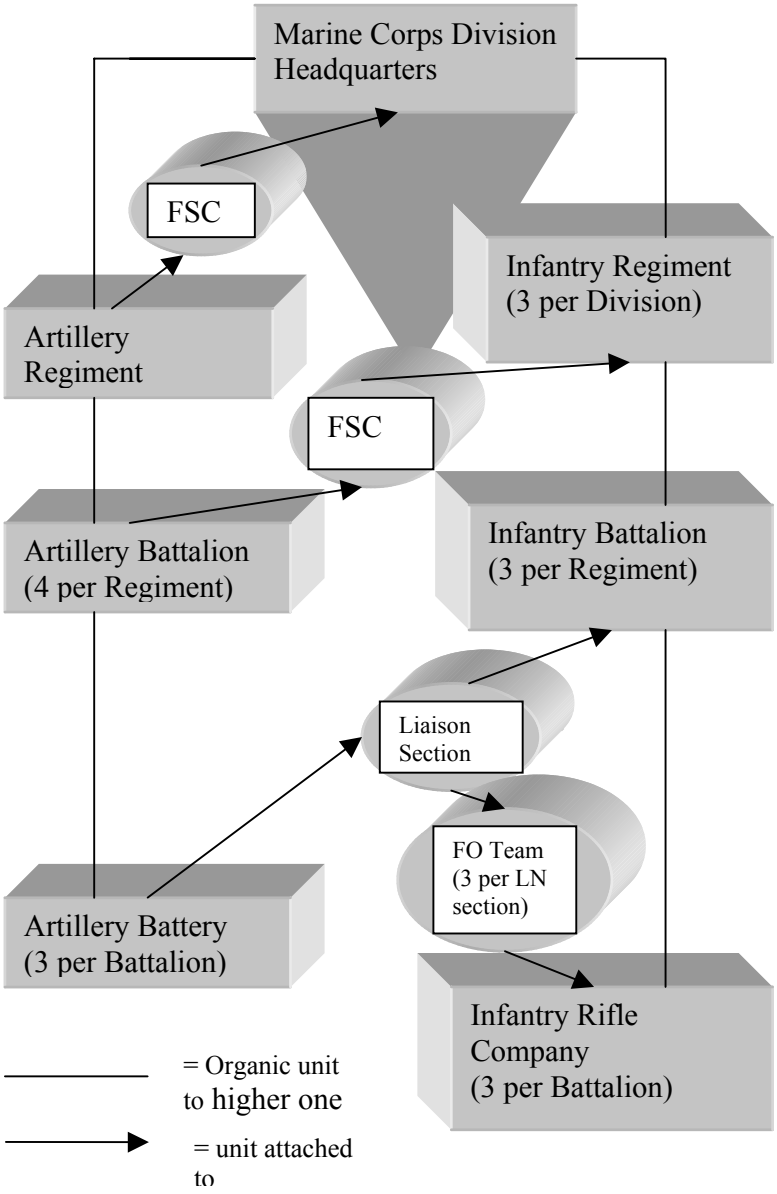

Figure 7, Fire Support Linkages

In order to better explain the dynamics of the FiST, it is necessary to explain the fire support organization through the Marine division. Within the Marine division are three infantry regiments, one tank battalion, one LAV battalion, and one artillery regiment among other supporting units. The artillery regiment is divided into four firing

battalions and one headquarters battery. Three of the artillery battalions are designated for direct supports roles to specified infantry regiments. These units often form relationships to provide some continuity of interaction and operations. The fourth artillery battalion is a general support battalion. The artillery regiment provides fire support coordination elements to the division. This is in the form of the regimental commander serving as the chief liaison officer to the division with a substantial staff of coordinating officers (0802 MOS designators), enlisted artillery fire supporters (0861 MOS designators), and radio operators. The staff group is called a fire support coordination section and establishes and operates a fire support coordination center (FSCC) at the division headquarters.

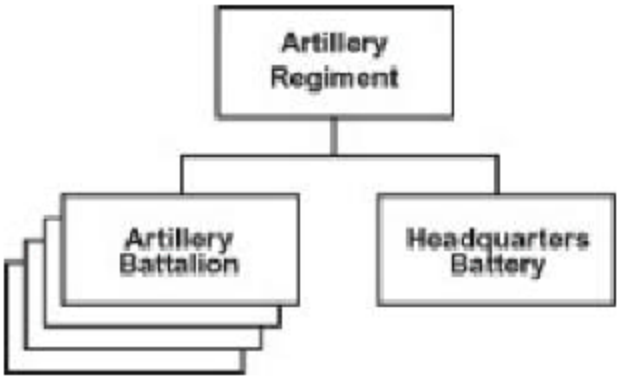

Figure 8, Artillery Organization, (From MCWP 3-16.1, p. 2-1)

The direct support artillery battalions provide their designated infantry regiment with a similar organizational element that comes from the battalion's headquarters battery. The purpose of these sections are to assist in planning the fire support for the maneuver element, orchestrate the employment of the various fire support elements, and advise the maneuver commander in his use of the assets provided during operational, "field" environments. In garrison, these sections are to lead the training of the rest of the regiment in the employment of fire support down to the lowest enlisted levels and serve as a communication vehicle between the artillery battalions and the infantry regiments. The general support battalions possess the same FSCC elements and these are often

allotted to the tank or LAV battalions during training and operations. However, there is rarely any interaction in the garrison environment.

Moving down the organizational ladder, the three firing batteries within the artillery battalion each possess a liaison section for attaching to an infantry battalion.

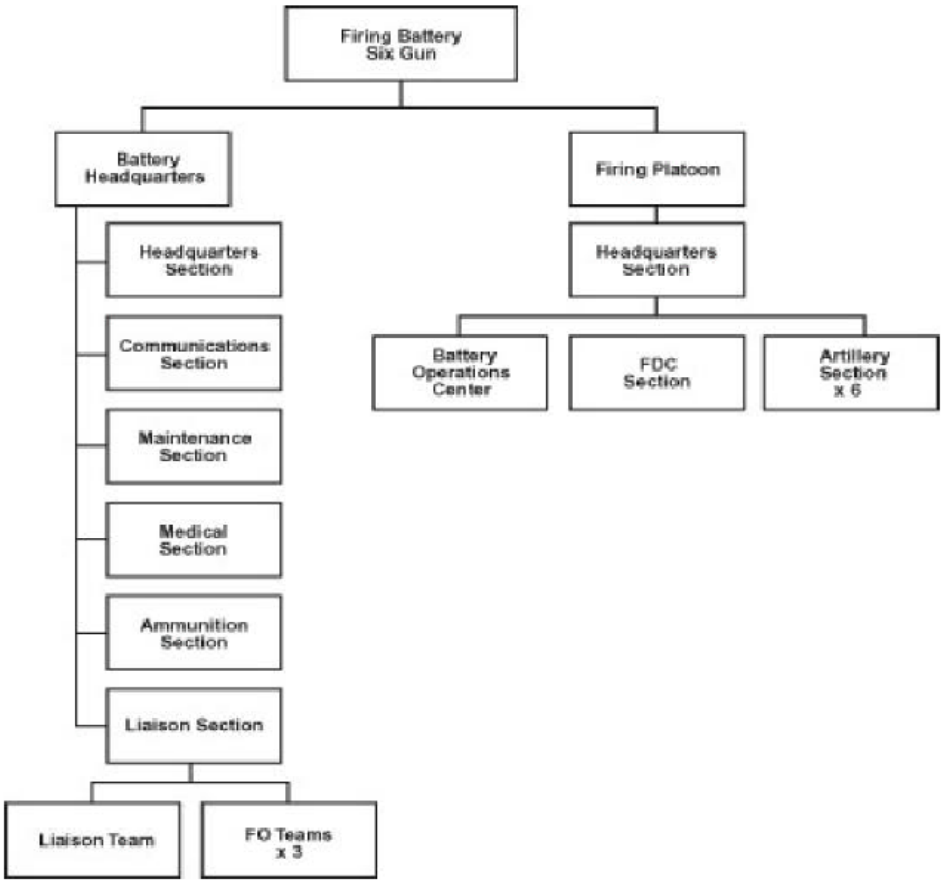

Figure 9, Battery Organization, (From MCWP 3-16.1, p. 6-2)

Under the table of organization, the liaison element consists of a senior First Lieutenant, the senior 0861 Scout/Observer, another 0861, and several communicators. This group forms the artillery element within the maneuver battalion FSCC. In addition, the liaison officer will sometimes serve as the Fire Support Coordinator (FSC) for the battalion.

Also coming from the battery are three Forward Observer (FO) teams consisting of one lieutenant, an 0861 scout/observer, and two communicators. Each of these teams is attached to one of the rifle companies, where the lieutenant forward observer serves as the artillery member of the FiST. The FiST consists of the artillery FO, a pilot serving as a forward air controller (FAC), a mortars observer, and the FiST leader, usually the company executive officer (XO). It is here that the lowest level of fire support coordination is conducted.

3. The FiST Components-

a. Company Commander

According to MCWP 3-16, "The company commander is responsible for coordination of his fires and organizes his personnel accordingly." The demands of conducting maneuver operations with three rifle platoons, a weapons platoon, and a headquarters section create a large enough burden that the company commander has customarily assigned managing fire supports coordination to the executive officer (XO). Depending on the situation, the commander may have all assets of a FiST attached to his company or just one or two, if some assets are not available. Personnel within the company must be proficient enough to use these assets competently even if the liaison-type personnel are not provided.

b. Executive Officer

In addition to being the second in command, the XO is often tasked with being the FiST leader. This involves applying the company commander's intent for fires in support of his scheme of maneuver. As a First Lieutenant, he must be aware of each asset's potential and capabilities and be capable of leading a group of relatively disparate individuals. As the team becomes more accustomed to working together, the XO's role can transform from a leadership role to more of a commodity manager, coordinating much like an orchestra conductor.

c. Forward Air Controller (FAC)

This individual is usually a Captain who has at least one flying tour and has completed extensive training in using the capabilities of close air support. He serves a designated FAC tour with the maneuver battalion for at least a year and is considered

organic to the battalion. The FAC's ability to communicate effectively with the supporting aircraft and affect their accurate delivery of munitions is his greatest asset. In infantry and LAV units, he will be accompanied by a radio operator to assist with the communications equipment, but tanks do not have enough room and he will usually function as the XO's loader and operate his own radio.

d. Mortars Observer

Usually a non-commissioned officer from the battalion, he may also be a Marine trained from within the company. He is tasked with spotting, adjusting, and using the effects of the mortars at the guidance of the XO. The mortars are usually the most responsive, but this is sometimes offset by a comparative lack of lethality, accuracy, and range. The mortars observer can often be best used to provide marks for the close support aircraft and to plan for quickly fired targets that are within the company's zone of action.

e. Artillery Forward Observer (FO)

Usually, one team is provided to each rifle company with a composition of the following:

Table 1, Forward Observer Team (From MCWP 3-6.6, p.1-1,2)

Position/Rank/Military Occupational Specialty (MOS)	Number
FO/lieutenant/0802	1
Fire support man/lance corporal/0861	1
Radio operator/corporal/2531	1
Radio operator/private/2531	1

1101. Responsibilities. The primary responsibility of the FO is to plan and coordinate supporting fires at the company level. The FO team locates targets, calls for and adjusts fire, and reports the results of fire. In combat or emergency situations when there is no FAC present, the FO may function as the terminal controller for CAS strikes.

The FO team is a part of the liaison section that is attached to the maneuver battalion prior to field training evolutions or deployments. While habitual relationships exist formally, they are seldom practiced in garrison environments and in reality serve as a loose guide for attachment during operations only. The fire support man will be either attached to the main effort platoon to provide increased responsiveness to the unit or be located with the FiST to assist with observing and adjusting fires. In tank companies, the FO will be the only artillery representative present due to the lack of room in the vehicle. The FO will serve as the company commander's loader and operate his own communications. The enlisted fire support man can be used in the tank battalion's scout and TOW missile platoons as they would if attached to single rifle platoons.

3. Origin of the FiST

The FiST as it is used in the Marines Corps developed as a result of the increased communications ability of supporting arms such as artillery, close air support, and mortars. As the range of indirect fires and the speed of aircraft increased, a mechanism was required to coordinate these assets at the user level. The creation of the FiST in use today traces back to the Vietnam War in which all sorts of fire supports assets were available to the Marines at the company level. Because of the close proximity of engagements and frequent inability for higher commands to determine distinct lines between friendly and enemy units, the power to use the fire support at hand had to be exercised at the lowest levels of command. Forward air controllers (FACs), mortar observers, and artillery forward observers (FOs) had existed in the companies in earlier conflicts, but Vietnam was the first conflict in which it became standard to staff these units with such personnel on a customary basis.

4. Operations in the FiST

At the company level, all assets of the fires available will be used in concert with maneuver or defensive schemes to achieve victory. The company commander will convey his intent for the fires and what effects he requires in conjunction with the higher plan of engagement. The FiST leader manages the planning of the fires with the input and advice of the other members. Mortars will be used against more thin-skinned targets mainly for suppression due to their relatively smaller destruction effects and high rate of

fire. The mortars are the most responsive asset available to the team, as they are organic to the unit and often within close proximity. The FAC will have direct contact with the air controllers who manage the dispatching of aircraft. Once on station, the FAC will talk directly to the aircraft, whether fixed or rotary wing, to thoroughly explain the situation and desired outcomes. The artillery FO will be in direct contact with the supporting artillery unit's fire direction center (FDC) whether regimental, battalion, or even battery. Often the mortars and artillery will suppress enemy air defense assets and other threats to the aircraft, in order for the air support to engage the enemy most effectively with its ordinance. During offensive operations, the artillery and mortars will continue to fire into the enemy until friendly elements are within the effective casualty radius of the rounds. This is often coordinated through very precise timing and mistakes will cause casualties. Stopping the fires too early will allow the enemy to orient itself and engage the maneuvering elements before it is acceptable and letting fires go too long will result in fratricide.

5. The Fire Mission

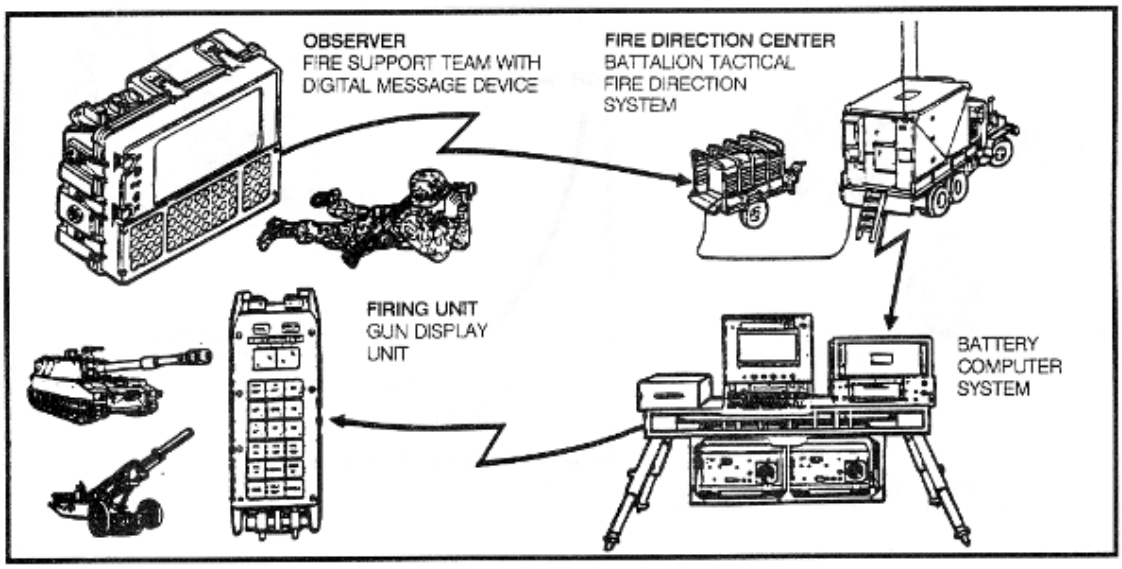

Figure 10, The Fire Mission (From FM 6-30, p.1-1)

The basic process of the fire mission is often one of the most difficult aspects of fire support. For a target generated from the FiST level, the first event is gaining and maintaining communication with the artillery. In order to simplify the explanation, the

scenario explained will be with one artillery battalion supporting an infantry regiment. With communication effective, the forward observer will make the call for fire to the battalion Fire Direction Center (FDC). The infantry battalion and regimental FSCCs will be monitoring these messages and processing them for clearance of requisite priority targets, avoidance of friendly forces, and situational awareness of fires in the unit's zone of action. If any of these are violated, the FSCC will indicate to the FO and the FDC that the fires are not cleared by higher. If this happens, further communication will be necessary to resolve the request for fires. Otherwise, the battalion FDC will process the fire mission, determining the ordinance to use, any further coordination or clearances, and which battery(ies) will be designated to fire the mission. This aspect is termed tactical fire direction. The batteries will then receive the mission where the battery FDC will determine the firing data by relating the target location to their firing pieces and translate the data for use by requisite pieces. It will be conveyed to the howitzers, where it is applied and rounds are sent down range. The FO applies adjustments and changes and the process is repeated until the desired effects are met.

III. SUGGESTIONS FROM LITERATURE

The focus of this project is to analyze the fire support organization at the Fire Support Team (FiST) level and then apply business inter-organizational studies to determine how to better understand the interaction between the organizations and specifically, the members of the FiST. This project analyzes the organizations involved in the combined arms combat team of the Marine division. The FiST is inherently the inter-organizational link at the lowest level for this collaboration. The following chapter describes the general means for information dissemination and coordination. It then addresses lateral relations according to business management literature. Next, the FiST is fit into the academic framework and explained as a mechanism of lateral relations. Finally, observations from academic literature are provided to give the FiST a means to optimize the team development.

A. GENERAL MEANS OF COORDINATION

This project uses Professor Jay R. Galbraith's Organization Design (1977) as the primary tool for analyzing the inter-organizational relationship that is manifested in the FiST. The book describes the process and considerations for designing organizations for coordination and various aspects that can be used for improvement or as catalysts for change. The book goes through the process of how to design an organization, along with the basic and alternative options for designs. At this point, he determines that the task uncertainty is the variable that dictates the organizational design (Galbraith 1977, 35) Considerations of information flow, characterized by supply and demand or current and desired efficiency terms, is an evaluative tool to help gauge the uncertainty. (Galbraith 1977, 37) Additionally, the level of decision-making must be closely scrutinized. (Galbraith 1977, 42) The level that has the best awareness of information about the task environment, possesses an adequate sense of direction and mission intent, and can use the tools available is the one where decisions should be made.

Often the first options available for organizational improvement is changing the hierarchy of command, rules or procedures for operations, or even increasing the ability of lower echelons to make decisions. (Galbraith 1977, 42-48) The hierarchy of authority

is the arrangement of managerial, leadership, decision-making, and coordination roles. The structure is very familiar to members of the military and any other organization where a chain of command is operative. Changes to the hierarchy, especially in a well established organization, are very difficult to achieve and are often vigorously opposed. The need to coordinate through the hierarchical channels is often limiting and inefficient. Organizations are often forced to adapt with other mechanisms to achieve coordination.

Rules and standard procedures for operations are used to make communication and planning unnecessary when the operations are conducted in an anticipated environment. These are used to make decision-making decentralized and actions second nature to the lower levels in the hierarchy. The purpose is to create repetitive reactions to situations. These rules are an augmenting extension of the hierarchy. The standard procedures can aid decentralization to the lower levels but are still susceptible to an uncertain environment.

As the environmental uncertainty grows, the upper echelon will often enhance the decision-making ability of the lower levels through increased training and professional staffing. This does enhance the effectiveness of almost any organization although it can dramatically affect the control from the higher levels. Other facets of this aspect include setting goals and commander's guidance. These directions can provide the professional operator with enough guidance to accomplish a task even when the variables may be erratic.

The next step in creating more efficient coordination is attempting to manage and tailor the environment to better suit the hierarchy and mission of the organization. Some of these actions include influencing competitors and customers to conduct business in manner more suitable to the organization. Also, attempting to operate in more hospitable or conducive environment is a response that faltering or struggling organizations attempt.

The creation of slack resources, which means reducing the level of productivity, is an often unacceptable response to task uncertainty. However, this is exactly what happens if an organization avoids making changes to deal with uncertainty. (Galbraith 1977, 55) When the hierarchy and coordination processes are stressed to the point of

overload, they have the option of neglecting some of the demands. This type of response, or lack thereof, is not an option when considering coordination optimization unless the costs of the other options are greater than loss of productivity.

Third, creation of self-contained tasks is an option that allows the information processing to center around a functional task. This creates a division within the organization that can perform all of the functions necessary to accomplish a specific mission. A Marine Expeditionary Unit is a type of self-contained task oriented coordinating mechanism that is a conglomeration of all types of Marine units. It is self supporting (at least for a limited period) and focused on small-scale littoral operations. Here, the decision making process is moved down further to the source of information, which allows for less extensive coordination. This is a very potent coordination and organizing mechanism. All of the means for production, mission accomplishment, and administration are owned within the self-contained organization.

Fourth, investment in vertical information systems is an area where the Marine Corps has made considerable progress. "The investment strategy is to collect information at the points of origination and direct it to the appropriate places in the hierarchy." (Galbraith 1977, 52) The Advanced Field Artillery Tactical Data System (AFATDS) and other methods of disseminating information up and down the organizational chain of command have given the Marine Corps an advantage in the constantly changing combat environment. Planning changes and situation reports can be transmitted and understood at the lowest tactical levels including the FiST. The vertical transmission of information is a boon to the maneuver units but it does not solve the requirement for on the spot situational awareness and weaponeering coordination at the company level. The solution for this is the FiST or what Galbraith generally terms "creation of lateral relations." (Galbraith 1977, 52)

B. LATERAL RELATIONSHIPS

The lateral relationships perform two main functions: breaking down authority barriers and pushing the decision making down to the lowest level where the information is first encountered. This decentralizes the decision-making and allows the decision making process to be organized according to the expected uncertainty of the situations

that will be encountered. (Galbraith 1977, 53) The "point of information origin" (Galbraith 1977, 111) is often the same point where the decisions can be made most effectively, as is the case of the FiST in contact with the enemy or determining which training options to focus on.

Interestingly, the FiST is not a doctrinal term that can be found in Marine Corps publications. Its development initially followed the "informal organization" that Galbraith describes as arising spontaneously in response to a change in the operating environment. The FiST's development as it operates now is well documented in Robert Scales' Firepower in Limited War (1990). While the custom of the FiST has evolved to the point where it is taken for granted as standard operating procedure, its lack of formalization has created an environment where changes may be made relatively easy and without greatly affecting warfighting doctrine. The lack of formalization has also lead to the situation described in Scales' book where billet changes are made on the fly in order to temporarily fix a less than optimal situation.

The first step in creating lateral relations is direct contact between two representatives to solve a problem. (Galbraith 1977, 53) This measure takes the decision-making away from higher levels but is often informal and short-lived. One version of direct contact is lateral transfer, which is actually transferring an individual from one department or organization to another. That individual serves in a duty inherent to the receiving organization. An example would be for an artillery or supply officer to be transferred to an infantry unit to serve as platoon commander. The hope would be that the time spent in the unit would enhance the lateral relations between the involved units. (Galbraith 1977, 114) This type of transfer occurs in a very limited basis among American military services, i.e. Army officers serving in Marine organization billets, and also with foreign services, such as American officers exchanging with British ones and actually filling operational jobs. The lateral process method is more developed in the fire support role.

The development is using a liaison role to imbed a representative from one organization in another specifically to augment the communication between the groups. As long as these individuals operate outside of a group designed for the integration of

information, they fall within the designation of the liaison role. This was the role filled by forward observers in units before close air support came along to complement the fire support system.

The two tools described above work well when communication is necessary between just two entities. When multiple parties are necessary for information processing and decision-making, groups of representatives are often the best way to reach a decision. (Galbraith 1977, 116) The simplest form of this is the task force. It is a conglomeration of representatives of the involved organizations who gather temporarily to solve a significant issue. When the issue is resolved, the task force dissolves. It could be argued that the FiST often falls into this category as it is often constituted just prior to field operations and as soon as these are finished so is the FiST.

> (T)he next response is to use group problem solving on a more permanent basis. Teams are typically formed around frequently occurring problems. (Galbraith 1977, 116)

Teams may occur at all levels along the hierarchy and can be tailored according to the decisions to be made and the stakeholders involved. Teams are best described as at least semi-permanent, co-located within physical contact when operating, and generally focused on the same function or product. Thus, meeting the minimum requirements for this description should be a consideration as one of the goals of the fire support team at the company level.

C. THE FIST AS A LATERAL RELATION MECHANISM

The FiST must be examined as a tool used for lateral relations among the fire support stakeholders. In Organizational Behavior: A Diagnostic Approach by Professor Judith R. Gordon (1999), the utility of groups to accomplish a mission is determined by the nature of that mission, specifically "(g)roup decision making leads to better results when a task or problem requires a variety of expertise and when problems have multiple parts that a division of labor can best address." (Gordon 1999, 162) The orchestration of the multiple fire support assets necessitate cooperation among individuals, as attempting to communicate and track each one at the same time would be overwhelming for one individual. "Group decision making generally leads to higher quality solutions…using the group provides a way to solicit a range of ideas." (Gordon 1999, 163) The various

ways to solve the tactical level fire support issues can best be digested quickly and rationally by the professional team members who all bring a different perspective to the fight.

The technical nature of each fire support asset and the limited ability of the infantry officer to be trained in the use of each asset necessitates the use of an integrating organization to effectively use those assets. Taking into account the stakeholders' views, the use of a FiST, or at least some conglomeration of representatives, is vital to fire support coordination and utilization at the tactical level.

D. OPERATIONAL MEASURES TO MAKE TEAMS EFFECTIVE

Galbraith's guidance provides ten factors that contribute to the effectiveness of the lateral processes. These are considerations for the analysis of the FiST, indications of where it fits on a scale of potential effectiveness, and tools to highlight negatives that exist.

The first measure is the importance of the mission of the team and the task itself. "This will depend on how important they perceive it to be,…and whether their performance in the group will be evaluated or taken into account at their performance review." (Galbraith 1977, 118) The initial criterion is a result of the importance that superiors place on the team by staffing results. The officials in charge of staffing the positions, for example, battery commanders in the artillery, can show how relevant the FiST concept is to them by how they fill the billets. As the most junior, inexperienced officers are sent to fill the positions, both the Forward Observers (FOs) and the maneuver units receive an impression of the relative importance that the artillery community places on the role of the FiST. Obviously the impression is negative. In fact, the impression in the artillery community has developed in cases that if a first lieutenant is serving in an FO billet then he is likely to be judged incompetent by his peers. Also, the performance of the individual in the team billet must be reflected in his evaluations. Most often, maneuver company commanders do not write the FOs' fitness reports and have little influence over the content of them. The fitness reports reflect performance in collateral duties and general officership, not performance in the actual billet. This communicates a message to the FOs that their performance with the maneuver community is not the

primary determinant of success. At this point, only a strong sense of professionalism or, lacking that, heavy doses of negative reinforcement from the maneuver commander ensure competent performance.

Second, the assignment of the team leader is a key aspect to the success of the team. (Galbraith 1977, 120) An individual must be accountable for the decisions and actions of the team. At the maneuver level, this is readily apparent as the FiST leader is often the executive officer (XO) who is the most experienced lieutenant in the company and the company commander is ultimately responsible for the results of the team. What is missing is the cost of the FiST to the supporting agency. If a way existed to reflect the performance of the teams on the providing units, better personnel would be a priority. As it stands now, the maneuver unit's only recourse is to replace artillery personnel with its own in hopes of better performance.

Third, members of team are required to have information and assets that will augment the integration process. This is important in order to keep the team from becoming an unwieldy mass of people. Generally, the FiST finds itself in accordance with this principle but a suggestion mentioned from the maneuver community has relevance here. If the extra bodies brought along with the FO team are superfluous to the accomplishment of the mission then changes should be made to streamline the group. Another issue is that, sometimes, enlisted observers are assigned to companies as the FO in the absence of available officers. This can create a situation where either the individual does not have the ability to contribute to the team (which is actually rare) or cannot assert their exchange of information due to their level (rank) within the team (not so rare). Again, the issue is one where inefficiencies can occur due to the constitution of the group.

Fourth, "(p)articipants must have the authority to commit their department." (Galbraith 1977, 121) In a business sense, this means that a decision made by a representative has to be honored by the respective organization. The failure of this affects the representative's role and stature in the group. Although this principle is well followed in the FiST sense, instances occur when a support asset cannot meet the requests of the team. This creates an environment where the rest of the members can

start to lose confidence in that asset's utility. In various instances, this has occurred with each fire support asset and should be a consideration to the providing agency.

Fifth, the basic differences in the hierarchical composition of the team can create friction. (Galbraith 1977, 122) This occurs notably in business environments where decision-making authority is from a leader at a very high position on the hierarchical level while the technical expertise is provided from individuals at a lower level. The situation is apparent though not as pronounced in the FiST based on terms of rank. Although the FiST leader is often a senior first lieutenant, the FO will be a lower ranking lieutenant, the Forward Air Controller (FAC) a captain, and the mortars representative enlisted. This can create a situation where the senior members have to rely on junior ones for advice and education or where a senior member tries to dominate when he is not the ultimate decision authority.

Sixth, the processes of the inter-organizational unit must be congruent with those vertical information flows. (Galbraith 1977, 122) Because the FiST has remained fairly flexible in regards to its standard processes, the changing communication of information up and down the chain of command had been seamless. The effects of technical requirements from the increasing digitization of fire support and communication has lead to a need for the FiST to enhance its abilities parallel to the higher units. Consideration must be given to the competence of the artillery representatives in their vertical communications abilities relative to the organizations up the hierarchical ladder. The upper echelons tend to have better equipment, more experience, and fewer distractions from training. A mismatch in information flows can be created if the lower levels are not prioritized for training as much as the higher ones.

Seventh, the obligation of time commitment from each representative is an important consideration. (Galbraith 1977, 123) In other words, whether or not an individual is a full time member of the team is an indication of the tasks to be met. The reality of the FiST is that rarely is the actual team intact over an extended period of time unless during protracted combat. The FAC is permanently attached to the battalion, which lends itself to a convenient working relationship when the FiST is constituted. The mortars representative is organic to the battalion also and, as a result, is responsive to the

teams needs. As has previously been described, the FO is a genuine part time member and this one of the main issues that this project centers around. One advantage of the part time situation is that the representative maintains a relationship with the supporting organization. Another is the ability to separate outside of the group for reflection on problem solving outside of their influence and provide flexibility in manpower allotment. An effect of part time membership is that the identification and loyalty to the team is sacrificed. An important consideration for the FiST is the detriment of being dislocated from the supporting unit is related to how quickly the technical changes occur. (Galbraith 1977, 124) In the case of the FO, these are not great over the course of a year.

The eighth (conflict resolution practices), ninth (group and interpersonal skills), and tenth measurements (leadership) are all related in both a business and military sense. Although they are achieved in varying degrees through basic qualities brought to the mix by each individual, they are all aspects that can be augmented through increased practice and familiarity. Over the course of forming, storming, norming, and performing, these areas will often experience the full spectrum of conflict resolution methods and attitudes from the members. (Gordon 1999, 156) The inherent leadership abilities possessed by the members and respect given to the decision-making authority, although not unique to the Marine Corps, is definitely a quality to be taken advantage of.

The final literary analysis consists of various guidelines to be aware of when analyzing inter-organizational relationships. It provides some tools for determining the effects of the cultural conditions existing between the organizations and shows what obstacles to coordination these may present. It additionally addresses the situation specific to the fire support relationship and provides solutions to improving that relationship.

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IV. STAKEHOLDERS VIEWS ABOUT FIST

The purpose of this section is to perform an analysis of stakeholders, which include artillery professionals, maneuver units, headquarters units, and Fire Support Team (FiST) members, and to evaluate stakeholder management according to the general explanation given in Harrison and St John's Foundations in Strategic Management (2002) "The stakeholder analysis involves identifying and prioritizing key stakeholders, assessing their needs," and applying this evaluation to the recommendations. (Harrison 2002, 11) Stakeholder management consists of interacting with the stakeholders to the benefit of the organization and, in this instance, the case for improvement. Stakeholder interactions are most effective when conducted in a cooperative manner. The plan and consideration of the stakeholders tries to emphasize the need for cooperation and selling the change ideas as beneficial for every party.

The organization for this chapter is to present each stakeholder's position as generalized from interviews conducted in the informal, suggestive manner described before. Some conflicting views within communities came to light and these are noted as necessary. The benefits and negatives of the status quo as categorized by the groups will be presented. In addition, many suggestions for improvement were submitted and these are examined also.

A. ARTILLERY

1. Positives

The present system allows the artillery batteries to keep all of their assets, including Forward Observers (FOs), scouts, and communicators, together in garrison and during battery specific training in the field. This allows more hands for maintenance, driver's, spread of collateral duties, and bodies for the never-ending list of taskers that come down from above. In garrison, the liaison personnel are often used for duties in the armory, supply storage, and as extra motor transport operators. Communications sections of batteries are often taxed with low numbers and experience of personnel. Liaison officers often want the pick of the communicators for what is considered independent-type duty. The present system allows the battery to use these personnel in garrison. The

extra personnel allow the battery flexibility for aggressor forces or auxiliary-type duties in the field for training.

Additionally, the conventional wisdom of artillery commanders is that these lieutenants and enlisted Marines improve their artillery proficiencies and maintain identity with the artillery as a whole by remaining organic to the battery. An extremely forceful argument comes from the senior officers that a young artillery officer's place is learning the ins and outs of running a battery, to include fire direction, emplacement, security, convoy ops, and the dreaded maintenance. This is a valid argument, as there are so many aspects of the battery operations to learn for preparation as a battery executive officer and commanding officer. Only so much time exists (usually less than three years) for a lieutenant to spend in his first fleet tour and the conventional wisdom is that he doesn't have time to play "grunt" (in other words, with maneuver outside of the battery). There is also the fear that the young officers and Marines who "live" with the maneuver elements will begin to identify more with them and lose allegiance to the artillery background.

Battery commanders benefit from the flexibility of detaching officers in FO billets, depending on their ability and usefulness to the battery. In a battery of strong, competent enlisted leadership, the commander may be able to let his best lieutenants go to fill the fire support billets. If he finds himself in a less than optimal situation, he may retain more officers as needed.

The present system is congruent with the present career progression path for officers. It allows some time for experience as a fire supporter (FO or liaison officer), time in the battery as a fire direction officer, guns platoon commander, executive officer, and maybe time in the battalion as a junior staff officer. This can all be accomplished within three years, usually less, and allows the officer to leave for a secondary (B) billet in time to return to a battery as a Captain and battery commander. The present structure supports the present manpower and personnel organizations in their desire to fill billets around the Marine Corps.

2. Negatives

One of the main concerns expressed by the artillerymen was that fire support technology has progressed too fast for the present system. This is primarily a training issue from Marines who have served in the FO and liaison sections. The new Advanced Field Artillery Tactical Data System (AFATDS) is very technically intense and requires constant training to maintain competency. The present system does not support this amount of training as enlisted fire support personnel are pulled away for extra duties within the battery. In addition, very junior enlisted and officer artillery fire supporters tend to be proficient at spotting and adjusting fires but inadequate in coordination of the fire support elements. This often stems from little prioritization in the battery garrison and field environments. This is intensified by often having the junior officers and no staff noncommissioned officer in the section leading to an inability to assert the need for liaison specific training when the rest of the battery is focused on parades, motor stables, and supply inventories.

Another prevalent concern, especially from junior officers, is that often fire support personnel are torn between duties in the battery and in the maneuver unit. Various cases were described where, generally, a detached lieutenant was expected to conduct his collateral duties in the battery while serving with the maneuver. Obviously, this is a disconnect between the intent of detachment and its practice, but the reality is an indication of the reluctance to truly give up those fire support personnel.

The artillery community, or at least part of it, realizes itself that providing the most inexperienced lieutenants to be FOs is detrimental to the maneuver units and ultimately to the artillery itself. "As FOs, in their role as advisors to the company commander on fire support, they are often ineffective due to a lack of inexperience and knowledge of the gunline." (Hallet 2002, 32) The lack of experience for FOs and specifically its consequences can be tragic:

> In retrospect, it hardly seems possible that we, as a Nation, would allow such a restrictive peacetime policy to flourish while Marines were dying by the thousands in a shooting war. But we did-and we got what we paid for! Marines shudder when they think of fellow Marines killed by "friendly fire." How many names are on the black granite wall in

> Washington, DC, because an FO called in the wrong grid, or a brand new fire direction officer didn't check the quadrant site sent to the firing battery. More than we care to speculate. Marines were winding down their direct participation in 1970-1971, but through all those years, we would not-or did not- change our flawed personnel policy. (Glasgow 2003, 55)

The structure that they speak of is the same as it is now. With rapid billet changes and inexperience in the wrong places, the artillery has lost some of the confidence of the maneuver side. This is exemplified by the adoption of an infantry officer as the battalion fire support coordinator as opposed to an artillery officer, who by training and experience should best fit the position.

3. Suggestions for improvement

Such a variety of possible improvements were proposed that it is impossible to include them all. However, some distinct categories can be found. Many respondents' feedback indicated that the present system is the best available to balance all of the requirements of the two main stakeholders, artillery and maneuver. There are various adjustments that make considerable sense.

One suggestion, best explained by Lieutenant Colonel Eric G. Hansen in the Marine Gazette (2003), is to actually separate the fire support element from the cannon artillery branch altogether. Citing the wide diversity of command and control, fire support, and joint coordination assets that the fire support coordinators, FiST leaders, and FOs have to master to be proficient, he states that the pasted together system and part time attention that it gets from both the infantry and artillery merits a completely new military occupational specialty (MOS). LtCol. Hansen also offers the loss of habitual relationships, the pending introduction of the High Mobility Artillery Rocket System (HIMARS) and the Expeditionary Fire Support System (EFSS), and the digitization of fire support as evidence of the growing need for an MOS focused on fire support outside of the artillery battery and battalion. The digitization and new weapon systems both require increased training and proficiency on both sides of the fire support process. He and some other artillerymen believe that the best way to support the maneuver side is to focus specialties on the fire direction and fire support coordination side. Put simply, the plan would create an organization, the fire support regiment (with customary subordinate

battalions, companies, and platoons), which would detach members to serve as fire support coordination personnel in the maneuver units. These personnel would be trained to use and integrate all the fire support assets available at their unit's level. (Hansen 2003, 21-24)

A change that has been adopted by some artillery battalions in the Marine Corps has been to consolidate the liaison personnel at the battalion level. This has, to some degrees of effectiveness, taken control out of battery commanders' hands and allowed the fire support personnel to focus on their specific training. It has also allowed some sections to improve their habitual relationship with their respective maneuver units.

Some opinions were that the enlisted portion of the liaison sections and FO teams should be permanently attached to the maneuver battalions according to the habitual relationships. This would allow for continuity within the FiST and create a permanent representation from the artillery community. It would create a sense of responsibility to the maneuver units and provide a vehicle to quickly educate young, inexperienced lieutenants, who are usually the individuals manning the liaison and FO billets.

A variation of this would be to replace the liaison officer and FO billets with warrant officers. It would create the best case for continuity among the FiST and would create a professional fire support focused entity. The officers allotted on the table of organization (T/O) for a battery would be reduced because of the permanent change of who owns the liaison personnel and the maneuver units would now permanently own both the enlisted and officer billets in garrison and the field.

It should not be discounted that some interviews indicated that the present system best satisfies all of the requirements of the stakeholders and works most efficiently from their perspective. The reasons for their position are described above in the "positives" section. This preservation is a valid option and has to be weighed against the other suggestions. However, one single theme came from each of the respondents who favored the status quo and that is that changes should be looked at if improvements can be made.

B. MANEUVER

On the other hand, many maneuver representatives feel as if they are not being fully supported by the artillery. A clear indication of this is the habit of appointing infantry officers to fire support coordinator billets and carrying out most fire support duties within the company amongst the executive officer and the forward air controller.

1. Positives

Responses from those interviewed who had experience in either Desert Storm or Operation Iraqi Freedom indicated that they were impressed with the responsiveness and effectiveness of the artillery's fire support when it was needed. Many were surprised that it worked well in an urban environment and did not have as much trouble keeping up with the maneuver forces as had been feared.

Some individuals involved with FiST confidently noted that their experience of having conducted a Combined Arms Exercise (CAX) at 29 Palms, California with the same team that they later operated in combat in was an integral key to their success. The FiST offered advantages in providing the rifle company with links to powerful assets. Not only were the FACs vital for coordinating Close Air Support (CAS), they were also useful for casualty evacuations by air and for helping to communicate with air reconnaissance efforts. The ability of these individuals to speak the aviator's language and communicate seamlessly was important. Additionally, more than one actual FiST leader indicated that an experienced or at least competent FO is the most important asset that the FiST leader has at his disposal. They stated that the training and comprehension of combined arms gives the FOs an advantage in perceiving the mental model of the assets being coordinated.

Another benefit is that the compliment of communicators and enlisted scout observers provides the company with enhanced communication ability. In any operational environment, communications is often the hardest tool to maintain. Some responses, especially from the senior enlisted ones within the rifle companies, appreciated the ability of the communicators brought by the FO team to assist in maintaining the company's overall communication network. Because the communicators, scout observers, and FOs are all cross-trained to at least a minimal

degree of competency in each other's job, they are all able to manage the radios that are present in the units they are attached to.

Additionally, the artillery FOs and especially the scouts are useful in planning for and using mortar fires. In one case, the FiST leader was confident enough in his artillery personnel, that he returned the mortars representative to the mortar section to help them with their own operations. It was never stated that the artillerymen were better observers than the mortar men but that they had a better sense of planning the fires and could anticipate the coordination with other assets well.

Finally, many interviews conveyed that artillery was generally more responsive than close air support. It is not clear why this was so but it gives an indication that the artillery gained a certain increased reliance relative to air during the combat operations. This does not diminish the importance of CAS. It does portray the importance of artillery as a vital fire support assets and the need to be able to use it effectively.

2. Negatives

One pervasive theme, especially among the combat experienced interviews, was that in situations where the FO team was attached to the company just prior to deployment, the lack of continuity severely inhibited the development of the FiST's abilities. As described before, one reason is because of the artillery's reluctance to keep the FO teams with the companies on a permanent basis. Maneuver units understand the need to develop well-oiled teams and for these teams to remain together as long as possible. Even when teams must gain and lose new members, the continuity of an understood standard operating procedure occurs when the replacements are exchanged out of the same units. Some units received FOs from units who were not within their habitual relationship. Commanders feel that they need to know the strengths and weaknesses of these individuals, including everyone in the FiST, prior to deployment and operations. The present system rarely offers the team a chance to become cohesive under the status quo.

Another concern dealing with continuity is that the officers that are attached as FOs are so inexperienced that they are unable to answer artillery specific questions because of a lack of experience in the battery. Young second lieutenants, just out of

artillery school at Fort Sill, Oklahoma, are trained well to be observers but have less developed of a concept of how to determine why a battery might not be shooting as responsively as desired, how to effectively communicate to a fire direction officer exactly what is desired, or what the actual movement operations of a battery is like for his planning purposes. Company commanders and FiST leaders are better served by an individual who can answer the questions that may be asked about the "stuff going on back there" in the artillery world.

The maneuver personnel also indicated that the habitual relationships as they are now are mainly just formally declared and do not work for the purpose that they were intended. Many believe that it would work best if the relationships were practiced, not just designated, all the way down to the artillery battery supporting the infantry battalion level. Tank and light armored reconnaissance (LAR) Marines also stated that they believed that many problems that occur in the fire support area stems from a lack of stable relationships and even accountability of the artillery batteries to the maneuver units.

One negative that is potentially crippling is the unique situation that FOs find themselves when attached to tank units. There is no room for communicators or scouts in the tanks so the FO fills all of his duties. This is not usually an issue as he is trained to operate radios and the other team gear. However, he must be able to perform as the tank's loader and as a member of the tank's crew. In order to qualify to do this, the FO needs sufficient time to train with the company and assimilate into the operations as a tanker. The haphazard attachment process tends to jeopardize the teamwork necessary for the functioning of the tank.

3. Suggestions for Improvement

The offering for improvement from the maneuver Marines was generally in line with the artillery community. One of the main themes was to permanently attach the Liaison and FO teams to the maneuver units. This would necessitate a change in the Table of Organization and create billets within the maneuver companies and battalions for artillery personnel. This measure would create the continuity that is lacking and allow commanders to mold their personnel in the fashion that best suits their methods.

In addition, a suggestion by the maneuver respondents is particularly relevant. They suggest that permanent assignment of artillery officers and scout observers would create an opportunity to have every member of the infantry battalion trained in rudimentary fire support as well as take some of that considerable burden off of the platoon commanders in that regard. Not only would every Marine be a rifleman but he would also be a fire supporter also. This type of training would increase the confidence and camaraderie in the artillery community from the basic rifleman on up through the non-commissioned officers as they had a better understanding of what fire support actually meant and how it could be used.

Another suggestion, coming exclusively from tank and LAR Marines, is that the FiST should be streamlined. The plethora of communicators and scouts that accompany an FO team are unnecessary in this view. This idea stems from the efficiency that comes from the necessity of tank FOs to operate and maintain their own radios. Often in infantry units, a lieutenant will rely on his communicator to relay his messages regarding artillery fire support and it can create confusion and miscommunication. This idea seems in direct contradiction to the infantry position that more is better and appreciation for the extra communicators and scouts is beneficial. The essence is actually that the primary team members should be involved in the fire support process and the communicators are present to maintain the gear only.

The prospect that a separate fire support specific specialty be developed was thought to be less than positive. Without getting much elaboration, the maneuver side felt that this would lead to unnecessary overhead and would not meet the requirements of creating an artillery specific reference expert for the commander. In other words, these specialists would have no more idea of what was going on in the battery or artillery battalion than the infantry or armor Marines.

C. FORWARD AIR CONTROLLERS

A prime example of permanent attachments working well is the program designed for the FAC's. Pilots undergo training to be able to serve as forward air controllers and then are permanently attached to a maneuver battalion for at least a year. This relationship allows the same pilots to be allotted to companies and work with their FiST

for an extended period. The maneuver units value these officers not only for their expertise but also for the diverse perspectives they bring from their background.

1. Positives

FACs felt that the present system worked well where they were able to develop strong working relationships with the FiST that they might work with. The FACs are given an opportunity to focus on the primary reason for Marine aviation's existence, the support of the rifleman.

Being this close to the ground combat element everyday gives the pilots a sense of responsibility and enhances the understanding of the situation on the ground. This is a positive during later flying tours. Also, the FACs have a unique ability to understand what the pilot sees from his or her aircraft and can better communicate with the supporting air elements. This aspect is extremely important to the pilot in the air. He or she wants to be able to support the maneuver units without endangering them. It is difficult for an infantryman, tanker, or artilleryman to understand what descriptions are pertinent to a pilot who may be moving at 400 or more miles per hour. This aspect is very similar to the impressions that an FO needs to give to a fire direction officer (FDO) in order to fully explain what he needs in regards to artillery fire support.

2. Negatives

FACs felt that the irregular turnover of FiST personnel, specifically FOs, was a considerable drawback. The FAC and FO need to have a smooth working relationship in order to deconflict the firing of artillery rounds and the flight of aircraft. A small amount of mathematical calculations are required as well as a developed understanding of terms and individual tendencies. This type of relationship is only developed in a CAX or similar type combined arms training, or it is done in combat.

FACs also want to be able to train the FO teams, specifically the enlisted side, how to talk to and coordinate air. The benefits from this allow the scout observers, in combat situations, to observe the best targets for CAS and even coordinate the aircraft if necessary. The training that allows this type of proficiency is not available under the present system. FACs needs prolonged periods of garrison training to ensure that non-pilots are proficient enough to not only call in air but to coordinate it also.

3. Suggestions for Improvement

The main idea among the suggestions from pilots was to permanently attach the enlisted side of the liaison and FO team to the maneuver units. In addition, they propose to create one-year tours with the artillery officers much like the pilots serve themselves. This proposal allows for continuity and more time to develop fire support proficiencies. The cross training that would occur would allow the FiST to operate fully even when missing a member due to manpower shortage or casualty. In addition, the artillery officers would return later to their batteries and battalions with a strong affinity for the maneuver community and a sense of obligation to provide the best fire support possible.

D. ANALYSIS

The stakeholders' comments and suggestions give the impression of a functional system that has frequent periods of instability and inefficiency. The critical issue to the performance of the fire support system is the disconnection of interaction between the maneuver and artillery communities. The inability to provide optimal coordination specifically stems from an organizational deficiency. The deficiency can best be analyzed through the use of organizational culture literature and, more specifically, service provider/customer guidelines.

Two main types of organizational culture occur among the organizations involved in the fire support system. The first is the mission culture, which is the ideal one for the artillery, maneuver, and the FiST. "The mission culture is characterized by emphasis on one clear vision of the organization's purpose and on the achievement of goals…" (Daft 2001, 121) As described in Chapter One, each organization within the division has a specific mission. The combat and organizational doctrine is focused around identifying and accomplishing missions for the various organizations so that they may win America's battles. The vision for accomplishing this is to ultimately support the Marine rifleman on the ground.

The other culture that occurs is the bureaucratic one. The word bureaucratic is considered very negative in the combat arms of the Marine Corps and it is negative in this context. The definition of bureaucratic culture is having "an internal focus and a consistency orientation for a stable environment." (Daft 2001, 122) This definition

applies directly to the artillery community. The statements from interviewees regarding career progression, intra-battery operations, and the convenience of asset hoarding are good, albeit negative, examples of a bureaucratic culture. The desire to maintain a stable, convenient operating environment results in an inward looking and change resistant stance. This sort of culture is an accurate description of the artillery community as a whole. The condition leads the community to lose sight of its mission oriented culture, whose focus is supporting the maneuver side of the division, and myopically look inward to ensure stability and internal priorities.

The term for what has occurred in the gradual transformation from a mission culture to a bureaucratic one is goal displacement. The artillery community has begun to place higher priority in ensuring career progression and internal stability than maintaining good relations with its maneuver brethren. Another description for this occurrence is "suboptimization of organizational goals." (Ashkensas 1995, 119) This is defined as a warning sign for incongruent lateral relationships where "functional specialists begin to view their localized goals ahead of the organization's goals in order to optimize their achievements and rewards." (Ashkensas 1995, 119) The literature provides a background to interpret the condition of the organization and how the mission and purpose of the organization can become skewed. Additionally, the "(c)ore purpose, the second component of core ideology, is the organization's reason for being." (Collins & Porras 1994, 224) This purpose is the focus that the artillery must not lose sight of. The whole of Marine Corps artillery exists only to ultimately support the rifleman. In the day-to-day processes of work, it is easy to lose sight of this purpose.

One way to overcome the goal displacement phenomenon is to abandon the myopia of the groupthink within the organization and focus on the processes that ensure accomplishment of the true goal. (Ashkensas 1995, 175) The arguments and concerns voiced in opposition to change usually focus on the bureaucratic concerns. If the focus can be placed on the basic processes for providing optimal fire support and building the organizational culture, or in the artillery community, reawakening the organizational culture to focus on its purpose, then the distracting protests to change and progress may be quieted.

The first step to achieve the change is to reconfigure the boundaries that exist between the artillery and maneuver organizations. The traditional stovepipe structure that the Marine Corps operates with is essential to the principles of chain of command and unified command. The horizontal boundaries are essential to the organizations identity and purpose. (Ashkensas 1995, 112-113) One symptom of the boundaries is "protected turf."

> Once horizontal boundaries become ensconced, people vie to protect their department's power and resources. Any change in process is viewed as antagonistic to the status quo rather than useful to the organization, and departments end up spending more time protecting turf than securing or satisfying customers. (Ashkensas 1995, 117)

This symptom is prevalent in numerous organizations and pervades throughout the interservice rivalries in the Department of Defense. The consequence of turf battles is loss of mission focus and inefficiency. The trick, however, is to make the boundaries as permeable as possible. (Ashkensas 1995, 256) The recommendation from one scholar is to "bust the boundaries." (Ashkensas 1995, 337) This is not as drastic as it sounds. It entails integrating the participants in a given interaction situation and institutionalizing the action. The FiST and other fire support linkages up the organizational structure are already present to do this. The condition is that the artillery has periodically withdrawn from this linkage and this contributes to boundaries.

The main tenet of this section boils down to a very business specific concept that applies in a great way to the artillery's role in the fire support system. Customer service is a concept that harnesses the focus of complete professional areas of study. It has applicability as a simile with the maneuver as the customer and the artillery, among other departments, as service provider. "The boundaryless organization begins and ends with the customers, however defined. Its entire focus is to anticipate and serve changing customer needs. Moreover, it works to see itself from the customer's point of view. The boundaryless horizontal organization is effective when all employees understand and feel the needs of the customer and all internal processes aim to form and strengthen external relationships." (Ashkensas 1995, 128) A symptom of lacking customer focus is when the customer begins to form its own integration vehicles. This is very evident in the staffing

of fire support coordinators at the battalion level with maneuver officers. Additionally, the FiST is a maneuver/customer response to integrate all of its fire support assets. The forward air controllers, forward observers, and mortar observers are the service providers and should be the lead forces for integration. One goal of this project is to gain an idea of exactly what the customer (maneuver) values as the measurements to determine success. In other words,

> Ask them how they measure and assess your effectiveness and what it would take to delight them. Then look at your organization and test whether you are measuring indicators that align with your customers' expectations. (Ashkensas 1995, 148)

The maneuver organizations are satisfied with the responsiveness and effectiveness of artillery fires in combat. They are pleased that the artillery can be counted on for support in all weather. One aspect that the maneuver side is not pleased with is its perceived priority in manning and coordination training at the lowest levels.

The FiST and the FO team in particular is the fundamental tool for achieving this ideal. The FO is, in business parlance, a consultant to the company commander on the best application of his unique product, artillery fires. Consulting and selling for a product is closely related and many companies move toward their sales people serving both roles. (Ashkensas 1995, 203) The concept creates a way for the FO to "provide products, services, and solutions in a variety of ways so as to match the unique needs of the customer" and "help the customer use the products in creative or high leverage ways." (Ashkensas 1995, 241) This creates a pull-type demand and dependence for the service that increases the importance of the consultant.

The overarching vision is that the artillery will begin to see itself as a provider of support for the maneuver or, in business terms, grasp the importance of serving the customer. The specific goal is to improve the effectiveness of the FiST and provide better fire support from the junior level artillery officers. When the supplier fails to properly serve the customer, the customer will find alternatives. This is the case of the infantry substituting their own personnel in place of artillerymen in fire support coordinator billets and most recently, requesting to develop the expeditionary fire support system as a solution to Marine artillery's infatuation with the 155mm howitzer system

and its inherent non-deployability due to large size. Articles in the Marine Corps Gazette go into further detail.

> (S)addled with just the M198 155mm howitzer, the MEU's artillery batteries almost never go ashore as artillerymen...The MEU's have been reluctant to bring artillery with them at all, accepting the risks of battle without artillery just because of the difficulty of getting the artillery and its ammunition and its prime movers to the fight. (Lindsey 2003, 15-16).

This is where the project effort focuses its main effort. The purpose should inspire change and make the artillery welcome to ideas to improve fire support. The purpose of providing the best fire support possible is the guiding point. Thus, the envisioned future is a community where artillery officers in their formative years as lieutenants have lived with their maneuver brethren long enough that they feel bonded to them. They understand the need for effective artillery support and how to best work in order to achieve that. They are not hampered or distracted by secondary priorities because without the maneuver there is no need for them.

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V. CONCLUSION AND RECOMMENDATIONS

The project analyzes the organizations, their link (the FiST), the stakeholders' perceptions, and the academic models in order to evaluate the utility of the FiST and how it may be improved. The conclusion of this project is that the FiST concept works in the Marine Corps division. It meets the guidelines of the research to provide an effective linking mechanism between the interacting organizations. The FiST allows decision making to be pushed down to the lowest level possible. Not only does this take a burden off of the higher echelons, it also creates the ability for decisions to be made where the requisite information is the freshest, most relevant, and real to the user. The FiST has given the maneuver company unprecedented access to firepower at the company level and also the means to combine that firepower into a no-win proposition for the enemy. The differences in rank among the members rarely seems to be an issue as the team begins to focus more on mission accomplishment. A most telling aspect of the analysis is that all of the stakeholders are very satisfied with the general FiST concept. The opinion of such a diversity of professional seems to converge that the FiST works. The opinion is overwhelming that it can be improved.

A. RECOMMENDATIONS

First, the Marine Corps needs to create doctrine that will formally legitimize the FiST in writing. This formalization will serve to remind the artillery community of the importance of the fire support coordination side of the fire support equation.

The next step will be to formally place the FO team under the full time control of the maneuver units. The complete liaison section will be contained within the infantry, tank, or LAR battalion. The enlisted members of liaison section and FO teams will stay in those units throughout their tour. The officers would spend their first two years of fleet service in the battery. The last year would be spent in a liaison section of a maneuver battalion, filling FO billets initially and then the liaison officer billet as the seniority allows. The Artillery Operational Advisory Group (OAG) has already recommended that lieutenant's initial fleet tours be three years as opposed to the 30 months that they are now. (Burkepile 2000, 48) This would ensure that senior,

experienced officers fill the billets for the company commanders where experience and effective counsel are so important. This measure would communicate to all involved that fire support is, in fact, a priority among the artillery community. The battery and battalion commanders would be forced to provide individuals for these billets and learn to demand more of their firing battery officers, instead of relying on and hoarding the few effectives in each battery. The maneuver communities would understand that their need for effective fire support is indeed the focus of the artillery. This would also create a situation where the artillery officers would be reported on by their infantry brethren, thus making them more beholden to quality support and reinforcing the importance of their role. The ability of the FO to assert himself to the battery and battalion fire direction centers (FDCs) would be enhanced due to the inherent experience of the observer. This would create a confidence in the firing unit side that the individual on the other end knows exactly what he is asking for. Another consideration is that the increased rank (from second to first lieutenant) and experience of the FO would allow him to stand on more equal footing with the other members of the team.

This measure of change would have both immediate effects, as described above, and more importantly, long term ones in regards to culture and development of the fire support system. The maneuver units would benefit immensely from everyday contact with both the enlisted and officer artillerymen. The extensive training that could be administered to even the most junior infantrymen and tankers would pay dividends in the future as their tactical understanding and abilities were multiplied. The feeling that the artillery representatives were there to support them would create an interest that only a customer can have in his products. In other words, fire support would be improved if only because of an increase in interest.

Every artillery officer would become a member of a maneuver community in at least one point in time. Not only would the officer have close ties to the artillery community he just left, he would be a catalyst for interaction between the two organizations that would strengthen the habitual relationships much more than they are now. This change at the fundamental level of fire support would help to change the culture of the organizations. Specifically, the artillery, as the “imbedded” officers

returned to battery and battalion command, would understand the importance of effective support from a very fundamental experience. Rhetoric can only take one so far; it will be the interaction that truly ingrains the vision of supporting the rifleman into the artillery. The experience during the formative years in officer development will improve the effectiveness of the fire support coordination centers up the organizational structure. Familiarity and trust will bring the fire support coordination billets back into the purview of the artillery MOS. Ultimately, the inward looking, provincial culture of the artillery community will, by evolution, change towards an attitude of considering the maneuver company a very important customer.

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