



## ACQUISITION RESEARCH PROGRAM SPONSORED REPORT SERIES

---

### **Analyzing Culture and Readiness: A Marine Corps Reserve Dilemma**

June 2023

**Capt Diego Alvarez, (USMC)**

Thesis Advisors: Dr. Edward H. Powley IV, Associate Professor  
Dr. Simona L. Tick, Senior Lecturer

Department of Defense Management

**Naval Postgraduate School**

Approved for public release; distribution is unlimited.

Prepared for the Naval Postgraduate School, Monterey, CA 93943.

Disclaimer: The views expressed are those of the author(s) and do not reflect the official policy or position of the Naval Postgraduate School, US Navy, Department of Defense, or the US government.



The research presented in this report was supported by the Acquisition Research Program of the Department of Defense Management at the Naval Postgraduate School.

To request defense acquisition research, to become a research sponsor, or to print additional copies of reports, please contact the Acquisition Research Program (ARP) via email, [arp@nps.edu](mailto:arp@nps.edu) or at 831-656-3793.



ACQUISITION RESEARCH PROGRAM  
DEPARTMENT OF DEFENSE MANAGEMENT  
NAVAL POSTGRADUATE SCHOOL

## ABSTRACT

This thesis generates a conceptual framework to support identifying metrics of the four dimensions of unit culture that can predict Marine Forces Reserves (MARFORRES) activation readiness. Using the Competing Values Framework's Organizational Culture Assessment Instrument, I identify metrics of unit culture among data currently collected by MARFORRES and test their ability to predict activation readiness. Further, I examine whether the relation between unit culture and activation readiness differs by major subordinate command characteristics, such as size. To that end, I estimate linear regression models of unit culture and major subordinate commands using metrics from Borrego on mental health readiness and attrition rates across 27 MARFORRES units. I find little variation in metrics of unit culture and no ability to predict mental health readiness. Additionally, the use of correlation analysis found both positive and negative correlations between culture and the Force Readiness Activation Assessment Program's inspection results. Understanding the impact of unit leadership culture on readiness, SMCR leaders can change the construct of their unit's organizational culture to meet the demanding requirements of activation readiness. The analysis suggests that Control and Compete cultures have positive impacts on a unit's ability to activate. I recommend and outline steps for conducting future research and to promote these culture types prior to the activation of a unit.



THIS PAGE INTENTIONALLY LEFT BLANK



ACQUISITION RESEARCH PROGRAM  
DEPARTMENT OF DEFENSE MANAGEMENT  
NAVAL POSTGRADUATE SCHOOL

## ACKNOWLEDGMENTS

Research is a time-consuming matter that can bring about great discoveries. A stable foundation and environment enable the mind to think worry-free and produce outputs of value. I would first and foremost like to thank my family. Nathalia and Lucas, your constant support is the foundation of my success every day.

To the MARFORRES team, the Marine Corps Reserves is truly blessed with individuals like yourselves. Colonel Pastor and Lieutenant Colonel Borrego, your passion for mentorship and desire to see the organization succeed are the backbone to the success of MARFORRES. Without leaders like yourselves, our Marine Corps cannot sustain its success. Lieutenant Commander Anacker, your agile support and dedication went beyond any expectation I had. You are the representation of what a Navy-Marine Corps partnership represents. Dr. McGuiness, thank you for opening the doors to this valuable research, you and your team have provided tremendous support and were the foundation that got this research going. Finally, to the MARFORRES Suicide Prevention Team, thank you for your swift and agile responses and communications. Our Marines are in great hands with professionals such as yourselves.

To close out my acknowledgments, to my advisory team, your commitment to lifelong learning and mentorship have left profound effects on my development as a leader and professional. Dr. Nicola Spickenreither, your enthusiasm and dedication are the embodiment of what we look for in partnerships with foreign allies. Dr. Edward H. Powley and Dr. Simona Tick, both embody the spirit of academia and the thirst for knowledge. You are both direct representations of the superior quality the Navy and Marine Corps team relies on to grow as organizations.



THIS PAGE INTENTIONALLY LEFT BLANK



ACQUISITION RESEARCH PROGRAM  
DEPARTMENT OF DEFENSE MANAGEMENT  
NAVAL POSTGRADUATE SCHOOL



## ACQUISITION RESEARCH PROGRAM SPONSORED REPORT SERIES

---

### **Analyzing Culture and Readiness: A Marine Corps Reserve Dilemma**

June 2023

**Capt Diego Alvarez, (USMC)**

Thesis Advisors: Dr. Edward H. Powley IV, Associate Professor  
Dr. Simona L. Tick, Senior Lecturer

Department of Defense Management

**Naval Postgraduate School**

Approved for public release; distribution is unlimited.

Prepared for the Naval Postgraduate School, Monterey, CA 93943.

Disclaimer: The views expressed are those of the author(s) and do not reflect the official policy or position of the Naval Postgraduate School, US Navy, Department of Defense, or the US government.



THIS PAGE INTENTIONALLY LEFT BLANK



ACQUISITION RESEARCH PROGRAM  
DEPARTMENT OF DEFENSE MANAGEMENT  
NAVAL POSTGRADUATE SCHOOL



# TABLE OF CONTENTS

<b>I.</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>A.</b>	<b>PROBLEM STATEMENT .....</b>	<b>1</b>
<b>B.</b>	<b>PURPOSE .....</b>	<b>2</b>
<b>C.</b>	<b>RESEARCH QUESTIONS .....</b>	<b>2</b>
<b>D.</b>	<b>SCOPE AND LIMITATIONS .....</b>	<b>3</b>
<b>E.</b>	<b>THESIS ORGANIZATION .....</b>	<b>3</b>
<b>II.</b>	<b>BACKGROUND .....</b>	<b>5</b>
<b>A.</b>	<b>RESERVE UNIT MAKE-UP.....</b>	<b>5</b>
<b>1.</b>	<b>SELECTED RESERVES .....</b>	<b>5</b>
<b>2.</b>	<b>INSPECTOR-INSTRUCTOR .....</b>	<b>6</b>
<b>3.</b>	<b>RESERVE UNIT ACTIVATION.....</b>	<b>6</b>
<b>B.</b>	<b>SUMMARY .....</b>	<b>8</b>
<b>III.</b>	<b>LITERATURE REVIEW .....</b>	<b>9</b>
<b>A.</b>	<b>SUMMARY .....</b>	<b>16</b>
<b>IV.</b>	<b>METHODOLOGY .....</b>	<b>17</b>
<b>A.</b>	<b>CHAPTER OVERVIEW .....</b>	<b>17</b>
<b>B.</b>	<b>COMPETING VALUES FRAMEWORK FOUR CULTURE TYPES.....</b>	<b>17</b>
<b>C.</b>	<b>HOW OCAI WAS USED TO EVALUATE ORGANIZATIONS.....</b>	<b>17</b>
<b>D.</b>	<b>DATA COLLECTION AND VARIABLES .....</b>	<b>18</b>
<b>1.</b>	<b>OCAI Leadership Culture Data .....</b>	<b>19</b>
<b>2.</b>	<b>Marine Forces Reserves Data .....</b>	<b>20</b>
<b>E.</b>	<b>DATA ANALYSIS .....</b>	<b>24</b>
<b>F.</b>	<b>SUMMARY .....</b>	<b>26</b>
<b>V.</b>	<b>RESULTS .....</b>	<b>27</b>
<b>A.</b>	<b>CHAPTER OVERVIEW .....</b>	<b>27</b>
<b>B.</b>	<b>CULTURE AND MAJOR SUBORDINATE COMMANDS.....</b>	<b>27</b>
<b>C.</b>	<b>CULTURE MENTAL HEALTH .....</b>	<b>28</b>
<b>D.</b>	<b>CULTURE AND ATTRITION .....</b>	<b>30</b>
<b>E.</b>	<b>CULTURE AND FRAAP .....</b>	<b>31</b>



1.	<b>FRAAP FROST ASSESSMENT NON-DEPLOYMENT CAPABLE .....</b>	<b>32</b>
2.	<b>FRAAP FROST ASSESSMENT DEPLOYMENT CAPABLE .....</b>	<b>33</b>
3.	<b>FRAAP MUSTER DEPLOYMENT CAPABLE .....</b>	<b>34</b>
4.	<b>FRAAP EMBARKATION DEPLOYMENT CAPABLE .....</b>	<b>35</b>
5.	<b>FRAAP OVERALL NON-DEPLOYMENT CAPABLE .....</b>	<b>36</b>
F.	<b>SUMMARY .....</b>	<b>37</b>
VI.	<b>CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>39</b>
A.	<b>CHAPTER OVERVIEW .....</b>	<b>39</b>
B.	<b>DISCUSSION .....</b>	<b>39</b>
1.	<b>Regression Analyses.....</b>	<b>39</b>
2.	<b>Correlation Analyses .....</b>	<b>41</b>
C.	<b>RECOMMENDATIONS.....</b>	<b>43</b>
1.	<b>Sample Sizes and Unit Breakdown.....</b>	<b>43</b>
2.	<b>Data Collection .....</b>	<b>44</b>
3.	<b>Further Research .....</b>	<b>45</b>
D.	<b>CONCLUSION .....</b>	<b>45</b>
	<b>LIST OF REFERENCES .....</b>	<b>47</b>



## LIST OF FIGURES

Figure 1.	Phase 2 – Activation and Movement. Source: United States Marine Corps (2019). .....	7
Figure 2.	The CVF’s Culture Quadrants. Source: Cameron et al. (2014).....	10
Figure 3.	Organizational Culture Profile. Source: Borrego (2019).....	18
Figure 4.	FRAAP Competing Values Culture Profile.....	43



THIS PAGE INTENTIONALLY LEFT BLANK



ACQUISITION RESEARCH PROGRAM  
DEPARTMENT OF DEFENSE MANAGEMENT  
NAVAL POSTGRADUATE SCHOOL

## LIST OF TABLES

Table 1.	Organizational Culture Point Spread. Adapted from Borrego (2019). .....	18
Table 2.	Summary Statistics of Culture Types .....	19
Table 3.	MARFORRES Attrition Rates Summary Statistics.....	21
Table 4.	FRAAP Assessment Summary Statistics.....	23
Table 5.	Mental Health Readiness Suicide Summary Statistics .....	24
Table 6.	Regression Results of Culture Types on Major Subordinate Commands .....	28
Table 7.	Regression Results of Culture on Mental Health Readiness .....	29
Table 8.	Regression Results of Culture on Attrition.....	31
Table 9.	FROST Non-Deployment Capable Correlation Matrix.....	33
Table 10.	FROST Deployment Capable Correlation Matrix .....	34
Table 11.	Muster Deployment Capable Correlation Matrix .....	35
Table 12.	Embarkation Deployment Capable Correlation Matrix.....	36
Table 13.	Overall Non-Deployment Capable Correlation Matrix .....	37



THIS PAGE INTENTIONALLY LEFT BLANK



ACQUISITION RESEARCH PROGRAM  
DEPARTMENT OF DEFENSE MANAGEMENT  
NAVAL POSTGRADUATE SCHOOL

## LIST OF ACRONYMS AND ABBREVIATIONS

COMARFORRES	Commander, Marine Forces Reserves
CVF	Competing Values Framework
DC	Deployment Capable
FHG	Force Headquarters Group
FRAAP	Force Readiness Activation Assessment Program
FROST	Fast Response on Short Transmission
GAA	Graded Assessment Areas
I&I	Inspector-Instructor
ILOC	Intermediate Location
IRR	Individual Ready Reserve
M&RA	Manpower & Reserve Affairs
MARFORRES	Marine Forces Reserves
MAW	Marine Aircraft Wing
MLG	Marine Logistics Group
NDC	Non-Deployment Capable
NPS	Non-Prior Service
NTA	Notification of Intent
OCAI	Organizational Cultural Assessment Instrument
PP&O	Plans, Policies & Operations
PS	Prior Service
SelRes	Select Reserves
SMCR	Select Marine Corps Reserves
TFMDP	Total Force Mobilization and Deployment Plan



THIS PAGE INTENTIONALLY LEFT BLANK



ACQUISITION RESEARCH PROGRAM  
DEPARTMENT OF DEFENSE MANAGEMENT  
NAVAL POSTGRADUATE SCHOOL



# I. INTRODUCTION

## A. PROBLEM STATEMENT

What we desire and expect in our SMCR units and Individual Ready Reserve (IRR) are Marines and units ‘ready for mobilization’ and as a part of force a force design effort, the Marine Corps will explore the efficacy of fully integrating Reserve units within the Active Components.

—General David H Berger, *38th Commandant’s Planning Guidance*

“As of January 1st, 2014, Marines from the IRR have executed 83,800 sets of mobilization orders, including the activation of every battalion and squadron level unit within Marine Forces Reserve in support of the Global War on Terrorism” (Marine Forces Reserve, 2016). A critical aspect of the mobilization effort for Marine Forces Reserve units occurs prior to the activation. The Marine Corps defines activation as “ordering Reserve Component Forces or individuals to active duty (other than for training)” (United States Marine Corps, 2019, p.160). These critical aspects encompass multiple dimensions of administrative and operational readiness that enables the activation of Marine Corps Reserve units. The accomplishment of the tasks required to satisfy these dimensions of readiness is driven by leadership and their prioritization of competing requirements. The more prepared a unit is upon activation, the more valuable time to enhance tactical and technical proficiency is acquired during their pre-deployment training.

“Organizational culture is defined as the shared beliefs and values established by leaders that are communicated and reinforced through various methods, ultimately shaping employee perceptions, behaviors, and understanding” (Society for Human Resource Management, n.d.). Therefore, leadership and organizational culture play a critical role in the success of every unit. To this extent culture matters. “Culture matters because decisions made without awareness of the operative cultural forces may have unanticipated and undesirable consequences” (Schein, 1999, p. 3). While culture has been studied for many years, the Marine Corps has never looked at leadership unit culture as a predictor of success for activation readiness. We cannot change leadership culture and enable leaders to succeed if we do not understand how their culture impacts their unit readiness.



## **B. PURPOSE**

The purpose of this project is to create a research plan and a predictive model by pushing forward the analysis of Marine Forces Reserves (MARFORRES) activation readiness metrics and unit leadership culture in order to provide the Commander of MARFORRES and his subordinate leaders an understanding of the impact of unit leadership culture on activation readiness.

This research focuses on the two dimensions of the Marine Reserve Component that make up its regiments and battalions. The two dimensions are the Selected Marine Corps Reserve (SMCR), and the Inspector and Instructor Marines discussed further in detail in the following chapter. Understanding the impact of unit leadership culture on readiness, SMCR leaders can change the construct of their unit's organizational culture to meet or improve the demanding requirements of activation readiness.

## **C. RESEARCH QUESTIONS**

**Research Question 1:** Does Marine Corps Reserve unit leadership culture predict activation readiness?

Culture drives decision-making influences behaviors from subordinates and varies across Marine Corps Reserve units. Quantifying leadership culture utilizing the Competing Values Framework's Organizational Cultural Assessment Instrument can be used to find a correlation between leadership culture and the activation readiness of different units.

**Research Question 2:** Which unit leadership culture metrics are most effective in predicting activation readiness? Are there any variations by Major Subordinate Commands (MSC)?

Certain culture types may have more predictive power than others when analyzing activation readiness. This research enables flexibility when assigning readiness metrics to culture types, however, certain cultures may have a stronger correlation to readiness than others.

**Research Question 3:** Does unit leadership culture have an impact on retention with Marine Forces Reserves?



In the Active Component, there are cases of first term Marines separating from the Marine Corps because of negative experiences with leadership and culture. While the dynamic between the active and reserve components is different, perspectives are not (Borrego, 2019). Unit leadership culture should have an impact on retention within the Reserve component as well.

#### **D. SCOPE AND LIMITATIONS**

The focus of this thesis is to analyze and determine the predictive power of culture and independent variables such as MSCs and unit sizes on MARFORRES activation readiness. However, due to the small number of observations collected for regiments and battalions, this research's goal is to create a conceptual framework that acts as a baseline and pushes forward future analysis of culture and activation readiness.

#### **E. THESIS ORGANIZATION**

This thesis contains six chapters. Chapter II is the background and provides the components of the Selected Reserves and the initial phases of unit mobilization. Chapter III is the literature review that provides the validation of the Competing Values Framework's cultural assessment tool as a measure of organizational culture. Chapter IV describes the data and methodology. Chapter V reports the findings of the regression and correlation analyses. Chapter VI is the conclusion and provides the recommendations and a breakdown of phases for future studies.



THIS PAGE INTENTIONALLY LEFT BLANK



## II. BACKGROUND

### A. RESERVE UNIT MAKE-UP

The United States Marine Corps Reserve is broken down into three categories. These three categories are the Ready Reserve, the Standby Reserve, and the Retired Reserve. This research focuses on the Selected Reserves (SelRes) SMCR battalions and regiments within the Ready Reserve.

#### 1. SELECTED RESERVES

The SelRes is broken down into four categories with the SMCR Units and the Active Reserves being the focus of the first dimension. The second dimension that makes up the composition of the SMCR unit is the AD counterpart known as the I&I. The technical proficiency and experience that is brought by these Marines serve as the pillar for the maintenance of activation readiness of the SMRC battalions. The structure of both dimensions is as follows:

##### a. *Selected Marine Corps Reserve (SMCR) Units*

“The SMCR is comprised of four Major Subordinate Commands: 4th Marine Division, 4th Marine Aircraft Wing, 4th Marine Logistics Group, and Force Headquarters Group (FHG). Each command is comprised of multiple subordinate units which are geographically dispersed throughout the United States. All SMCR units are under the command of COMMARFORRES until the units are transferred after activation” (United States Marine Corps, 2019, p.78).

##### b. *Individual Mobilization Augmentees (IMA)*

“IMAs are SelRes Marines assigned to the IMA structure of AC staffs. IMA Marines augment and reinforce Active Component (AC) staffs of the Marine Corps, Department of Defense (DOD) entities, and other U.S. Government departments or agencies having IMA structure on their Tables of Organization with trained and qualified members of the SelRes” (United States Marine Corps, 2019, p.78).



**c. Active Reserve (AR)**

“ARs are SelRes Marines on full time active duty under Reference (a) Sections 10211, 12301(d) or 12310 for the purpose of organizing, administering, recruiting, instructing, or training the Reserve Component (RC). AR personnel are not assigned to backfill AC shortfalls” (United States Marine Corps, 2019, p.78).

**d. Initial Active Duty for Training (IADT):**

“Reserve Marines undergoing initial accession pipeline training” (United States Marine Corps, 2019, p.78).

**2. INSPECTOR-INSTRUCTOR**

The second dimension is within the Active Component of the Marine Corps. This group of Marines is assigned to Inspector-Instructor (I&I) Duty. “Geographically dispersed around the United States and other parts of the world, these Marines instruct and assist Selected Marine Corps Reserve units to maintain a continuous state of readiness” (MARFORRES, 2016, para. 1). These Marines, who are a combination of Active Component and Active Reserves, provide technical advice and inspect different functional areas within their assigned units such as administration, logistics, and public affairs. While they may need to move with their assigned units in case of activation, it is more common for the Active Reserve Marines to be mobilized than the Inactive Duty and Inactive Reserve Marines, as they serve multiple roles within their local community.

**3. RESERVE UNIT ACTIVATION**

First, to understand what this research aims to provide, the process of activation for an SMCR unit must be identified. SMCR units go through six phases when being activated. These phases are directed by the *Total Force Mobilization and Deployment Plan*. This research plan emphasizes the actions that occur prior to the activation and understanding the process of pre-activation to the transfer of the unit to the Commander, Marine Forces Command.



Phase 1: Preactivation. Phase 1 commences when Plans, Policies & Operations (PP&O) delivers a Notification of Intent to Activate (NTA) message directing the Commander, Marine Forces Reserve (COMMARFORRES) to activate a unit or capability. The task of COMMARFORRES is to oversee the command and control of the assigned forces. This is done to provide trained units and individual Marines who act as a sustainable and ready operational reserve that can augment and support active forces in responding to crises and engaging in operations across the world. (Headquarters U.S. Marine Corps, n.d.). The commander promulgates the Activation and Tasking Order directing the designated units to activate. This phase ends before the activation date.

Phase 2: Activation and Movement. Phase 2 commences on the date of activation. The unit is directed to report to their respective Home Training Center (HTC) for initial screening, while COMMARFORRES and PP&O plans and directs the activation and movement of the unit to the ILOC (United States Marine Corps, 2019). This phase ends the day before the Commandant of the Marine Corps (CMC) transferring the unit to Commander, U.S. Marine Corps Forces Command (COMMARFORCOM). Figure 1 displays a graphic of the Phase 2 movement of Marines and units from their HTC to the Intermediate Location (ILOC) in preparation for the mobilization phase.



Figure 1. Phase 2 – Activation and Movement. Source: United States Marine Corps (2019).

## **B. SUMMARY**

The SMCR plays a key role in augmenting and supporting the Active Component during times of war or national emergencies. The SMCR unit makeup is highly diverse compared to its Active Component counterpart. For these reasons, understanding the predictive power of organizational culture to activation readiness will enable leaders to promote the most appropriate culture and prepare their units to meet the demanding requirements of activation.

The remainder of the thesis focuses on identifying these activation variables and leadership culture to create a research plan with a model that finds the impact between unit culture and activation readiness. Chapter II provides a literature review of empirical studies conducted by using the Competing Values Framework and its Organizational Cultural Assessment Instrument (OCAI). Chapter III discusses the methodology used to understand the variables and their significance to the study, as well as the modeling methods to find the correlation between culture and activation readiness. Chapter IV will report the results of the model and its predictive power. Finally, Chapter V will summarize the research, and bring about conclusions and recommendations.





### III. LITERATURE REVIEW

Different dimensions of unit culture have positive and negative effects on activation readiness, including mental health regarding suicide related incidents, manpower attrition rates, and Force Readiness Activation Assessment Program (FRAAP) inspection results. Leaders are the foundation of the overall culture of an organization through their behavior, communication of their beliefs, and value prioritization. Therefore, to train leaders we must understand the culture they create within an organization and promote the one that creates the most optimal results for their units. The OCAI, developed in 2006 by Cameron and Quinn, is a tool that measures the culture of an organization and its impact on organizational effectiveness by placing it into one of four cultural types from the Competing Value Framework (CVF): Clan, Adhocracy, Market, and Hierarchy. This literature review focuses on the understanding and validation of the CVF and OCAI as effective tools to measure organizational culture and their use as a predictive capability tool of organizational success.

Originally published in 1983, Quinn and Rohrbaugh's "A Spatial Model of Effectiveness Criteria: Towards a Competing Values Approach to Organizational Analysis" presented a framework that claimed that the "criteria of organizational effectiveness can be sorted according to three axes or value" dimensions (Quinn & Rohrbaugh, 1983, p. 369). Figure 2 demonstrates the dimensions of the CVF.



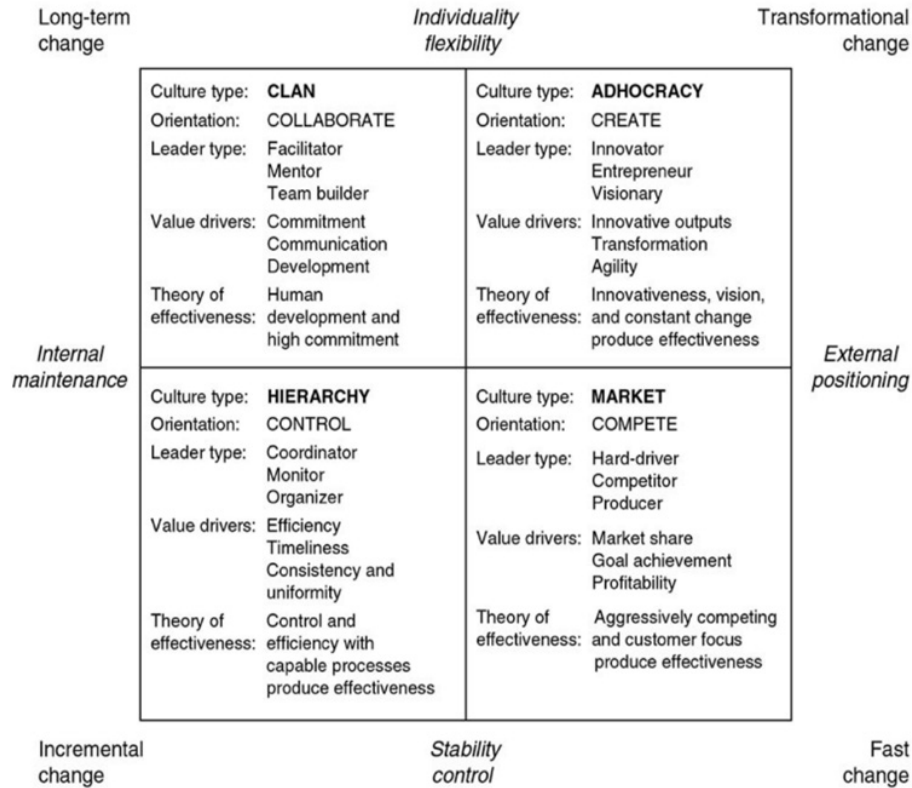


Figure 2. The CVF's Culture Quadrants. Source: Cameron et al. (2014).

The Collaborate quadrant is influenced by individual flexibility and long-term change centered around the internal maintenance processes of the organization. Cameron and Quinn describe the value-enhancing activities in this quadrant as centered around building human competencies, developing people, and solidifying a collaborative culture. Leaders within the culture type take the form of mentors and in some instances parent-like figures. In this culture type, the working environment is normally free of conflict and tension, while creating a strong sense of loyalty to the organization and the team. The Marine Corps takes pride in being an organization that embeds an emphasis on people in their leaders. From the beginning of a young officer's career, some of the most enforced lessons are centered around taking care of their Marines' welfare. The shared belief is that "organizations succeed because they hire, develop, and retain their talent base" (Cameron et al., 2014, p. 47).



The Create quadrant is influenced by individual flexibility and transformational change centered around the external positioning of the organization. Cameron and Quinn describe the value-enhancing activities in this quadrant as creating innovative outputs, and effectively handling discontinuity, change, and risk (Cameron et al., 2014). Leaders within this culture type are innovators, entrepreneurs, and visionaries who seek process improvement and visionary breakthroughs. Through the last few years, the Marine Corps has pushed this innovative way of thinking across the force by encouraging Marines to participate in innovation groups and for more education for leadership to enhance their innovative way of thinking. In this quadrant, “organizational effectiveness is associated with entrepreneurship, vision, and constant change” (Cameron et al., 2014, p.45).

The Control quadrant is influenced by stability control and incremental change centered around the internal maintenance processes of the organization. Cameron and Quinn describe the value-enhancing activities in this quadrant as “increasing certainty, predictability, and regularity, and by eliminating anything that inhibits prefer or error-free outcome” (Cameron et al., 2014). Leaders within this culture type take the form of organizers and administrators who are heavily detail-oriented, make informed and risk-adverse decisions, have high analytical skills, and focus on the most efficient way to accomplish the organization’s tasks. This quadrant is perhaps one of the most stereotypically associated with the military leader and the overall structure of the services within the Department of Defense. For this reason, many different entities within battalions and regiments such as administration, equipment maintenance, and supply chain logistics are elements that require a detail-oriented leadership culture. In this quadrant, “organizational effectiveness is associated with capable processes, measurement, and control” (Cameron et al., 2014, p. 41).

The Compete quadrant is influenced by stability control and fast change centered around the external positioning of the organization. Cameron and Quinn describe the value-enhancing activities in this quadrant as “implementing aggressive measures to expand working capital, outsourcing selected aspects of production or services, acquiring other firms, investing in customer acquisition and customer service activities, and attacking competitor organizations’ market positioning” (Cameron et al., 2014, p. 43). The Marine



Corps takes pride in being the best of the best and its warrior culture drives it to be a service full of competition and external positioning. Often the phrase “America doesn’t need a Marine Corps, it wants one” is related to the competitive edge and attitude the service takes to be regarded as the best. Even within units, the common theme for most commanders is to be the best regiment, battalion, company, and even platoon within their respective organizational structure. In other words, better than the adjacent unit to the left and right of them. Because this quadrant is externally oriented, a need to achieve a customer’s end state can be mirrored in many units’ willingness to meet higher headquarter requirements to be operationally ready. In this quadrant, “organizational effectiveness is associated with achieving desired outcomes, fast response, and customer focus” (Cameron et al., 2014, p. 43).

Furthermore, Jung et al.’s 2009 review of 48 organizational instruments including the OCAI, highlighted that a quantitative approach is assumed to “maximize precision, systematization, repeatability, comparability, convenience, large scale, unobtrusiveness, and cost-effectiveness” (Jung et al., 2009, p. 1094). This quantitative approach enables the use of larger samples versus a qualitative approach that demands more complex research. This approach also serves as a relatively low-cost model that has been applied in multiple organizations to include the Marine Corps.

Cameron and Quinn’s OCAI has been validated by different researchers throughout its history. A validation study conducted in 2014 by Heritage et al. utilizing robust analysis methods on data gathered from 328 Australian employees, found the OCAI is a viable instrument for assessing organizational culture (Heritage et al., 2014). This study referenced Jung. Et al.’s assessment of the various cultural measurement tools demonstrated the predictive validity of the significant relationship with job satisfaction as a common indicator of organizational health. Heritage Et. al concluded that the OCAI was a sound tool of measurement. While primarily intended to measure organizational effectiveness, the CVF was applied “to explicate concepts of organizational communications by Quinn et. al in 1991, leadership by Hart & Quinn in 1993, organizational transitions by Kimberly & Quinn in 1984, and organizational decision-making by Quinn & Anderson in 1986” (Howard, 1998, p. 236). Additionally, in 1998



Howard conducted research to validate the use of the CVF. His study added empirical integrity to the CVF by demonstrating that although the dimensional quadrants can be portrayed as opposites, they may coexist as intended by their original design. The study concludes that the competing values perspective “provides a valid metric for understanding organizational cultures” in relation to other variables (Howard, 1998, p. 245).

Highly utilized and accredited within the United States, the CVF and the OCAI have built strong validity and reliability within multiple organizations in China. Not only is the framework regarded highly because of its reliability, but also because of its practicality when utilizing the tool. A study done in 2009 in China by Yu and Wu provide powerful pieces of evidence that present the comparisons of the CVF to other major models. The authors provide multiple models and scales that were developed a few years after the CVF and provide a list of advantages that it has over other multiple models. For example, “Empirically validated in cross-cultural research: A large number of empirical studies have established the reliability and validity of the CVF and OCAI” and “Most succinct: The questionnaire of OCAI includes only 24 items thus are very convenient for practical operations” (Yu & Wu, 2009, p.40). The report provides not only the names of the models but their basic requirements while citing them and providing justification for why the CVF has advantages over them. In conjunction with the comparisons, the authors provide different U.S.-based empirical studies that enhance the CVF’s and OCAI’s validity and reliability such as Howard’s 1998 sample (Yu & WU, 2009).

Activation readiness encompasses multiple dimensions to include medical readiness. Medical readiness in a unit can be affected by suicide related incidents that have secondary effects on unit morale. Marines who have serious mental and emotional distress can become not medically qualified, therefore decreasing the readiness in a unit. Furthermore, my thesis identifies whether specific unit cultures are more prevalent in certain types of commands. While my thesis hypothesizes the effects of cultural dimensions on activation readiness, it does not believe that culture affects whether a unit belongs to a certain type of MSC. While cultural dimensions have variation across units at the regimental and battalion level, no evidence suggests that there is variation across the MSCs. A thesis in 2019 by Borrego found that cultural perspectives between active duty and



reservists were not so different (Borrego, 2019). Similarly, my thesis hypothesizes that culture is not so different at the MSC level and can use these command variables as separate independent variables to look for relationships between them and activation readiness metrics.

Cultural dimensions, MSCs, and unit size are correlated with suicide related incidents. Not only observed because of the impacts on medical readiness, but also because of the impacts on morale and emotional climate amongst other members when suicide related incidents occur. Due to the nature of SMCR Marines spending less time with their units than traditional active units, a common assumption is that most emotional problems tend to be related to personal relationships, and stresses outside the military work environment. However, this thesis challenges that view for two main reasons.

The first reason is that I&I and AR Marines are considered members and enablers of the SMCR construct, therefore there is value in accounting for them and the impacts on these members in this study. The second and most important reason is that according to the Navy and Marine Corps Reserve Psychological Health Outreach Program FY 22 Annual Report's Electronic Behavioral Health Screening questionnaire, military work stress was one of the top reported stressors amongst Marine Corps Reservists (Rasmussen et al., 2022). Military work stress has a significant contribution across MARFORRES, regardless of assumptions made about the lifestyle impacts of Marines within SMCR units. However, not only through culture but the demanding and operational tempo that differ amongst the MSCs can add to this military work stress. The size of the unit could also play a part and amongst smaller groups and teams, there is a traditional sense of belonging which could have a positive effect in reducing the rates of suicide related events. Therefore, this thesis uses the CVF's culture types, the type of MSC along with unit size to look for a correlation between culture and suicide ideations, attempts, and suicides within the observed sample of MARFORRES units.

The last hypothesis in this research is the effects of the cultural dimensions, MSCs, unit sizes, and suicide ideations on attrition rates for Non-Prior Service (NPS) and Prior Service (PS) Marines within MARFORRES. The data obtained contains three types of suicide related events, these incidents can have serious emotional impacts across an entire



unit. The inclusion of suicide ideation rates was included among the three because of the variation in the data for this particular event. While this thesis looks at cultural effects on the three dimensions, due to the commonality of suicide ideation rates it is worthwhile to explore the effects that these incidents could have on attrition.

An inspiration for the methodology in this thesis comes from the 2014 *Competing Values Leadership: Second Edition* by Cameron and Quinn. The authors conducted both a contemporaneous and predictive analysis for over 2000 publicly traded firms for each year from 1991 through 1999. Both analyses proved to be statistically significant for the CVF being able to explain cross-sectional variations in market-value-to-book-value ratios and its ability to predict future market values (Cameron et al., 2014). The authors assigned measures for each quadrant by creating proxies from different elements of the publicly traded firms. For example, gross margin and asset turnover were married up to the values of quality and efficiency, making it a suitable measure of the Control Quadrant within the CVF. The variables are repeated throughout the other three quadrants using the same methods and proved to be significant when running both tests. For this thesis, variables of measure are measured utilizing a similar approach to Cameron and Quinn's empirical study on publicly traded firms. This study takes a similar empirical approach with an attempt to find a predictive relationship between unit culture and activation readiness.

The Marine Corps has also utilized Cameron and Quinn's OCAI to measure the ratio of individual culture types within Marine Forces Reserves units. One of the first studies conducted by Major Anthony Pollman (2018) mentions the use of the OCAI to a population of mid-career officers and compared it against a similar sample of Army officers. The research found that from an organizational point, the two services are more alike than different. Pollman uses his own research to address the need for the Marine Corps to consider cultural management to anticipate future challenges (Pollman, 2018). Furthermore, the study mentioned previously by Borrego in 2019 measured and collected individual cultures and aggregated the results into a group ratio to analyze and compare different groups to one another and the strengths and weaknesses of the four culture types (Borrego, 2019). While the analysis served to identify cultural perspectives between Reserve and Active Duty Marines and successfully found that reservists can integrate



smoothly into the active culture, its use of the OCAI to demonstrate cultural perspectives between two different components within the Marine Corps demonstrated the flexibility of the OCAI and created a foundation for the data needed to conduct this thesis's empirical test.

#### **A. SUMMARY**

This chapter provides a literature review of the CVF and its OCAI as reliable tools to conduct organizational analysis. The OCAI's validation across multiple studies deems it a useful tool to analyze organizational culture. My thesis builds upon previous Marine Corps studies that have utilized the CVF to assess organizational culture and analyzes the impact of organizational unit culture on Marine Corps Reserve Activation Readiness.





## IV. METHODOLOGY

### A. CHAPTER OVERVIEW

This chapter outlines the approach used to create the research plan and analysis for this study. An overview of the data collection and description of variables is provided. Finally, this chapter presents the framework for analyzing the data that looks for the predictive power that unit leadership culture has on the activation readiness variables.

### B. COMPETING VALUES FRAMEWORK FOUR CULTURE TYPES

Cameron and Quinn highlight that value creation is the pinnacle objective of organizational leadership (Cameron et al., 2014). Organizations that provide value are those that produce a product or service that has greater benefits than the costs incurred to create those services. In this study, the SMCR's success in maintaining satisfactory levels of activation readiness is the value produced by the units that are analyzed in this research. To this extent, leadership unit culture is classified as the independent variable that plays a critical role in the success of maintaining the required levels of activation readiness. The CVF and its OCAI are the tools used to measure a unit's culture.

### C. HOW OCAI WAS USED TO EVALUATE ORGANIZATIONS

Borrego's 2019 *Marine Force Reserve Organizational Culture Assessment* utilized the OCAI to evaluate and gather the data of twenty-five units across MARFORRES. Respondents were asked to answer six sets of questions consisting of four questions each. Borrego then averaged the responses across each set of questions to yield the organization's culture type. The average scores of unit culture were then placed in the appropriate quadrant and linked to form a quadrilateral representation of the organization's culture (Borrego, 2019). The points from the survey are added up to 100 and the four culture types of averages are spread according to where the culture fits best. A sample OCAI culture graph and point breakdown are demonstrated in Table 1 and Figure 3.



Table 1. Organizational Culture Point Spread. Adapted from Borrego (2019).

Organizational Unit Name	Sample Unit
Collaborate	24.3
Create	17.1
Compete	30.0
Control	28.7
<b>Total</b>	<b>100.0</b>

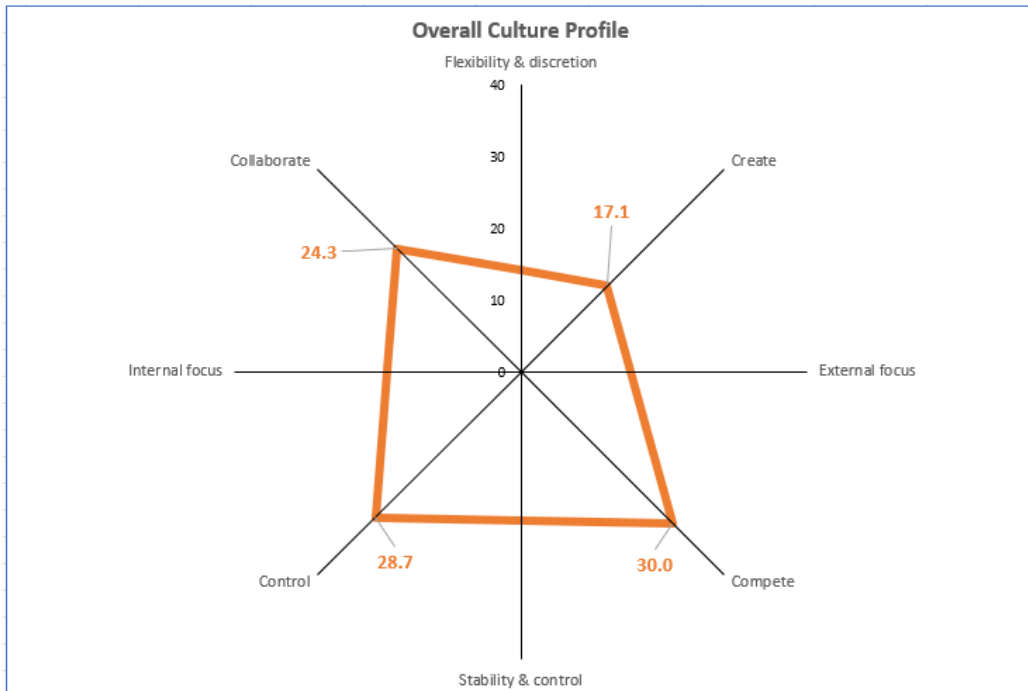


Figure 3. Organizational Culture Profile. Source: Borrego (2019).

#### D. DATA COLLECTION AND VARIABLES

The data in this thesis is sourced from Marine Forces Reserve. This section describes the data and its use across MARFORRES units and its relation to value creation for this study, with the exception of the drill attendance data that is included as a part of the conceptual framework.

## 1. OCAI Leadership Culture Data

The OCAI data comes from multiple units across MARFORRES. A total of twenty-seven units across MARFORRES had their culture profiles evaluated over the past four years. The first set of twenty-four units comes from Borrego's research. Approximately 855 surveys were completed and utilized to aggregate into the twenty-four-unit culture profiles. The other three units come from approximately 145 surveys completed by Dr. Edward Powley which utilize the same uniformed structure and measurement tools used by Borrego. The units measured here, and their culture profiles, are used as the independent variables for this study to determine the predictive power they possess over the activation readiness metrics.

Table 2 demonstrates the summary statistics of the four culture quadrants. This data suggests that on average, most units do not possess a strong Create culture, compared to the other culture types. However, although the Compete quadrant varies the most on average amongst the units analyzed, it's important to note the range amongst the units. In particular, the Compete quadrant has the biggest range amongst the samples, with some units having a strong sense of compete for culture in comparison to the other three quadrants.

Table 2. Summary Statistics of Culture Types

<b>Unit Leadership Culture Metrics</b>	<b>Collaborate</b>	<b>Create</b>	<b>Control</b>	<b>Compete</b>
<b>Mean</b>	26.95	19.68	26.26	27.1
<b>SD</b>	2.73	2.56	2.12	3.40
<b>Min</b>	20.7	12.27	22.22	22.37
<b>Max</b>	34.2	22.78	32.71	41.06
<b>Number of observations</b>	27	27	27	27



## 2. Marine Forces Reserves Data

The following data, apart from drill attendance rates, were obtained through MARFORRES and Manpower & Reserve Affairs (M&RA) to directly reflect the time frame of the units that were evaluated through the OCAI instrument within the same Fiscal Year.

### a. *Prior and Non-Prior Service Attrition Rates*

M&RA is tasked with collecting data on prior and non-prior service attrition. In the context of MARFORRES, prior service attrition is identified as the rate at which individuals attrite from the SMCR who were accessed via Prior Service Recruiting per unit in the Fiscal Years 18 and 19. The reasons for attrition are due to legal, performance, and in some cases the desire to stop or pause drilling when a Marine is not obligated to drill. Non-prior service attrition is the rate at which first term Marines, who are accessed via Non-Prior Service Recruiting, are separated for administrative or performance issues. Of note, non-prior service attritions are tracked from the moment the recruit enters the Marine Corps for service. Therefore, when evaluating the non-prior service attrition rates, it is important to take into consideration that a small portion of these attritions did not make it to their respective SMCR units. Table 3 demonstrates the summary statistics for both attrition rates.



Table 3. MARFORRES Attrition Rates Summary Statistics

<b>Activation Readiness Metrics</b>	<b>NPS Attrition Rates</b>	<b>PS Attrition Rates</b>
Mean	0.1	0.6
SD	0.05	0.12
Min	0	0.37
Max	0.23	1
Number of observations	27	27

***b. Force Readiness Activation Assessment Program Evaluation***

The FRAAP is the MARFORRES Commander’s tool that assesses unit level activation readiness to uphold core competency for providing forces as directed within phases 1 and 2 of the TFMPD (Marine Forces Reserve, 2019). The assessment is conducted into six different functions of activation readiness. These Graded Assessment Areas (GAAs) are broken down into the following by the Marine Forces Readiness Activation Assessment Program’s order:

- Fast Response on Short Transmission (FROST) Call/Recall
- Muster
- Manpower
- Personnel Administration
- Embarkation/Logistics
- Medical and Dental (Marine Forces Reserve, 2019)

The FRAAP has a seventh functional area, but it is specially directed by the Commander of MARFORRES on a case-by-case basis and is non-graded. This seventh area is not a part of this research as it varies from unit to unit.

The assessment is conducted on objective criteria to its greatest extent as highlighted by the order’s intent of having ratings derived from the quantitative results of their checklist that fall under the GAA (Marine Forces Reserve, 2019). A unit’s results are broken down into three different criteria highlighted by the FRAAP order. These criteria are summarized in the order below:



1. Deployment Capable (DC): The unit demonstrates the ability to execute activation and mobility tasks with little or no assistance (Marine Forces Reserve, 2019).
2. Deployment Capable with Assistance (DCA): The unit does not fully meet the standards established by MARFORRES. Although the unit is not assessed as fully prepared to activate, move, and integrate with a GFC within the prescribed standards, the unit may still be required to activate and move using additional assistance (Marine Forces Reserve, 2019).
3. Non-Deployment Capable (NDC): The unit does not meet the standards established by MARFORRES. Although the unit is not assessed as fully prepared to activate, move, and integrate with a GFC, the unit may still be required to activate using additional and external resources (Marine Forces Reserve, 2019).

Due to the nature of this study's focus on finding the predictive power of unit culture on activation readiness, the FRAAP qualifies as an excellent measure of value creation for MARFORRES Units. The data retrieved from the past few years by the MARFORRES Inspection Team only contains results for 11 different units that align with the regiments and battalions that have a cultural analysis profile. As part of the goal of this thesis of creating a sound research plan for further studies, the 11-unit assessment is utilized to build a baseline for future analysis. Table 4 demonstrates the summary statistics for all functional areas of the FRAAP inspection. This research elaborates on the use of FRAAP for future research in the final chapter of this thesis.



Table 4. FRAAP Assessment Summary Statistics

<b>Variable</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Min</b>	<b>Max</b>
<b>FROST NDC</b>	.36	.5	0	1
<b>FROST DC</b>	.36	.51	0	1
<b>Muster NDC</b>	.09	.3	0	1
<b>Muster DC</b>	.27	.47	0	1
<b>Manpower NDC</b>	0	0	0	0
<b>Manpower DC</b>	1	0	1	1
<b>Administration NDC</b>	.18	.4	0	1
<b>Administration DC</b>	.73	.47	0	1
<b>Embarkation NDC</b>	.27	.47	0	1
<b>Embarkation DC</b>	.27	.47	0	1
<b>Med/Dent NDC</b>	.27	.47	0	1
<b>Med/Dent DC</b>	.36	.51	0	1
<b>Overall NDC</b>	.36	.5	0	1
<b>Overall DC</b>	.18	.4	0	1
<b>Number of Observations</b>	11	11	11	11

*c. Mental Health Readiness*

Mental health readiness is a variable that has an impact on the medical readiness of a unit. Due to restrictions and limitations with gathering unit referral data, this study uses suicide ideations, attempts, and actual suicides as a measure of mental health readiness. Table 5 contains the summary statistics for the three mental health readiness variables per one thousand. Although these events are rare at the battalion and regimental level, it is important to understand if culture has an impact on these occurrences.



Table 5. Mental Health Readiness Suicide Summary Statistics

<b>Stats</b>	<b>Ideation Rates</b>	<b>Attempt Rates</b>	<b>Suicide Rates</b>
<b>Mean</b>	.03	.001	.0006
<b>SD</b>	.06	.002	.001
<b>Min</b>	0	0	0
<b>Max</b>	.3	.01	.001
<b>Number of observations</b>	27	27	27

*d. Drill Attendance Rates*

Drill attendance is a unique observation that could be used in this study to evaluate the impact of unit culture on activation readiness. While drill attendance is not formally evaluated and used to measure whether a unit is activation ready, it without a doubt plays a role in the completion of administrative and logistical tasks that are formally evaluated for activation readiness. Not only as a critical aspect of a unit retaining the appropriate manpower, but also the time and resources that are required to administratively separate a Marine who fails to attend drill. For this variable, only unsatisfactory drills should be analyzed. The goal of measuring unsatisfactory drill attendance rates is to evaluate if a certain culture type encourages a higher rate of unexcused absences in a unit due to the lack of motivation or environment that is created through the leadership culture. While data for this variable was not accessible within the time frame, for this framework it is outlined for utilize in future research.

**E. DATA ANALYSIS**

In this thesis I create a research plan and model the relationship between the four CVF culture types and the different activation readiness variables of drill attendance rates, FRAAP inspection results, and mental health readiness. Multiple linear regressions are used to develop linear equations that represent the relationship between the dependent variables of activation readiness and the independent variables of the four CVF culture types. Due to the limitation of data collected, I only run regressions 1 through 10 demonstrated below. The first set of regressions analyzes the variation between culture and





the MSCs. The MSCs are considered dummy variables and take the form of 1 if a unit analyzed is a part of that command. The second set of regressions analyzes the effects of the cultural dimensions, the MSCs and unit size on mental health readiness. The last set of regressions analyzes the effects of the cultural dimensions, the MSCs, unit sizes and suicide ideations on attrition rates in MARFORRES. However, as part of the conceptual framework, the following equations are proposed to be modeled to find the statistical significance of culture and activation readiness.

1. Equation 1: Division =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\varepsilon$
2. Equation 2: MLG =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\varepsilon$
3. Equation 3: MAW =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\varepsilon$
4. Equation 4: FHG =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\varepsilon$
5. Equation 5: Ideation Rate =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\beta_5$  Division +  $\beta_6$  MLG +  $\beta_7$  MAW +  $\beta_8$  Unit Size +  $\varepsilon$
6. Equation 6: Attempt Rate =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\beta_5$  Division +  $\beta_6$  MLG +  $\beta_7$  MAW +  $\beta_8$  Unit Size +  $\varepsilon$
7. Equation 7: Suicide Rate =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\beta_5$  Division +  $\beta_6$  MLG +  $\beta_7$  MAW +  $\beta_8$  Unit Size +  $\varepsilon$
8. Equation 8: Non-Prior Service (NPS) Rate =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\beta_5$  Division +  $\beta_6$  MLG +  $\beta_7$  MAW +  $\beta_8$  Unit Size +  $\varepsilon$
9. Equation 9: Prior Service (PS) Rate =  $\beta_0 + \beta_1$  Collaborate +  $\beta_2$  Control +  $\beta_3$  Create +  $\beta_4$  Compete +  $\beta_5$  Division +  $\beta_6$  MLG +  $\beta_7$  MAW +  $\beta_8$  Unit Size +  $\beta_9$  Ideation Rates +  $\varepsilon$



10. Equation 10: Drill Attend Rate =  $\beta_0 + \beta_1 \text{Collaborate} + \beta_2 \text{Control} + \beta_3 \text{Create} + \beta_4 \text{Compete} + \varepsilon$
11. Equation 11: FRAAP FC =  $\beta_0 + \beta_1 \text{Collaborate} + \beta_2 \text{Control} + \beta_3 \text{Create} + \beta_4 \text{Compete} + \varepsilon$
12. Equation 12: FRAAP Muster =  $\beta_0 + \beta_1 \text{Collaborate} + \beta_2 \text{Control} + \beta_3 \text{Create} + \beta_4 \text{Compete} + \varepsilon$
13. Equation 13: FRAAP MP =  $\beta_0 + \beta_1 \text{Collaborate} + \beta_2 \text{Control} + \beta_3 \text{Create} + \beta_4 \text{Compete} + \varepsilon$
14. Equation 14: FRAAP Admin =  $\beta_0 + \beta_1 \text{Collaborate} + \beta_2 \text{Control} + \beta_3 \text{Create} + \beta_4 \text{Compete} + \varepsilon$
15. Equation 15: FRAAP Embark =  $\beta_0 + \beta_1 \text{Collaborate} + \beta_2 \text{Control} + \beta_3 \text{Create} + \beta_4 \text{Compete} + \varepsilon$
16. Equation 16: FRAAP Med/Dent =  $\beta_0 + \beta_1 \text{Collaborate} + \beta_2 \text{Control} + \beta_3 \text{Create} + \beta_4 \text{Compete} + \varepsilon$
17. Equation 17: FRAAP FC =  $\beta_0 + \beta_1 \text{Collaborate} + \beta_2 \text{Control} + \beta_3 \text{Create} + \beta_4 \text{Compete} + \varepsilon$

## F. SUMMARY

This chapter outlines the methodology in this thesis by describing the variables and culture data for each unit analyzed. In continuation, the activation readiness metrics and their representation as the outcome or dependent variables are demonstrated. Utilizing this data to find a correlation between both sets of variables, MARFORRES will be able to gain an understanding of the predictive powers that culture has on activation readiness. Furthermore, a research plan and baseline are modeled, introducing the opportunity for future research in this field.



## V. RESULTS

### A. CHAPTER OVERVIEW

This chapter provides the results from the correlation and regression analyses of the culture variables on the different activation readiness metrics. The goal of these results is to provide the commander of MARFORRES with a conceptual framework and a better understanding of what impacts culture could have on activation readiness.

### B. CULTURE AND MAJOR SUBORDINATE COMMANDS

A linear regression analysis is utilized to examine the impact of the four culture types (collaborate, create, control, compete) on the four MSCs within MARFORRES. Each regression identifies if a certain unit culture is more prevalent amongst the different MSCs.

The results demonstrated in Table 6 suggest that there is no statistical significance between the cultural dimensions of a unit and belonging to one of the four MSCs. These results are indicated by the t-statistics, which fall below the conventional threshold of a p-value less than .05. Furthermore, the coefficients being relatively close to zero demonstrate that these dimensions are not predictive of belonging to MSCs.



Table 6. Regression Results of Culture Types on Major Subordinate Commands

	(1) Division	(2) MLG	(3) MAW	(4) FHG
Collaborate	-0.07 (-0.01)	-1.19 (-0.37)	-0.66 (-0.20)	1.92 (0.65)
Create	-0.03 (-0.01)	-1.13 (-0.35)	-0.76 (-0.23)	1.92 (0.65)
Control	0.005 (0.00)	-1.17 (-0.36)	-0.78 (-0.24)	1.94 (0.66)
Compete	-0.01 (-0.00)	-1.18 (-0.37)	-0.71 (-0.21)	1.90 (0.64)
constant	3.10 (0.01)	117.2 (0.36)	72.62 (0.22)	-191.9 (-0.65)
<i>N</i>	27	27	27	27

*t* statistics in parentheses

+  $p < 0.1$ , \*  $p < .05$

### C. CULTURE MENTAL HEALTH

A second linear regression analysis is utilized to examine the impact of the four culture types on mental health incidents within a unit. The three outcome variables for this analysis were suicide ideation rates, suicide attempt rates, and successful suicide rates. The independent variables are utilized to find relationships with the dependent variables are the four culture types, unit sizes, and the four subordinate commands.

The results in Table 7 demonstrate that the four culture types do not have statistical significance between them and any of the mental health outcome variables. However, the results suggest that the size of a unit is a statistically significant predictor of suicide attempts. The unit sizes in this study range from 44 Marines to 1726. Holding all variables constant, the larger the size of a unit, the lower the rates of suicide attempts. Furthermore,



the analysis suggested that Division and MLG units have a statistically significant impact on suicide attempt rates. For both predictors, while holding all constant, being in an MLG or Division unit had a negative impact on suicide attempt rates. These results are indicated by the t-statistics, which fall below the threshold of a p-value less than .05.

Table 7. Regression Results of Culture on Mental Health Readiness

	(1) Ideation Rates	(2) Attempt Rates	(3) Suicide Rate
Collaborate	-0.06 (-0.12)	0.02 (0.82)	-0.01 (-0.90)
Create	-0.06 (-0.12)	0.02 (0.82)	-0.01 (-0.90)
Control	-0.06 (-0.10)	0.02 (0.83)	-0.01 (-0.92)
Compete	-0.06 (-0.11)	0.02 (0.82)	-0.01 (-0.90)
Division	-0.06 (-1.28)	0.005* (3.19)	0.00 (1.05)
MLG	-0.02 (-0.43)	0.01* (2.55)	0.00 (0.03)
MAW	-0.06 (-1.26)	0.001 (0.82)	-0.00 (-0.16)
Unit Size	-0.00 (-1.33)	-0.00* (-3.08)	-0.00 (-0.35)
_cons	6.27 (0.11)	-1.59 (-0.82)	1.09 (0.91)
<i>N</i>	27	27	27

*t* statistics in parentheses

+  $p < 0.1$ , \*  $p < .05$



#### **D. CULTURE AND ATTRITION**

The third set of linear regressions in this framework is utilized to examine the impact of the four culture types on Non-Prior Service and Prior Service attrition rates within MARFORRES. The two outcome variables for this analysis are NPS rates and PS rates. The independent variables are the four cultural dimensions, the MSCs of MARFORRES, the unit size for each observation, and the suicide ideation rates per unit.

The results in Table 8 demonstrate that the four culture types have a similar positive coefficient with NPS rates, and although they were slightly significant at the 90% level, they do not meet the conventional threshold of a p-value of .05. Additionally, the MSCs demonstrate no statistical significance with either attrition rates, apart from the Division having a negative correlation with PS attrition at the 90% level. Furthermore, suicide ideation rates demonstrate complex relationships with both attrition rates. With NPS rates, suicide ideations had a positive statistically significant relationship with the conventional 95% confidence level and a t-statistic of 3.17. On the other hand, suicide ideation rates have a negative relationship with PS attrition at the 90% level. These results suggest that the four organizational culture types and suicide ideation rates may be predictors of attrition rates within MARFORRES.



Table 8. Regression Results of Culture on Attrition

	(1) NPS Rate	(2) PS Rate
Collaborate	0.72 <sup>+</sup> (1.88)	0.31 (0.28)
Create	0.73 <sup>+</sup> (1.90)	0.30 (0.27)
Control	0.73 <sup>+</sup> (1.89)	0.33 (0.30)
Compete	0.72 <sup>+</sup> (1.89)	0.31 (0.28)
Division	0.03 (0.75)	-0.19 <sup>+</sup> (-1.96)
MLG	0.007 (0.18)	-0.03 (-0.23)
MAW	0.03 (0.92)	-0.11 (-1.02)
Unit Size	0.00 <sup>+</sup> (2.07)	-0.00 (-0.28)
Ideation Rates	0.52* (3.17)	-0.91 <sup>+</sup> (-1.91)
__cons	-72.22 <sup>+</sup> (-1.89)	-30.85 (-0.28)
<i>N</i>	27	27

*t* statistics in parentheses

<sup>+</sup>  $p < 0.1$ , \*  $p < .05$

## E. CULTURE AND FRAAP

The development of this conceptual framework finds it critical to identify the relationship between culture and MARFORRES' FRAAP inspections. Due to the



limitation of only having 11 units of observation with FRAAP inspection results, a correlation analysis is used to gain a better understanding of what could be significant with a bigger sample size.

The pairwise correlation analysis breaks down each functional area of the FRAAP inspection and analyzes the relationship between the culture type and the MSCs with the evaluation results. The correlation matrixes vary between 90% and 95% confidence levels to demonstrate the strongest relationships in each category. Although the FRAAP inspection has three scoring dimensions for six functional areas, for the simplicity of this framework development, only results that demonstrate significant levels of correlation at the 90% and 95% confidence levels are added to the results.

### **1. FRAAP FROST ASSESSMENT NON-DEPLOYMENT CAPABLE**

For the correlation matrix illustrated in Table 9, Collaborate culture was positively correlated with units that were evaluated as non-deployment capable in the FROST assessment of the FRAAP inspection indicated by the coefficient of .61. Furthermore, another set of correlations that stand out are between the cultural dimensions of the units. The matrix also suggests that units that are higher in the Control quadrant have a negative correlation with units falling inside the Create quadrant indicated by a coefficient of -.59. In addition, units with a Compete quadrant culture have a negative correlation with units in the Collaborate and Create quadrants indicated by the coefficients of -.77 and -.56, respectively. These findings are statistically significant at the 95% confidence level.





Table 9. FROST Non-Deployment Capable Correlation Matrix

	<b>FROST NDC</b>
<b>FROST_NDC</b>	1
<b>Collaborate</b>	0.61*
<b>Create</b>	0.14
<b>Control</b>	-0.39
<b>Compete</b>	-0.4
<b>Division</b>	-0.21
<b>MLG</b>	-0.24
<b>MAW</b>	0.39
<b>Number of Observations</b>	11

\*  $p < .05$

## 2. FRAAP FROST ASSESSMENT DEPLOYMENT CAPABLE

For the correlation matrix demonstrated in Table 10, the four culture types may be weaker predictors for units that were evaluated as deployment capable with FROST inspection results. However, because of the use of  $p < .1$  as the cutoff for statistical significance, MLG and MAW units tend to have higher dominant Collaborate and Create quadrant characteristics, respectively with the evidence suggesting that it may not be by mere chance.



Table 10. FROST Deployment Capable Correlation Matrix

	<b>FROST DC</b>
<b>FROST DC</b>	1
<b>Collaborate</b>	-0.34
<b>Create</b>	0.04
<b>Control</b>	0.44
<b>Compete</b>	0.05
<b>Division</b>	0.18
<b>MLG</b>	-0.24
<b>MAW</b>	-0.04
<b>Number of Observations</b>	11

\*  $p < .1$

### 3. FRAAP MUSTER DEPLOYMENT CAPABLE

For the correlation matrix demonstrated in Table 11, Control culture was positively correlated with units that were evaluated as deployment capable in the muster assessment of the FRAAP inspection indicated by the coefficient of .59. This correlation is significant at the 90% level, and although not the traditional 95% the evidence presented suggests that correlation is not due to random chance.



Table 11. Muster Deployment Capable Correlation Matrix

	<b>Muster DC</b>
<b>Muster DC</b>	1
<b>Collaborate</b>	-0.26
<b>Create</b>	-0.11
<b>Control</b>	0.59*
<b>Compete</b>	0.00
<b>Division</b>	0.04
<b>MLG</b>	-0.19
<b>MAW</b>	0.08
<b>Number of Observations</b>	11

\* p < .1

#### 4. FRAAP EMBARKATION DEPLOYMENT CAPABLE

For the correlation matrix displayed in Table 12, Create culture has a strong negative correlation with units that were evaluated as deployment capable in the embarkation assessment of the FRAAP inspection indicated by the coefficient of -.65. In comparison, the Compete culture had a strong positive correlation with units that are evaluated as deployment capable. Both correlations were significant at the 95% level.



Table 12. Embarkation Deployment Capable Correlation Matrix

	<b>Embark DC</b>
<b>Embark DC</b>	1
<b>Collaborate</b>	-0.45
<b>Create</b>	-0.65*
<b>Control</b>	0.27
<b>Compete</b>	0.65*
<b>Division</b>	0.04
<b>MLG</b>	-0.19
<b>MAW</b>	0.08
<b>Number of Observations</b>	11

\* p < .05

## 5. FRAAP OVERALL NON-DEPLOYMENT CAPABLE

For the correlation matrix demonstrated in Table 13, Create culture had a positive correlation with units that were evaluated as non-deployment capable in the overall assessment of the FRAAP inspection indicated by the coefficient of .53. In addition, Division units appear to also have a positive correlation with non-deployment capable results with a coefficient of .57. These results were measured at the 90% level and presented some evidence that the correlation is not due to mere chance.



Table 13. Overall Non-Deployment Capable Correlation Matrix

	<b>Overall NDC</b>
<b>Overall NDC</b>	1
<b>Collaborate</b>	-0.21
<b>Create</b>	0.53*
<b>Control</b>	0.13
<b>Compete</b>	-0.22
<b>Division</b>	0.57*
<b>MLG</b>	-0.24
<b>MAW</b>	-0.46
<b>Number of Observations</b>	11

\* p < .1

## F. SUMMARY

This chapter presents the quantitative results of the models discussed in the methodology chapter, answering the research questions, and showcasing the conceptual framework that can be utilized with further studies on culture in MARFORRES units. The models use linear regression analyses to identify which predictive variables have a relationship with belonging to a Major Subordinate Command, Mental Health, and Attrition Rates. The results indicate that culture types, including Collaborate, Create, Control, Compete and Suicide Ideation Rates are considered predictors of Non-Prior Service attrition rates. Regarding PS attrition rates, Division and Suicide Ideation rates have a negative correlation and could be considered predictors of Prior-Service Attrition rates.

In continuation, due to the limited observations, pairwise correlation analyses are conducted to gain an understanding of what could be significant with a bigger sample size for all MARFORRES FRAAP inspection results. Only those analyses with correlations at the 90% and 95% confidence levels are demonstrated in the results chapter. Across the board, culture appeared to have either negative or positive correlations with the success or



failure of these functional areas. Furthermore, there appears to be some evidence that belonging to a certain MSC also had an impact on the results of the assessment.



## **VI. CONCLUSIONS AND RECOMMENDATIONS**

### **A. CHAPTER OVERVIEW**

This chapter discusses the interpretation and analysis of the statistical models included in the previous chapter about the research questions and provides recommendations for the use of this framework for future MARFORRES studies about the results from the research.

### **B. DISCUSSION**

This research contains two main purposes with three research questions. The first purpose was to analyze whether leadership culture is a predictor of activation readiness, and which culture metrics are the most effective in predicting readiness by focusing on the impact of the MSCs, and to identify if leadership culture had an impact on retention with MARFORRES. The second purpose is to build a conceptual framework that MARFORRES can utilize to conduct an in-depth analysis on the impact of unit culture on activation readiness. Before discussing these findings, it is important to mention that other external influences could impact activation readiness without tying in directly to culture. Some of these factors are driven by resources in terms of funding and manpower that cannot be influenced by culture and availability or access to certain training areas or equipment pieces that are not within reasonable reach of multiple units. However, leadership drives culture and influences Marines to find an optimal solution to these external influences.

#### **1. Regression Analyses**

This research analyzes 27 units at the battalion and regimental level across the different MSCs in MARFORRES. Utilizing different outcome variables that impact or are related to activation readiness, linear regressions were run with 9 independent variables. For the first regression, I identified if culture type is significant to predicting a type of MSC. Although culture was not statistically significant in predicting which MSC a unit



was a part of, it did reinforce a robust sense that there is a unity of culture across the MSCs. While mission sets differ across the four MSCs, they are more alike than we think.

In continuation, the second set of regressions identifies which variables affected mental health readiness. The culture variables are utilized as the independent variables in conjunction with the MSCs and the sizes of the units, which I believe could also have an impact on predicting the rate at which suicide ideations, attempts, and actual suicides occur. Of the three regressions ran with the three mental health dependent variables, culture did not have any statistical significance in predicting these events and the results suggest that suicide related incidents are a problem regardless of what culture a unit may be dominant in. However, suicide attempt rates are positively correlated with Division and MLG units. The linear regression results also suggest that the unit size is negatively correlated to suicide attempt rates. The results suggest that suicide attempt rates are higher within smaller Division and MLG units. This could be because of the feeling of inclusion and more access to individuals to relate to along with the increased number of peers and leadership available to identify these mental health complications before escalation. However, due to the small sample size, it is possible that the other independent variables could have a statistically significant impact as well, specifically with ideations as they contain more variance in the sample size used. It may be hard to find any real significance with actual suicides committed because of the low rate of occurrences.

The final regression of this analysis identifies the variables that have statistical significance with attrition rates in MARFORRES. For the regressions ran, I analyze not only significant results at the 95% confidence level but also results that were at the 90% level. This is in response to the small sample sizes and to provide context into what variables could have predictive power in a more in-depth analysis. In the first regression, the four culture types are positively correlated with non-prior service attrition at the 90% confidence level. All culture types had an impact on this category of attrition, suggesting that all cultures in MARFORRES may influence attrition regardless of being dominant in one culture vs another. In other words, NPS Marines are generally likely to attrite, and the unit culture does not play a role in this event. It is important to note that M&RA tracks all SMCR Marines from the moment they begin initial training up until the point of attrition.





Therefore, a proper interpretation of these results would imply that not all the attritions belong to SMCR units and culture is not always the factor in the attrition, but it is an important variable that should be considered. Unit sizes also have a positive correlation and suggest that the bigger the unit the bigger the chance that a marine attrites. Bigger units have a negative impact on marines and cause them to be overlooked by leadership due to the increased number of personnel and the leadership challenges that are presented with these larger numbers.

Additionally, with prior service attrition rates, division units, and unit size had a negative correlation at the 90% confidence level. This correlation could be due to the division being one of the more hands-on units in MARFORRES and that constant operational tempo can have a positive influence on Marines wanting to stay in their SMCR units. Similarly, higher suicide ideation rates appear to influence PS Marines to stay in their units. This could be from a desire for these experienced groups of Marines to want to have a positive influence on Marines within their reach.

## **2. Correlation Analyses**

The second set of analysis in this research was the use of correlation matrixes to gain a better understanding of which variables can be significant in FRAAP inspections results. Culture types prove to have some kind of correlation with different functional areas of the FRAAP inspection.

Collaborate culture showed a positive correlation with units evaluated as non-deployment capable in the FROST functional area. The coefficient of .61 suggests that there is a strong correlation between both variables at the 95% level of confidence. Surprisingly, the quadrant that values communication and development demonstrates its potential to have negative effects on units being evaluated on the FROST portion of the FRAAP inspection. This may be because FROST calls have inherent timeliness and efficiency factors that is appreciated by control cultures.

The following correlation matrix evaluates the independent variables with the muster deployment capable results of the FRAAP inspection. For this matrix, culture had a positive correlation at the 90% confidence level. Muster is another evaluation portion that



values efficiency and timeliness as well as communication. Although collaborate culture was not significantly correlated, Control culture has a positive influence on units assessed as deployment capable, rather than by chance. These findings suggest that from the moment that a unit begins its activation, promoting a control culture can be an effective way of meeting the initial set of requirements.

Units with an assessment of deployment capable with the embarkation portion of the analysis are evaluated in this portion of the research. Statistically significant at the 95% confidence level, Create and Compete have correlation with the results of the assessment. Create culture has a negative correlation at .65. Embarkation is a functional area that maintains very specific and structured guidelines. The nature of the Create quadrant's transformative and innovative values reasonably explains the negative impact it could have on the results. Since there is little flexibility in the embarkation procedures, the transformative and innovative values of the Create quadrant explain its negative impact on the results. On the contrary, because Compete culture is oriented towards stability and Control and driven by goal achievement, it makes sense that it has a positive correlation with a coefficient at .65 for predicting units to be assessed as deployment capable in this category.

Lastly, the overall non-deployment capable assessment of the FRAAP demonstrates statistically significant correlations. The Create quadrant and Division units are positively correlated with units being assessed as overall non-deployment capable with a coefficient of .53 and .57, respectively. The analysis suggests that units with a create culture have negative impacts on their overall evaluation of the FRAAP inspection. Based on this and the previous correlation analyses, during this phase of Marine Reserve unit movement, having a unit that has similar create quadrant values could have a negative impact on the unit's ability to activate.

Based on all the functional areas assessed, promoting a stronger Control and Compete culture can have positive impacts on a unit's ability to successfully activate. It is noteworthy to think of promoting certain types of cultures at the right time can lead to greater value creation. Figure 4 demonstrates an example of how culture can be promoted to complement these findings. In this scenario as a commander, I may find that orienting



my reserve unit towards the control and compete quadrant values will enable them to achieve the requirements needed to successfully activate.

**Force Readiness Assessment and Assistance Program (FRAAP) Competing Values Culture Profile**

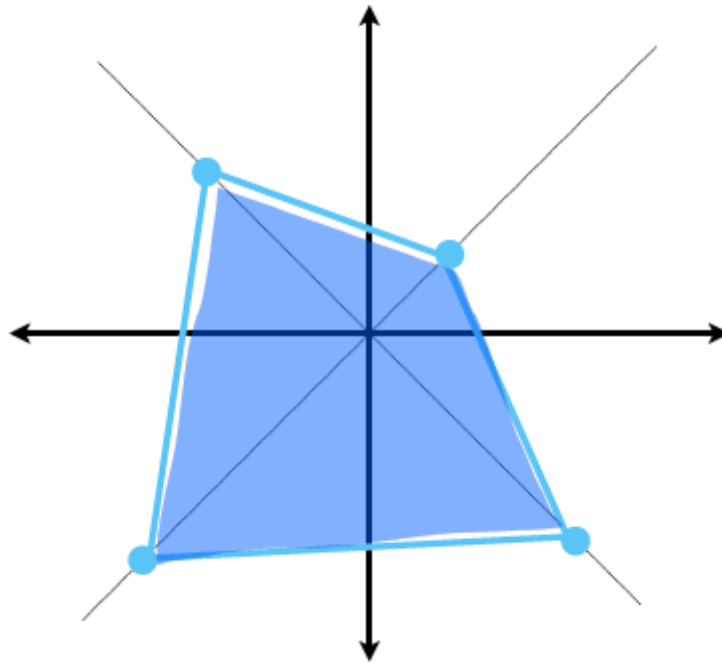


Figure 4. FRAAP Competing Values Culture Profile

## C. RECOMMENDATIONS

The creation of this conceptual framework is the baseline for future research that will add value to MARFORRES. This section contains recommendations for future research and data collection that will enable a more detailed study.

### 1. Sample Sizes and Unit Breakdown

The current sample size of 27 observed units does not provide a sufficient representation of the population of multiple MARFORRES units. Moreover, while certain aspects of unit culture demonstrate a correlation with the dependent variables in the study, it is important to acknowledge that they do not solely account for why certain outcomes

occur. Factors such as manpower, fiscal resources, and time constraints are not always available or sufficient in the complex environments of SMCR units. To increase the sample size of units, I recommend to scale down the unit level of observation for future research. Due to time and data constraints, the framework in this study uses battalion and regimental level units to develop a snapshot of culture and readiness. The OCAI data can be geographically divided by battalion and regiments and utilized to conduct a company level assessment of culture on activation readiness. By using company-level units, variability amongst the variables used in this research may increase, leading to deeper statistical significance.

## **2. Data Collection**

For future studies, data collection will play an important role in establishing variability to find deeper levels of statistical significance. Culture assessment using the OCAI has proven to be an efficient tool for leaders across MARFORRES to self-assess their units and gain an understanding of the operating culture in their respective regiments, battalions, and companies. MARFORRES should assist NPS staff and students in promoting leadership assessment workshops to educate leaders on their unit culture and data collection to expand and provide valuable research.

Furthermore, this research sought to include drill attendance rates of unsatisfactory drills in units to evaluate the impact of culture on this matter. However, historical data for unsatisfactory drill attendance was not available or consolidated. Other variables that should be considered for evaluation using this framework are workplace safety incidents, misconduct rates resulting in administrative action, and any other readiness metric that MARFORRES and NPS researchers deem valuable.

A recommendation for future data collection is the endorsement of MARFORRES which provides the researcher with a direct line of communication with the analyzed units to facilitate data collection in a reasonable timeframe. Through this endorsement, access to the data needed to run analyses provided by this framework can be facilitated and, in tandem, enables MARFORRES to have input on what independent variables they are



interested in evaluating with the impact of culture and other variables used in this framework.

### **3. Further Research**

This conceptual framework contains the foundation for future research available to students and staff at NPS to provide MARFORRES with valuable analyses on their units. NPS staff maintains a line of effort for cultural analysis and can continue to expand upon this research and provide students with research opportunities that can provide value for MARFORRES. This research can be broken down into the following phases.

- Data collection phase OCAI: Using historical and future OCAI data to break down the units down to the company level for observation can provide a bigger sample size and variability to the framework.
- Data collection phase MARFORRES: As in the data collection section, establishing a direct link between the researcher and the evaluated units will facilitate the collection of the activation readiness variables. FRAAP inspection results should be given a significant effort to collect and evaluate due to samples of correlation found in this study. FRAAP results should work in tandem with future unit culture analysis research to maximize the units of observation.
- Analysis Phase: With the new culture and readiness data collection efforts, a deeper analysis utilizing the framework and formulas in this thesis can be used to look to find deeper statistically significant relationships between culture and activation readiness.

### **D. CONCLUSION**

This cultural framework provides numerous flexible research opportunities that enable MARFORRES to study their units and identify how to promote culture types of different units to maintain a high level of activation readiness. Not only a worthwhile study of culture but the discovery of other variables that could influence activation. A study



analyzing culture and its correlation with activation readiness is a worthwhile and cost-effective approach to enabling leaders to meet the demands of future operational environments.



## LIST OF REFERENCES

- Berger, D. (2020). Commandant's planning guidance—38th Commandant of the Marine Corps. <https://www.marines.mil/News/Publications/MCPPEL/Electronic-Library-Display/Article/1907265/38th-commandants-planning-guidance-cpg/>
- Borrego, A. (2019). *Marine Forces Reserve organizational culture assessment* [Master's Thesis, Naval Postgraduate School]. Calhoun: The NPS Institutional Archive. <https://apps.dtic.mil/sti/pdfs/AD1073598.pdf>
- Cameron, K., Quinn, R., Degraff, J., & Anjan, T. (2014). *Competing Values Leadership* (2nd ed.). Edward Elgar Publishing.
- Heritage, B., Pollock, C., & Roberts, L. (2014). *Validation of the Organizational Culture Assessment Instrument*. *PLoS ONE*, 9(3), e92879. <https://doi.org/10.1371/journal.pone.0092879>
- Howard, L. W. (1998). Validating the competing values model as a representation of organizational cultures. *The International Journal of Organizational Analysis*, 6(3), 231–250.
- Jung, T., Scott, T., Davies, H. T. O., Bower, P., Whalley, D., McNally, R., & Mannion, R. (2009). Instruments for exploring organizational culture: A review of the literature. *Public Administration Review*, 69(6). <https://onlinelibrary.wiley.com/doi/10.1111/j.1540-6210.2009.02066.x>
- MARFORRES. (2016, August 10). *Working together to accomplish the mission: inspector-instructor duty*. Marine Corps Forces Reserve. <https://www.marforres.marines.mil/News-Photos/MARFORRES-News/Article/910927/working-together-to-accomplish-the-mission-inspector-instructor-duty/https%3A%2F%2Fwww.marforres.marines.mil%2FNews-Photos%2FMARFORRES-News%2FArticle%2F910927%2Fworking-together-to-accomplish-the-mission-inspector-instructor-duty%2F>
- Marine Forces Reserve. (2016). *History of the USMCR*. <https://www.marforres.marines.mil/usmcr100/history/>
- Marine Forces Reserve. (2019). *Force readiness activation assessment program (ForO 3000-18.1)*. Marine Forces Reserve.
- Pollman, Anthony. (2018, June). Framing Marine Corps culture. *Proceedings Magazine* 144/6/1,384.



- Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science*, 29(3), 363–377.
- Rasmussen, R., McIntosh, C., & Kwak, J. (2022). *Navy and Marine Corps Reserve Psychological Health Outreach Program fiscal year 2022 annual report*. United States Marine Corps.
- Schein, E. H. (1999). *The Corporate Culture Survival Guide: Sense and Nonsense About Culture Change* (1st ed). Jossey-Bass.
- Society for Human Resource Management. (n.d.). *Understanding and developing organizational culture*. Retrieved February 18, 2022, from <https://www.shrm.org/resourcesandtools/tools-and-samples/toolkits/pages/understanding-developing-organizational-culture.aspx>
- United States Marine Corps. (2019). *Total force mobilization and deployment plan (TFMDP) (MCO 3061.1)*. <https://www.marines.mil/Portals/1/Publications/MCO%203061.1%20All%20Volumes.pdf?ver=cqPvTpo12lmXRWp8rLTrDA%3d%3d>
- Yu, T., & Wu, N. (2009). A review of study on the Competing Values Framework. *International Journal of Business and Management*, 4(7), 37.









ACQUISITION RESEARCH PROGRAM  
NAVAL POSTGRADUATE SCHOOL  
555 DYER ROAD, INGERSOLL HALL  
MONTEREY, CA 93943

[WWW.ACQUISITIONRESEARCH.NET](http://WWW.ACQUISITIONRESEARCH.NET)