



Calhoun: The NPS Institutional Archive
DSpace Repository

Theses and Dissertations

1. Thesis and Dissertation Collection, all items

2022-06

**OPTIMIZING NORWEGIAN SPECIAL
OPERATIONS FORCES FOR FUTURE
OPERATIONS IN THE INFORMATION ENVIRONMENT**

Goeransson, Stian

Monterey, CA; Naval Postgraduate School

<http://hdl.handle.net/10945/70675>

Copyright is reserved by the copyright owner.

Downloaded from NPS Archive: Calhoun



Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>



**NAVAL
POSTGRADUATE
SCHOOL**

MONTEREY, CALIFORNIA

THESIS

**OPTIMIZING NORWEGIAN SPECIAL OPERATIONS
FORCES FOR FUTURE OPERATIONS IN THE
INFORMATION ENVIRONMENT**

by

Stian Goeransson

June 2022

Thesis Advisor:
Second Reader:

Kalev I. Sepp
John J. Arquilla

Approved for public release. Distribution is unlimited.

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.			
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE June 2022	3. REPORT TYPE AND DATES COVERED Master's thesis	
4. TITLE AND SUBTITLE OPTIMIZING NORWEGIAN SPECIAL OPERATIONS FORCES FOR FUTURE OPERATIONS IN THE INFORMATION ENVIRONMENT			5. FUNDING NUMBERS
6. AUTHOR(S) Stian Goeransson			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Norwegian Special Operations Command (NORSOCOM), Oslo, Norway 0151; Norwegian Defense Reserach Establishment (FFI), Kjeller, Norway 2007			10. SPONSORING / MONITORING AGENCY REPORT NUMBER
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.			12b. DISTRIBUTION CODE A
13. ABSTRACT (maximum 200 words) Operations in the information environment (OIE) are increasingly central to military operations across the competition continuum. Norwegian Special Operations Forces (NORSOF) faces this reality when realigning capabilities for missions and tasks in the future security environment. This research aims to answer the question, "What gaps, challenges, and opportunities does NORSOF face to effectively integrate and develop information-related capabilities to increase its operational utility in the information environment?" To do so, this thesis offers a study of policy and DOTmLPF-F capability elements (e.g., doctrine, organization, training) that contrasted with data from a survey administered by the Norwegian Defense Research Establishment. The research finds a defensive and reactive policy and a doctrinal focus on effects in the physical domain. Further, NORSOF faces internal and external resource constraints, knowledge gaps, and limited OIE-related leadership priorities. This thesis suggests NORSOF increase operational utility in the information environment by focusing on education, leadership development, organizational responsibilities, joint targeting process involvement, and dedicated engagement in ongoing strategic level and Norwegian Army strategic communication and information projects. Furthermore, it recommends long-term approaches to enhance training and exercises, influence PME curriculum, and foster an active dialog with military strategic and political leadership.			
14. SUBJECT TERMS Norwegian Special Operations, information operations, operations in the information environment, information activities, strategic communication			15. NUMBER OF PAGES 179
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release. Distribution is unlimited.

**OPTIMIZING NORWEGIAN SPECIAL OPERATIONS FORCES FOR FUTURE
OPERATIONS IN THE INFORMATION ENVIRONMENT**

Stian Goeransson
Major, Norwegian Army
B, Norwegian Military Academy, 2014

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF SCIENCE IN DEFENSE ANALYSIS
(IRREGULAR WARFARE)**

from the

**NAVAL POSTGRADUATE SCHOOL
June 2022**

Approved by: Kalev I. Sepp
Advisor

John J. Arquilla
Second Reader

Carter Malkasian
Chair, Department of Defense Analysis

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

Operations in the information environment (OIE) are increasingly central to military operations across the competition continuum. Norwegian Special Operations Forces (NORSOF) faces this reality when realigning capabilities for missions and tasks in the future security environment. This research aims to answer the question, “What gaps, challenges, and opportunities does NORSOF face to effectively integrate and develop information-related capabilities to increase its operational utility in the information environment?” To do so, this thesis offers a study of policy and DOTmLPF-F capability elements (e.g., doctrine, organization, training) that contrasted with data from a survey administered by the Norwegian Defense Research Establishment. The research finds a defensive and reactive policy and a doctrinal focus on effects in the physical domain. Further, NORSOF faces internal and external resource constraints, knowledge gaps, and limited OIE-related leadership priorities. This thesis suggests NORSOF increase operational utility in the information environment by focusing on education, leadership development, organizational responsibilities, joint targeting process involvement, and dedicated engagement in ongoing strategic level and Norwegian Army strategic communication and information projects. Furthermore, it recommends long-term approaches to enhance training and exercises, influence PME curriculum, and foster an active dialog with military strategic and political leadership.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	BACKGROUND	1
B.	PROBLEM STATEMENT	2
C.	RESEARCH QUESTION	4
D.	PURPOSE AND SCOPE.....	4
E.	TERMS AND DEFINITIONS	5
F.	LITERATURE REVIEW	6
1.	Special Operations Theory.....	6
2.	Theory on Warfare in the Information Environment.....	9
G.	METHODOLOGY AND ORGANIZATION.....	15
II.	POLICY AND DOCTRINE.....	17
A.	OIE IN NORWEGIAN POLICY	17
B.	OIE IN NORWEGIAN MILITARY STRATEGY	21
1.	The Norwegian Army Future Operating Concept.....	23
2.	Norwegian, Dutch, and U.S. Marine Corps SOF Strategies.....	24
3.	Strategy Findings	28
C.	DOCTRINE	29
1.	NATO Allied Joint Doctrine	30
2.	U.S. Joint Doctrine.....	36
3.	Norwegian Joint Doctrine	39
4.	Norwegian Domain-Specific Doctrines	44
D.	CHAPTER FINDINGS	45
III.	CAPABILITY ELEMENTS ANALYSIS.....	47
A.	ORGANIZATION	47
1.	Norwegian Armed Forces Organization of Information Related Staff and Capabilities	47
2.	NORSOF Organization	51
B.	PERSONNEL, EDUCATION, AND TRAINING	54
1.	SOF and Information Professionals' Core Traits.....	55
2.	Education	57
3.	Career Track	60
4.	Training	62
C.	LEADERSHIP.....	63
D.	MATERIEL, FACILITIES, FUNDING	66

IV.	FFI SURVEY RESULTS AND ANALYSIS.....	69
A.	INTRODUCTION.....	69
B.	DOCTRINE.....	76
C.	ORGANIZATION	80
	1. Organizational Resources	80
	2. Organizational Procedures and Practices	82
	3. Organizational Responsibilities – Horizontal Split.....	84
D.	EDUCATION, TRAINING, AND PERSONNEL.....	86
	1. SOF and Information Professional’s Core Traits.....	86
	2. Education	90
	3. Information Career Track	91
	4. Training	93
E.	LEADERSHIP.....	95
F.	MATERIAL AND RESOURCES, FACILITIES, FUNDING.....	97
G.	CHAPTER FINDINGS	97
V.	CONCLUSION AND RECOMMENDATIONS.....	101
A.	INTRODUCTION.....	101
B.	SUMMARY OF FINDINGS	102
	1. Gaps.....	102
	2. Challenges.....	103
	3. Areas of Opportunity.....	104
C.	RECOMMENDATIONS.....	105
	1. Immediate Actions	106
	2. Long-Term Options	107
D.	CONCLUSION	109
E.	FURTHER RESEARCH.....	109
	1. Content Focused IRC – A Norwegian PsyOp Unit.....	110
	2. Why Does Norway Limit its Policies on OIE?	110
	3. Information Related Education and Training Standards for NORSOF	110
	4. Opportunities for Shared Nordic IRCs as a Consequences of a Nordic NATO Expansion	111
APPENDIX.	FFI SURVEY: INFORMATION OPERATIONS IN NORSOF	113
A.	INTRODUCTION.....	113
	1. Purpose and Format	113
	2. Respondents.....	114
	3. Thesis Application of Data	115
	4. Categorical Groups.....	116

B. FFI SURVEY.....	118
LIST OF REFERENCES.....	143
INITIAL DISTRIBUTION LIST	153

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

Figure 1.	NATO’s understanding of the information environment.....	31
Figure 2.	Norwegian cyberoperations organization.	42
Figure 3.	Illustration of the elements in the operational environment.	43
Figure 4.	Organization of Norwegian information-related capabilities and staff functions.....	50
Figure 5.	NORSOF organizational chart.....	51
Figure 6.	Responses to FFI survey questions about NORSOF preparedness for the future operating environment.....	71
Figure 7.	Responses to FFI survey questions about primary factors affecting NORSOF ability to conduct OIEs.....	72
Figure 8.	Responses to FFI survey questions about external factors that affect NORSOF OIEs. See appendix for a complete list of factor descriptions.	74
Figure 9.	Responses to FFI survey questions about internal factors that affect NORSOF OIEs. See appendix for a complete list of factor descriptions.	75
Figure 10.	Responses to FFI survey questions about doctrinal information responsibilities.	78
Figure 11.	Responses to FFI survey question about NATO doctrinal change as an opportunity or distraction.....	79
Figure 12.	Responses to FFI survey question about NORSOF tactical unit designated information roles, functions, and responsibilities.....	81
Figure 13.	Responses to FFI survey question about NORSOF information procedures.	82
Figure 14.	Responses to FFI survey question about NORSOF joint IRC integration practices.	84
Figure 15.	Responses to FFI survey question about Strategic Communication narrative and NORSOF activity synchronization.	85

Figure 16.	Responses to FFI survey questions about primary emphasis on SR and DA in NORSOFT training.....	87
Figure 17.	Responses to FFI survey question about NORSOFT self-assessed knowledge level.	89
Figure 18.	Responses to FFI survey questions about quality of education and NORSOFT deliberate training.....	90
Figure 19.	Responses to FFI survey question about the need for a NORSOFT Information career track.....	92
Figure 20.	Responses to FFI survey question about responsibility for information integration in training and exercises.	94
Figure 21.	Responses to NORSOFT 2030 strategy-related questions in the FFI survey.....	96
Figure 22.	FFI survey – Page 1, Introduction and Q1 consent.....	119
Figure 23.	FFI survey – Page 2, Terms and definitions.	120
Figure 24.	FFI survey – Page 3, NATO AJP 3.10 information operations definitions.	121
Figure 25.	FFI survey – Page 4, Question 2.....	121
Figure 26.	FFI survey – Page 5, Questions 3 and 4.....	122
Figure 27.	FFI survey – Page 6, Questions 5 and 6.....	123
Figure 28.	FFI survey – Page 7, Question 7.....	124
Figure 29.	FFI survey – Page 8, Question 8.....	125
Figure 30.	FFI survey – Page 9, Question 9 (a, b, c, d, e, f, g, h).....	126
Figure 31.	FFI survey – Page 10, Question 10 (a, b, c, d, e, f, g).....	127
Figure 32.	FFI survey – Page 11, Question 11.....	128
Figure 33.	FFI survey – Page 12, Question 13.....	129
Figure 34.	FFI survey – Page 13, Question 14.....	130
Figure 35.	FFI survey – Page 14, Question 15 (a, b, c, d, e, f, g).....	131
Figure 36.	FFI survey – Page 15, Question 17 (a, b, c, d, e).....	132

Figure 37.	FFI survey – Page 16, Question 18 (a, b, c, d, e, f, g).....	133
Figure 38.	FFI survey – Page 17, Question 19 (a, b, c, d, e, f).....	134
Figure 39.	FFI survey – Page 18, Question 20.....	135
Figure 40.	FFI survey – Page 19, Question 21.....	136
Figure 41.	FFI survey – Page 20, Question 22 (a, b, c, d, e, f, g, h).....	137
Figure 42.	FFI survey – Page 21, Question 23 (a, b, c, d, e).....	138
Figure 43.	FFI survey – Page 22, Question 24.....	138
Figure 44.	FFI survey – Page 23, Question 26 (a, b, c, d, e).....	139
Figure 45.	FFI survey – Page 24, Question 25 (a, b, c).....	140
Figure 46.	FFI survey – Page 25, Question 16 (a, b, c, d, e).....	140
Figure 47.	FFI survey – Page 27, Question 27 (a, b, c).....	141
Figure 48.	FFI survey – Page 28.	141

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Comparison of NORSOF assaulter and general information professional traits.....	56
----------	--	----

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

C2	Command and Control
C2W	Command and Control Warfare
C2W	Counter Command and Control Warfare
CAN	Computer Network Attack
CND	Computer Network Defense
CNE	Computer Network Exploitation
CNO	Computer Network Operations
CYFOR	Cyber Defense Force
DA	Direct Action
DOD	Department of Defense
EMO	Electromagnetic Spectrum Operations
EMS	Electromagnetic Spectrum
EW	Electronic Warfare
FDLO	Norwegian Land Warfare Doctrine
FE	Force Elements
FFI	Norwegian Defense Research Establishment
FFOD	Norwegian Armed Forces Joint Operational Doctrine
FSJ	Norwegian Chief of Defense
FSK	Forsvarets Spesialkommando
GOU	Initial Professional Military Education
HQ	Headquarters
IA	Information Activities
IAE	Information Environment Assessment
IE	Information Environment
INFOSEC	Information Security
IO	Information Operations
IRC	Information Related Capability
IW	Information Warfare
JCOIE	Joint Concept for Operations in the Information Environment
JTB	Joint Effects Branch

KLE	Key Leadership Engagement
MA	Military Assistance
MARSOC	Marine Forces Special Operations Command
MD	Military Deception
MDO	Multi-Domain Operations
MISO	Military Information Support Operations
MJK	Marinejegerkommandoen
MOS	Military Occupational Specialty
NAF	Norwegian Armed Forces
NATO	North Atlantic Treaty Organization
NDUC	Norwegian Defense University College
NIS	Norwegian Intelligence Service
NLD SOF	Netherlands Special Operations Forces
NORSOCOM	Norwegian Special Operations Command
NORSOF	Norwegian Special Operations Forces
NPS	Naval Postgraduate School
NSM	Norwegian National Security Authority
OE	Operational Environment
OIE	Operations in the Information Environment
PME	Professional Military Education
PPP	Presence Posture Profile
PsyOp	Psychological Operations
SO	Special Operations
SOF	Special Operations Forces
SOMTG	Maritime Special Operations Task Group
SR	Special Reconnaissance
StratCom	Strategic Communications
USMC	United States Marine Corps
USSOCOM	United States Special Operations Command
VOU	Joint level Professional Military Education

EXECUTIVE SUMMARY

This thesis aims to offer Norwegian Special Operations Command (NORSOCOM) recommendations for necessary organizational and capability developments to increase Norwegian Special Operations Forces' (NORSOF) utility for operating in the future information environment. The research explores the question of what gaps, challenges, and opportunities NORSOF faces to effectively integrate and develop information-related capabilities (IRC) to increase operational utility in the future information environment. The question is pertinent to NORSOF as operations in the information environment (OIE) continuously grow in complexity and, as showcased by the ongoing war in Ukraine, can have far-reaching effects on the enemy in the physical domain. For NORSOF to evolve and adapt its strategic utility as a world-class Special Operations Force, it is crucial to adapt its operational concepts and expand capabilities in the OIE outside of the physical domain.

After presenting a review of the relevant literature, the thesis addresses the research question through the following three steps.

- A comprehensive assessment of Norwegian policy and doctrine, in comparison to NATO and U.S. documents.
- An analysis of NORSOF and Norwegian Armed Forces (NAF) IRC capability elements, in terms of organization, training and education, material resources, personnel, facilities, and funding.
- An analysis of previously collected survey data about NORSOF personnel perceptions on NORSOFs capabilities for OIE.

Results from the research indicate several gaps between the acknowledged threats against Norway and the policies and resources allocated to counter them. NORSOF faces a series of internal and external challenges restricting the effective integration of external and developing organic IRCs. The external challenges are mainly constrained policies, quality and quantity of education on information-related subjects in professional military education, limited career opportunities and status for information-related personnel, and fragmentation of NAF IRCs. Internally NORSOF chiefly struggles with a limited institutional and personal conceptual understanding of OIE, a lack of organizational resources such as personnel and billets, and the absence of dedicated information-related

organizational functions and roles. On the other hand, NORSOF's human and information-system-centric strategy provides a sound basis for development. Other areas of opportunity for NORSOF are a culture for joint operations, integration of external resources, and ongoing involvement with developing the Norwegian joint targeting cycle.

The thesis suggests five areas of focus to NORSOCOM for immediate improvements to increase the operational utility in the information environment:

- The systematic, planned, and specific OIE education of NORSOF personnel.
- The expression of clear intentions, goals, and objectives for cognitive effects by NORSOF leadership.
- The establishment of staff functions and personnel with dedicated information responsibilities.
- The expansion of NORSOF's commitment to developing the Norwegian joint targeting cycle to experiment with integrating non-lethal information and influence activities.
- The assignment by NORSOCOM of a staff function dedicated to ongoing Norwegian Army and Defense Staff strategic communication and OIE integration projects.

Furthermore, the thesis recommends four long-term approaches:

- Plan for systemic integration of information and influence related goals and objectives in NORSOF exercises.
- Expand existing research and development on OIE.
- Influence NDCU PME curriculum to include more OIE and influence content.

- Initiate active dialogue with the military strategic and political leadership on NORSOF's role in OIE.

Closing the gap between SOF and IRCs through a tighter symbiosis can provide increased economy of force and, when properly employed, expanded options for decision makers across the whole competition continuum.

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

I would like to thank the faculty in the Defense Analysis Department at the Naval Postgraduate School for its relentless effort to educate U.S. and international students during the Covid-19 pandemic. Despite digital and physical distance barriers, you have created a motivating and inclusive academic environment for the international students during these past challenging years.

Most importantly, I extend my sincerest gratitude to Dr. Kalev Sepp for his guidance, patience, and encouragement on this thesis project. Professor Emeritus John Arquilla's immense knowledge and insightful advice have been essential for developing my perspectives on the information environment.

Furthermore, I have a most genuine appreciation for senior research scientist Frank B. Steder with the Norwegian Defense Research Establishment (FFI), who made data available through FFI resources and provided technical and analytical support to this work.

A warm thanks to the Graduate Writing Center and the premier writing coach George Lober for his steadfast assistance and feedback on my attempts at academic writing.

Additionally, I wish to thank former NORSOCOM commander Major-General Torgeir Gråtrud and former Chief of Staff Colonel Ståle Ljøterud for their endorsement and support of this project.

Above all, I admire and revere my wife Ragnhild and two girls, Elise and Ada, for your tenacity, resilience, and steadfast support. Leaving home at the initial height of the Covid-19 pandemic to brave a new, closed-down world, endure distance learning in an unknown language, and through my many hours of academic struggle, you deserve more credit than words can ever express.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

A. BACKGROUND

The past two decades have shown an increasing tension in security relations with Russia due to increased active measures against Norway and European nations. Countering the hybrid threats in the lower end of the conflict continuum has been a prime focus and challenge for Norway and its North Atlantic Treaty Organization (NATO) Allies. Along with economic warfare techniques, information warfare is Russia's preferred measure to disrupt the national security of Western nations. Conducting influence operations against American and European elections, coordinating disinformation, and attempting potential strategic sabotage—all affecting the information environment—have been Russia's standard *modus-operandi*.¹ Though the Norwegian society has a high degree of trust in government, the armed forces, and media, a key concern and focus of the government, armed forces, and research has been countering foreign influence and active measures.²

Against this backdrop, the Russian invasion of Ukraine on February 25, 2022, has shown that the risk of armed conflict in Europe is still real. The conflict exposes how the destructive side of conventional war is much the same as it has always been when relying on attritional strategies. Moreover, the asymmetry between the Russian and Ukrainian physical forces is seemingly in Russia's favor. However, the ability to leverage and affect the information environment has switched the polarity of the asymmetry. The Ukrainians'

¹ Thomas Newdick, "Norwegian Undersea Surveillance Network Had Its Cables Mysteriously Cut," The Drive, November 11, 2021, <https://www.thedrive.com/the-war-zone/43094/norwegian-undersea-surveillance-network-had-its-cables-mysteriously-cut>; Etterretningstjenesten, *Fokus 2021 - Etterretningstjenestens vurdering av aktuelle sikkerhetsutfordringer [Focus 2021 - The Intelligence Service's assessment of current security challenges]*, Norwegian paper edition (Oslo: Norwegian Armed Forces, 2021), 6.

² Espen Skjelland et al., *Forsvarsanalysen 2022 [The Defense Analysis 2022]* (Kjeller: Norwegian Defense Research Establishment, 2022), 71, <https://publications.ffi.no/nb/item/asset/dspace:7306/22-00659.pdf>; Daniel Kolstad, "Between War and Peace: Toward Creating a NORSOF Strategy to Defend Against Gray Zone Threats" (Master Thesis, Monterey, CA, Naval Postgraduate School, 2020), https://calhoun.nps.edu/bitstream/handle/10945/64915/20Mar_Kolstad_Daniel.pdf?sequence=1&isAllowed=y; Regjeringen Solberg, *Meld. St. 5 - Samfunnssikkerhet i en usikker verden [Societal Security in an Uncertain World]*, Melding til Stortinget, 5 (2020-2021) (Oslo, Norway: Ministry of Justice and Public Security, 2020), <https://www.regjeringen.no/contentassets/ba8d1c1470dd491f83c556e709b1cf06/no/pdfs/stm202020210005000dddpdfs.pdf>.

ability to operate effectively in the information environment seems to have strengthened their influence favorably over both Western supporting partners and the Russian invader. So far, the destructive Russian onslaught has not achieved the desired objectives of cognitive influence. For a small country like Norway and the Norwegian Special Operations Forces (NORSOF), there is much to learn from the Ukrainian scenario about leveraging operations in the information environment (OIE) in one's favor against a physically superior adversary.

B. PROBLEM STATEMENT

The developments in the security environment have seen Norway and its allies scramble to invest in and upgrade their armed forces.³ As a result, the debate intensifies on precisely how to prioritize and increase budgets to strengthen national defenses. Increased Norwegian appropriations and budget are spent on major technical defense systems like tanks, fielding a new mechanized infantry battalion, and obtaining or upgrading new submarines, air defense systems, and helicopters, to mention but a few.⁴ Similarly, NORSOF investment priorities aim to establish a new Maritime Special Operations Task Group (SOMTG), increase mobility in the physical domain, improve command and control (C2) systems, and expand contributions to the joint fires cycle, among others.⁵

Despite the trends in the security environment and the recent war in Ukraine revealing the importance of the information aspect as both a defensive and offensive tool in support of conventional, special, and covert operations, there is little emphasis on

³ John Birger Morud, Andrea Rognstrand, and NTB, "Regjeringen foreslår 3,5 milliarder kroner ekstra for å styrke Forsvaret og sivil beredskap i år [The [Norwegian] Government suggest appropriation of 3,5 billion kroner extra to strengthen the defense and civilian readiness this year]," *Forsvarets Forum*, March 18, 2022, Online edition, sec. nyheter, <https://forsvaretsforum.no/budsjett-forsvaret-politikk/regjeringen-foreslar-35-milliarder-kroner-ekstra-for-a-styrke-forsvaret-og-sivil-beredskap-i-ar/254626>; Luke McGee, "Germany Will Buy F-35 Jets as It Ramps up Military Spending after Russia's Ukraine Invasion," *CNN*, March 15, 2022, Online edition, <https://www.cnn.com/2022/03/15/europe/germany-f-35-fighter-jets-replace-tornado-intl/index.html>.

⁴ Regjeringen Solberg, *Prop. 14S (2020-2021) - Evne to forsvar -vilje til beredskap Langtidsplan for forsvarssektoren [Ability to Defend - Determination to Readiness A Longterm Plan for the Defense Sector]*, Proposisjon til Stortinget (forslag til stortingsvedtak), 14 S (Oslo: Forsvarsdepartementet, 2020), 95–98.

⁵ Regjeringen Solberg, 107.

developing cohesive information or non-lethal influence capabilities within the Norwegian Armed Forces (NAF). One ongoing project looks at increasing strategic situational awareness to bolster proactive military-strategic communication. This ongoing project looks at the proactive use of OIEs, but not specifically offensive use. In fact, most related efforts are focused on protecting the NAF's information through defensive ways and means.⁶

There is a need for senior leaders and decision makers, therefore, to embrace a more comprehensive approach to non-lethal and informational capabilities in targeting and generating effects. When merging and integrating the various means of physical, virtual, and informational fires systemically, the effects on the adversary can be tremendous. The effects may be less quantifiable than physical counts of destroyed equipment. Nevertheless, as seen in Ukraine, non-lethal effects targeted at the enemy and generated through the information environment in the cognitive dimension yield physical results in the form of desertions and abandoned equipment. Equally, the inability to leverage the information environment effectively in defensive and offensive favor may have disastrous consequences. For example, the lack of effective OIEs has been one of several contributing factors to the Russian Armed Forces' inferior performance in the initial phases of the invasion of Ukraine this spring.

NORSOF's goal is to be a world-class Special Operations Force, recognizing an evolving environment and threats and embracing a need to be innovative, flexible, and willing to change.⁷ These goals and visions should lead to an understanding that the full spectrum of future Special Operations (SO) across the conflict continuum will involve more OIEs. These will require NORSOF to fully integrate the capability to plan, execute, and assess offensive OIEs to retain its strategic utility and expand Norwegian and NATO decision makers' options for lethal and non-lethal effects in the security environment.

⁶ Hærstaben, *Prosjekt MilStratKom: Militærstrategisk Kommunikasjon og Forsvarets bidrag til Nasjonal Strategisk Kommunikasjon (B)* [Project MilStratCom: Military Strategic Communication and the Norwegian Armed Forces Contribution to National Strategic Communication (R)], Paper Nov 21 (Bardufoss, Norway: Hærstaben, 2021).

⁷ Torgeir Gråterud, *Norwegian Special Operations Forces Towards 2030*, Digital (Oslo, Norway: Norwegian Special Operations Command, n.d.), 3.

C. RESEARCH QUESTION

The recent invasion of Ukraine has shown how a hybrid threat toward society at large can escalate and morph into a conventional armed conflict. NORSOFF is increasingly expected to contribute to problem-solving across the entire competition continuum.⁸ Although its main missions remain unchanged, policy dictates further development of NORSOFF to meet the increasing complexity of the operations environment and special operations. The political intention begs the question of how to develop NORSOFF and what capabilities to implement. This thesis aim is to provide a perspective on this development by answering the following question:

What gaps, challenges, and opportunities does NORSOFF face to effectively integrate and develop information-related capabilities to increase its operational utility in the future information environment?

D. PURPOSE AND SCOPE

This thesis aims to offer Norwegian Special Operations Command (NORSOCOM) a set of recommendations for necessary organizational and capability developments to increase NORSOFF utility when operating in the future information environment.

Operations in the information environment are boundless and continuously grow in complexity. The scope is focused on the factors internal to the Norwegian Ministry of Defense and NAF impacting how NORSOFF integrates Norwegian military information-related capabilities into its operational concepts and organization. Moreover, the range of the research includes a comprehensive study of Norwegian military policy and doctrine, followed by a descriptive analysis of NORSOFF capability elements as they relate to information functions, operations, and capabilities. Although the research focuses on the Norwegian context, it draws on NATO and U.S. doctrine and literature to compensate for limited source material from Norway and contrasts these approaches and strategies. Also included is an analysis of previously collected survey data on NORSOFF personnel's

⁸ Regjeringen Solberg, *Prop. 14S (2020-2021) - Evne to forsvar -vilje til beredskap Langtidsplan for forsvarssektoren [Ability to Defend - Determination to Readiness A Longterm Plan for the Defense Sector]*, 107.

perceptions of various aspects of NORSOFs ability to create effects through operation in the information environment.

The research for this thesis is conducted more from a meta-perspective than a micro perspective on the utility of integrating specific IRCs or the utility of specific IRCs in specific conditions.

E. TERMS AND DEFINITIONS

This thesis studies various documents on information in a military context from several different nations and institutions. The subject matter of information in military and warfare-related studies is a subject known for its convoluted terminology. To the greatest extent possible, this thesis adheres to the standard NATO terminology in the *NATOTerm* – Official NATO terminology database. Some specific examples include psychological operations (PsyOp), computer network operations (CNO), strategic communication (StratCom), electromagnetic warfare (EW), and military deception (MD).⁹ The research also chooses to use some U.S. military terminology deemed to be more precise, such as Operations in the Information Environment (OIE). OIE is defined by the U.S. Marine Corps and Joint Chiefs of Staff as “the actions taken to generate, preserve, or apply military information power in order to increase or protect competitive advantage or combat power within all domains of the operations environment.”¹⁰

The term Information Operations (IO) is erroneously understood by many to be synonymous with OIE, but in this thesis, the term is specifically used to describe the NATO-defined Information Operations staff function. Hence the IO-function is an enabler and facilitator for operations in the information environment.

Lastly, NATO uses the term Information Activities (IA) for any activity or means focused on creating cognitive effects.¹¹ This thesis, however, chooses to use the U.S.

⁹ NATO, “NATOTerm - The Official NATO Terminology Database,” NATO - OTAN, May 9, 2022, <https://nso.nato.int/natoterm/Web.mvc>.

¹⁰ Headquarters, United States Marine Corps, “Definitions for Information Related Terms,” Joint Memorandum (Washington, D.C.: Department of Defense, January 22, 2020), 1.

¹¹ NATO, “NATOTerm.”

Department of Defense terminology Information-Related Capability (IRC), defined by *Publication 1–02 Department of Defense Dictionary of Military and Associated Terms* as, “A tool, technique, or activity employed within a dimension of the information environment that can be used to create effects and operationally desirable conditions.”¹²

F. LITERATURE REVIEW

The academic study of Special Operations is varied, and literature on operations in the information environment is even broader but also highly specialized. The research for this paper is chosen from a segment of these large bodies of knowledge to account for the general theories of both fields and offer an understanding of the Norwegian context within the unclassified realm. Much of the foundational source material has its origin in the United States, written for the expansive military organization of the U.S. Department of Defense. In order to apply these perspectives to less resourceful military organizations like Norwegian SOF, the research includes sources from small states like Norway, Sweden, and the Netherlands. The following literature review first looks at the works related to the utility of SOF and then the Operations in the Information Environment. Later chapters go deeper into the analysis of policy and doctrinal documents and the necessary sources to survey organizational structure, leadership, and personnel characteristics. This literature review lays the foundation for analyzing the sources referenced in the following chapters.

1. Special Operations Theory

World War II is often identified as the origin of modern Western Special Operations and Special Operations Force theory. More comprehensive theories emerged about 40 years later due to analysis of the U.S. Special Operations in the Vietnam War. Political scientist Eliot Cohen’s 1978 book, *Commandos & Politicians*, debated why politicians and the military create, nurture, and deploy elite units and the potential costs associated with

¹² Joint Chiefs of Staff, *Joint Publication 1-02 Department of Defense Dictionary of Military and Associated Terms*, As amended through 15 FEB 2016, vol. 02, Joint Publications 1 (Washington, D.C.: Department of Defense, 2010), 111, https://irp.fas.org/doddir/dod/jp1_02.pdf.

those units.¹³ Fifteen years later, author and career foreign service officer Lucien Vandenbroucke offered a critique of the use of SOF and their utility in *Perilous Options – Special Operations as an Instrument of U.S. Foreign Policy*.¹⁴ He contended that the employment and failures of Special Operations in short-duration direct action missions have patterns, leading some to question the strategic merit of their use. Around the mid-1990s, nations, politicians, and militaries shifted their focus from Cold War Containment realist strategies to more liberal and idealistic world order strategies. This shift sparked a new academic focus on the question of the utility of SOF. Anglo-American strategist Colin Gray’s *Exploration of Strategy* and Naval Postgraduate School (NPS) professor in international relations and information science John Arquilla’s *From Troy to Entebbe: Special operations in Ancient and Modern Times* offer arguments for the enduring utility of “different” types of forces as Special in relation to “normal” forces in their contemporary context.¹⁵

Due to the SOF’s paradigm shift to counterterrorist operations in a counter-insurgency setting in the early 2000s, Robert Spulak, associate fellow with the Joint Special Operations University Strategic Studies Department, drew attention to the characteristics of personnel and SOF organizations as the utility factors.¹⁶ With the progression of the Global War on Terror and the convergence of a majority of the West’s Special Operations Forces into the same theaters of operations, contemporary academics like professor Richard Rubright and Dr. Tom Searle at the Joint Special Operation University took contrasting views of both SO and SOF. Rubright’s contended that Special Operations are not necessarily military and their utility is related to *how* [emphasis added] the tools are

¹³ Eliot A. Cohen, *Commandos and Politicians - Elite Military Units in Modern Democracies*, vol. 40, Harvard Studies in International Affairs (Cambridge, MA: Harvard Center for International Affairs, 1978).

¹⁴ Lucien S. Vandenbroucke, *Perilous Options - Special Operations as an Instrument of U.S. Foreign Policy* (New York: Oxford University Press, 1993).

¹⁵ Colin S. Gray, *Explorations in Strategy*, 1st ed. (Westport, CT: Praeger Publishers, 1996); John Arquilla, ed., *From Troy to Entebbe - Special Operations in Ancient and Modern Times*, 1st ed. (New York: University Press of America, Inc, 1996).

¹⁶ Robert G. Spulak, *A Theory of Special Operations - The Origins, Qualities and Use of SOF*, JSOU Report (Tampa, FL: Joint Special Operations University, October 2007), <https://apps.dtic.mil/sti/pdfs/ADA495521.pdf>.

used to create special effects at the political and strategic levels.¹⁷ Searle looked back to Gray’s and Arquilla’s perspectives and expanded upon their prior theories. His “outside the box” theory looked at the value of expanding decision makers’ choices by offering capabilities other than those of conventional forces.¹⁸

Dutch research fellow Funs Titulaer merged the thoughts of many American scholars into a European small-state perspective. He laid out an expansion of Searle’s model in his article “Special Operations (forces) Explained” from 2021. His model accounts for organizational and policy attributes in smaller states. In smaller nations, the responsibilities and capabilities of judicial, military, and foreign affairs may have a more significant overlap due to resource constraints. Titulaer serves as a bridge between U.S. and European views and offers a compact value proposition for assessing the utility of SOF.

Additional contemporary discussions focus on the contextual influence on the future utility of SOF. Dr. Jack Watkins, a research fellow at Royal United Services Institute, postulated a constrained operational environment for clandestine and covert special operations due to the aggregation of technology and sensor proliferation.¹⁹ He made three predictions that SOF will need to specialize more, leverage a variation of people to different tasks, and take on a joint-enabling role. At the same time, strategic and political leaders must accept higher risk, with less direct control and a lower operational tempo.²⁰ Similarly, an anthropology professor at NPS, Anna Simons has argued that diversity within the SOF enterprise as a whole is needed to succeed in the future security environment.²¹

¹⁷ Richard W. Rubright, *A Unified Theory of Special Operations* (Tampa, FL: Joint Special Operations University, 2017), 55–56, https://jsou.libguides.com/ld.php?content_id=51792001.

¹⁸ Tom Searle, *Outside the Box: A New General Theory of Special Operations* (Tampa, FL: Joint Special Operations University, 2017), 29, <https://jsou.libguides.com/jsoupublications>.

¹⁹ Jack Watling, *Sharpening the Dagger - Optimising Special Forces for Future Conflict* (London, UK: Royal United Services Institute, 2021).

²⁰ Watling, iv.

²¹ Anna Simons, “Diversity and SOF: Boon or Bane?,” *Special Operations Journal* 5, no. 1 (January 2, 2019): 42–43, <https://doi.org/10.1080/23296151.2019.1581431>.

From a Norwegian perspective, a 2018 FFI-report *From tactical elite to strategic enabler* supports Watkin's predictions. It suggests the fifth paradigm for NORSOFF in which the force specializes its capabilities to serve a strategic purpose better and take on a supporting strategic-enabler role in national defense and during missions abroad.²² Though the FFI report does not address the personnel requirements for specific missions in the next paradigm, Marius Kristiansen argues for the integration of women in SOF organizations, particularly in smaller states, to retain utility for future operations.²³ Without integrating a more diverse force structure, Kristiansen argues that SOF in the future will limit its access to operational environments and ability to influence target audiences.

In summary, the review of Special Operations and Special Operations Forces literature identifies three enduring characteristics of utility, regardless of context and time: (1) expansion of political and military choice, (2) flexible and creative forces, and (3) forces that field capabilities complementary to contemporary conventional armed forces. From the review, three developments that will impact the utility of SOF in the future are also identified: (1) technology, sensors, and information may impose constraints on the existing modus operandi; (2) diversification and evolved force composition are needed to fit new missions; and (3) SOF must acknowledge a supporting role, acting as a strategic enabler for military and strategic objectives.

2. Theory on Warfare in the Information Environment

The importance of information in warfare has endured through time; equally enduring is the need to control and influence information to gain an advantage over an adversary, rally support from an ally, or build resilience in own population. This section

²² Iver Johansen and Henrik Gråterud, *Fra Taktisk elite til strategisk tilrettelegger - hvordan Forsvarets spesialstyrker kan møte fremtidens utfordringer [From Tactical Elite to Strategic Enabler - How Norwegian Special Operations Forces can meet the challenges of the future]*, FFI-report 18/01435 (Kjeller: Norwegian Defense Research Establishment, 2018), 57–59, <https://publications.ffi.no/nb/item/asset/dspace:4176/18-01435.pdf>.

²³ Marius Kristiansen, "Women: A NATO Special Operations Forces Force Multiplier - Part 1/2," *Stratagem* (blog), August 28, 2019, <https://www.stratagem.no/women-a-nato-special-operations-forces-force-multiplier-1/>; Marius Kristiansen, "Women: A NATO Special Operations Forces Force Multiplier - Part 2/2," *Stratagem* (blog), September 4, 2019, <https://www.stratagem.no/women-a-nato-special-operations-forces-force-multiplier-2/>.

looks at the literature on information related to military use from an influence standpoint. The literature on information is expansive and is often divided into technical and non-technical categories. This paper primarily addresses the non-technical side of the topic. Since information is made up of both technical and non-technical aspects, elements of the technical nature are addressed when necessary.

Modern Western thoughts on the opportunities of influencing electronic-dependent information flow started with Boeing Company scientist Dr. Thomas Rona's report *Weapon Systems and Information War* in 1976. He is credited with introducing the term Information Warfare (IW), the moves and countermoves related to information flow interlocked with and surrounding military operations.²⁴ However, two decades later, Professor Martin Libicki critiqued Rona's definition of IW as too broad.²⁵ He argued that IW must be seen as a mosaic of different forms of warfare, fighting over the influence of the information process to distort or defend it. With the maturation of the internet and computing power in the mid-1990s, the studies of information's impact on society and warfare increased. In their acclaimed 1993 article "Cyberwar is Coming," RAND Corp. analysts and professors John Arquilla and David Ronfeldt introduced the two forms of future warfare, cyberwar, and netwar.²⁶ They categorized cyberwar and netwar, together with command and control warfare (C2W) and political warfare, as the four categories of information warfare.

Another work edited by Ronfeldt and Arquilla, the 1997 RAND publication *In Athena's Camp*, stands as a cornerstone in the debates on warfare in the information dimension.²⁷ A central point in their writing is the importance of network organization for

²⁴ Thomas Rona, *Weapon Systems and Information War* (Seattle, WA: Boeing Aerospace Company, 1976), 2, https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Science_and_Technology/09-F-0070-Weapon-Systems-and-Information-War.pdf.

²⁵ Martin C. Libicki, *What Is Information Warfare?* (Washington, D.C.: National Defense University Press, 1995), 5, <https://apps.dtic.mil/sti/pdfs/ADA367662.pdf>.

²⁶ David Ronfeldt and John Arquilla, "Cyberwar Is Coming!," in *In Athena's Camp: Preparing for Conflict in the Information Age*, ed. David Ronfeldt and John Arquilla (Santa Monica, CA: RAND Corporation, 1997), 23–60.

²⁷ John Arquilla and David Ronfeldt, eds., *In Athena's Camp: Preparing for Conflict in the Information Age* (Santa Monica, CA: RAND Corporation, 1997), https://www.rand.org/pubs/monograph_reports/MR880.html.

future operations in the information environment. From a more operational perspective, then Information Science and Technology Programs manager Edward Waltz's 1998 *Information Warfare – Principles and Operations* is a comprehensive taxonomy of the academic and military literature of the 1990s on IW.²⁸ Waltz's book holds its relevance across time. It serves as a thorough handbook for practitioners and leaders on information warfare and its operational aspects.

Similarly, a social scientist at RAND Corporation, Christopher Paul's 2008 reference book *Information Operations – Doctrine and Practice*, sought to educate the reader on the contemporary boundaries of Information Operations.²⁹ The book argues that the organization of Information Operations capabilities is conflated. Paul asserts that a reorganization resulting in a split between systems and content-related capabilities is needed, as is a separation between truthful (white) and deceitful (grey and black) content.

Another assessment of the United States's IO status is author and information science professor Leigh Armistead's work *Information Operations Matters*, which reveals a gap between U.S. IO policy and theory, and between funding and vision.³⁰ His thoughtful analysis of policy and theory on the subject is interesting because Norwegian policy and doctrine on IO are still catching up to the United States and NATO on the matter. In that regard, Norwegian military leaders should study the lessons from the recent past to quickly advance the understanding of OIE and avoid potential pitfalls when developing recommendations for policy changes.

Need for policy changes is also a central theme in John Arquilla's 2021 book *Bitskrieg*. His book addresses gaps between the current understanding and the best ways of dealing with the mass disruption of information through the cyber-realm.³¹ He promotes

²⁸ Edward Waltz, *Information Warfare - Principles and Operations*, 1st ed. (Boston: Artech House, 1998).

²⁹ Christopher Paul, *Information Operations Doctrine and Practice - A Reference Handbook*, 1st ed. (Westport, CT: Praeger Security International, 2008).

³⁰ Leigh Armistead, *Information Operations Matters: Best Practices*, 1st ed. (Washington, D.C.: Potomac Books Inc., 2010).

³¹ John Arquilla, *Bitskrieg - The New Challenge of Cyberwarfare*, 1st ed. (Medford, MA: Polity Press, 2021).

closing the gap by accepting that the developments in the security environment foster innovation in the cyber dimension, which enables a broader form of digital warfare and rethinking approaches to arms control for cyber network operations (CNO). Similarly, Martin Libicki, in a 2017 *Strategic Studies Quarterly* article, agrees on the risks of mass cyber disruption but argues that such disruptions will also lead to a convergence of the other parts of information warfare.³² He contends that government and militaries must see all the elements of OIE as a whole, not just stove-piped specialties supporting various forms of kinetic military operations. A singular defense against cyber-attacks is narrowminded, and defenses against combined IW effects are essential but should take a crime-fighting approach over conventional military defensive approaches.

A category of documents pertinent to this report is doctrine. Bridging the gap between policy and strategy to the tactical level doctrine is principally the basis for how strategy is practiced. Doctrine dictates the military vocabulary, thereby communicating the understanding of concepts and functions within the armed forces to the public domain.³³ According to French author and researcher Daniel Ventre, the U.S., NATO, and Norwegian doctrine have historically shown an interpretation of the information environment in line with Libicki's definition of C2W, focused on adversary military capabilities and using the term Information Warfare as the conceptual umbrella.³⁴

An expanded understanding of information's impact on modern warfare led to U.S. Joint and Service doctrine leading the way in developing the information-related integration and insight. The 2018 *Joint Chiefs of Staff Concept for Operating in the Information Environment* (JCOIE) acknowledged the need for better leveraging information as a tool of influence across the Joint Force's multi-domain battle. It introduced "a framework by which information may be integrated into operational art to

³² Martin C. Libicki, "The Convergence of Information Warfare," *Strategic Studies Quarterly* 11, no. 1-Spring (February 28, 2017): 62–63.

³³ Daniel Ventre, *Information Warfare*, 2nd ed., Information Systems, Web and Pervasive Computing Series (Hoboken, NJ: ISTE ; Wiley, 2016), 248–49.

³⁴ Ventre, 20–24.

achieve strategic gains.”³⁵ Within the U.S. Joint Force, the U.S. Marine Corps (USMC), fighting as a joint combined force, has been a driving actor in developing information-related capabilities to operate in the information environment. Subsequently, USMC information-related terminology, concepts, and doctrine are innovative, such as the *Marine Air-Ground Task Force Information Environment Operations Concept of Employment* and *MARSOF 2030 - A Strategic Vision for the Future*. In comparison, NATO doctrine is undergoing a paradigmatic review, approaching integration in operations from strategic communications and narrative perspectives.³⁶ Although undergoing regular revision, the Norwegian doctrine recognizes the importance of information in modern warfare, terminology, and concepts still align with classic NATO doctrine.³⁷

Most of the sources discussed so far in this review have been from the United States, thereby lending a need to examine more contemporary European sources. Norwegian academic writing on influence and information in warfare is chiefly centered around adversaries’ use of OIE against Norway or the defense of public society from influence. A series of short articles published in 2014 by the Norwegian Defense Research Establishment (FFI), “Military Information Operations,” offers piecemeal discussions of deception, strategic communication, and public affairs.³⁸ Correspondingly, publications and theses from the Norwegian Defense College focus on the hybrid threat against Norwegian society or cyber-related capabilities.

³⁵ Joint Chiefs of Staff, *Joint Concept for Operating in the Information Environment (JCOIE)*, Joint Publications (Washington, D.C.: U.S. Department of Defense, 2018), https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joint_concepts_jcoie.pdf?ver=2018-08-01-142119-830.

³⁶ NATO, *MC 0422/6 NATO Military Policy for Information Operations*, Working Draft, vol. Information Operations, NATO Military Policy (Brussels: NATO Military Committee, 2018), https://shape.nato.int/resources/3/images/2018/upcoming%20events/mc%20draft_info%20ops.pdf; NATO.

³⁷ Forsvarsstaben, *Forsvarets Fellesoperative Doktrine [Norwegian Armed Forces Joint Operations Doctrine]*, FFOD (Oslo: Forsvarsstaben, 2019).

³⁸ Aasmund Thuv, “An Essay on Strategic Communication, Information Operations and Public Affairs,” FFI report (Kjeller: Norwegian Defense Research Establishment (FFI), January 29, 2014), <https://publications.ffi.no/nb/item/asset/dspace:2380/13-02227.pdf>; Nina Hellum, “Trick or Treat? - samfunnsvitenskaplig refleksjoner rundt militær villedning [Trick or Treat? - Social Science reflections on military deception],” FFI report (Kjeller: Norwegian Defense Research Establishment, January 23, 2014), <http://18.195.19.6/bitstream/handle/20.500.12242/1038/13-02885.pdf?sequence=1&isAllowed=y>; Janne M. Hagen, and Henning A. Sjøgaard, “Strategisk Kommunikasjon som redskap i krisehåndtering [Strategic Communication as a tool in crisis management],” FFI report (Kjeller: Norwegian Defense Research Establishment, March 13, 2014), <https://publications.ffi.no/nb/item/asset/dspace:2403/13-03101.pdf>.

Several master's theses from the U.S. Naval Postgraduate School have looked at the role of OIE in NORSOFF or NAF. Two of these papers looked specifically at the integration of NORSOFF and OIE-related capabilities. Norwegian Navy Commander Jan Berglund's 2004 study focused on network-centric warfare as an alternative for small state defense organizations.³⁹ His thesis exposed the need for NAF to develop specific IAs and the interagency implications of such improvement. Norwegian Navy Lieutenant Commander Kjetil Mellinger's "Strategic Utilization of Norwegian Special Operations Forces" included a comprehensive analysis of—and recommendations for—organizational change in NORSOFF and featured four pieces of advice on implementing IO-related capabilities in NORSOFF.⁴⁰ The appendix of his thesis focused explicitly on integrating PsyOp, CNO, and military deception in NORSOFF.

In summary, the terminology related to information in warfare has evolved in parallel with the expansion of information technology. Information warfare is a mosaic of methods to influence perceptions in social, political, economic, and military systems through technical or content-focused methods. While military target-focused, command and control warfare grew out of the expended potential to affect adversary information systems, IO has long been used as a nebulous term for military operations affecting systems, content, and cognition. A convergence of the various IW forms in today's security environment challenges classical military approaches and terminology and has seen U.S. and NATO doctrine evolve in attempts to adapt. The U.S. Department of Defense's (DOD) introduction to operations in the information environment and NATO's overarching term Strategic Communication signal an increasingly broader understanding of information in the competition continuum that calls for close integration of IRCs and activities across all warfighting domains and environments. Norwegian understanding of OIE is slowly following the same trend. While still predominantly focused on defense,

³⁹ Jan Berglund, "Network Centric Warfare: A Realistic Defense Alternative for Smaller Nations?" (Master Thesis, Monterey, CA, Naval Postgraduate School, 2004), https://calhoun.nps.edu/bitstream/handle/10945/1603/04Jun_Berglund.pdf?sequence=1&isAllowed=y.

⁴⁰ Kjetil Mellinger, "Strategic Utilization of Norwegian Special Operations Forces" (Master Thesis, Monterey, CA, Naval Postgraduate School, 2010), https://calhoun.nps.edu/bitstream/handle/10945/5246/10Jun_Mellinger.pdf?sequence=1&isAllowed=y.

prior studies have made concrete recommendations for developing offensive capabilities of information influence and a network organization of the capabilities. More recent developments in the security environment and allied doctrine have exposed a gap in understanding these implications for NORSOFF.

G. METHODOLOGY AND ORGANIZATION

This thesis is a policy study examining the current Norwegian policies on operations in the information environment and the capabilities of NORSOFF to conduct such operations. An analysis of previously collected data from a Norwegian Defense Research Establishment (FFI) survey on *Information Operations and NORSOFF* supports the research.⁴¹ Based on the findings of this analysis, this thesis makes recommendations for changes in policy, strategy, and capabilities to further the optimal utility of NORSOFF.

A study of policy and strategy establishes the understanding of what role and perspectives influence operations in the information environment play in the Norwegian military and special operations today. The thesis further analyzes the functional capability elements of doctrine, organization, training/education, material resources, leadership, personnel, facilities, and funding (DOTMLPF-F) of NORSOFF from an OIE perspective.⁴² Nevertheless, due to open literature and classification limitations, not all the capability elements can be studied equally, such as material, facilities, and funds. Comparing results from a literature-based analysis and the results of an FFI survey can help to identify possible gaps between the current state and likely requirements of the future operational environment.

This paper is organized into five chapters, supported by one appendix. Chapter I has introduced the context, research question, scope, and methodology. It reviewed critical literature on Special Operations Forces and Operations in the Information Environment. Chapter II analyzes the current policies, strategies, and doctrines that guide the Norwegian

⁴¹ See the appendix for in-depth presentation of the FFI survey and data set.

⁴² Joint Chiefs of Staff, *Manual for the Operation of the Joint Capabilities Integration and Development System*, JCIDS Manual (Washington, D.C.: Joint Chiefs of Staff, 2018), https://jitic.fhu.disa.mil/isg/downloads/Manual-JCIDS_31Aug2018.pdf.

Armed Forces and NORSOF's approach to operations in the information environment. This analysis, combined with the literature review, provides the baseline for assessing the functional capability elements in the following chapters.

Chapter III studies open-source literature on the remaining capability elements, (D)OTmLPP-F. Since the previous chapter analyzed the first functional element doctrine (D), Chapter III focuses on the organization, training and education, leadership, and people (OTLP) with a short note on the funding element (F). Chapter IV presents the results from the FFI survey, which aligns with the DOTLP elements previously studied and compares them to the findings in chapters II and III.

Chapter V concludes the research findings and makes recommendations on how to strengthen the utility of NORSOF and the NAF by addressing capabilities for operations in the information environment. The research of this thesis is not exhaustive on the subject matter; hence, the report makes recommendations for further research.

II. POLICY AND DOCTRINE

Norwegian Prime Minister Jonas Gahr Støre made a noteworthy statement on March 1, 2022, following the Russian invasion of Ukraine. He observed, “A country like Norway with its geographic location and size has to be predictable, recognizable and not create surprises.”⁴³ Støre’s comment is indicative of the overall approach to Norwegian defense policy and strategy, which is enduring, defensive, and aimed at avoiding non-diplomatic confrontation. With that in mind, it is no surprise that policies and strategies proposing the proactive influence on foreign target audiences are not abundant in the Norwegian legislature.

This chapter examines the policies and strategies guiding Norwegian operations in the information environment. Four central policy documents are examined: a parliamentary bill on the long-term plan for the defense sector, two executive white papers on public security, and High North policies. Additionally, the government’s policy for communication is reviewed in the context of military operations in the information environment. After the analysis of those documents, the chapter concludes with analysis from an information perspective of the Norwegian Army and SOF strategies. To offer contrasting SOF perspectives, the Dutch Special Operations Forces (NLDSOF) and U.S. Marine Corps Forces Special Operations Command (MARSOC) strategies are reviewed

A. OIE IN NORWEGIAN POLICY

This section reviews the most recent developments in OIE-related policy. Norwegian OIE policy must be understood from a small state perspective where stability and predictability in foreign relations and the security environment are necessary for cooperation and prosperity.⁴⁴ Subsequently, Norway’s role as an influencer on the world

⁴³ Oda Ertsvåg, “Støre om norsk forsvarspolitik: – Vi skal ikke overraske [Støre about Norwegian defense politics - We are not going to surprise],” *VG*, March 1, 2022, Online edition, sec. News, <https://www.vg.no/i/OrB67k>.

⁴⁴ Regjeringen Solberg, *Melding til Stortinget (2020-2021) - Mennesker, muligheter og norske interesser i nord [Executive white paper (2020-2021)- People, opportunities and Norwegian interest in the North]* (Oslo: Norwegian Ministry of Foreign Affairs, 2020), 20, <https://www.regjeringen.no/contentassets/268c112ec4ad4b1eb6e486b0280ff8a0/no/pdfs/stm202020210009000dddpdfs.pdf>.

stage has relied chiefly on the diplomatic and economic instruments of power, promoting transparent dialog and international institutions. Examples of this line of effort are the Oslo Accords between Israel and Palestinian authorities in the 1990s and, more recently, the Norwegian role in the Colombian peace process. In comparison, the military aspect of foreign and security policy has been, and still is, a balancing act between extended deterrence and reassurance of the former Soviet Union (USSR) and Russia. The two elements are defensively focused, but they are contradictory. One requires active and overt NATO and U.S. presence in Norway.

In contrast, the other requires avoiding misunderstandings and unnecessary escalation in the high north so as not to impede bilateral dialog with Russia.⁴⁵ In light of these trends, the approach to operations in the information environment is understandably defensive. Such operations are subsequently aimed at protecting Norwegian decision-making ability through system defense and information collection for situational awareness.

The global expansion of the information environment and subsequent increase in foreign cyber-threats and influence operations affects Norway's ability to influence decision making.⁴⁶ In the most recent policy documents for the defense sector and public security, the current and future security environment is recognized as challenging the enduring Norwegian approach. Since the complex threats affecting the Norwegian society are cross-sectoral, the Norwegian Government policies for public security and state security overlap. The trinity of state, public security, and high north Norwegian government policy papers from 2020 emphasize the need to increase national resilience and that foreign influence operations necessitate increased protection of the Norwegian public, military, and private information systems, content, and public trust.⁴⁷ Hence the

⁴⁵ Regjeringen Solberg, *Prop. 14S (2020-2021) - Evne to forsvar -vilje til beredskap Langtidsplan for forsvarssektoren [Ability to Defend - Determination to Readiness A Longterm Plan for the Defense Sector]*, 21–22.

⁴⁶ Regjeringen Solberg, 22.

⁴⁷ Regjeringen Solberg, *Meld.St. 5 - Samfunnssikkerhetsmeldingen*; Regjeringen Solberg, *Meld. St. 9 - Nordområdemeldingen*; Regjeringen Solberg, *Prop. 14S (2020-2021) - Evne to forsvar -vilje til beredskap Langtidsplan for forsvarssektoren [Ability to Defend - Determination to Readiness A Longterm Plan for the Defense Sector]*.

three policies corral the defensive perspectives on influence and OIE within the technical, and narrative content and cognitive dimensions.

Another political acknowledgment is the importance of strategic communication should include public diplomacy concept as well as a government's tool to influence domestic and foreign audiences. Again, the policies primarily highlight the offensive potential from an adversarial perspective as an instrument in complex threat projection.⁴⁸ Subsequently, from the Norwegian public security policy perspective, Strategic Communication is viewed as a tool to counter the foreign influence on Norway's population. Hence, as an open democratic society, Norway believes truthful communication is the best countermeasure. The Ministry of Defense has a similar view from the state security perspective. They also recognize the role military operations and activities play in the information environment. While Information Operations get a step-motherly treatment, mentioned twice in 143 pages in *Prop.14S*, the need for further integration of Strategic Communication as part of operational plans and operations is highly emphasized.⁴⁹ Still, the long-term plan does press the intention of strengthening the communication and information operations community. Furthermore, the bill dictates increased staffing and competency for better integration of OIEs into military operations at the operational level towards 2025, together with an increased focus on the CNO's role in military operations.⁵⁰ The remaining information activities, such as electronic warfare (EW) and PSYOP, are fleetingly mentioned, predominately tied to specific platforms' technical capabilities. The current policy raises awareness of improving integration and effective OIEs, mainly as a strategic communications tool.

⁴⁸ Regjeringen Solberg, *Meld.St. 5 - Samfunnssikkerhetsmeldingen*, 101; Regjeringen Solberg, *Prop. 14S (2020-2021) - Evne to forsvar -vilje til beredskap Langtidsplan for forsvarssektoren [Ability to Defend - Determination to Readiness A Longterm Plan for the Defense Sector]*, 73–74.

⁴⁹ Norwegian Ministry of Government Administration and Reform, *Central Government Communication Policy*, English Abridged Digital Edition (Oslo: Norwegian Ministry of Government Administration and Reform, 2009), https://www.regjeringen.no/globalassets/upload/fad/vedlegg/informasjonspolitikk/statkopol_eng.pdf; Regjeringen Solberg, *Meld.St. 5 - Samfunnssikkerhetsmeldingen*, 101.

⁵⁰ Regjeringen Solberg, *Prop. 14S (2020-2021) - Evne to forsvar -vilje til beredskap Langtidsplan for forsvarssektoren [Ability to Defend - Determination to Readiness A Longterm Plan for the Defense Sector]*, 73,98.

The third point regarding OIE in Norwegian security policy is the focus on building good situational awareness and understanding of the threat environment. Lessons identified from the NATO training exercise Trident Juncture 2018 exposed some interagency challenges, such as merging available public and military information to create a national unified situational understanding, proper predictions of situational development, and what measures to implement in crisis situations.⁵¹ The lessons now drive improvements in the collection, integration, analysis, and discrimination of a joint-interagency situational picture between the Defense and public sector.

Although policy and national threat assessments recognize the importance of information and the tremendous impact foreign influence has on the information environment in Norwegian society, little or no focus is given to the military means of offensively countering influence. The proposed way ahead is effective strategic communication enabled by heightened national situational awareness and the closer integration of military operations and activities. The remedy to effect the change is strengthening Strategic Communication and Information Operation staff functions at the operational level, yet little or no mention of increased tactical means of influence is proposed. In sum, Norwegian policies on OIE are defensive and preventive. They focus on building an excellent national situational understanding of the complex threats and using effective Strategic Communication as a strategic and operational countermeasure to ensure stability in a deterrence and reassurance strategy.

⁵¹ Regjeringen Solberg, *Meld.St. 5 - Samfunnssikkerhetsmeldingen*, 63–64; Regjeringen Solberg, *Prop. 14S (2020-2021) - Evne to forsvar -vilje til beredskap Langtidsplan for forsvarssektoren [Ability to Defend - Determination to Readiness A Longterm Plan for the Defense Sector]*, 76–77.

B. OIE IN NORWEGIAN MILITARY STRATEGY

The [Norwegian] Armed Forces have a limited ability to operate in today's information environment.⁵²

Former Norwegian Chief of Defense
Admiral Haakon Bruun-Hansen, 2019

This section reviews Norwegian military strategy's treatment of operations in the information environment and the related capabilities. Unlike the United States, the Norwegian Armed Forces have not published an unclassified military strategy or a specific concept for operations in the information environment. The two primary strategy documents for the NAF, the *Chief of Defense Plan* and *Guard-series* operational plans, describe the military-strategic application of means to produce the specific military effects.⁵³ Due to their classification, accessing them and conducting an unclassified analysis is not possible. However, according to a recent report on strategic military communications, IO and OIE are incorporated to a certain extent in the military-strategic documents.⁵⁴ The report notes a potential lack of operationalization and resourcing of these concepts and capabilities. Without access to primary strategy documents as a substitute, this research instead relies upon the Norwegian Chief of Defense (FSJ) latest quadrennial military-development advice to the Norwegian Ministry of Defense (MoD) from 2019, *A Stronger Defence*.

Additionally, tactical-level strategy documents from The Norwegian Army's concept *Tomorrow's Army* and NORSOCOM's strategy *Norwegian Special Operations Towards 2030* are analyzed. Strategy from the Dutch SOCOM and the USMARSOC are referenced for contrasting perspectives on SOF development priorities for the future. The FSJ's military advice to parliament from 2019, *A Stronger Defence*, is not a strategy per

⁵² Forsvarssjefen, *Et styrket forsvar - Forsvarssjefens fagmilitær råd 2019 [A Stronger Defense - The Military Advice of the Chief of Defense 2019]*, Norwegian digital (Oslo: Forsvaret, 2019), 80, https://www.regjeringen.no/contentassets/8abeb7eedf034b1aaaf1c2b63729f2cd/fmr_2019_utskriftbar-versjon.pdf.

⁵³ From an Ends-Ways-Means methodology, the strategic documents are concerned with the "ways," the application of the resources at hand.

⁵⁴ The Norwegian Army Staff Strategic Advisor, *Project MilStrategic Communication*, 22.

se. Still, it provides a clear indication of the means the NAF desires to use in its operations and engagements. Identifying a gap between stated political ambitions for the NAF and the current status of the force, the white paper recognizes five conditions for the further development of the NAF.⁵⁵ These five conditions are, across the force, to increase volume and capabilities, responsiveness, endurance, and NATO and expeditionary operations, and to reduce vulnerabilities to critical structural elements. Based on these conditions, the white paper presents four alternative approaches, each incrementally increasing based on the previous, and some additional recommendations at the end. The general advice focuses on improving physical capacity, leveraging technology for improved interoperability, robustness, and efficiency in C2 and ISR, and precision fires.⁵⁶

The additional recommendation sections admit to limited ability for OIEs, EW, and CNOs.⁵⁷ Limitations are identified in technological capabilities, organizational and human capacity, and conceptual knowledge. There are clear recommendations for increased human resources at the operational level to integrate and synchronize activities and means to generate more effects in the IE. Both defensive and offensive CNO is seen as integral to future operational effectiveness but requires increased prominence in professional military education to be understood.⁵⁸ The FSJ also highlights the need to develop new offensive electronic warfare capabilities within existing and new units. Like CNO, knowing how to coordinate, integrate, and leverage EW at the operational level and within the force is a nascent skill requiring improvements.⁵⁹

The precise and clear recommendations exemplify an understanding of the benefits to improving the future force ability for OIEs. Most of the additional pieces of advice are introduced for implementation already at the lowest level of recommendation, “D- Focused national defense.” Option D is the chosen recommendation in the previously discussed policy *Prop.St. 14S Longterm plan for the defense sector*. The choice means the more

⁵⁵ Forsvarssjefen, *Et styrket Forsvar*, 26.

⁵⁶ Forsvarssjefen, 38–40.

⁵⁷ Forsvarssjefen, 79–80.

⁵⁸ Forsvarssjefen, 79–80.

⁵⁹ Forsvarssjefen, 80.

comprehensive suggestions that require more significant investments and system development are not prioritized for implementation in this bill.

It is worth noting that the need to improve knowledge of PsyOp at the operational staff level is also mentioned. However, the FSJ does not make any further recommendations for developing specific PsyOp or military deception organizations.⁶⁰ Without additional knowledge about such an omission, this research can only comment on the apparent disconnect between the clear admittance of the lack of PsyOp capability and the prioritization of sizeable physical force structures such as infantry, artillery, helicopters, and a Special Operations Task Group (Maritime).

1. The Norwegian Army Future Operating Concept

The Norwegian Army's future concept, *Tomorrow's Army*, is the first concept fully embracing the U.S. Army TRADOC Multi-Domain Operations (MDO) concept in a Norwegian context. As with the FSJ's *Stronger Defense* white paper, it is not a clear strategy document but rather the Army's ideation for the future use of capabilities in tomorrow's military operations.⁶¹ It stretches beyond the current politically approved long-term plan, embracing an objective to "strengthen the Army's ability of nationwide effort across the whole conflict spectrum."⁶² The conceptual foundation aims at convergence:

The rapid and continuous integration of capabilities across all domains, the electromagnetic spectrum, and information environments that optimize effect to overmatch the enemy through cross-domain synergies and multiple forms of attack, all enabled by mission command and disciplined initiative.⁶³

⁶⁰ Forsvarssjefen, 80.

⁶¹ Lars S. Lervik, *Utviklingskonsept for Hæren - Morgendagens Hær [Development concept for the Army - Tomorrow's Army]*, Digital (Bardufoss: Hærstaben, 2021), 1.

⁶² Lervik, 1.

⁶³ U.S. Army Training and Doctrine Command, *The U.S. Army in Multi-Domain Operations 2028*, TRADOC Pamphlet 525-3-1 (Washington, D.C.: Department of the Army, 2018), vii, <https://adminpubs.tradoc.army.mil/pamphlets/TP525-3-1.pdf>.

Establishing the cross-domain networked architecture is not the goal in and of itself. The ability to converge the right and relevant resources through a networked architecture to achieve desired effects is the core purpose. It is the synergetic integration and collaboration across the network allowing for continuous information exchange that leads to establishing information superiority.⁶⁴

Compared to the Norwegian Land Warfare doctrine (FDLO), in *Tomorrow's Army*, the warfighting function of information activities and the battle of cognitive influence through competing narratives receives much more attention. The Army envisions implementing information activities across the whole competition continuum through flexible C2 and a seamless C4IS system, enabled by a tight integration of the intelligence function and a comprehensive understanding of the IE and cognitive dimension.⁶⁵

While *Tomorrow's Army* clearly states the goal of IAs and integration of OIEs is the cognitive influence of adversaries, it takes a hardware and systems focus. One example is that EW is seen as a decisive function along with the normal warfighting functions. Yet, the concept does not mention the human-focused IA capability PsyOp. It is uncertain whether this omission is unintentional or indicative of a technological-focused staff in the concept development group. Despite the current lack of a credible National PsyOp capability, as with the recommendations at the strategic level, there is a predominant focus on the development of technology and staff functions.

2. Norwegian, Dutch, and U.S. Marine Corps SOF Strategies

In parallel with providing NORSOFF's contribution to the FSJ's 2019 advice to parliament, NORSOCOM also developed a strategy for NORSOFF towards 2030. In the introduction, Major General Gråterud stated: "This strategy will provide direction and a common understanding for how NORSOFF will adapt to future challenges—so that we will remain a reliable and relevant tool for Norwegian interests."⁶⁶ NORSOCOM's overall

⁶⁴ Lervik, *Morgendagens Hær*, 23.

⁶⁵ Lervik, 45.

⁶⁶ Gråterud, *NORSOF 2030*, 3.

vision is to be “a world-class special operations force.” It has set four specific end states to achieve this goal, five ways to reach these goals, and six categories of means to be addressed by the approaches. This section assesses the ends-ways-means for indicators of how NORSOE treats information as part of the future SOF operational environment. The four end states of the strategy are broad and give room for flexibility in development across NORSOE as the operational and security environment evolves. The end states are:

- Develop NORSOE as an integrated combat system.
- Establish NORSOE as a relevant actor across our government agencies.
- Operate as a world-class special operations force.
- Remain an innovative, flexible, and adaptable organization.⁶⁷

All of them are related to the IE, but none addresses it directly from an offensive perspective. Connecting the interagency across Norway and its allies alone drives high requirements and presents vast opportunities within the IE. Similarly, NORSOE as an integrated combat system allows the development of information-relevant capabilities pending the security environment’s context.

The ways to achieve these end states are still broad, focused on developing the human element, technical systems such as C2, and organizational relations.⁶⁸ Sound investments to balance capabilities to needs and close ties to research institutions for rapid, streamlined, and relevant innovation and acquisition are other ways of ensuring success. Again, these avenues of approach are tied to defensive and offensive capabilities in the information environment and give room for flexibility. However, apart from C2 system development for improved tactical command and air ops integration, none is directed explicitly at enhancing OIE capabilities for NORSOE.⁶⁹ The strategy promotes systemic improvement of the NORSOE personnel to better handle complexity and ambiguity in the OE as the premier focus for improving NORSOE’s capabilities in the future.

⁶⁷ Gråterud, 7.

⁶⁸ Gråterud, 9.

⁶⁹ Gråterud, 9.

The strategy introduces six means—personnel, mobility, communication, intelligence, joint fires, and development—as the supporting pillars of the ways. Intelligence and communications offer technical, procedural, and organizational information-focused advancements to enhance content and communication flow.⁷⁰ Similarly, the joint fires pillar is focused on improving connectivity and content input to the processes or support with the direction of joint or organic fires assets. Mobility in the land, sea, and air domains into denied or semi-permissive environments is deemed critical. Nevertheless, mobility in the information domain for offensive information effects is remarkably absent.

The main development goals are robustness, sound judgment, exceptional skills with a SOF mindset, and ethical values.⁷¹ This formulation can be seen as an opportunity for the sub-tactical level to define the needed skills. Alternatively, it is a missed opportunity to clearly state which core skills NORSOF officers, NCOs, and conscripts should develop to improve NORSOF in the future. Based on this paper’s perspective on the importance of the information environment as all-encompassing in the future operational environment, the NORSOF strategy falls short of defining the personnel requirements to succeed with OIEs.

By comparison, the Dutch SOF strategy from 2021, *Netherlands Special Operations Forces 2035* (NLDSOF), is more comprehensive in length and content. The NLDSOF strategy describes the future OE and follows ways and means for NLDSOF to adapt. *NLDSOF 2035* end states are the SOF mindset as the core of the system, being a reliable national and international partnership, and innovation as a foundational element of the force to adapt quickly to the operational environment.⁷² Both strategies see similar solutions for remaining relevant as a strategic tool, an integrated SOF/Combat system.⁷³

⁷⁰ Gråterud, 10.

⁷¹ Gråterud, 10.

⁷² Netherlands Special Operations Command, *Netherlands Special Operations Forces 2035 - Altijd en overal, een strategische handlingsoptie voor special inzet [Netherlands Special Operations Forces 2035: Anytime, Anywhere, a strategic action option for special deployment]*, Digital (The Hague, The Netherlands: Ministrie Van Defensie, 2021), 11.

⁷³ Netherlands Special Operations Command, 27; Gråterud, *NORSOF 2030*, 7.

Conceptually, NLDSOF 2035 aligns with the Norwegian Tomorrow's Army concept, drawing on All/Multi-Domain Operations concepts to view future operations. The Dutch SOF strategy embraces the need for both the force and the personnel to focus more on the effects and actions in the "cognitive dimension" and information environment.⁷⁴ Similar to the Norwegian strategy, but more explicitly, the Dutch describe the interdependence of intelligence, information, and knowing the environment in order to apply the appropriate and necessary actions in and across all domains. Similarly, the contribution to building situational awareness and the joint-fires cycle shows the two organizations playing to their traditional strengths within the core missions of Special Reconnaissance and Direct Action.

Though both strategies focus on the same areas of development and end-states, the Dutch approach goes further in describing and accepting the role of information as a means to influence and be influenced. Hence, the need is to acquire personal and systemic skills and capabilities to defend, exploit, and attack in the information environment.

The U.S. Marine Corps Special Operations Command's *MARSOF 2030* strategy mirrors and contrasts with the two European strategies in many ways. Like the Dutch strategy, the USMC's SOF strategy is more comprehensive. Across the three SOF strategies, the end-states and ways show some reoccurring themes, like developing flexibility in the enterprise; connecting people, partners, and agencies through robust networked C2; and integrating intelligence. However, the MARSOC strategy contrasts with the European strategies in how operations in the information environment are brought front and center in three of the four approaches in the strategy.

Particularly the two end-states, the Cognitive Operator and Combined Arms for the Connected Arena, emphasize the individual and the system need to "leverage national and theater-level capabilities, particularly those within the information environment."⁷⁵ In the Cognitive Warrior pathway, the MARSOC strategy underlines the role of every Marine

⁷⁴ Netherlands Special Operations Command, *NLD SOF 2035*, 30–31.

⁷⁵ Carl E. Mundy III, *MARSOF 2030 - A Strategic Vision for the Future* (Camp Lejeune, NC: Marine Forces Special Operations Command, 2018), 10–18, <https://www.marsoc.marines.mil/Portals/31/Documents/MARSOF%202030.pdf>.

Raider and supporter as a tool of influence on partners and adversaries. Among the vital tasks, a Raider must seamlessly integrate “fighting as adeptly in the information space as the physical.”⁷⁶ The Marine Forces Special Operations Command explicitly presses the integration of all-domain capabilities, mainly information and cyber. Such integration forces a re-examination of MARSOC force composition, the requirements for future specializations within the force, and possible new career tracks.

Through the Combined Arms for the Connected Area pathway, MARSOC aims to leverage the information environment for decisive effects in the future conflict continuum. The strategy unambiguously states, “This demands our units view the tools across information and cyber domains as foundational, not just complementary, and develop facility in combining them as naturally as we combine direct and indirect fires today.”⁷⁷

Further elaboration stresses the need for personal and systemic situational awareness and sense-making in order to skillfully counter-narratives and affects the cognition of relevant actors. In so doing, MARSOC also recognizes the need for organizational, personnel, and equipment investments and changes, introducing what MARSOC calls an “enhanced combat development capability.” To bridge the gap in the short run, leveraging joint and adjacent capabilities is the solution, while progressive incorporation leads the way to a potential systemic habitual change in how to operate in the information environment.⁷⁸

3. Strategy Findings

Norwegian military strategy documents, *A Stronger Defence, Tomorrow's Army*, and *NORSOF 2030*, acknowledge the importance of the information environment to the future force but remain vague on addressing and leveraging the IE. Admitting to limited capabilities in the offensive realm of IE, such as EW, CNO, MD, and PsyOp, drives a defensive and technical focus in the strategies. The future concept of the Norwegian Army

⁷⁶ Mundy III, 17.

⁷⁷ Mundy III, 15.

⁷⁸ Mundy III, 14.

embraces the goal of using narratives and flexible C2 and a seamless C4IS system to achieve cognitive effects but is still leaning heavily on the hardware and system focus. The Norwegian Army makes a point of conducting offensive operations in the IE, in comparison the NORSOFF strategy is not as specific. The strengths of NORSOFF's strategy are its lean and general treatment of the ends and ways. This format is flexible, giving room for easy and rapid adjustment.

The *NORSOF 2030* focus is C2, intelligence integration, contributions to the joint targeting process, and hardware and organizational development of mobility in the physical domains. The strategy is ambiguous in providing leadership direction on leveraging OIEs in an offensive or exploitive role. These issues may be treated more in-depth in classified documents, but they stand in contrast to the Dutch and U.S. MARSOC public strategies in unclassified documents. Both of which are more comprehensive and offer firmer guidance on the need and will to affect relevant actors through the information environment. Though not making concrete references to specific capabilities, the MARSOC strategy goes far in making influence through OIE a keystone offensive capability for the future. NORSOFF may well have the same ambition, but it does not show in its strategy.

C. DOCTRINE

Doctrine should not be and is not designed as a substitute for thought.

—Reid Holden, *A Doctrinal Perspective*,
1988–1998⁷⁹

According to military historian Harald Høiback, “doctrine is an authoritative theory of war that allows for cultural idiosyncrasies,” and military institutions need their doctrine to establish institutional patterns and connections.⁸⁰ Though the study of doctrine may not directly lead to innovation, it may serve as a basis for improvisation, adaption, and

⁷⁹ Reid B. Holden, *A Doctrinal Perspective*, 1988–98, Occasional Paper, No. 33 (Camberly, Surrey: Strategic and Combat Studies Institute, 1998), 13.

⁸⁰ Harald Høiback, “Chapter 8 What Is Doctrine,” in *Contemporary Military Innovation*, ed. Dima Adamsky and Kjell I. Bjerga, 1st ed. (London: Routledge, 2012), 34–35.

expansion of thought.⁸¹ This chapter assesses NATO, U.S., and relevant Norwegian doctrine tied to both the information sphere and special operations to understand the current baseline, pattern, and connections. The three doctrinal collections have different perspectives and definitions on operations involving influence, information, and special operations. NATO and U.S. doctrines have evolved significantly over the past ten years and, to some degree, converge while the Norwegian joint doctrine is trailing the NATO revision cycle.

1. NATO Allied Joint Doctrine

NATO doctrine has undergone substantial revision over the past seven years, finalizing the process of harmonizing understanding of and operations in the IE to the reality of the operational environment. This report examines study drafts of the *AJP-3.10 Information Operations* and *AJP-10 Strategic Communication*, while the 2009 version of *AJP-3.10* is used as a reference to contrast the development. The most recent revision of *AJP-3.5 Special Operations* is used to assess the linkage between the communication-driven doctrines and special operations.

a. AJP-10 Strategic Communication and AJP-3.10 Information Operations

Triggered by a reckoning in the understanding of IE's importance in today's global security environment, the NATO Alliance started a policy revision process in 2017. To implement NATO's evolved understanding of the IE, shown in Figure 1, requires subsequent changes in the NATO Command Structure (NCS), Force Structure (NFS), and doctrine to fully integrate information and communication in all operations and missions.⁸² As a result, NATO decided to incorporate all information and communication capabilities in the Communications Directorate (J-10) within HQs and formations under Allied Command Operations (ACO).⁸³

⁸¹ Høiback, 35.

⁸² North Atlantic Military Committee, *MC 0628 NATO Military Policy on Strategic Communications*, MC 0628 (Brussels: NATO, 2017), 3.

⁸³ Markus Kneip, "NATO Policy on Strategic Communication" (Supreme Headquarters Allied Powers Europe, August 14, 2017), 1.

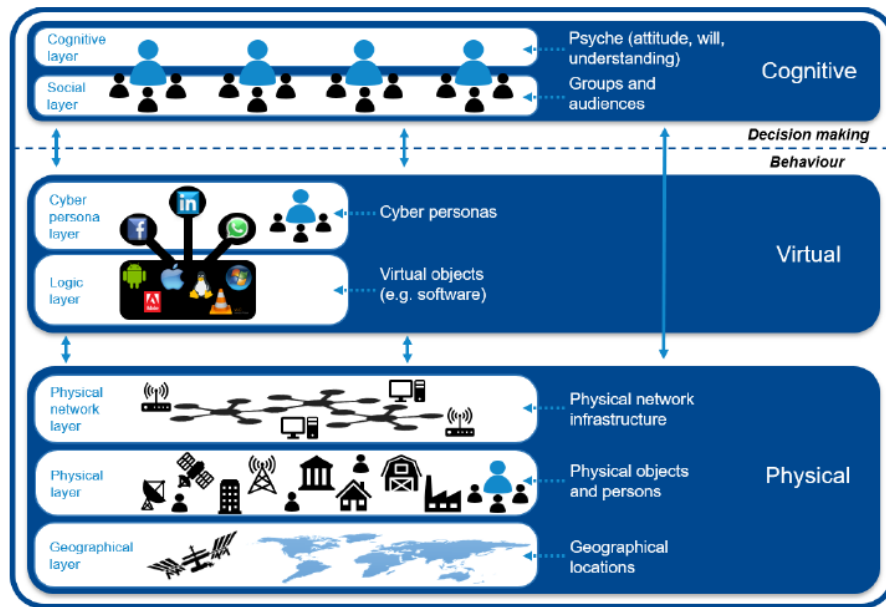


Figure 1. NATO's understanding of the information environment.⁸⁴

The change signals completion of a shift from information used with an effects focus on physical conflict to an effect-based, behavior-centric, and narrative-driven approach for the influence of target audiences and achieving end-states across the entire competition continuum.⁸⁵ The *AJP-10 Strategic Communication*, a new keystone doctrine, is developed to cement the new policy. Ensuing revisions have also been initiated for the NATO Information Operations, Psychological Operations, and Military Public Affairs doctrine. This development can be seen as an effort to prevent strategic, operational, and potentially tactical information fratricide (IF), the impediment of NATO objectives or friendly forces caused by uncoordinated or intended effects in the IE.⁸⁶

The new, soon to be ratified, *AJP-10 Strategic Communications* doctrine's key tenet is the Strategic Communication mindset and the merger of communication and information staff functions in communication directorates.

⁸⁴ Source: NATO, *AJP-10 Allied Joint Doctrine for Strategic Communications*, A v. 1 Study Draft 2, Allied Joint Publications 10 (Brussels: NATO Standardization Office (NSO), 2020), 5.

⁸⁵ NATO, *AJP-3.10 Allied Joint Doctrine for Information Operations*, B v1-Study Draft 2, Allied Joint Publications 3–10 (Brussels: NATO Standardization Office (NSO), 2021), 7–8.

⁸⁶ Paul, *Information Operations Doctrine and Practice - A Reference Handbook*, 53.

The Strategic Communication mindset understands military forces (activities and capabilities) are an effective means of communication in themselves and that all military activities across the full spectrum of joint action and its joint functions should be conceived, planned, and executed mindful of their cognitive effects.⁸⁷

The J10 directorate's primary function is to bridge political-military strategy and tactical actions, enabling commanders' actions and activities through analysis, planning, and assessment. Establishing a J10 function means moving the command relationship of Information Operations and Psychological Operations staff functions from the Operations Division and structurally organizing them with Public Affairs. In so doing, offensive and defensive information functions are combined with the functions producing black and white information, leading, in the words of Christoffer Paul, to "a mix of strange bedfellows."⁸⁸ However, NATO's approach is meant to ensure a common understanding of IE across the influence and communication functions, thereby mitigating undesired outcomes and control of truthful and deceitful communication. It also allows for a content-system split between activities and capabilities in a C2 perspective on influence.

Within the J-10 Communication Directorate, the three staff functions all have roles in all the four components of the Strategic Communication process—analyze, plan, integrate and assess. Public Affairs (PA) is both a function and a communication capability. The staff function is responsible for guidance on public perceptions management through timely, truthfully coordinated media activities, analysis of audiences, internal communication, outreach, and community relations.⁸⁹ In other words, the PA function is white content-focused, regardless of the target audience. PsyOp is similarly both a staff function and a communication capability. As a staff function, PsyOp's responsibilities are audience analysis, all aspects of influencing target audiences, assessment of cognitive effectiveness, and employment of the PsyOp force elements (FE) as communication capabilities.⁹⁰

⁸⁷ NATO, *AJP-10 Study Draft 2*, 8.

⁸⁸ Paul, *Information Operations Doctrine and Practice - A Reference Handbook*, 122–23.

⁸⁹ NATO, *AJP-10 Study Draft 2*, 40–41.

⁹⁰ NATO, 40–41.

Lastly, the Information Operations function is responsible for developing the planning products supporting J3 and J5 staff branches to integrate all information and communication activities.⁹¹ In addition, the role leads the information environment assessment (IEA) process, engagement, and contribution to the joint targeting process to ensure coherence between the operational and strategic narrative and the applied effects. More than previously, the new doctrine's goal is to achieve cognitive effects, which the IO staff function seeks to create through the integration of activities, not necessarily specific capabilities. In addition to the communication capabilities PA and PsyOp, *AJP-3.10 Information Operations* underlines that any military capability can deliver IAs; some capabilities and techniques are more likely to be integrated as information activities:⁹²

- Cyber Network Operations
- Electronic Warfare
- Civil-Military Cooperation
- Military Deception
- Physical Destruction
- Operational Security
- Emerging and Disruptive Technology
- Engagement – deliberate and dynamic at the strategic, key leader, and soldier level
- Presence Posture and Profile of Forces, including the standards of behavior and conduct of the troops

Integration of the activities just mentioned occurs through the essential relation to the J3 Operations staff and the Joint Effects Branch (JTB). The JTB is responsible for the targeting function. All information activities are deconflicted and synchronized with the broader targeting process to ensure the successful alignment of activities in the engagement space.⁹³ The IO function provides target audience analysis and IEAs to the joint targeting cycle and receives approval of nominated valid targets. Hence the IO staff is closely linked to the JTB and a central component of the joint targeting cycle. Due to the custodian role

⁹¹ NATO, 39.

⁹² NATO, *AJP-3.10 (2021-Draft)*, 16–22.

⁹³ NATO, 29.

of the commander's narrative, the J10 and IO functional staff are regular participants on all boards and working groups and operational planning teams.

NATO military policy has changed the effects-based operations approach by implementing a behavior-centric, narrative-driven approach to all activities and communication. By elevating communication and information to its function at the operational level, NATO is essentially establishing a coordinating authority for OIEs. Subsequently, a new keystone doctrine, *AJP-10 Strategic Communication*, was created. It now incorporates all information and communications functions in one directorate to centralize synchronization and integration of communication and influence. The tight linkage to the JTB and joint targeting cycle recognizes non-lethal fires' relevance and expands the JTB's relevance in the lower part of the conflict continuum. Through the J10 Communication Directorate, black and white information is under the same command to promote cohesion in the messaging content. NATO recognizes that every activity is an information effects generator. At the same time, it also acknowledges that some capabilities are more suitable to generate cognitive and information effects and thereby, to a degree, separate the system-focused capabilities from the content-oriented ones.

b. AJP-3.5 Special Operations

The NATO IO doctrine and *AJP-3.5 Special Operations* do not specify special operations or SOF as specific IO support activities or capabilities. However, like information activities coordinated by the IO function, special operations often require early employment against high payoff targets, often preemptively and under central control but decentralized execution.

Special operations forces are, according to *AJP-3.5*, inherently a strategic asset. They conduct primarily joint operations through direct or indirect approaches, independently or in a supporting/supported role in sensitive environments to attain strategic or operational objectives.⁹⁴ Due to many of these characteristics and the sensitive nature of special operations with the potential for high-value output in relation to the size, SO and

⁹⁴ NATO, *AJP-3.5 Allied Joint Doctrine for Special Operations*, B v1, Allied Joint Publications 3–5 (Brussels: NATO Standardization Office (NSO), 2019), 1–2.

SOF are potent Strategic Communication tools. In other words, even before operations start, their mere presence, profile, and posture create effects in the information environment and influence the mindset among various audiences. From the Strategic Communication perspective, a thorough understanding of SOF employment on the IE is critical. Equally, for SOF, comprehensive knowledge of the IE to accurately determine risks and opportunities within the IE and OE is essential for effective operations and generating the proper effects.⁹⁵

AJP-3.5 identifies three special operations core tasks, Direct Action (DA), Special Reconnaissance (SR), and Military Assistance (MA). The tasks are executed as special operations activities, unilaterally against strategic objectives or in support of conventional forces against operational level targets of high value. To achieve this, SOF employs a comprehensive approach to planning, considering various military and non-military means to accomplish the mission and tight integration of the joint targeting process.⁹⁶ Similar to the IO planning process, for the best output in the target development process, precise and timely intelligence is crucial. Proper assessment of both the target and its entire environment enables better weapon-to-target matching to achieve the desired physical and cognitive effects.

Successful special operations rely on proper synchronization and integration of activities and effects. To SOF, the ability to liaise and build networks combined with comprehensive planning processes are force-multiplying characteristics. Pending the type of mission, SOF may be in a supported or supporting role to conventional forces. Irrespective of the command relation, early identification of mission requirements enables capability tailoring and development of relationships between capability providers to successful synchronization to maximize effects.⁹⁷

Given SOF and SOs high Strategic Communication value, operational security (OPSEC) is an important activity and process in SOs. OPSEC is the proactive process and

⁹⁵ NATO, 36.

⁹⁶ NATO, 33–34 & 36–37.

⁹⁷ NATO, 27.

activity of denying critical information and indicators to adversaries, thereby potentially improving the SOFs' survivability and mission success.⁹⁸ Operational security is not unique to SOs. Still, the close interplay between OPSEC, intelligence, and information activities such as MD or PsyOp make SOF both a consumer of and contributor to IAs in offensive and defensive roles.

The NATO Special Operations doctrine identifies SOF and SOs as sensitive and influential Strategic Communication tools that need close integration with the Intelligence, Information Operations, and Joint Targeting functions. Special operation forces are tasked with achieving high-value effects against strategic and operational objectives via lethal or non-lethal effects by conducting SR, DA, and MA missions. By nature, special operations are joint, requiring close synchronization and integration with conventional and interagency forces while at the same time relying heavily on OPSEC to enable effective operations. This makes SOF consumers and contributors to information operations through comprehensive planning processes, detailed target development, and agile execution.

2. U.S. Joint Doctrine

Much like the NATO doctrine, U.S. joint and tactical level doctrine has evolved its understanding and recognition of the importance of the information environment in modern warfare. The *2018 Joint Concept for Operating in the Information Environment (JCOIE)* conceptualizes how Joint Forces is to amalgamate information and operations in its activities to better achieve strategic objectives.⁹⁹ The concept focuses on four central capability requirement areas needed for implementation: understanding all aspects of the IE, describing integration options between information and physical power, capabilities to execute the options, and institutionalization of the integration. These requirements are interpreted differently by the different U.S. armed forces branches and the origin for the development of new concepts and revision of doctrine, most of which are ongoing. Hence, this study concentrates on the current version of the U.S. Joint Doctrine.

⁹⁸ NATO, 5; NATO, *AJP-3.10 (2021-Draft)*, 18–19.

⁹⁹ Joint Chiefs of Staff, *Joint Concept for Operating in the Information Environment (JCOIE)*, 1.

By introducing the seventh joint function, Information, the U.S. DOD seeks to remedy the integration and synchronization challenge of information power and challenge existing mindsets. The function resembles the new Strategic Communication J10 function in NATO at the operational level. Information function “encompasses the management and application of information and its deliberate integration with other joint functions to influence relevant actors’ perception, behavior actions and human or automated decision-making.”¹⁰⁰ The definition of the Information function is broad enough to include communication and influence towards own and external audiences; however, unlike the NATO definition, Strategic Communication and PA are seen as only related activities. As a subset of the Information function, Information Operations is a staff function whose task is to

integrate employment, during military operations, of Information Related Capabilities (IRC) in concert with other lines of operations to influence, disrupt, corrupt or usurp the decision making of adversaries and potential adversaries while protecting our own.¹⁰¹

During the recent revision, the IO staff function has become more similar to the NATO IO staff function. Previously, *J.P. 3–13* categorized a list of core IO capabilities. However, the latest revision takes a broader view and accepts that all activities can generate cognitive effects. It also emphasized that some inherent IRCs “serve as tools, techniques, or activities using data or knowledge to create effects and operationally describable conditions within the physical, informational and cognitive dimension.”¹⁰² These IRCs are:

- Strategic Communications
- Public Affairs
- Civil Military Cooperation (CIMIC)
- Cyberspace Operations
- Information Assurance

¹⁰⁰ Joint Chiefs of Staff, *Doctrine for the Armed Forces of the United States*, 2017 Change 1, Joint Publications 1 (Washington, D.C.: Department of Defense, 2013).

¹⁰¹ Joint Chiefs of Staff, *Information Operations*, 2014 Change 1, Joint Publications 3–13 (Washington, D.C.: Department of Defense, 2012), ix.

¹⁰² Joint Chiefs of Staff, I–4.

- Space operations,
- Military Information Support Operations (PsyOp)¹⁰³
- Intelligence
- Military Deception
- Operational Security
- Special Technical Operations – a separate activity with crossover potential.
- Joint electromagnetic spectrum operations (JEMSO) – E.W. and Electromagnetic spectrum management (ESM)
- Key Leader Engagement (KLE)¹⁰⁴

Like its NATO counterpart, the IO function has no direct ownership of the capabilities but the integration of desired effects in the appropriate dimension through actions in the multiple domains.

The inclusion of Strategic Communication and PA as IRCs may indicate a convergence of the influence and communications objectives, requiring closer synchronization and deconfliction to align strategic guidance with effects. However, unlike the NATO doctrine’s establishment of a separate Communication Directorate, the U.S. doctrine IO function still resides in the J-3 operations department as of this research. Pending commanders’ and staff’s understanding of the role of the IE and the IO staff function, the U.S. construct may lead to the integration of IRCs becoming a secondary effort despite several doctrinal volumes.¹⁰⁵

An enduring challenge within U.S. Information doctrine and practice is the separation of content and systems-related capabilities. As of the current organization and doctrinal approach, the IO staff function is charged with integrating both sets of capabilities. These capabilities are spread out across the joint force at large. The U.S. Army Special Operations Command (USSOCOM) has one core activity: information content and

¹⁰³ The U.S. DOD introduced the term military information support operations (MISO) in 2010, because of expanded responsibilities within PSYOP (U.S. terminology) and the negative public perception of the term. However, the term MISO has caused confusion, and the term PSYOP is still in use in the military community and is the predominant identity marker for the professionals in the MISO units.

¹⁰⁴ Joint Chiefs of Staff, *Information Operations*, II-5–13.

¹⁰⁵ Isaac Porche et al., *Redefining Information Warfare Boundaries for an Army in a Wireless World* (Santa Monica, CA: RAND, 2013).

human target focused, MISO (PsyOp).¹⁰⁶ MISO (PsyOp) is the primary IRC focused on human targets to influence emotions, motives, reasoning, and alter behavior in favor of the source objectives.¹⁰⁷ The U.S. Special Operations is in a unique position as a contributor to the Information function due to the SOF community's organic capability and the DOD assigned responsibility for developing and integrating MISO (PsyOp). This study is not designed to study the role of MISO in USSOCOM in-depth but recognizes the distinction between the United States and smaller NATO members in how and where PsyOp

3. Norwegian Joint Doctrine

Norwegian military doctrine has evolved from an educational capstone towards a focused manual of principles over the past 20 years since the first publication of the Joint Operational Doctrine (FFOD) in 2000 and subsequent revisions. Subsequent branch-wise doctrines for land, air, and maritime operations published in the early to mid-2000s have lagged. The Maritime Operations Doctrine (FDMO) was first revised in 2015, closely followed by the Air Operations Doctrine (FDL) in 2018, while an updated Land Warfare Doctrine (FDLO) is set for publication sometime in 2022. With the recent addition of an Intelligence doctrine, this quartet showcases the full extent of operational doctrine for the Norwegian Armed Forces, which are largely founded upon NATO doctrine with some national adjustments.¹⁰⁸

The limitations of NAF capabilities and capacities lead to a reliance on NATO functional doctrines to provide the fundamental principles for military action to reach objectives outside of the three physical legacy domains.¹⁰⁹ Smaller descriptive sections of the functional areas are usually included in the Norwegian doctrines.

The foundational capstone doctrine FFOD published in 2000 is the most extensive description of Information Operations over the four revisions. The document categorized

¹⁰⁶ Joint Chiefs of Staff, *Special Operations*, Joint Publications 3–05 (Washington, D.C.: Department of Defense, 2014), II-14–16.

¹⁰⁷ Joint Chiefs of Staff, II-14.

¹⁰⁸ Forsvarsstaben, *FFOD - 2019*, 16–18.

¹⁰⁹ NATO, *NATO Glossary of Terms and Definitions (English and French)*, 2021st ed., AAP-06 (Brussels: NATO Standardization Office (NSO), 2021), 44.

IO close to a warfighting function and ahead of the joint functions due to the political and military-strategic considerations IO entails.¹¹⁰ However, FFOD 2000 is also the most focused on the armed conflict area of the competition spectrum, aligning with Waltz's 1998 IO taxonomy.¹¹¹ Counter Command and Control Warfare (C2W) stands at the core of IO's military purpose, aimed at disruption, destruction, or interference of target C2 systems while protecting their own systems and information. It delineates the classic categorization of offensive and defensive through the four orthodox actives of OPSEC, PSYOP, EW, MD, and physical destructions, but leaves out Computer Network Operations (CNO).¹¹² FFOD 2000 underlines three key aspects of this study. The first two are early and comprehensive integration of IO in operations planning and the targeting process. Thirdly, an application of C2W in the lower end of the competition continuum to allow for timely planning, implementation, and execution can be effective in limiting or containing a situation and preventing escalation into armed conflict¹¹³

The 2007 revisions of FFOD delineate a change in the Norwegian doctrinal approach expanding the maneuverist thought to include effects and network-based thinking.¹¹⁴ This shift involves developing the understanding of Information Operations, moving away from the C2W focus toward a greater purpose of influencing the target audience's cognitive processes of perception, will, and cohesion, and information systems. The 2007 version, like its predecessor, explains and underlines characteristics of Information Operations in relation to other aspects of joint operations and expands the taxonomy for the reader. Notable additions are the definitions of the core IO activities, Counter Command, OPSEC, and influence, through the five IO elements with the introduction of CNO and physical destruction.¹¹⁵ Furthermore, a clarification that Civil-

¹¹⁰ Forsvarets stabsskole, *Forsvarets fellesoperative doktrine [Norwegian Armed Forces Joint Operations Doctrine]*, vol. B (Oslo: Forsvarets overkommando, 2000), 19.

¹¹¹ Forsvarets stabsskole, B:71–79; Waltz, *Information Warfare - Principles and Operations*.

¹¹² Forsvarets stabsskole, *FFOD 2000 - Del B*, B:71–79.

¹¹³ Forsvarsstaben, *FFOD - 2019*, 73.

¹¹⁴ Forsvarets stabsskole, *Forsvarets fellesoperative doktrine [Norwegian Armed Forces Joint Operations Doctrine]* (Oslo: Forsvarsstaben, 2007), 4.

¹¹⁵ Forsvarets stabsskole, 136.

Military Cooperation (CIMIC) and PA are related but distinctly different activities from IO. This distinction underlines the dichotomy of how communication to different target audiences must be carefully weighed to avoid detriment to integrity and legitimacy in friendly populations. Therefore, it is paradoxical that the same document and subsequent revisions broadly define the target audience of IO as an adversary, third party, allies, and the home audience.¹¹⁶ Nuancing the targeting criteria for PsyOp, NATO defines it as the politically approved audiences. The NATO definition bridges the gap to the more declaratory ideal in U.S. doctrine, which explicitly states IO is an outward-oriented means of influence. This ideal reflects the American perspective that “We don’t Psyop or deceive the home audience.”

FFOD 2014 illustrates the most significant shift in the doctrine’s purpose and design over its existence. With the removal of military theory and the theoretical operational methods and an emphasis on narrowing of focus toward leadership, C2, operational capabilities, and joint functions, the doctrine only describes the basic qualities and characteristics of concepts like IO.¹¹⁷ There is room for debate on whether the 2014 edition reduces the overall conceptual focus on cognitive influence or expands the understanding through the introduction of new elements and more focused descriptions of activities.¹¹⁸ A doctrinal definition of IO as a staff function at the operational level is introduced per NATO AJP 3.10:

INFOOPS is a coordinating function that synchronizes all military information activities that seek to affect the will, understanding, and

¹¹⁶ Forsvarets stabsskole, 136; Forsvarsstaben, *Forsvarets fellesoperative doktrine [Norwegian Armed Forces Joint Operations Doctrine]* (Oslo: Forsvarsstaben, 2014), 141; Forsvarsstaben, *FFOD - 2019*, 153.

¹¹⁷ Forsvarsstaben, *FFOD 2014*, 8,95.

¹¹⁸ There is a distinct difference between FFOD 2007 and 2014 editions when it comes to direct references to terminology such as cognitive, psychological, and information dimensions, effects, operations, and activities. As an educational document focused on network and effects-based operations, the 2007 edition is littered with references throughout the document (approximately 95). This underlines a perhaps newfound understanding of the importance of non-lethal influence in the lower end of the competition spectrum because of the NAF’s decade-long low intensity and COIN operations. The 2014 edition, on the other hand, sees a stark reduction in the same type of references. A meager 39 references in comparison to the 95 of the 2007 edition, along with a less conceptual educational focus, which leaves the reader wondering about the divergence between the described operational environment and the military ways and means available.

capacities of potential adversaries, adversaries, and other target groups. INFOOPS is a natural and important part of all military operations.¹¹⁹

Notable changes and introductions to FFOD 2014 include the introduction of Strategic Communications (Strategic Communication) as a concept for coordinated and adapted use of communications activities and capabilities to support policy, operations, and activities.¹²⁰ The doctrine highlights the dichotomy of Strategic Communication as a means to reach friendly, neutral, and adversary audiences. The need to closely align political and military-strategic goals with the Operational level means underlines IO and PA as two central tools to do so.¹²¹ A second change is the elaboration of the importance of CNO, with the split of responsibilities for offensive and defensive activities between the Norwegian Intelligence Service (NIS) [offensive] and the NAF Cyber Defense force (CYFOR) [defensive], as shown in Figure 2. Third is the expansion to include Presence, Posture & Profile (PPP), Key Leader Engagement (KLE), and Information Security (INFOSEC) as elements to execute the three core IO activities.

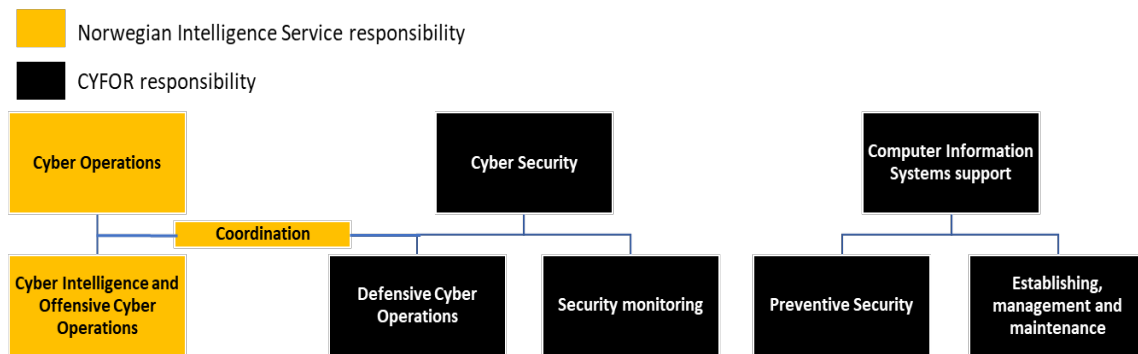


Figure 2. Norwegian cyberoperations organization.¹²²

¹¹⁹ Forsvarsstaben, *FFOD 2014*, 153–54.

¹²⁰ Forsvarsstaben, 61–62.

¹²¹ Forsvarsstaben, 61.

¹²² Adapted from Forsvarsstaben, *FFOD - 2019*, 127.

The latest version of FFOD from 2019 pivots further in focusing on the NAF's national and NATO alliance defense role, focusing on interoperability and the total defense dimension.¹²³ Further development is the recognition of the digital dimension as its domain within the operational environment. By adding the cyber domain to the non-physical portions of the battlefields, the Norwegian understanding of the operational environment extends to the physical domains of air, maritime, and land domains, and the non-physical cyber domain, information environment, and electronic, magnetic spectrum.¹²⁴ Additionally, the space dimension is incorporated into the air domain, noting its importance in intelligence, surveillance and reconnaissance, and C2 (see Figure 3).¹²⁵

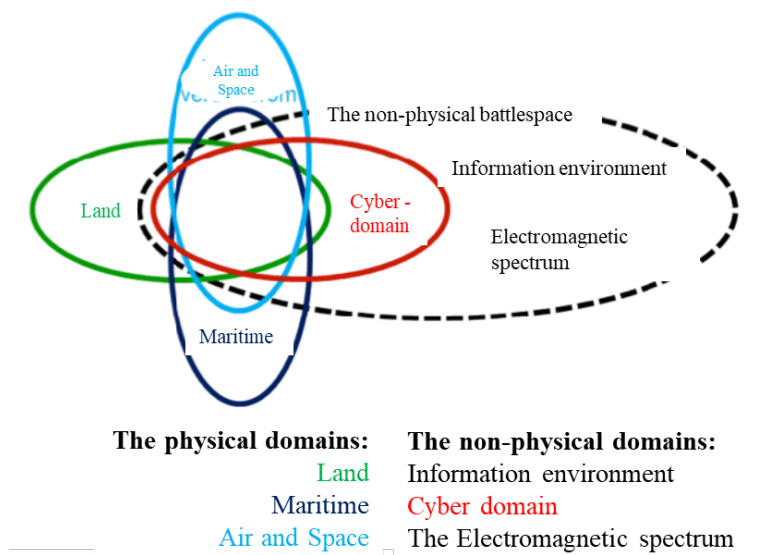


Figure 3. Illustration of the elements in the operational environment.¹²⁶

¹²³ Norwegian policy and doctrine define the Total Defense Concept as the mobilization of society's combined resources in the defense of the nation in crises and war. NATO's definition is very similar: An official Government strategy which encompasses a whole of society approach to protecting the nation against potential threats. Eric Wendt, *Comprehensive Defense Handbook*, A-1, vol. 2 (Brussels: NATO Special Operations Headquarters (NSHQ), 2020), 11. This paper uses Total Defense and Comprehensive Defense interchangeably, with primacy on the Norwegian terminology.

¹²⁴ Forsvarsstaben, *FFOD - 2019*, 21.

¹²⁵ Forsvarsstaben, 121–22.

¹²⁶ Adapted from Forsvarsstaben, 22. Figure represents the relation between elements only; size of elements does not imply their importance.

By and large, the document does not expand notably on the IO and Strategic Communication concepts.

4. Norwegian Domain-Specific Doctrines

The first Norwegian domain-specific doctrines were published in 2002 and followed the form and purpose of the Joint Operations Doctrine in framing military operations in principles and educating the practitioners. The Maritime and Air doctrines were near devoid of information operations or non-lethal cognitive effects references, and were instead centered around electronic warfare capabilities contributions and the need for close integration.¹²⁷ Like FFOD 2000, the FDLO 2002 elaborated the basic concepts of IO, four central elements of PsyOp, EW, MD, and OPSEC, making it C2W focused.¹²⁸ IO and EW as non-lethal fires effect generators were included and underlined as the primary means in the lower end of the competition spectrum.¹²⁹ It is not unlikely that the closeness between humans in land warfare lends to a greater emphasis on influencing the cognitive dimension. Another notable difference between the Land and Maritime domains is the Navy's more detailed focus on the role of special operations in naval warfare. Compared to the meager paragraph mentioned in the FDLO, the Navy delineates the importance of SOF as a force multiplier.¹³⁰

The new version similarly follows the trends of the revisions of the Norwegian Defense Joint Doctrine. All three doctrines include more influence-related content and reference the need to integrate or coordinate both lethal and non-lethal fires in affecting the enemy. As with the earlier versions, the Maritime and Air doctrines are limited in mentioning information operations and cognitive effects. However, both underline the need for coordination or integration. EW is seen as the primary capability, with only a mention

¹²⁷ Forsvarets stabsskole, *Forsvarets doktrine for luftoperasjoner [NAF Doctrine for Air Operations]*, 1st ed. (Oslo: Forsvarets overkommando, 2002), 70; Forsvarets stabsskole, *Forsvarets doktrine for Maritime Operasjoner [NAF Doctrine for Maritime Operations]*, 1st ed. (Oslo: Forsvarets overkommando, 2002), 67.

¹²⁸ Forsvarets stabsskole, ed., *Forsvarets doktrine for Landoperasjoner [NAF Land Warfare Doctrine]*, 1st ed. (Oslo: Forsvarsstaben, 2004), 147–52.

¹²⁹ Forsvarets stabsskole, 57–58.

¹³⁰ Forsvarets stabsskole, *FDMO 2002*, 91–96; Forsvarets stabsskole, *FDLO 2004*, 77.

of the ability for leaflet drops by the Airforce in a byline.¹³¹ The Navy is slightly more generous, claiming a contribution to the three core IO activities and most of the elements, except military deception.¹³²

The unpublished FDLO incorporates the latest changes from NATO doctrine, referring to the Information Activities as driven by a narrative focus and supporting strategic objectives.¹³³ Unlike the previously mentioned *Tomorrow's Army* concept, the FDLO draft does not expand on the Army's role in the various activities and elements. The doctrine states vaguely that a comprehensive understanding of the information environment and cognitive dimension is needed to have a proper problem understanding.¹³⁴ The draft doctrine follows the concept document describing IO activity implementation. Through proposed flexible C2 and a seamless Army C4I information network, the Army aims to achieve timely and accurate effects while connecting strategic objectives to operational and tactical means in the cognitive domain.¹³⁵

D. CHAPTER FINDINGS

After reviewing three different sets of doctrine, the research finds some baselines, patterns, and connections worth noting for improving NORSOFF's ability to conduct OIE.

Norwegian Joint Doctrine has evolved from a C2 warfare perspective on information toward a more nascent multi-domain operations perspective. It has yet to reach the maturity of the recent NATO revision, as it is still looking at information operations staff functions as a primarily operational level function. The integration and application of military information activities and influence across the conflict continuum are not well described, leaving an impression that the 2019 doctrine still has a C2W mindset.

¹³¹ Forsvarets Høgskole/Luftkrigskolen, *Forsvarets doktrine for luftoperasjoner [NAF Doctrine for Air Operations]*, 2nd ed. (Oslo: Forsvarets høgskole, 2018), 60,66.

¹³² Forsvarsstaben, *Forsvarets doktrine for maritime operasjoner [NAF Maritime Operations Doctrine]*, 1st ed. (Bergen, Norway: Forsvarsstaben, 2015), 148.

¹³³ Hærens Våpenskole, *Forsvarets doktrine for landoperasjoner studieutkast 1–2 [NAF Doctrine for land operations studydraft 1–2]*, Study Draft 1 (Rena, Norway: Unpublished, 2022), 54.

¹³⁴ Hærens Våpenskole, 54.

¹³⁵ Hærens Våpenskole, 54.

For NORSO, it is worth noting that both NATO and the United States are increasingly merging and promoting the Information and Strategic Communication functions as custodians of the overall integration of information-related activities and capabilities. The convergence of black and white communications under one function offers closer synergy in narrative control and development opportunities from a NATO perspective. In contrast, NATO members retain tight national control of technical and offensive cyber operations capabilities, exemplified by the Norwegian responsibility delegated to the NIS. As the strategic assets with high strategic communications value, NORSO must remain cognizant of its profile and not defer all mission and activities profile and posture assessments to higher echelons.

The research shows several commonalities between the essential factors of special operations and operations in the information environment. Both IO and SO place a premium on precise target analysis (human, technical, and environmental) through intelligence. Furthermore, the joint targeting cycle is essential for SO and IO to match means and ways to create effects through indirect approaches that may require multiple activities to generate desired effects.

The NORSO's strategy for 2030 provides a good starting point for initiating cost-effective improvements to increase OIE ability. Given the need to remain interoperable with NATO and U.S. forces in expeditionary and national defense roles, NORSO must prioritize acquiring an in-depth understanding of both doctrinal sets. The challenge will be integrating and utilizing Norwegian assets and interagency capabilities pending the evolution of the domain-specific and joint approaches to information integration. For NORSO, there are only opportunities for leading the way in innovating, implementing, and executing tighter integration of information-specific activities and capabilities in special operations.

III. CAPABILITY ELEMENTS ANALYSIS

This chapter evaluates the functional capability elements of NORSOFF in relation to operations in the information environment. The chapter looks at information-related capabilities and activities broadly and, where possible, limits the scope of offensive activities in EW, CNO, PSYOP, and MD. Other related activities like OPSEC, KLE, and physical destruction are already a part of NORSOFF capabilities or activities. Furthermore, the functional capability elements, materiel, and facilities are not studied in-depth due to the sources' classified nature or the lack of source material. This omission does not impact the research notably as its primary focus is on the human, organizational, and policy elements. Chapter II reviewed element doctrine; hence, this chapter starts with the organization element.

A. ORGANIZATION

This section looks at the organization of information-related capabilities and the information staff functions in the Norwegian Armed Forces and the NORSOFF organization, as shown in Figure 4. The findings in this section indicate differences between the information and NORSOFF structure, favoring decentralized integration of most IRCs.

1. Norwegian Armed Forces Organization of Information Related Staff and Capabilities

There is not much academic or unclassified official research on the Norwegian military's organization of information functions, activities, or capabilities. What is available is predominantly from the Norwegian Defense Research Establishment (FFI) and undergraduate/graduate theses from the Norwegian Defense University College (NDUC). As mentioned in the chapter on policy, Norwegian public research predominantly centers on the defensive or counter-influence aspect of information, mainly concerned with Russian influence. Most research studies only one, or part of one capability or activity in-depth, such as offensive Cyber or PsyOp, while touching on their integration and synchronization with other activities.

Lilly Muller describes the same challenge of limited unclassified sources in her policy brief “Military Offensive Cyber-Capabilities: Small State Perspective.”¹³⁶ Her observation leads to a necessity to draw on policy and doctrine to define the cyber-network organization in Norway. Norwegian cyber capabilities are divided along three lines, the defensive civilian and the defensive military, and the offensive. As noted in Chapter II about doctrine, the Norwegian Intelligence Service is tasked with the latter responsibility, while the Norwegian Cyber Defense Command is responsible for protecting the military cyber-networks and information systems. In other words, the two activities are split by both mandate and organization.

Looking at another IRC, Electronic Warfare, the perhaps most open and accessible source, yet slightly biased, is the *EW Vision 2025* report from 2014 by the Arctic Roost. Arctic Roost is a non-profit organization for Norwegian electromagnetic operations (EMO), EW, and IO personnel. The report describes a disjointed organization lacking a central coordinating authority for electromagnetic spectrum (EMS) operations.¹³⁷ Hence, EW and operations in the EMS are handled within the service branches, with differing capabilities in each branch. The Navy is radar and radar detection focused, with most EMS operations serving platform defensive roles.

For the Norwegian Air Force, robust and integrated EW and EMS capabilities are essential for platform survival and the delivery of offensive effects. EMSOs are both automated defensive and specialized for detection, identification, and tracking, but like the Navy predominantly radar-focused as counter-air and air defense capability.¹³⁸ Like the Air Force, the Army has a specialized EW unique career field, but their capability focus is on the communication aspect of EW. Specifically, signal detection, location, identification, and offensive EW against adversary communication nodes; however, the past decade has

¹³⁶ Lilly Pijnenburg Muller, “Military Offensive Cyber-Capabilities: Small-State Perspective,” *Norwegian Institute of International Affairs Policy Brief* 2019, no. 1 (2019): 5.

¹³⁷ Arctic Roost, *EK Visjon 2025 [EW Vision 2025]*, 2. Version (Oslo: Norwegian Chapter of AOC - Arctic Roost, 2014), 7, [https://arcticroost.org/EKvisjon/EK%20Visjon%202025%20v20%20\(final\).pdf](https://arcticroost.org/EKvisjon/EK%20Visjon%202025%20v20%20(final).pdf).

¹³⁸ Arctic Roost, 8–9.

seen the capability degraded.¹³⁹ Irrespective of the introduction of new platform capabilities within the Air Force, the F-35 Joint Strike Fighter and P-8 Poseidon, and the efforts for joint integration, the organization of EW remains siloed and only to a small degree horizontally decentralized.

A very recent report on the state of integration of Strategic Communication within the Armed Forces sheds light on the role of capabilities of Strategic Communication, PA, and the IO Staff. Until recently, Strategic Communication and PA have been categorized as supporting activities, vertically separated, and not as integral to the NAF's operations.¹⁴⁰ The report further describes a lack of a systemic approach to organization, training, and projects related to OIEs, pointing to PsyOp as one example. Organizationally PsyOp is not an official entity in the NAF but rather a community. The community comprises personnel who voluntarily have taken various training courses or furthered their education to fill Norwegian commitments to NATO PsyOp positions in Afghanistan.¹⁴¹ Many of these individuals hold academic or staff positions but lack the mandate and resources to form a cohesive organizational entity and are not a direct capability that can be tasked or perform specified activities. Figure 4 provides an overview of the organization of the NAF's information-related capabilities and staff functions.

¹³⁹ Arctic Roost, 10.

¹⁴⁰ The Norwegian Army Staff Strategic Advisor, *Project MilStrategic Communication*, 25.

¹⁴¹ Hærstaben, 27.

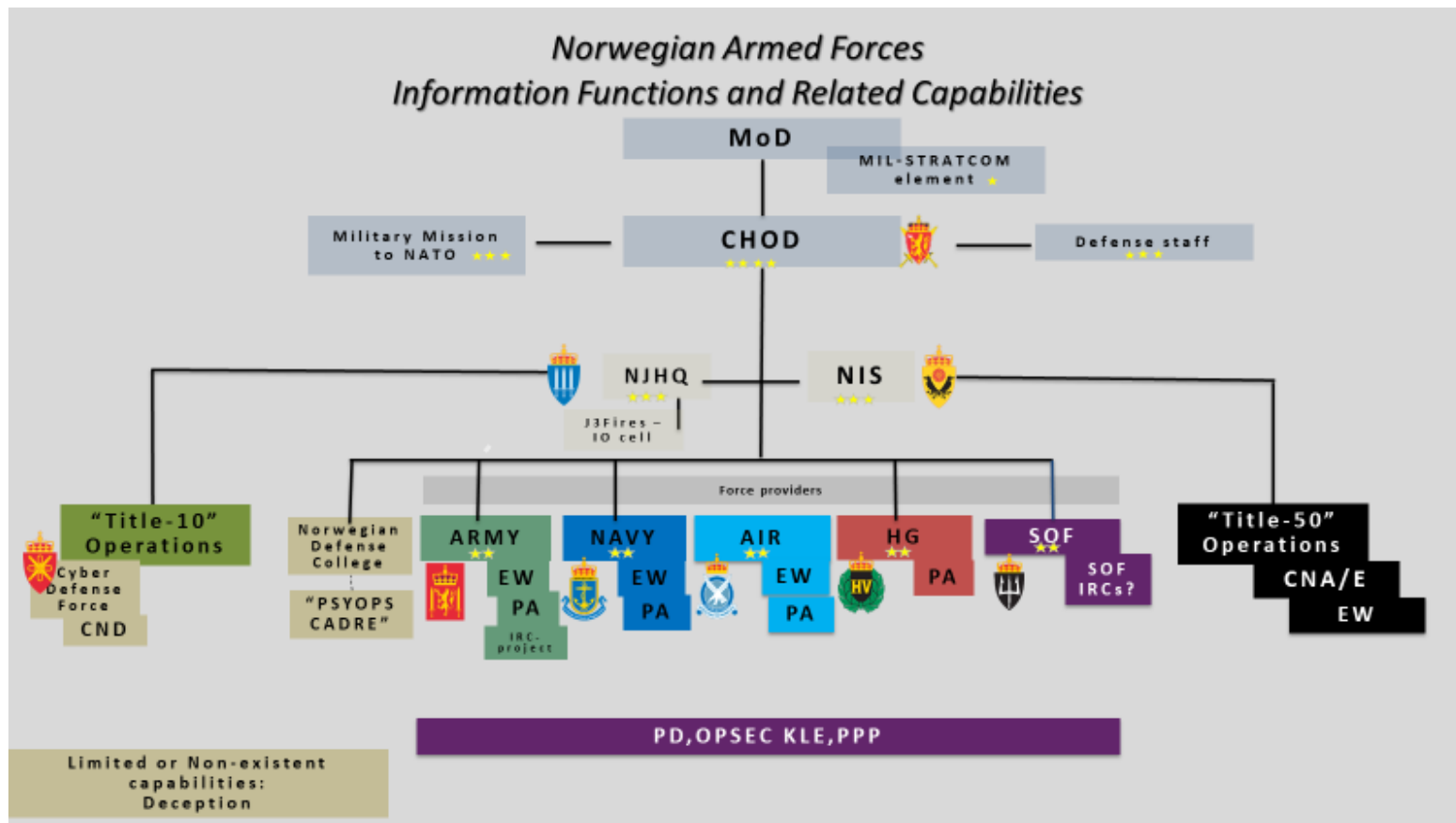


Figure 4. Organization of Norwegian information-related capabilities and staff functions.

2. NORSOF Organization

Compared to the information-related elements in the Norwegian military, the Special Operations Forces are well researched as a jointly structured organization. Several studies, predominantly by military students at the Naval Postgraduate School (NPS) and the FFI, have looked at NORSOF from various perspectives. The review of these studies shows that NORSOF's current and recommended organizational structure supports two different approaches to information integration. Today NORSOF consists of one Headquarters (HQ) element, NORSOCOM, with one Norwegian Special Operations Center (NSOS) and three tactical units, Forsvarets Spesialkommando (FSK), Marinejegerkommandoen (MJK), and the Special Operations Air Squadron (SOAS), shown in Figure 5.



Figure 5. NORSOF organizational chart.¹⁴²

¹⁴² Adapted from Torgeir Gråterud, "Norwegian Special Operations Forces - Special Operations Forces in Competition Short of Conflict" (Unclassified Power Point presentation, Oslo, Norway, May 21, 2021), fig. 2.

A recent organizational study by Norwegian Army Major Andreas Hedenstrøm and Captain Marius Kristiansen, which focuses on optimizing NORSOFs indirect approach through MA, comprehensively reviews the previous work from an organizational perspective. Hedenstrøm and Kristiansen argue that due to the limited size of NORSOF and the span of missions and tasks, a “vertical split” of capabilities between the two units is undesirable. They instead recommend a “horizontal development” of MA capabilities across NORSOF to institutionalize knowledge and practices across the organization, building on SR/DA skillsets while evolving MA concepts to a reciprocal level.¹⁴³

MA is an internal core task for NORSOF, while the conduct of OIE is not a key task; instead, it comprises activities conducted across all types of mission sets. Firewalling responsibility for or capability to conduct OIEs to one sub-unit within NORSOF would be counterproductive. Following Hedenstrøm and Kristiansen’s logic, horizontal development of knowledge and capability across NORSOF on and for OIE would be more reasonable. One notable exception would be if NORSOF chose to develop or nurture a content-focused IRC capability like PsyOP. Such a development would potentially call for spawning a separate unit and a vertical split of responsibility at a sub-tactical and tactical level.

An FFI report from 2018 makes similar findings on NORSOF’s utility, predicting a fifth paradigm is pending. In this paradigm, NORSOF shifts its role to that of a “strategic enabler” of other forces and agencies along the competition continuum. FFI researchers Iver Johansen and Henrik Gråterud argue that NORSOF’s versatile capability portfolio provides strategic flexibility supporting various forms of operations. However, to improve its strategic utility, the specialization and cultivation of more narrow SOF missions and tasks are needed.¹⁴⁴ Accordingly, they point out that NORSOF needs to divest some capabilities to support law enforcement while leveraging and developing capabilities that enhance existing SR, MA, and DA capabilities for joint/interagency enabling. Integration

¹⁴³ Andreas Hedenstrøm and Marius Kristiansen, “NORSOF Military Assistance Capability Development” (Master Thesis, Monterey, CA, Naval Postgraduate School, 2016), 87–88, <https://calhoun.nps.edu/handle/10945/50557>.

¹⁴⁴ Johansen and Gråterud, *Fra Taktisk Elite til Strategisk Tilrettelegger*, 59.

of IRCs and knowledge to operate effectively in the OIE certainly fall into the latter category. The recommendations highlight NORSOFF's horizontal capability distribution as a strength when acting as an enabler for or between other organizations. Nevertheless, the authors also caution against adding irrelevant capabilities.

Implementing information-related capabilities into NORSOFF would have significant organizational implications. In 2010 Kjetil Mellingen addressed some of these implications related to integrating CNO, PsyOp, and MD into NORSOFF in an appendix to his NPS thesis. His conclusion highlights that although it is both desirable and beneficial to implement such capabilities in NORSOFF's organizational structure organically, the resource limitation advocates a decentralized integration through the use of liaisons and dedicated external units.¹⁴⁵

The research for this thesis has not uncovered significant changes to resources or doctrine that would impact Mellingen's recommendations made in 2010. A difference in development at the policy level is the introduction of Strategic Communication as a centralizing function for information capabilities and activities and subsequent strengthening of the IO function at the operational level in the operations division. As of now, deeper integration of the IO function in the joint targeting process is needed. NORSOFF has experience with the development of the integration of joint fires in the targeting process. This could prove an opportunity to expand a non-lethal fires capability at the lower end of the competition continuum by actively supporting the information integration in the process. Further, policy and doctrine now delineate offensive and defensive responsibilities between the NIS and CYRFOR within the cyber domain. These distinctions present a possible limitation to the integration of offensive CNO organically within NORSOFF.

Findings in this section indicate that prior organizational studies of NORSOFF recommend a shift toward a versatile and flexible capability distribution, structurally organized in a flat and interconnected network with high communication requirements, is

¹⁴⁵ Mellingen, "Strategic Utilization of Norwegian Special Operations Forces," 139–54.

seen as a better fit for tomorrow's missions and operational environment.¹⁴⁶ Furthermore, NORSOFF possesses a unique advantage in organizational flexibility and a tradition of using liaisons between entities and integration of external assets in operations. With a recommended shift toward a networked structure for NORSOFF, a decentralized integration of information-related capabilities through liaisons and knowledge-based staff functions may prove a better organizational fit. Such an approach would leave the IRCs, such as CNO and EW, within their professional siloed communities and not impose external control on NORSOFF capabilities from potentially parallel entities.

B. PERSONNEL, EDUCATION, AND TRAINING

A central part of SOF's core competencies is its personnel and their quality. In turn, the quality of the personnel is a function of their inherent traits, the skills they acquire, and if these skills are honed through training and experience. This section combines the functional capability elements Personnel (P) and Training (T) while adding education to the mix. First, the traits of NORSOFF and information professionals are examined. After that, a review of the educational pipeline in NAF for SOF and information professionals, any career opportunities, and lastly, how training requirements may impact the integration of SOF and IRCs is offered.

Norwegian literature on education and training for operations in the information environment is limited. Still, a general observation is that the need for increased knowledge and experience is a common theme. A greater abundance of U.S. publications explores the subject from a broader perspective, yielding far more in-depth discussions of each IRC and the information function in general. Overall, the research indicates that more education and training opportunities are needed among information professionals, staff officers, and leadership. These educational needs differ across these groups, from highly technical to broader conceptual understanding among leaders. Furthermore, the status of the career field and a lack of information career paths are also reoccurring, which in turn leads to the reduced rapport of information personnel and operational planning.

¹⁴⁶ Fred C Lunenburg, "Organizational Structure: Mintzberg's Framework," *International Journal of Scholarly, Academic, Intellectual Diversity* 14, no. 1 (2012): 7.

1. SOF and Information Professionals' Core Traits

The central theories on SOF, and subsequent studies of them, point towards inherent traits among selected Special Operations personnel as the foundation of SOF's core skills. Robert G. Spulak hails the "elite warrior" as the only one who can conduct Special Operations. The "elite warriors" embody integrity, courage, competency, and certainty to overcome the Clausewitz friction of war.¹⁴⁷ Arquilla adds that resourcefulness is a leadership trait for Special Operations leaders, while Rubright mentions a strategic mindset.¹⁴⁸ Tom Searle contradicts Spulak, saying that although personal traits can be surmised, they are unimportant. He contends that the sub-sets of missions and units within the SOF community attract different people and require other traits.¹⁴⁹ Based on Searle's remarks, is it then fruitless to look further at the difference between NORSOF assaulter traits and information professionals? This paper contends that because of Searle's claim, integrating IRCs into SOF most certainly warrants an examination to identify whether NORSOF personnel have the traits it takes to acquire IRC skills.

Hedenstrøm and Kristiansen argue that the three core missions of NORSOF, the indirect approach of MA and the direct approach of SR/DA, require different types of people.¹⁵⁰ Similarly, Mark Mitchell's thesis from 1999 points out that the integration of IRCs in USSOCOM might require a shift in selection. The introduction of PsyOp and CA would require recruiting personnel with traits allowing them to acquire a different skill set than traditional Green Berets.¹⁵¹ A decade later, the U.S. Army Special Operations Command introduced a separate selection and training pipeline at the Special Operations Warfare Center and School for PsyOp personnel.¹⁵²

¹⁴⁷ Spulak, *A Theory of Special Operations*, 14–16.

¹⁴⁸ Arquilla, *From Troy to Entebbe*, xxxviii; Rubright, *A Unified Theory of Special Operations*, 9.

¹⁴⁹ Searle, *Outside the Box: A New General Theory of Special Operations*, 38–39.

¹⁵⁰ Hedenstrøm and Kristiansen, "NORSOF Military Assistance Capability Development," 36–39.

¹⁵¹ Mark E Mitchell, "Strategic Leverage : Information Operations and Special Operations Forces" (Master Thesis, Monterey, CA, Naval Postgraduate School, 1999), 148, <https://calhoun.nps.edu/handle/10945/13631>.

¹⁵² U.S. Army Special Operations Command Historian, "A Timeline of U.S. Army Special Operations Forces," Office of the Command Historian, accessed April 18, 2022, https://arsof-history.org/arsof_timeline/index.html#top.

Based on these discoveries, this report’s research has compiled a list of personnel traits for NORSOFF Qualification course candidates and general information professionals. In Table 1, SOF traits discerned from the broader SOF literature and NORSOFF selection criteria are displayed. The information professionals’ traits have been compiled from various literature on IRCs and NAF requirements for different IRC-related education.

Table 1. Comparison of NORSOFF assaulter and general information professional traits.¹⁵³

NORSOFF traits emphasized in assaulter selection	Generic information personnel traits
Mentally and physical robust	Technically adept
Curious	Systematic and analytical thinker
Courageous	Critical and creative thinker
Resilience and self-confidence	Culturally aware and sensitive
Willingness and ability to learn	Empathetic
Selflessness	Ability to master complex and ambiguous situations
Cooperative skills	Sound core values
Professional integrity	Academically interested
Ethical values	Work ethic
Sound judgment	Language proficient
Basic computer skills	Advanced computer skills
Resourceful	Resourceful
Initiative	Self-discipline
Tenacity	Initiative
	Confidence

The lists are not exhaustive, particularly the information personnel traits list. The traits will differ widely from a CNO to a PsyOp professional to a staff officer. However,

¹⁵³ Forsvaret, “Marinejeger,” Governmental Recruiting, Forsvaret, February 11, 2022, <https://www.forsvaret.no/jobb/forsvarets-spesialstyrker/marinejeger>; Forsvaret, “Spesialjeger,” Governmental Recruiting, Forsvaret, February 14, 2022, <https://www.forsvaret.no/jobb/forsvarets-spesialstyrker/spesialjeger>; Forsvarets Høgskole, “Bachelor ingeniør - telematikk [Bachelor in engineering and telematics],” Forsvaret, July 7, 2020, <https://www.forsvaret.no/utdanning/utdanninger/ingeniorfag-studieretning-telematikk>; “Military Training and Personality Trait Development: Does the Military Make the Man, or Does the Man Make the Military?,” Institute for Veterans and Military Families, accessed April 18, 2022, <https://ivmf.syracuse.edu/article/military-training-and-personality-trait-development-does-the-military-make-the-man-or-does-the-man-make-the-military/>; Christopher Paul et al., *Improving C2 and Situational Awareness for Operations in and Through the Information Environment* (Santa Monica, CA: RAND Corporation, 2018), <https://doi.org/10.7249/RR2489>.

based on the list, it is possible to discern a pattern of similarities and differences. Traits such as initiative, creativity, confidence, professional integrity, empathy, and ethical robustness appear in both categories. In contrast, the characteristics such as technical inclination, various forms of thinking, and academic interest stand out as more specific to information professionals. That is not to say that NORSOF assaulters do not exhibit those traits, but at the core, NORSOF selection is focused on tenacity, resilience, and physical capacity.¹⁵⁴

Kjetil Mellingen made similar observations in his 2010 thesis, contending that “NORSOF must consider looking for other types of personnel than those they have today” to implement IRCs.¹⁵⁵ Since then, NORSOF has become more focused on the recruitment of educated and skilled specialists to augment internal recruitment from the Army and Navy branches.¹⁵⁶ With an annual yield of 15–30 selected NORSOF assaulters and no separate “SOF enabler” selection, in combination with the prevailing selection characteristics, it is unlikely that the number of diversified personnel with information professional characteristics and motivation has increased. In other words, NORSOF personnel are predominantly selected on traits favorable to honing SR & DA-related skills, which in turn may not be a perfect match for retraining or selecting new personnel for IRC-related jobs.

2. Education

Practical use, integration, and development of IRCs in activities, training, and operations require sufficient knowledge at the tactical, staff, and leadership levels. Several studies have pointed to a lack of understanding of the IE, IRC, and OIEs as inhibitors for

¹⁵⁴ Eirik Kristoffersen, *Jegerånd - Å lede i fred, krise og krig [Rangerspirit - To lead in peace, crisis and war]* (Oslo: Gyldendal Norske Forlag AS, 2020), 109–12.

¹⁵⁵ Mellingen, “Strategic Utilization of Norwegian Special Operations Forces,” 133.

¹⁵⁶ Forsvaret, “Marinejeger”; Forsvaret, “Spesialjeger.”

information integration and strategy formation.¹⁵⁷ This section looks at how the NORSOFF and the NAF professional military education (PME) include information-related curricula. Accordingly, the suggested remedies are more information-related content in PME and deliberate specialized education of personnel in assigned roles, functions, and career fields.

The Norwegian Armed Forces and NORSOFF education on information functions, activities, and capabilities is limited. Norwegian PME has only one explicitly IRC-focused education program, the bachelor's degree in Engineering and Telematics, which is centered around technical conduct and management of defensive cyber operations.¹⁵⁸ Officers in NORSOFF are mainly educated through other Army-affiliated initial PME (GOU) courses at the military academy and the Navy's special operations associated course. A review of the syllabi of these courses uncovers a relatively meager introduction to the multi-domain battlefield and the information environment. In two modules, Basic Joint Operations and Complex Operations, the cadets are introduced to basic knowledge and understanding of the use of military power in a joint operations environment, the joint functions, and emergent trends influencing warfare.¹⁵⁹ From the module-specific syllabi, one can discern a predominant focus on operations in the physical domains. Yet, a few pieces of information-related literature are included. Email correspondence with faculty members at the military academy confirms that OIE and IRCs are not explicitly treated in the modules of the standard three-year programs.¹⁶⁰

Looking at the joint PME level (VOU), the nature of joint operations leads to more exposure to the various dimensions of the operational environment through the Joint

¹⁵⁷ Michael Schuille et al., *Intelligence Support for Operations in the Information Environment: Dividing Roles and Responsibilities Between Intelligence and Information Professionals* (Santa Monica, CA: RAND Corporation, 2020), <https://doi.org/10.7249/RR3161>; Christopher Paul et al., *Lessons from Others for Future U.S. Army Operations in and Through the Information Environment* (Santa Monica, CA: RAND Corporation, 2018), <https://doi.org/10.7249/RR1925.1>; Arquilla, *Bitskrieg*, 162.

¹⁵⁸ Forsvarets Høgskole, "Bachelor ingeniør - telematikk [Bachelor in engineering and telematics]."

¹⁵⁹ Forsvarets Høgskole/Luftkrigskolen, "Complex Operations," Forsvaret, July 7, 2020, <https://www.forsvaret.no/utdanning/emner/OPS2203/2021-H%C3%98ST>; Forsvarets Høgskole, "Grunnleggende fellesoperasjoner [Basic Joint Operations]," Forsvaret, July 7, 2020, <https://www.forsvaret.no/utdanning/emner/OPS3101/2021-H%C3%98ST>.

¹⁶⁰ Per Krogdahl, email correspondence with author regarding Norwegian PME curriculum, July 12, 2021.

Operations module and the Land warfare module for the Army officers.¹⁶¹ Again, reviewing the course catalog and curriculum, it is clear the focus still seems to be on the physical domains, particularly for the Air and Maritime warfare courses. Correspondingly, the advanced and joint level NCO courses contain nearly no emphasis on OIE.¹⁶² Subsequently, any in-depth expertise for NCOs and officers on the conduct of specific IRCs or OIEs is likely to stem from individually acquired knowledge through subject-matter-specific courses at NDUC, NATO schools, or partner institutions.

The NORSOFF qualification courses and introductory courses for new employees in the tactical units are focused on physical warfighting skills and operational leadership. At best, they coincidentally exchange tacit knowledge on OIEs. Further training and education are based on whatever specialized role the assaulter or enabler has. At times, leaders at platoon, squadron, and staff levels go through subject-specific courses predominantly focused on operational planning, intelligence, joint targeting, or fires integration. FSK has developed a tentative career planning tool for SOF officers with a list of “professional development courses,” none of which specifically focus on IRCs or the OIE.¹⁶³

Mellingen suggests an increased focus on OIE at the GOU and VOU educational levels to raise the explicit knowledge level among the NAF and NORSOFF officer corps.¹⁶⁴ Similarly, one RAND report from 2018 points toward cross-training of intelligence and information personnel to increase tacit and explicit knowledge within the intelligence and information functions. Another RAND report from 2020 recommends raising the efficiency of education on the IE and developing a culture in the U.S. Army to “view

¹⁶¹ Forsvarets Høgskole, “Militærstrategi og fellesoperasjoner [Military Strategy and Joint Operations],” Forsvaret, February 17, 2022, <https://www.forsvaret.no/utdanning/emner/OPS4103/2022-V%C3%85R>; Forsvarets Høgskole, “Master i militære studier [Master in military studies],” Forsvaret, March 7, 2022, <https://www.forsvaret.no/utdanning/utdanninger/master-i-militaere-studier-forsvarets-hogskole-milma>.

¹⁶² Forsvarets Høgskole, “Fagplan Videregående befalsutdanning 1 [Curriculum Advanced NCO course level 1]” (Forsvarets Høgskole, March 15, 2021), <https://utdanning.forsvaret.no/en/studieplaner/2021/Videreg%C3%A5ende%20befalsutdanning%201%20-%20Sj%C3%B8>; Forsvarets Høgskole, “Fagplan Videregående befalsutdanning 2 [Curriculum Advanced NCO course level 2]” (Forsvarets Høgskole, March 15, 2021).

¹⁶³ Forsvarets Spesialkommando, “Karriereveilder Spesialjeger Offiser [Career guide NORASOC Officer],” Unpublished (Rena, Norway: Forsvarets Spesialstyrker, 2017).

¹⁶⁴ Mellingen, “Strategic Utilization of Norwegian Special Operations Forces,” 137.

information power as a part of combined arms.”¹⁶⁵ Though the RAND recommendations are not specific to the Norwegian Armed Forces, the findings from Chapter II on policy and doctrine indicate a similar situation in a Norwegian context.

From these observations, the research can infer that current officer and NCO education in NORSOFT and NAF has a limited focus on the IE and OIEs. Further, specialized education is focused on either MOS-specific IRCs such as EW, CNO, or PA or functional skills such as operations planning, intelligence, and joint targeting. To raise the level of explicit and tacit knowledge on information, the literature suggests increased information content in PME. Furthermore, specific information-related education and cross-education between functions are also suggested as ways to increase understanding of OIEs within military organizations.

3. Career Track

To raise the status of special operations officers in the NAF, a career track to go with the education and tacit knowledge developed over years of operations needs to be developed. By improving and encouraging special operations officers’ education and taking positions in operational and strategic level staffs, it will be possible to spread the knowledge of how to use and employ SOF throughout the NAF and MoD.¹⁶⁶ Similarly, the establishment of NORSOCOM offered NCOs and officers a career track to pursue in their field of expertise and return to after postings in operational and multinational commands. By contrast, the NAF does not have information as a military occupational specialty (MOS). Most IRC education systems are linked to the communication MOS.

David Tucker, former Associate Professor at NPS, and Christopher Lamb, senior fellow at National Defense University, have argued for establishing an “indirect approach”

¹⁶⁵ Paul et al., *Lessons from Others for Future U.S. Army Operations in and Through the Information Environment*, iv–v; Schwille et al., *Intelligence Support for Operations in the Information Environment*, 60–61.

¹⁶⁶ John Inge Hammersmark, “Fra skjult ressurs til politisk spydspiss [From hidden resource to tip of the political spear],” Occasional paper, *Military Studier* (Oslo: Forsvarets stabsskole/FHS, 2015), 71–72.

career track within USSOCOM.¹⁶⁷ They argue that the forces by, within, and through USSOF are not given equal priority and status compared to those conducting DA missions. Similarly, Christopher Paul and Michael Schuille refer to the development of USSOCOM and the establishment of SOF career tracks as a model for future U.S. Information career paths.¹⁶⁸ From their view, information capabilities would benefit from a unified command that could promote the application of their capability by professionals with subject matter expertise. As an example, a 2018 RAND report points to the German Bundeswehr and its ability to centralize content-focused IRCs through deliberate investments in humans and technology to build an information career field.¹⁶⁹ As a result, the Germans have been highly influential in the integration of white and grey information-related capabilities focused on narrative-driven influence, predominantly aimed at third party or home audiences.¹⁷⁰

In their study of trends in military innovation during the interwar period, Adjunct Professor at the Center for Security Studies of Georgetown University Barry Watts and historian Williamson Murry point to “viable career paths to attract bright officers” as a necessity to ensure “new ways of fighting to take root within existing military institutions.”¹⁷¹ Amalgamating information into the NORSOE warfighting will likely lead to new operational concepts and changes to existing ones. NORSOE, in particular, FSK has been highly successful in integrating the career paths of its communications branch-

¹⁶⁷ David Tucker and Christopher J. Lamb, *Restructuring Special Operations Forces for Emergin Threats* (Washington, D.C.: National Defense University, 2006), 3, <https://www.hsdl.org/?view&did=466325>.

¹⁶⁸ Christopher E Paul and Michael Schuille, “The Evolution of Special Operations as a Model for Information Forces,” *Joint Force Quarterly*, Forum, 100, no. 1 (2021): 10–12.

¹⁶⁹ Paul et al., *Lessons from Others for Future U.S. Army Operations in and Through the Information Environment*, 25–29.

¹⁷⁰ There is a significant difference between U.S. information doctrine and some European doctrines when it comes to what target audiences can be influenced. The U.S. doctrine is very specific that military IO and PsyOp can only be directed at non-U.S. audiences, and it firewalls Public Affairs from influence capabilities. NATO and some European doctrine, on the other hand, have merged both offensive influence and communication-focused capabilities such as PA and PsyOp in communications cells/directorates. Thereby they effectively control information flows at all audiences from the same organizational entity.

¹⁷¹ Williamson Murray and Barry Watts, “10 - Military Innovation in Peacetime,” in *Military Innovation in the Interwar Period*, ed. Allan R. Millet and Williamson Murray, 21st printed paperback (New York, NY: Cambridge University Press, 2009), 409.

related personnel with the Army's communication career plan. Through deliberate work by leadership in raising the career value of serving inside the SOF community, the communications career field has gone from being of tentative value to becoming a central backbone of NORSOFF's strategic utility. As discussed in the next section, the leadership advocacy from within NORSOFF and NAF contributed to the recognition of this career field. The combination has lifted the status of SOF officers, NCOs, and communication professionals. Subsequently, NORSOFF attracts highly competent personnel and leads to innovation that has driven NORSOFF growth as a strategic asset and provides utility outside the box. Applying similar priority and conviction to the integration of information-related personnel could prove highly successful and valuable to NORSOFF.

4. Training

The final aspect of building core competencies through personnel and an organization is establishing tacit knowledge through experience. This section looks at information as part of training and exercises and NORSOFF's potential for integration into the current training cycle.

Where operations provide the best arena for such development, peacetime training is the next best substitute. However, training and exercises depend on the commitment and capacity to plan and execute training within realistic parameters while outside self-fulfilling scenarios and to assess the results beyond validating ratified procedures.¹⁷² Achieving these objectives within classically combined arms, joint, or SOF exercises is challenging. The complexity increases when the integration of information objectives, tasks, and activities are added.

Research indicates that integration of information and use of IRCs in exercises and wargames often receives reduced priority due to the challenge of simulating both environment and effects.¹⁷³ Recent lessons identified by the Norwegian Army (NORA)

¹⁷² Williamson Murray, "8 - Innovations: Past and Future," in *Military Innovation in the Interwar Period*, ed. Allan R. Millet and Williamson Murray, 21st printed paperback (New York, NY: Cambridge University Press, 2009), 326–27.

¹⁷³ James R McGrath, "Twenty-First Century Information Warfare and the Third Offset Strategy," *Joint Force Quarterly* 82, no. 3rd quarter (2016): 16–24.

during a command post exercise (CPX) Polaris Gram 2021 indicate similar tendencies. The exercise usually tests the strategic and joint operational plan responses to escalating situations between the rivalry and armed conflict portions of the competition continuum. Instead, a hybrid-warfare scenario drove last year's iteration in the segment short of armed conflict, with the intention of avoiding escalation. Key takeaways from the CPX for the Army and the NAF as a whole included the following:

NORA Battle Rhythm is still focused primarily on kinetic operations, in which information operations and communication effects are severely limited in scope. NORA needs to update its understanding of modern warfare environments, all domains influence operations in the continuum of competition, and adjust its structure and doctrine to enable operations in the area where the information environment and cognitive domain is the main arena of competition and conflict.¹⁷⁴

As NORSOFF's participated in the same exercise, it is reasonable to infer that similar lessons may have been learned by NORSOFF given this thesis's findings on doctrine, organization, and education. As a learning organization, NORSOFF has a tradition of experimentation with the integration of various innovations in exercises. An annual training schedule of high-priority exercises with various focuses provides NORSOFF with several joint and interagency arenas for testing the integration of information objectives, tasks, and activities. With NORSOFF's longstanding proficiency in organizing and evaluating these exercises, the premise for proper planning, execution, and assessment of OIEs in familiar scenarios is present.

OIEs are generally not well integrated into training and exercises across the NAF, lessening the likelihood of proper operational integration. NORSOFF has substantial experience with both joint and interagency integration in several annual exercises, providing ample arenas for testing information integration.

C. LEADERSHIP

Integrating information-related capabilities in NORSOFF organization and activities might be more like an evolution of existing concepts rather than a revolutionary innovation

¹⁷⁴ The Norwegian Army Staff Strategic Advisor, *Project MilStrategic Communication*, 41.

to change the mission set entirely. Regardless of the distinction between innovation and evolution, leadership plays a central role in the success or failure of organizational change.¹⁷⁵ Academic literature identifies two central elements for how leaders influence innovation adoption: the formation of a vision and senior-level advocacy. The following section examines the role of the two elements of leadership in organizational transformation and how they pertain to information integration in NORSO. The research implies a possible lack of explicit public vision by NORSO related to OIE, while senior-level sponsorship presents leverage to use in information integration.

Georgetown University Adjunct Professor Barry Watts and Chair of military theory at the USMC University Williamson Murray conclude that developing visions of how an organization is to fight the future mode of war and nurturing this vision through active leadership is essential.¹⁷⁶ Similarly, political scientist James Wilson observes that top executives' beliefs are better predictors than organizational structure of the likelihood of change.¹⁷⁷ Leadership visions can be powerful drivers of change, but only if they are accepted by the operational end of the organization and found to match the realities of the operational environment. As noted by Richard Muller, using Allied innovation of close air support during World War II as an example, leadership vision formulated into top-down decisions without tactical level involvement repeatedly fails.¹⁷⁸

Promulgating an executive leader's vision is done in several ways, traditionally through written strategies or speeches, but new media allow for a more informal and broader distribution in the Information Age. A cursory review of various informal sources reveals an executive narrative by the Norwegian FSJ, senior military leaders, and the Minister of Defense promoting resilience to foreign influence, the will to resist, the quality

¹⁷⁵ James Q. Wilson, "Chapter 12 - Innovation," in *Bureaucracy - What Government Agencies Do and Why They Do It* (New York: Basic Books, 1989), 227.

¹⁷⁶ Murray and Watts, "10 - Military Innovation in Peacetime," 406.

¹⁷⁷ Wilson, "Chapter 12 - Innovation," 227.

¹⁷⁸ Richard R. Muller, "4 - Close Air Support - The German, British and American Experiences, 1918-1941," in *Military Innovation in the Interwar Period*, ed. Allan R. Millet and Williamson Murray, 21st printed paperback (New York, NY: Cambridge University Press, 2009), 189-90.

of Norwegian soldiers, and a need for adequate resources.¹⁷⁹ No intentions of influencing of the foreign target audience as a military method or means are mentioned.

NORSOF, on the other hand, has low official visibility on social media and predominantly promotes its strategies and visions on internal lines of communication or official channels. The executive leadership of NORSOF has promoted a vision of “NORSOF—a world-class special operations force.”¹⁸⁰ The strategy document lays out a vision of developing the necessary elements of an integrated combat system. The strategy is well crafted and spotlights the system’s most essential aspect, the personnel. As noted in Chapter II, the vision contains elements of information-related development areas, such as improved secure C2 infrastructure, joint-fires capabilities, and intelligence. However, there is no explicit call for a combat-system-wide integration of information-related capabilities in the strategy. In summary, the executive leadership of the NAF and NORSOCOM have defined visions and communicated them. However, the content reflects the cultural tendencies identified in Chapter II, which bear a defensive or system-focused view of information.

The second aspect of leadership’s role in the adoption of innovation and, in this case, the integration of IRC in NORSOF, is that of sponsorship. For an innovative idea to survive and turn into organizational changes or capabilities, visions are not enough; resources are also needed.¹⁸¹ Securing those resources, be they appropriations, billets, education, or physical goods, originates from executive leaders making sound judgments and prioritizations, not just presented arguments, and on beliefs as mentioned previously. In the *Joint Force Quarterly*, Christopher Paul and Michael Schwille argue for forming a separate information force modeled on lessons from the creation of USSOCOM.¹⁸² They note the need for military and political level sponsors to defend resources, coordinate activities, and represent a prospective information force interest.

¹⁷⁹ Various Norwegian senior military leaders, and institutional social media accounts, and public addresses.

¹⁸⁰ Gråterud, *NORSOF 2030*, 4.

¹⁸¹ Murray and Watts, “10 - Military Innovation in Peacetime,” 409–10.

¹⁸² Paul and Schwille, “The Evolution of Special Operations as a Model for Information Forces.”

Similar to Paul and Schwille's observations on American SOF senior leader advocacy, NORSOFF has similar experience. In a monograph, then-second in command of FSK, Lieutenant Colonel John Hammersmark noted that NORSOFF's performance during operations in the Balkans at the turn of the millennium led to an awakening among military and political leaders of the utility of SOF.¹⁸³ The subsequent evolution of NORSOFF can largely be attributed to the advocacy of former Chief of Defense Sigurd Frisvold and Minister of Defense Kristin Krohn Devold. Since the first deployment to Operation Enduring Freedom in Afghanistan in December 2001, NORSOFF has enjoyed similar advocacy at a strategic level and a spot in the limelight. History has shown NORSOFF as a flexible and valuable tool for Norwegian defense and foreign policy, leading to solid advocacy at the strategic level. This level of strategic sponsorship could be leveraged to promote and innovate information integration into NORSOFF, similar to the integration of joint targeting and implementation with the F35 Lighting program.

This section has looked at NORSOFF leadership's vision and strategy and the strategic level advocacy of NORSOFF. The research suggests that while NORSOFF has a vision and narrative, it explicitly lacks ambitions to integrate IRCs for more offensive capabilities in the OIE. Furthermore, NORSOFF has a history of strong strategic sponsorship and advantage, which could be used to promote and drive the development of OIE capabilities.

D. MATERIEL, FACILITIES, FUNDING

As noted in the introduction, the functional elements of capability development, material, and facilities fall outside the scope of this thesis. Hence, they are not studied in detail. This section focuses on some concurrent funding aspects that may influence the assessment of viable recommendations.

Worth noting regarding funding and allocations is the difference between the current financial situation and that in 2010 when Mellinger made recommendations for integration of IRCs in NORSOFF. In 2010 NORSOFF saw a robust financial allocation, with

¹⁸³ Hammersmark, "Norske Spesialstyrker."

continual additional funding for expeditionary tasks for operations in Afghanistan and counter-piracy off the Horn of Africa. The additional appropriations in chapter 1792 for missions abroad allowed for a roomier budget in the force generation structure at home.¹⁸⁴ However, two main challenges were restrictions on billets and limitations on organizational structural expansion.¹⁸⁵ Mellinger’s recommendations are hence made from that perspective.

The situation for NORSOFF has changed since 2010, but it is questionable whether it is for the better. First, the completion of operations in Afghanistan and the Middle East has, for now, set a stop to larger and enduring commitments abroad. In that light, the accustomed extra 1792 appropriations have dried up, increasing the strain on the regular NORSOFF budget as nearly all the forces draw on the chapter 1720 allocation.¹⁸⁶ The 2022 defense budget does, however, follow up on the intentions in the 2019–2023 long-term plan for the Defense sector with initial allocations in the 2022 budget year for an “additional Special Operations Task Group and strengthening of relevant functional areas that will increase operational abilities.”¹⁸⁷

Integration of the 339 Squadron helicopter capabilities is another area specifically mentioned. The NIS funding is, publicly, focused on adaption to new legislature and intelligence collection activities, while the Army’s allocations are focused on building conventional maneuver and combat support entities. The first annual independent analysis of the status of the NAF conducted by FFI, *Forsvarsanalysen [The Defense Analysis]*, concludes that there is the need to improve further efficiencies in spending and estimate-budget increases conservatively despite the ongoing Russian-Ukrainian war.¹⁸⁸ In sum,

¹⁸⁴ Chapter 1792 is the designated budget chapter in the Norwegian defense budget for Norwegian forces abroad.

¹⁸⁵ Mellinger, “Strategic Utilization of Norwegian Special Operations Forces,” 135.

¹⁸⁶ Chapter 1720 is the designated budget chapter for the Norwegian Armed Forces.

¹⁸⁷ Forsvarsdepartementet, *Prop. 1 S - Proposisjon til Stortinget for budsjettåret 2022 [Proposition to Stortinget for the budget year 2022]*, Parliamentary Proposition, Annual defense budget (Oslo: Forsvarsdepartementet, 2022), 114, https://www.regjeringen.no/contentassets/ac3c943108aa44cd8ecb59e217833ed7/no/pdfs/prp202120220001_fdddpdfs.pdf.

¹⁸⁸ Skjelland et al., *Forsvarsanalysen 2022 [The Defense Analysis 2022]*, 69.

the current appropriations are portrayed as a strengthening of the defense budget, but overspending and postponed costs chip away at the increase, which will require demanding priorities for the years to come.

As a result of Russia's invasion of Ukraine in the winter of 2022, the Norwegian Parliament approved an additional Defense budget appropriation of nearly three billion Norwegian kroner (NOK). Most of this additional funding is earmarked for increased activities, replenishment of stocks, and maintenance.¹⁸⁹ The NIS and CYFOR are receiving additional funding to increase defensive measures within the NAF's information systems and information processing and collection.

In short, there are no politically earmarked resources for improvements of offensive IRCs in the current budget cycle. NORSOFF appropriations for the initial stages of organizational growth of one SOTG and helicopter integration provide economic opportunities but are locked to politically approved plans. At the same time, the regular budget is constrained due to a lack of operational deployments. Pending future changes to appropriations due to increased tensions in the regional security environment require strict prioritization by NORSOFF leadership when it comes to capability development. Increasing IRCs in the NAF generally and integrating into NORSOFF specially will likely require deliberate and prioritized allowances outside the current allocations, leaving a narrow margin for opportunities and a requirement for clear strategic advocacy.

¹⁸⁹ Norwegian Ministry of Finance, *Prop. 78S (2021-2022) Proposisjon til Stortinget [Proposition to Stortinget]*, Approved draft (Oslo, Norway: Norwegian Ministry of Finance, 2022), 39–40, <https://www.regjeringen.no/contentassets/8ec464ed072f4f459a3b0ad75e4637cd/no/pdfs/prp202120220078000dddpdfs.pdf>.

IV. FFI SURVEY RESULTS AND ANALYSIS

A. INTRODUCTION

Chapter IV presents the results from an anonymous online survey conducted by the FFI on NORSOF personnel's perception and understanding of OIE pertaining to Norwegian Special Operations. The chapter discussion follows the order of the DOTmLPF-F analysis in Chapter III and applies comparative analysis where possible.

The most relevant results from the FFI survey are discussed in this chapter, while an in-depth critique and presentation of the FFI survey are available in the appendix. The 45 respondents are predominantly officers (82%), where 51 percent serve in leadership, and 33 percent serve in battalion or HQ staff functions within NORSOF.¹⁹⁰ Thirty-nine percent of the respondents have completed a NORSOF assaulter qualification course, while 32 percent and 25 percent hold civilian master's or bachelor's degrees, respectively, in addition to professional military education.¹⁹¹

One major challenge is the variety of terminology and established perceptions about military use of information among the survey participants. The survey used the 2015 version of NATO doctrine, *AJP 3.10 Information Operations*, as its terminological and doctrinal anchor and a slightly different terminology from this thesis when addressing information and operations. Information Operations is presented as a coordinating staff function in the survey. However, it is not uncommon to understand IO as a broader concept of operations in the information environment; hence, the assessment of the questions considers this. Furthermore, the survey questions use the NATO term information activities (IA), whereas this thesis uses the U.S. term information-related capability (IRC) interchangeably.

The overarching hypothesis for this thesis is that NORSOF is insufficiently prepared for full-spectrum special operations in the future operational environment due to

¹⁹⁰ Forsvarets Forskningsinstitut, *FFI Survey: Information Operations in NORSOF*, ed. Frank B. Steder (Kjeller, Norway: Forsvarets Forsknings Institutt, 2022), Q4,5.

¹⁹¹ Forsvarets Forskningsinstitut, Q2,6.

an insufficient integration of information and influence-related capabilities. The answers to a combination of questions in the FFI survey support the hypothesis. When asked if NORSOFF overall is well prepared for the future OE and should disregard specific measures to address information and influence-related issues, an overwhelming 96 percent of the respondents disagreed, as shown in Figure 6.¹⁹² This indicates a common perception within NORSOFF that information and influence play a part in the future OE, supporting the hypothesis.

Further support is found when assessing the statement that NORSOFF's strategic utility is tied to the physical domain and the capabilities to operate therein. Sixty-two percent agreed, and 38 percent disagreed.¹⁹³ In both categories, most agreed/disagreed slightly, indicating uncertainty about NORSOFF's primary domain focus.¹⁹⁴ In other words, NORSOFF personnel recognize a need to address information and influence to be prepared for the future. However, seeing its own utility tied to the physical domain indicates a similar dichotomy between understanding the OE and the organizational priorities found in Norwegian policy and doctrine study. The results from these questions warrant the further exploration of the research questions about what options and limitations NORSOFF has for effective integration and development of information-related capabilities to increase operational utility in the information environment.

¹⁹² Forsvarets Forskningsinstitutt, Q15(a).

¹⁹³ For exact distribution, see Figure 7.

¹⁹⁴ *FFI Survey*, Q15(c).

Q15(a) - NORSOFF, as a whole, is well prepared for operating in the future operational environment and does not need to specifically address any information or influence related capabilities in the near future.

Q15(c) - NORSOFF's strategic utility is tied to the physical domain and the ability to plan, project, execute and assess physical operations in a joint operational environment.

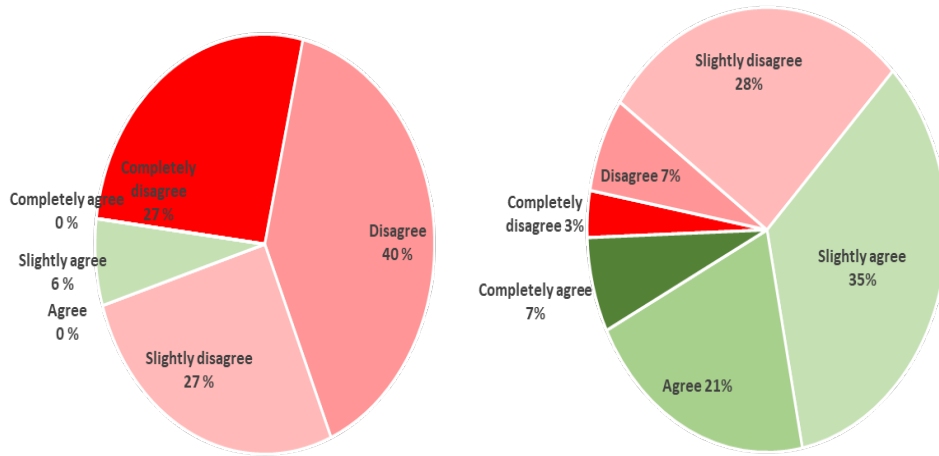


Figure 6. Responses to FFI survey questions about NORSOFF preparedness for the future operating environment.¹⁹⁵

The FFI survey also asked the respondents to identify issues concerning NORSOFF's current ability to conduct, support, or be supported by various IRCs or activities. As shown in Figure 7, 65 percent agreed with the claim that external factors are the primary issue.¹⁹⁶ In comparison, 21 percent agreed that internal factors were the most important. There was no significant deviation between the independent variable data when respondents were asked about the importance of internal factors.

¹⁹⁵ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

¹⁹⁶ Forsvarets Forskningsinstitut, Q15(f&g).

Q15(f & g) - NORSOF's ability to conduct, support, or be supported by information-related capabilities and activities is primarily an

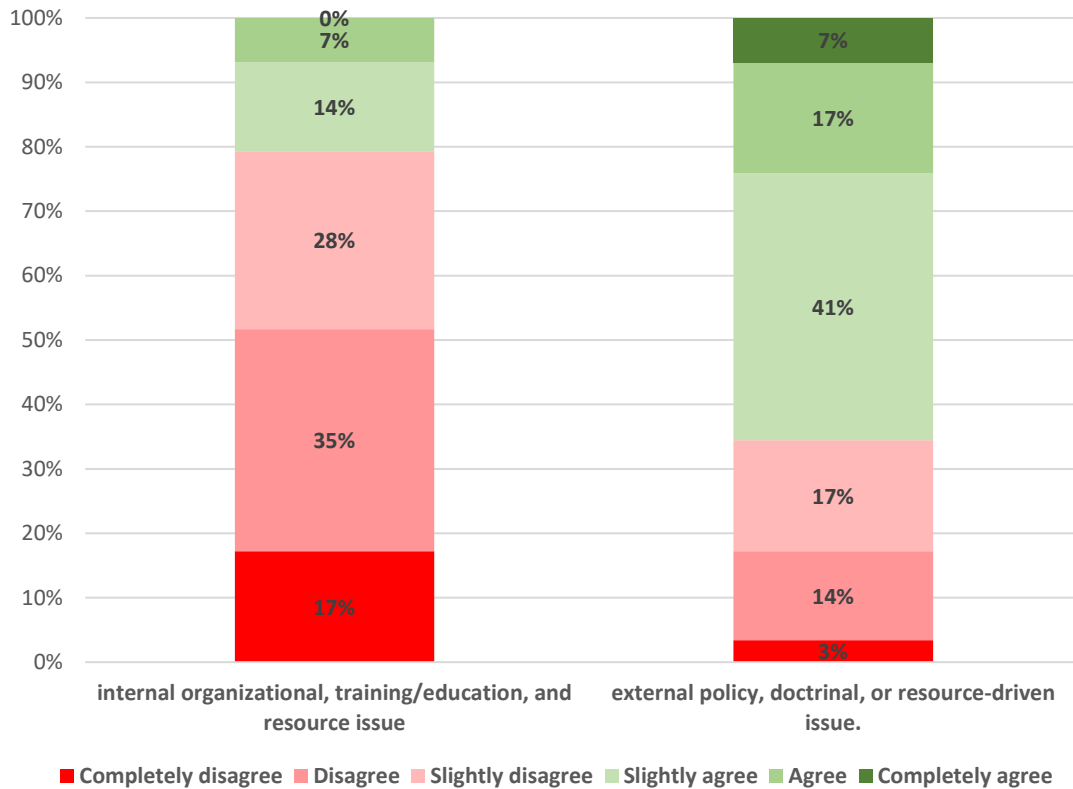


Figure 7. Responses to FFI survey questions about primary factors affecting NORSOF ability to conduct OIEs.¹⁹⁷

A Fisher's exact test revealed a significant association between the respondents' highest level of civilian education and their level of agreement with the statement regarding external factors.¹⁹⁸ A statistically significant association between the two variables, p-value = 0.016, showed that those with higher-level civilian degrees disagreed more than those with only some or no civilian graduate level education. The data did not show a similar variance in professional military education, organizational roles, information-related experience, or assaulter qualification. As discussed in the section on education in Chapter III, the information-related curriculum in PME is nascent. One explanation for this

¹⁹⁷Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

¹⁹⁸ See the appendix for justification of use of Chi-squared test and Fisher's exact test.

variance is that additional civilian education has elevated the respondent's knowledge about information or national policy matters. The data does not reveal what particular civilian education the respondents have completed; thus, it is difficult to make any further validation. Another explanation is that those with higher-level education have more service time and experience at the joint or strategic level, and thus have better insight into the external factors influencing NORSOFF. The survey did not collect sufficient metadata on the respondents to validate these assumptions.

Data from the survey indicates that NORSOFF personnel perceive external factors as more significant impediments to effective OIEs than internal factors. The FFI survey subsequently asked the respondents to rank the top three inhibiting internal and external factors from a list, as shown in Figures 8 and 9. The data indicates that the fragmentation of IRCs across NAF is the primary challenge, while lack of knowledge of OIEs and specific information-related training in higher and adjacent organizations are the top three limiting external factors.¹⁹⁹ All three factors correspond with the findings presented in Chapters II and III, indicating a fragmentation and stove piping for IRCs and limited education and training in PME across the NAF. Worth noting is the fourth factor, "the NAF organizational perception is that anything information-related is the responsibility of Public Affairs."²⁰⁰ During the background research for this thesis, various personnel, including subject matter experts in PA and IO functions, voiced similar opinions in conversations with the author. Internal NAF documents note these sentiments as historically correct due to NAF's predominantly "internal national focused communications work."²⁰¹ However, some strategic and operational-level projects have been initiated to counter this historical approach over the past two years. The answers in the FFI survey may indicate that the projects have yet to show effect outside the PA and IO community.

¹⁹⁹ Forsvarets Forskningsinstitut, *FFI Survey*, Q21.

²⁰⁰ Forsvarets Forskningsinstitut, Q21.

²⁰¹ The Norwegian Army Staff Strategic Advisor, *Prosjekt MilStratKom: Militærstrategisk Kommunikasjon og Forsvarets bidrag til Nasjonal Strategisk Kommunikasjon (B) [Project MilStrategic Communication: Military Strategic Communication and the Norwegian Armed Forces Contribution to National Strategic Communication (R)]*, Paper Nov 21 (Oslo: The Norwegian Army, 2021), 4–5.

Q21 - Information Operations and Information Activities integration are essential to all NORSOF mission sets in defense of Norway and during operations abroad. Several *national factors external* to NORSOF may reduce NORSOF's capability to integrate informa

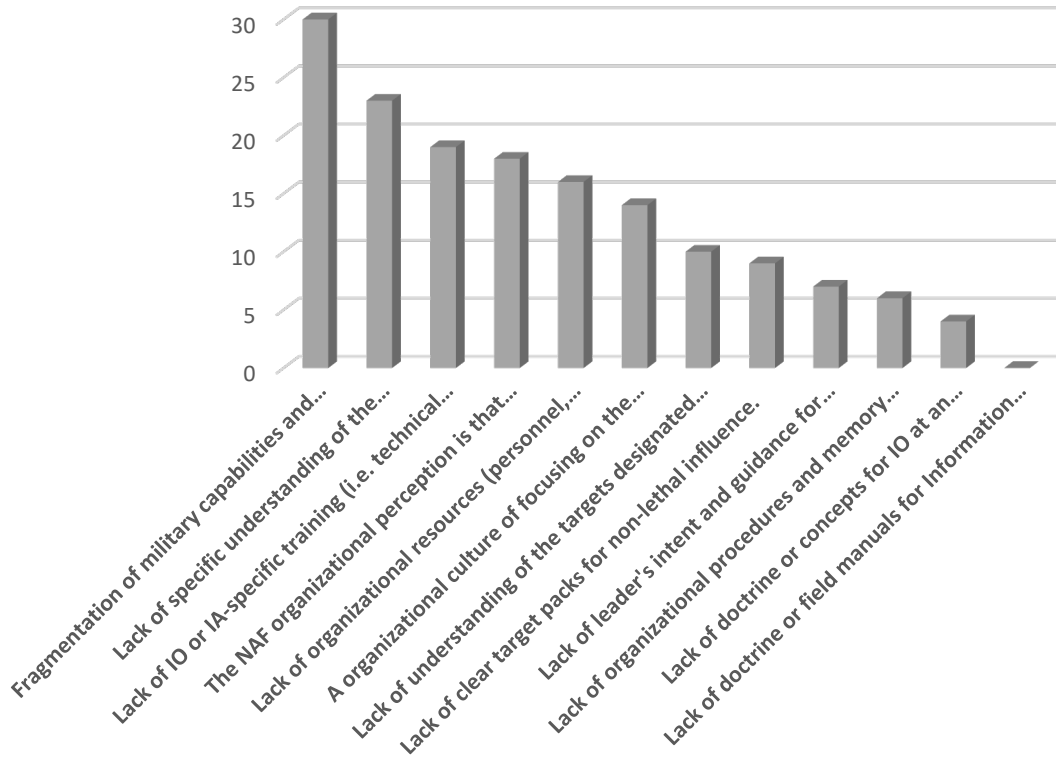


Figure 8. Responses to FFI survey questions about external factors that affect NORSOF OIEs.²⁰² See appendix for a complete list of factor descriptions.

NORSOF personnel assess the internal inhibiting factors similarly, as shown in Figure 9. The leading cause is a lack of organizational resources such as personnel and dedicated functions, with specific information related to training and knowledge as the next two causes.²⁰³ The two lists of factors mirror each other. Both lists have a lack of availability of dedicated resources (IRCs or internal) and a combination of explicit and tacit

²⁰² Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.
The Y-axis is the ranking-score. The ranking score was computed by giving each respondent's first, second, and third choices factor scores 3, 2, 1, respectively, then adding the total sums for each statement.

²⁰³ Forsvarets Forskningsinstitut, Q20.

knowledge of the OIE at the top. Similarly, NORSOFF personnel see doctrinal issues, procedures, or non-lethal influence target sets as the least influential factors, both internally and externally. Logically, the latter follow due to increased use and availability and are not the driving factors for innovation but rather a result of implementation and experience. The similarities may indicate that NORSOFF follows the trends of the NAF in general concerning resources, organization, and knowledge about information-related operations.

Q20 - Information Operations and Information Activities integration are essential to all NORSOFF mission sets in defense of Norway and during operations abroad. Several factors internal to NORSOFF may reduce the capability to integrate information activities

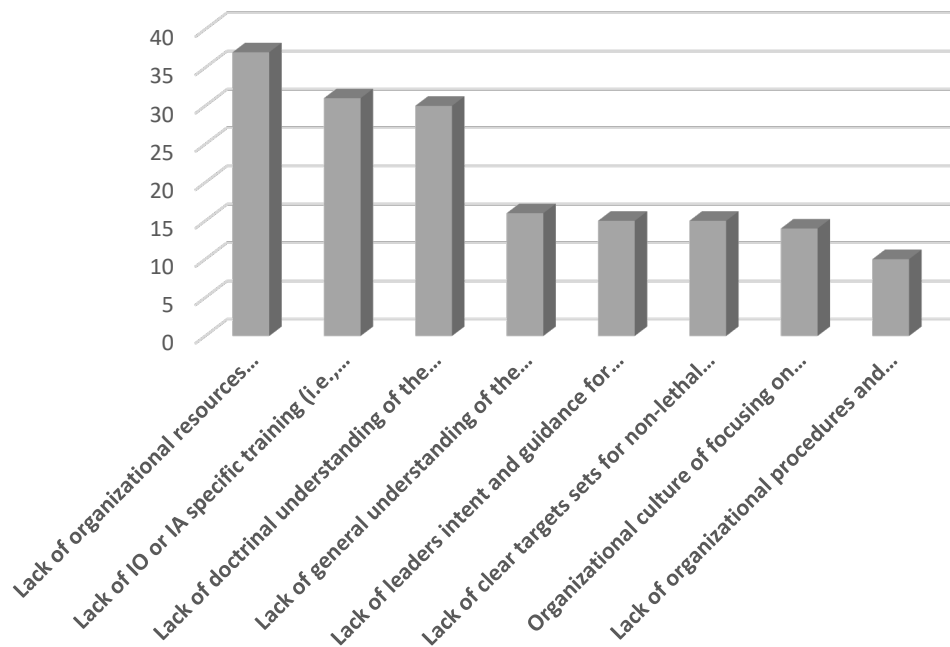


Figure 9. Responses to FFI survey questions about internal factors that affect NORSOFF OIEs.²⁰⁴ See appendix for a complete list of factor descriptions.

²⁰⁴ Adapted from Forsvarets Forskningsinstitutt, *FFI Survey*.
 The Y-axis is the ranking-score. The ranking score was computed by giving each respondent's first, second and third choices factor scores 3, 2, 1, respectively, then adding the total sums for each statement.

The respondents made no comments on these specific questions. Some note there is an apparent disinterest in using non-lethal means for influence or strategic communication. Yet, other comments in the survey point to a disconnect between opportunities and ambitions at the military tactical and the political and strategic levels.²⁰⁵ One respondent noted that “NOR [Norway] lacks the proper policies to support integrating non-lethal effects properly, which again affects the ability to conduct proper training.” These comments by NORSOFF personnel and the assessment of the open source data indicate a NORSOFF perception of the Norwegian policy and strategy towards OIEs converging with the findings from the literature described in Chapter II. In sum, policies can be assessed as an area of limitation for NORSOFF optimization of information-related capabilities unless it is influenced to change toward a more proactive line.

B. DOCTRINE

The FFI survey’s responses from NORSOFF personnel on doctrinal issues are presented in this section. As shown in Figure 10, NORSOFF personnel do not see doctrinal issues as highly pertinent, which is understandable. After all, the Norwegian and NATO doctrine does not designate information-related operations or specific information-related capabilities to SOF. In contrast, U.S. military doctrine specifically assigns the IRC PsyOp as a Special Operations capability. At the same time, the literature reviewed in Chapter II indicates that Norwegian IRCs are doctrinally siloed within the respective service branches. The survey data suggests that NORSOFF does not see IRCs and activities as a purely conventional responsibility. However, NORSOFF may see itself as best suited to conduct IAs in a supporting role and does not see specific IRCs as core tasks in line with SR, MA, and DA. Additionally, NORSOFF views the NATO doctrinal evolution as an opportunity for NORSOFF to evolve its OIEs.

When asked if the organizational location of technical IRC capabilities in the conventional forces equates to primary responsibility for conventional forces to conduct information activities, 75 percent disagreed with the claim.²⁰⁶ Similarly, as shown in

²⁰⁵ Forsvarets Forskningsinstitut, Q24 comment.

²⁰⁶ Forsvarets Forskningsinstitut, Q10(f).

Figure 10, 64 percent disagreed that the IO function at the operational level bears the full responsibility for planning, integration, and assessment of OIEs.²⁰⁷ There was no statistically significant association between different independent variables and the level of agreement in Question 10(f). However, using both a Chi-squared test and a Fisher's exact test revealed a significant association between NORSOFF selection and the level of agreement in Question 10(e), Chi-squared $p=0.022$ and Fisher exact two-tailed $p = 0.033$.²⁰⁸ Those who had completed NORSOFF selection and qualification disagreed overwhelmingly, while those not selected had an even distribution.

Nevertheless, those categorized as leadership or with JPME-level education showed similar trends in disagreement with the statement in Question 10(e) over other variables. Hence, the data concludes that the NORSOFF respondents recognize an inherent doctrinal responsibility to evolve their capability to take a role as an IA contributor. In particular, those in leadership positions who have a combination of selection, operational experience, and higher-level PME are of that opinion.

²⁰⁷ Forsvarets Forskningsinstitut, Q10(e).

²⁰⁸ See the appendix for justification and explanation of Chi-squared test and Fisher's exact test.

Q10(f) - In the Norwegian Armed Forces (NAF) conventional units possess most of the technical capabilities to perform Information Activities (IA), hence IA is primarily a conventional responsibility. NORSOF has enough responsibilities.

Q10(g) - IA capabilities are provided by allies and partners when in an expeditionary setting. NORSOF only needs the ability to integrate these assets to increase the operational effectiveness in the information environment and the cognitive dimension wh

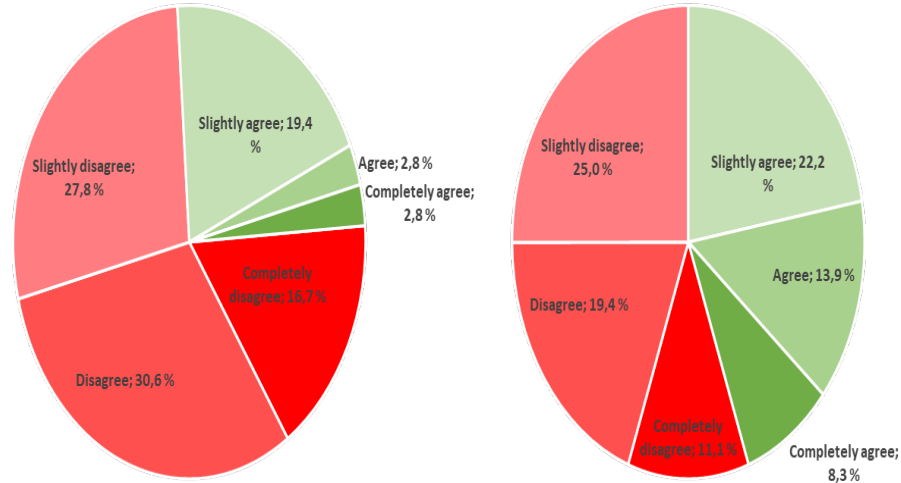


Figure 10. Responses to FFI survey questions about doctrinal information responsibilities.²⁰⁹

Similarly, the NORSOF respondents view the NATO Strategic Communication and IO doctrine changes as an opportunity, not a distraction from core SOF tasks. As Figure 11 indicates, 76 percent agree, with only 20 percent slightly disagreeing, that the change in NATO doctrine is an opportunity to expand SOF’s role across the competition continuum.²¹⁰ Furthermore, 96 percent disagree that an expanded view of information in NATO doctrine is a distraction from developing NORSOF capability for armed conflict.²¹¹ NORSOF opinions seem optimistic about an increased doctrinal focus and role for NATO’s various aspects of information.

²⁰⁹ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

²¹⁰ Forsvarets Forskningsinstitut, Q26(a).

²¹¹ Forsvarets Forskningsinstitut, Q26(b).

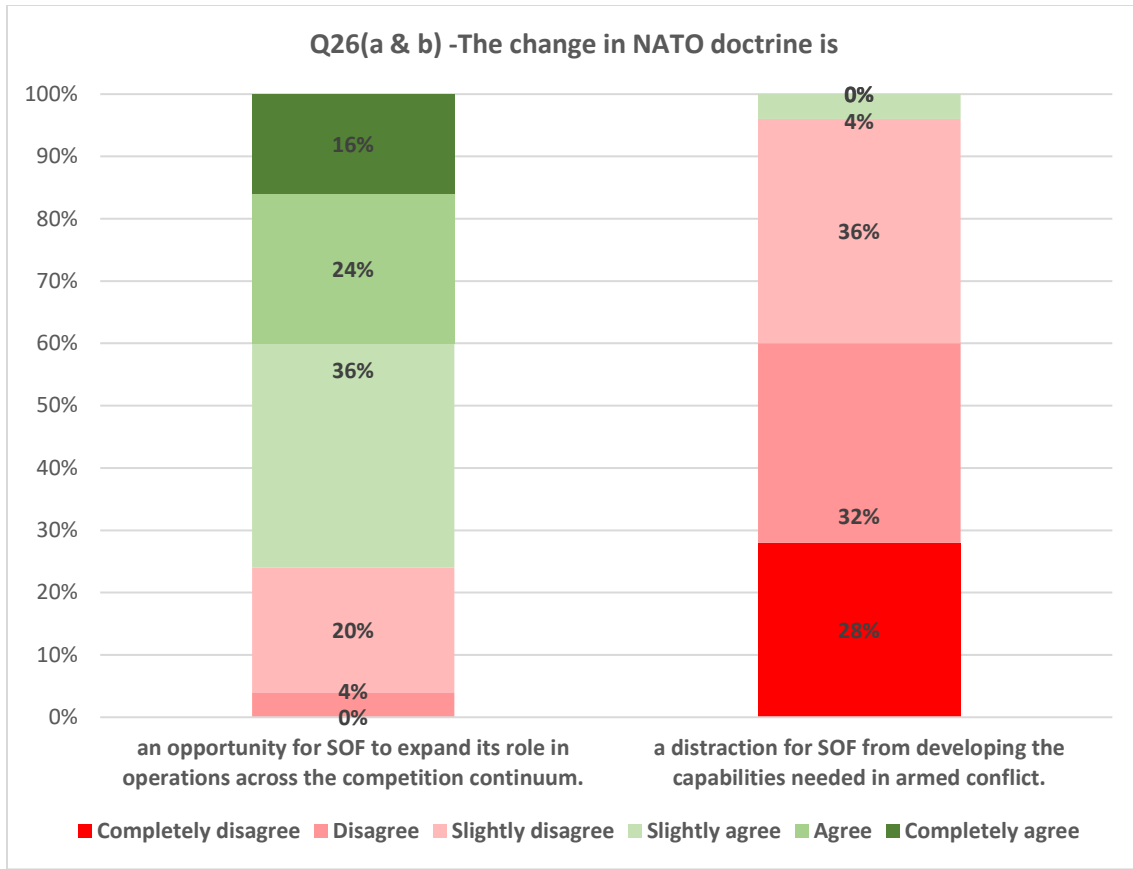


Figure 11. Responses to FFI survey question about NATO doctrinal change as an opportunity or distraction.²¹²

However, it is worth noting that the respondents to the FFI survey seem split in their opinion on the importance of quickly adopting the changes in NATO doctrine into the Norwegian joint doctrine (FFOD). Forty-eight percent agree, while over 52 percent disagree.²¹³ The near 50–50 split may indicate an apprehensive attitude in NORSOFF to the importance of the NATO doctrine’s impact on NORSOFF’s commitment to OIEs and IRCs. Another explanation is the apparent rapid rate of change to concepts such a change implies, creating room for uncertainty. As previously shown, NORSOFF is not overly concerned with the doctrinal attachment of information responsibilities; instead, respondents viewed doctrinal stove piping of the capabilities as a more significant inhibitor.

²¹² Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

²¹³ Forsvarets Forskningsinstitut, Q26(c).

Overall, the FFI survey data suggests that NORSOFF personnel see a responsibility for using and contributing to OIE processes, yet they are hesitant about the role to play in any doctrinal changes. However, NORSOFF personnel are not overly concerned with the doctrinal anchoring of information-related concepts, as they see other capability elements as more significant obstacles to progress.

C. ORGANIZATION

As identified in this chapter, NORSOFF sees a lack of organizational resources as the core internal inhibitor to efficiently integrating information-related capabilities in operations. This section presents FFI survey data on the respondents' opinions regarding organizational issues. The survey did not specifically ask about a vertical split of internal organizational responsibilities of IO functionalities or IAs among the NORSOFF tactical units. However, several questions centered around organizational responsibilities in the chain of command and organizational resources, procedures, and practices at NORSOFF HQ and the unit level. The data indicates a lack of organizational resources in NORSOFF. Furthermore, it indicates an opinion on a horizontal split of responsibility between NORSOFF HQ and tactical units to coordinate NORSOFF operations and activities with a greater military Strategic Communication narrative.

1. Organizational Resources

In Chapter III, the study of NORSOFF and NAF information-related organizations exposed a stove-piped structure in the NAF and nascent organization of functions and roles. The FFI survey asked the respondents to assess a series of statements on whether their organization or units had specific roles, functions, and responsibilities related to information. As illustrated in Figure 12, across the four categories (planning, intelligence, training, and exercises) and assessment in four out of five categories, more than 80 percent disagreed that their unit had specifically dedicated roles or functions to ensure integration of the information aspect. Likewise, in intelligence, 74 percent disagreed with the statement. The 16–25 percent of respondents who agreed with the statement in all five categories were mainly junior officers and NCOs with basic level PME and limited additional education.

Two comments exemplify the findings of this chapters. The first made by a senior officer may be symptomatic of how NORSOFF views the role of information: “The only person who has some kind of defined responsibility is the information manager; however, that role is not tied to operational in- or output.”²¹⁴ The other underlines the importance of a joint approach to remedy the issues: “There is [a] great need for expanding knowledge and functions [in NORSOFF], but it must be in coordination and cooperation with units outside of NORSOFF.”²¹⁵

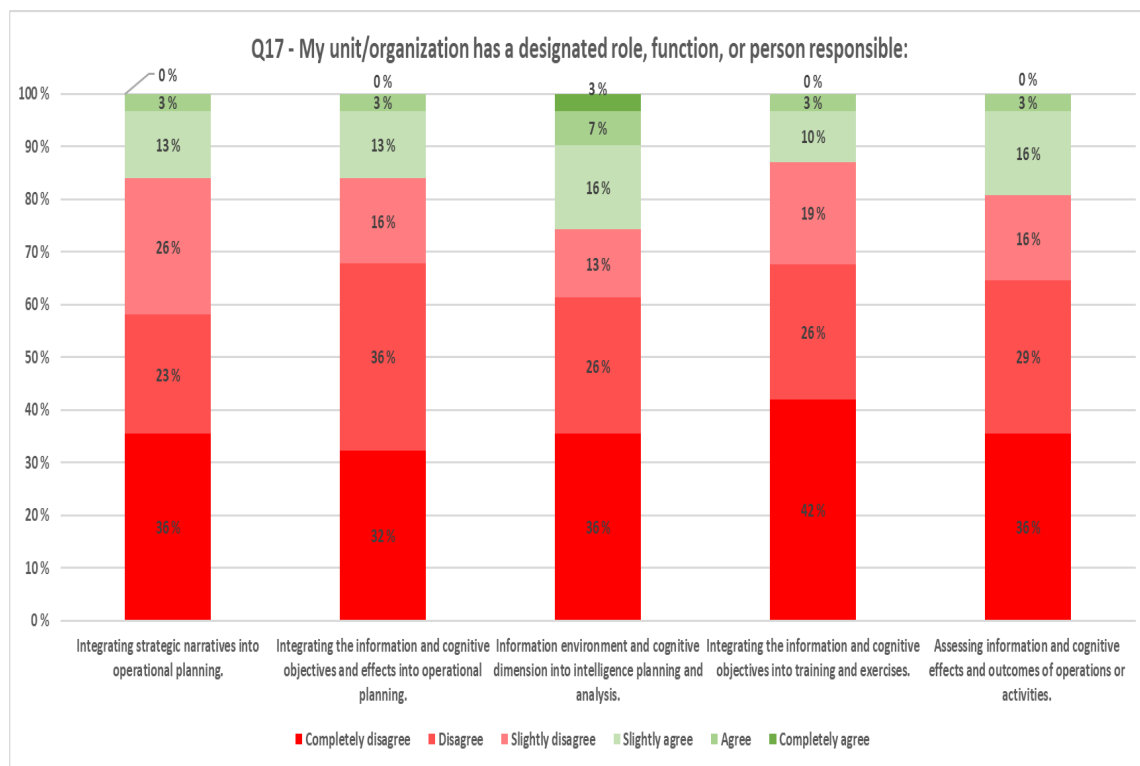


Figure 12. Responses to FFI survey question about NORSOFF tactical unit designated information roles, functions, and responsibilities.²¹⁶

²¹⁴ Forsvarets Forskningsinstitut, Q17 comment.

²¹⁵ Forsvarets Forskningsinstitut, Q17 comment.

²¹⁶ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

Y-axis accounts for percentile distributions of all the answers between the six answer choices from completely disagree to completely agree.

2. Organizational Procedures and Practices

In different questions, the respondents were asked about organizational practices and procedures for considering and integrating information and non-lethal influence. Figure 13 depicts FFI data saying NORSOFF respondents perceive their unit as lacking SOPs, with only 10 percent agreeing with the statement.²¹⁷ While only 25 percent and 34 percent, respectively, agreed with the statements that NORSOFF tactical units consistently and deliberately consider information and cognitive effects in mission analysis and formulate specific information or cognitive objectives.²¹⁸ The strata did not reveal any significant variance between the independent variables.

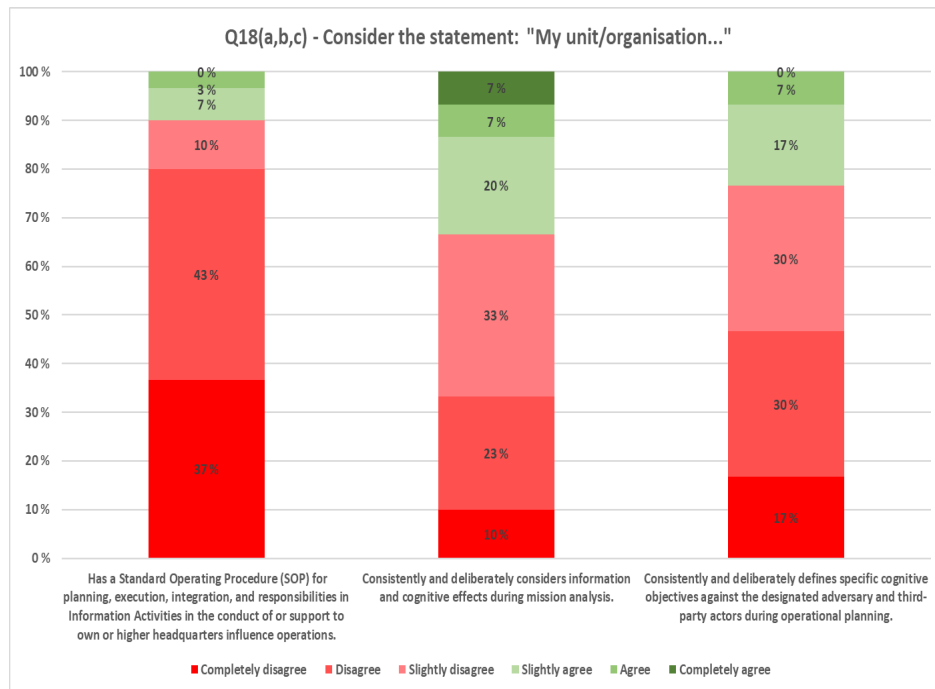


Figure 13. Responses to FFI survey question about NORSOFF information procedures.²¹⁹

²¹⁷ Forsvarets Forskningsinstitut, Q18(a).

²¹⁸ Forsvarets Forskningsinstitut, 18(b,c).

²¹⁹ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

Y-axis accounts for percentile distributions of all the answers among the six answer choices from completely disagree to completely agree.

The FFI survey collected data from the NORSOFF respondents on the consistent and deliberate integration of non-organic or joint IRCs to achieve specific information or cognitive objectives against specific targets. The data, as shown in Figure 14, suggests NORSOFF is better at deliberate use of information activities during expeditionary operations abroad than in national defense operations and not at all during support to government agencies.²²⁰ Using a Chi-squared test and a Fisher exact test for validation, finding a p-value of $p=0.03$, the data shows a statistically significant variation between staff and leadership respondents and those of the “Other” category.²²¹ While the “Other” roles and functions, to a greater extent, agree that their NORSOFF unit does integrate IRCs in national operations, staff and leadership disagree at a higher than expected rate.

The spread of the data can be explained by NORSOFF’s pattern of experiences and operations over the past 20 years. NORSOFF has had access to a greater palette of IRCs from allies and partners during expeditionary operations abroad, particularly from the United States. The recent shift to national defense operations has seen NORSOFF searching for specific roles, relying more on its classical DA and SR capabilities. Furthermore, as the findings in Chapters II and III show, NORSOFF’s challenges are echoed by the NAF’s general approach to OIEs. As for the support to other government agencies, historically, NORSOFF’s role has been as a direct action CT unit. Although NORSOFF’s portfolio is developing quickly, other agencies have the lead role in these operations. Additionally, the support request by other agencies from NORSOFF may be narrow and specific, not allowing for extensive use of IRCs. The data mirrors opinions expressed in conversations with subject matter experts and background research for this thesis, showing NORSOFF as the most experienced in using external partner IRCs over national assets in Norway.

²²⁰ Forsvarets Forskningsinstitutt, Q18(d,e,f).

²²¹ See the appendix for justification of use of Chi-squared test and Fisher’s exact test. Given the limited total respondent number, the findings of significance must be read with a small n in mind, even if validated through both Chi-squared and Fisher’s exact test.

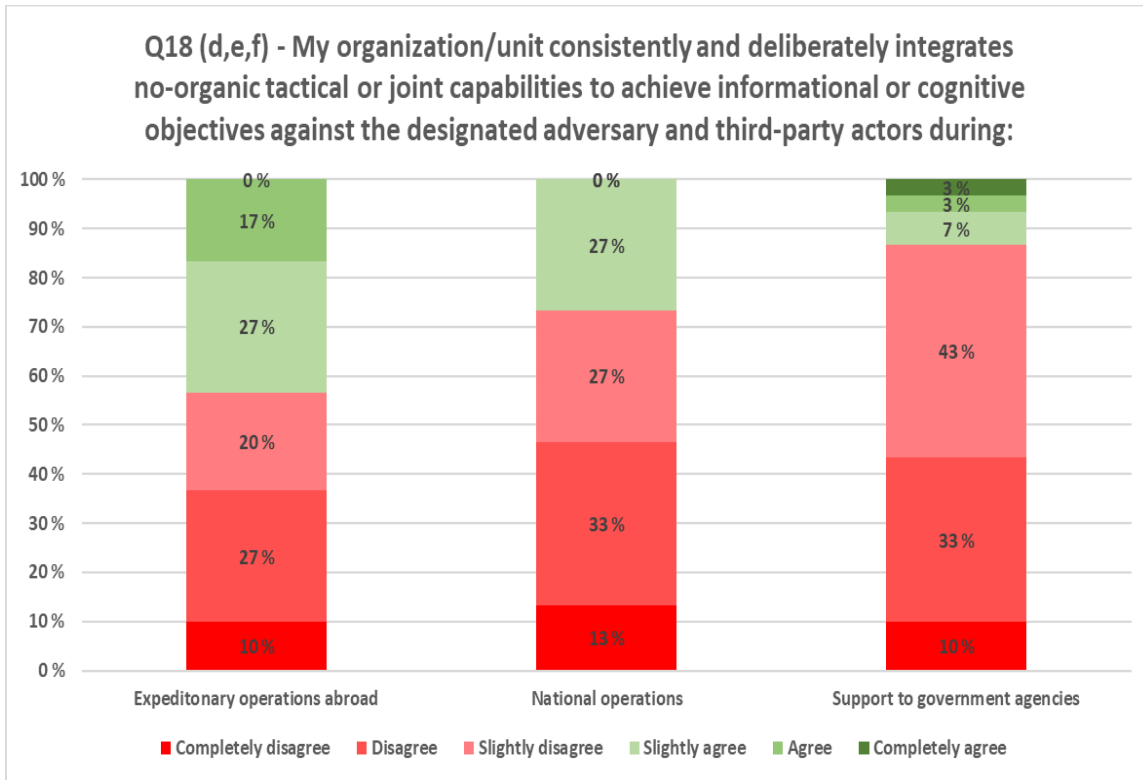


Figure 14. Responses to FFI survey question about NORSOFC joint IRC integration practices.²²²

3. Organizational Responsibilities – Horizontal Split

A limited number of questions in the previously administered FFI survey focused on the organizational or doctrinal distribution of tasks and capabilities within NORSOFC. More specifically, one question asked which organizational level should be responsible for synchronizing NORSOFC activities, plans, and operations with military Strategic Communication and the greater Strategic Communication narrative. The data suggests a horizontal split of responsibility between the service component at HQ level and the tactical unit’s staff. Ninety-two percent of the respondents agreed the responsibility resides with NORSOFCOM and higher echelons, as shown in Figure 15.²²³ While not statistically

²²² Adapted from Forsvarets Forskningsinstitut, *FFI Survey*. Y-axis accounts for percentile distributions of all the answers among the six answer choices from completely disagree to completely agree.

²²³ Forsvarets Forskningsinstitut, Q16.

significant, the data shows a variation in responses between those in leadership functions and those in staff and other categories, but there are no other categorical variation regarding agreement on the responsibilities at the sub-tactical level. The tactical level staff's responsibility is slightly more contested, with 43 percent of respondents sharing some level of agreement while 63 percent disagree. No statistically significant variations were detected in the data, and metadata did not allow a comparison between respective units or staff.

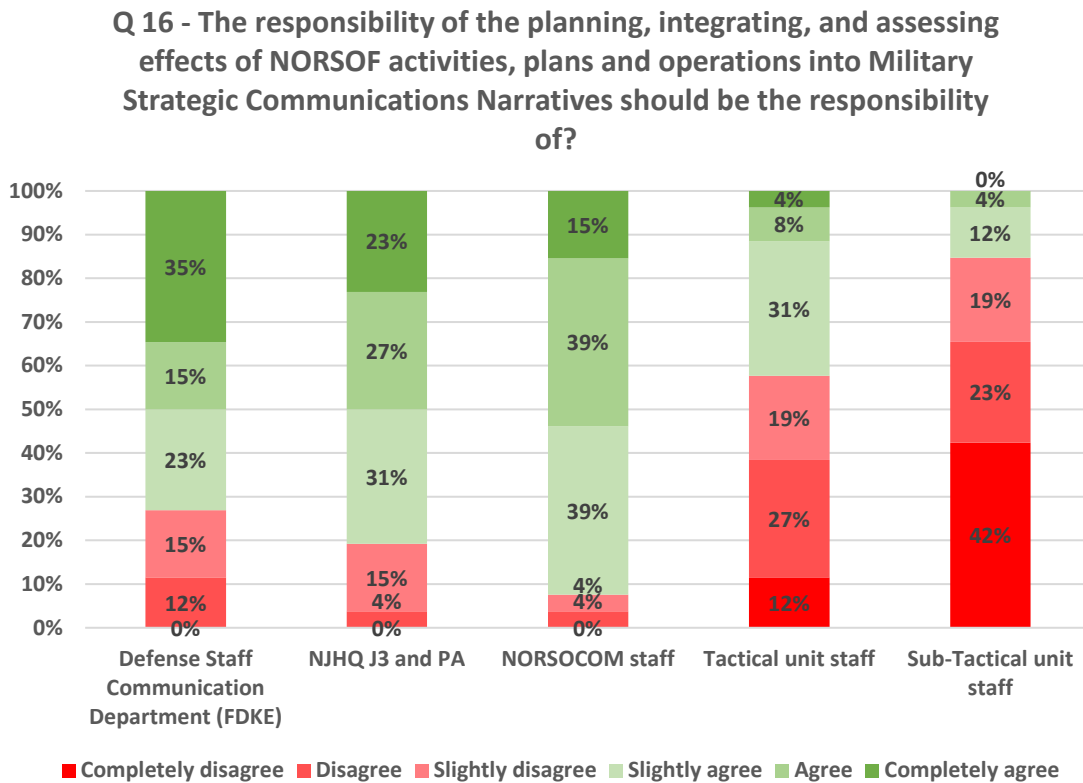


Figure 15. Responses to FFI survey question about Strategic Communication narrative and NORSOF activity synchronization.²²⁴

²²⁴ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.
Y-axis accounts for percentile distributions of all the answers among the six answer choices from completely disagree to completely agree.

The analysis of the survey data indicates a lack of organizational resources in NORSOFF, such as dedicated personnel, roles, and functions to take responsibility for information-related tasks at the unit and NORSOCCOM level. Furthermore, NORSOFF has only a nascent practice of considering information integration in national and inter-agency support missions. Underdeveloped SOPs and practices across the organizations are one area of concern for NORSOFFs utility for OIEs in training and operations. The results suggest a horizontal split of responsibility between NORSOFF HQ and tactical units to coordinate NORSOFF operations and activities with the overarching military Strategic Communication narrative.

D. EDUCATION, TRAINING, AND PERSONNEL

Chapter III assessed the capability elements of personnel, education, and training. This section presents and analyzes FFI survey answers within the same categories. The survey data agree with the findings from the policy study regarding the quantity and quality of the content in NORSOFF and NAF NCO/Officer education, the marginal training content and venues, and a lack of recognized specific career opportunities.

1. SOF and Information Professional's Core Traits

The FFI survey does not explicitly address recruiting and selection of personnel for NORSOFF assaulter or information positions or traits relevant to those positions. However, the respondents were asked to consider statements regarding the primary focus of the NCO and Officer training within NORSOFF. As shown in Figure 16, 82 percent and 66 percent of the respondents agreed with the claim that NCO and Officer training, respectively, primarily focus on physical and technical skills for SR/DA skills.²²⁵ With no significant statistical variation within the categorical data, the answers support the findings from literature regarding NORSOFF training, emphasizing the core tasks for SR and DA. Hence the traits identified in Chapter III are likely to be the core personality traits of those going through NORSOFF selection and qualification training.

²²⁵ Forsvarets Forskningsinstitut, Q22(a&c).

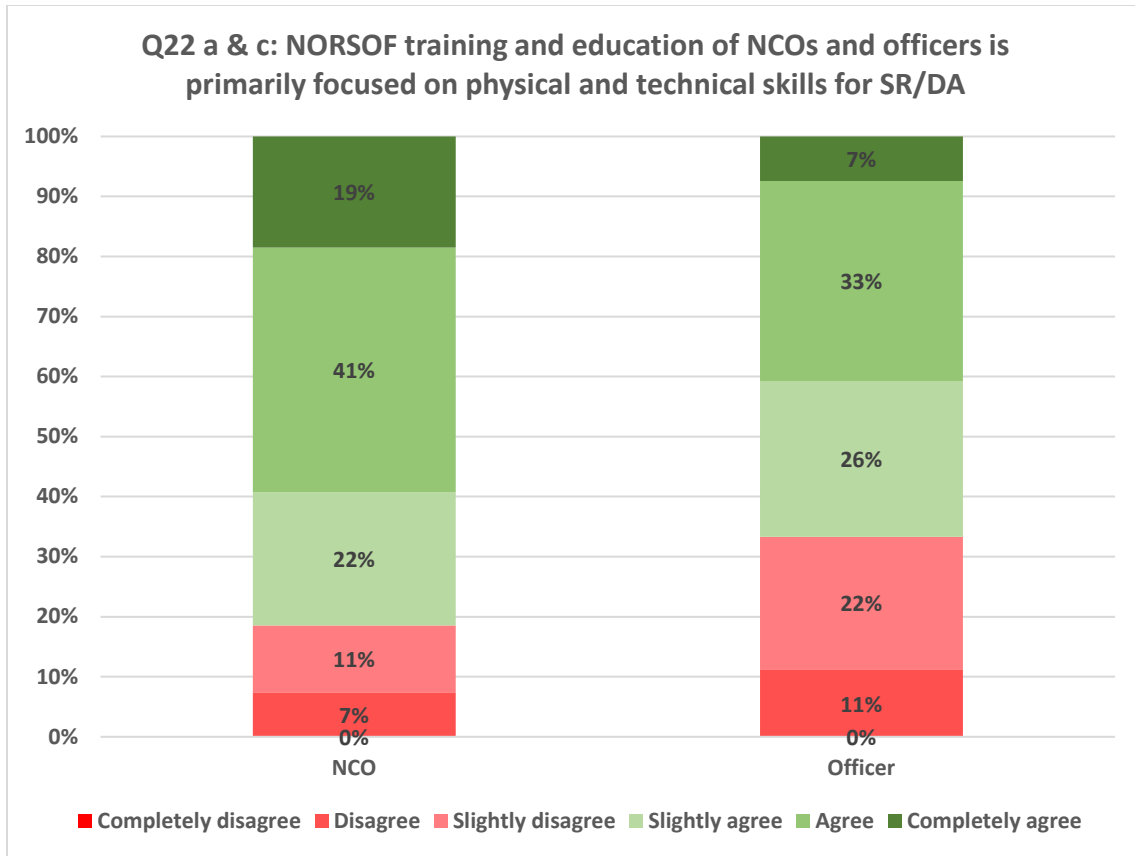


Figure 16. Responses to FFI survey questions about primary emphasis on SR and DA in NORSOF training.²²⁶

Since only one-third of NORSOF personnel have gone through selection, relying only on assaulters as a recruiting pool for IRC personnel would be a severe limitation. Other categories of personnel have not been assessed for traits. However, the FFI survey did ask the respondents to categorize the three primary sources of their knowledge of IO, IRCs, and Strategic Communication.

Across all the respondents' variables, the data shows personal interest and reading as the primary sources of knowledge, closely followed by professional experience and professional military education.²²⁷ Nevertheless, categorizing the data according to the

²²⁶ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.
Y-axis accounts for percentile distributions of all the answers among the six answer choices from completely disagree to completely agree.

²²⁷ Forsvarets Forskningsinstitut, Q7.

military education level reveals the individual highest level of completed military education as the primary source for understanding OIEs and information functions. Personal interest and professional experience alternated as the following two sources across all independent variable data categories.

In other words, the content and emphasis of the various PME levels have the most significant impact on explicit knowledge about the OIE. Hence, according to the literature studied in Chapter III, the importance of preeminence and content in the curriculum will significantly impact both individual and organizational knowledge about the role of information in military affairs.

The FFI survey asked the respondents to assess their level of knowledge based on six levels, from “No knowledge” to “Expert knowledge,” about the eight classical IRCs, PA, and Strategic Communication.

As shown in Figure 17, more than 50 percent of the respondents report a limited level of knowledge of seven categories, except for EW, OPSEC, and KLE. For those categories, 51 percent, 84 percent, and 57 percent, respectively, report robust knowledge.²²⁸ The assessment of robust knowledge around those three categories seems reasonable. OPSEC is an essential element of Special Operations, emphasized across nearly all activities, plans, and operations within the SOF community.²²⁹ Similarly, the KLE activity and EW capabilities have been central to NORSOE expeditionary operations in Afghanistan and the Middle East over the past 15 years. The inclusion of these IAs led to NCOs and officers being exposed to practical experiences at sub tactical and tactical levels, subject matter experts, and repeated training before deployments.

²²⁸ Forsvarets Forskningsinstitut, Q11.

²²⁹ Forsvarsstaben, *FFOD - 2019*, 133.

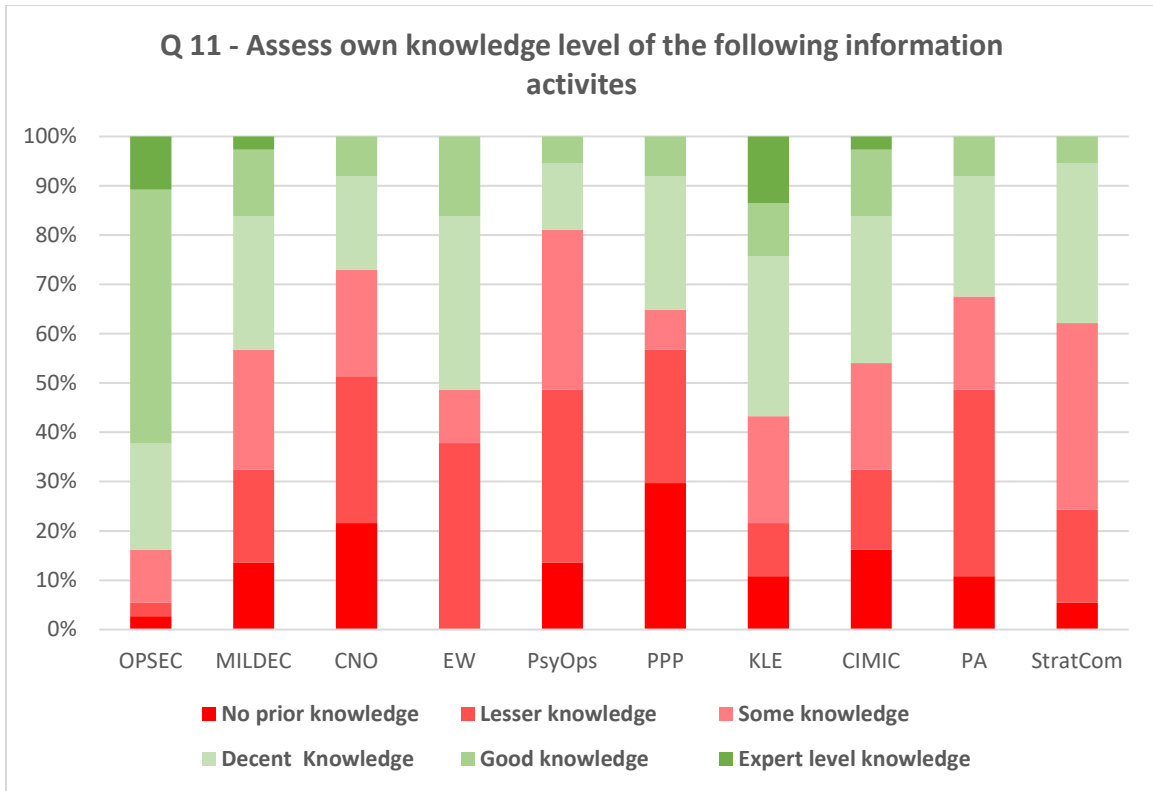


Figure 17. Responses to FFI survey question about NOROSOF self-assessed knowledge level.²³⁰

The statistics show that the higher the level of PME and experience, the higher the confidence in own knowledge corresponding with the reported level of understanding. Though not statistically significant due to the limited number of respondents in this category, NCOs report nearly 100 percent limited knowledge of CNO and Strategic Communication. Based on the basic and advanced NCO PME curriculum review, one explanation could be that CNO and Strategic Communication are not part of the instructional level because NCO education is focused on the sub-tactical and tactical level related skills. Thereby, their education does not introduce NCOs to these concepts.

²³⁰ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*. Y-axis accounts for percentile distributions of all the answers among the six answer choices from completely disagree to completely agree.

2. Education

The data from the FFI survey indicates that the PME is a key factor in understanding OIE and related capabilities for officers and NCOs. When asked to assess the statement, “the current officer and senior NCO training and educations are sufficient and focused enough to enable NORSOFF to develop its ability to influence targets through non-lethal means,” the overwhelming majority disagreed by 78 percent, as shown in Figure 18.²³¹ The statement does not discern whether the content or quantity of the education is insufficient in PME or additional courses. However, the survey also asked if their unit/organization within NORSOFF deliberately trains or educates personnel in specific OIE-related capabilities or functions. Figure 18, Question 22(e), visualizes the overall consensus by the respondents, which reflects 96 percent in disagreement across all variables.²³²

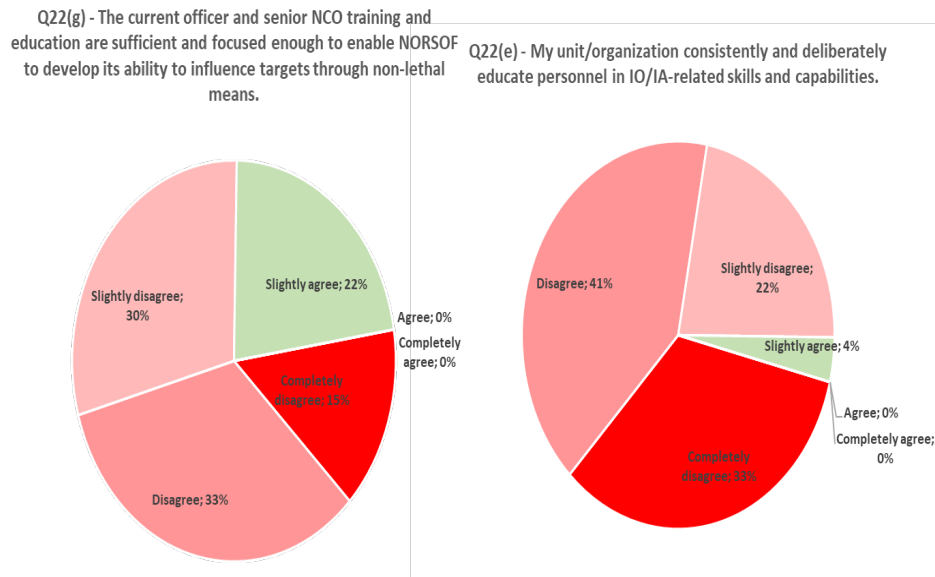


Figure 18. Responses to FFI survey questions about quality of education and NORSOFF deliberate training.²³³

²³¹ Forsvarets Forskningsinstitut, Q22(g).

²³² Forsvarets Forskningsinstitut, Q22(e).

²³³ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

Several of the respondents in the comments noted that NATO and NPS information-related courses hold a high standard on the subject.²³⁴ Similarly, one respondent stated: “[There is] some education and training at [the Norwegian] CSC [command and staff college]. Very few competent mentors during training. Education is good but quite limited.²³⁵ As indicated by the conclusions from the literature review and the survey data, the general Norwegian PME is limited in quantity, yet it has the potential for high quality if thought in sufficient quantity. Comparably, the quality of externally available courses receives positive remarks. At the same time, the data also indicates NORSOFF, to a lesser degree, takes advantage of these courses.

3. Information Career Track

Several sources noted that the lack of a career track for information personnel impeded the proliferation and integration of IRCs and OIEs. Results from the FFI survey support the findings of the literature. When asked if NORSOFF needs a career track for information trained personnel and at what level in the organization it should start, 92 percent disagreed with the statement that “NORSOFF does *not* need an information career track” (emphasis added).²³⁶ Only a handful of respondents with entry-level officers’ education within the leadership had reservations about the idea, though not within any statistically significant range. As shown in Figure 19, a majority agreed that an information-related career track should start at the battalion level and extend upward, and were not in favor of starting at the platoon level. The data shows that the respondents are split regarding career opportunities at the squadron level, again without any statistically significant association between respondent groups.

²³⁴ Forsvarets Forskningsinstitutt, Q24 comments.

²³⁵ Forsvarets Forskningsinstitutt, Q24 comment.

²³⁶ Forsvarets Forskningsinstitutt, Q23(e).

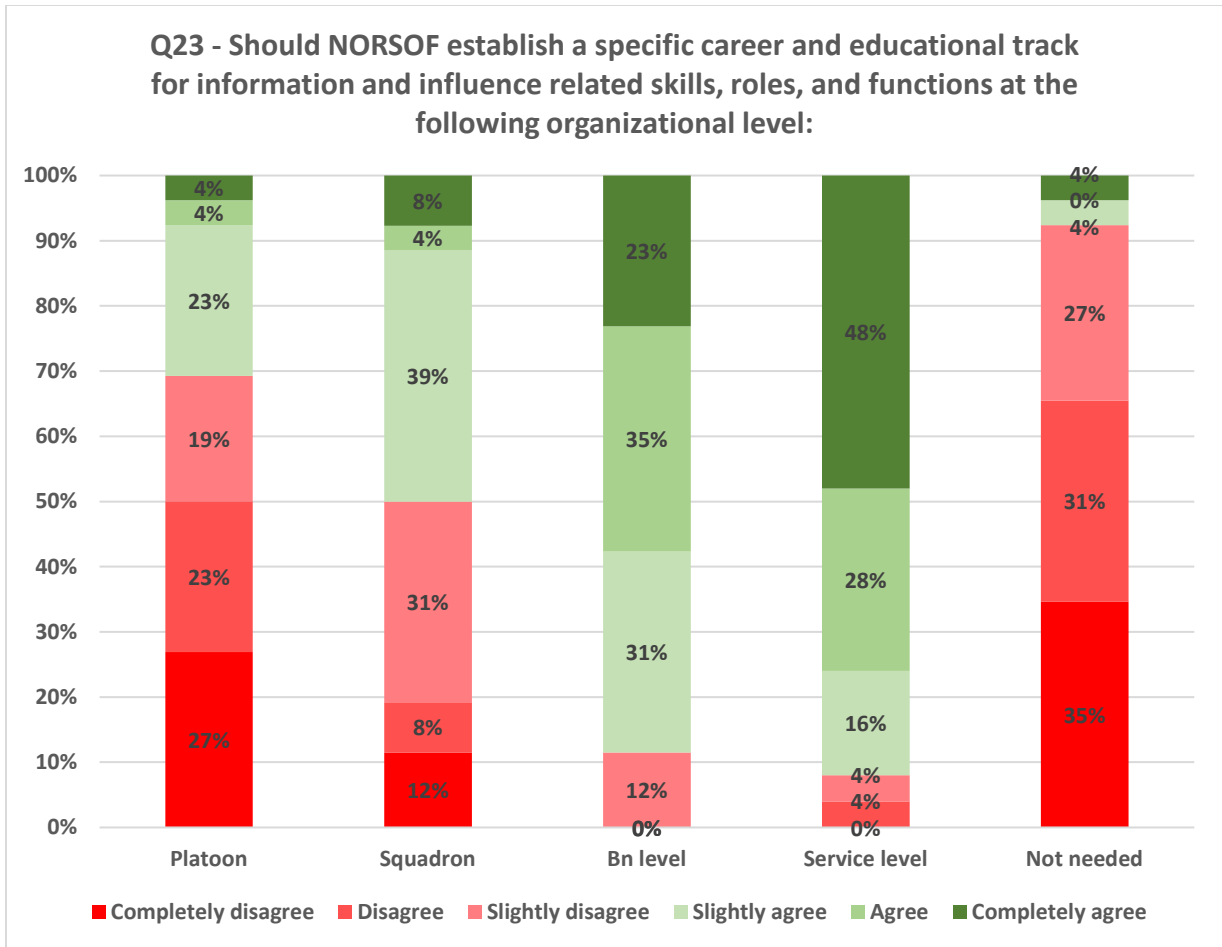


Figure 19. Responses to FFI survey question about the need for a NORSOFF Information career track.²³⁷

One source in the literature noted that: “Viable career paths to attract bright officers” are necessary to ensure “new ways of fighting to take root within existing military institutions.”²³⁸ One respondent, however, noted in comments on Question 23 that:

Working in information and influence-related functions has never been career-enhancing. It is extremely difficult, and the best officers and NCOs are never the ones chosen to work with this. I assess it to be a career-ending move to go down that path. We will NOT beat Russia in the physical domain, so we need to be smarter. However, this is difficult and carries no

²³⁷ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.
Y-axis accounts for percentile distributions of all the answers among the six answer choices from completely disagree to completely agree.

²³⁸ Murray and Watts, “10 - Military Innovation in Peacetime,” 409.

prestige, so it is a job given to those deemed not good enough for the more prestigious positions in a staff. At all levels in the Norwegian military, hierarchy is my experience and opinion.²³⁹

Another respondent commented that many courses at the NATO School Obergamou (NSO) are good, “however, in NATO, the A-team is never sent on these courses, and they are never chosen/ordered to work within this field.”²⁴⁰

The few comments on this subject indicate that the claims made in the literature that information-related jobs are valued as second-rate are valid. In terms of the data presented earlier on the NORSOF organization, there is a gap between the current state of manning, responsibilities, and procedures and the recognition of the value of specific career opportunities for information personnel. Given the data’s indication, NORSOF respondents see the value of a specified career track and a need for more information-related education for its personnel.

4. Training

While education is a key to understanding the information dimension, the opportunity to actively use the explicit knowledge and transform it into tacit knowledge through training is equally important. Correspondingly, the FFI survey asked whether NORSOF’s integration of information in training and exercises is the responsibility of specific personnel. As Figure 20 shows, 87 percent of respondents disagreed to some degree.²⁴¹

²³⁹ Forsvarets Forskningsinstitut, *FFI Survey*, Q23 comments.

²⁴⁰ Forsvarets Forskningsinstitut, Q24 comment.

²⁴¹ Forsvarets Forskningsinstitut, Q17(d).

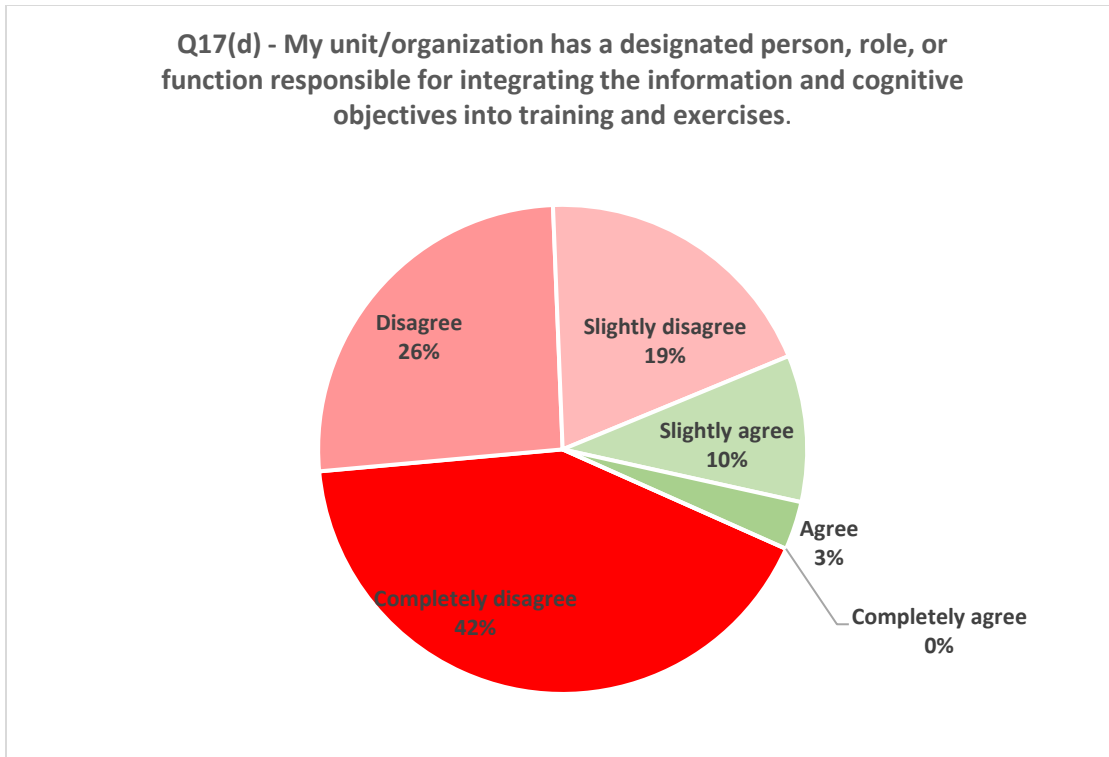


Figure 20. Responses to FFI survey question about responsibility for information integration in training and exercises.²⁴²

There were no statistically significant differences in the categorical data. Though the question does not directly address the integration of information in exercises, the lack of a responsible person, role, or function indicates that the responsibility resides elsewhere in the organization or is not considered necessary. A review of the data from the organization section shows that it yielded comparable results related to responsibility for the allocation of information integration in planning, intelligence processes, or assessment. The respondents' answers also showed similar results related to the SOPs, deliberate procedures, and operational planning and execution practices. The aggregate of these findings is an indicator of a limited integration of information-related objectives, effects, and capabilities in training and exercises in NORSO.

²⁴² Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

E. LEADERSHIP

The following section presents data from the FFI survey on NORSOFF's perception of leadership's role and involvement in information integration. The survey data indicates a difference between the literature and the opinions of the surveyed NORSOFF personnel. The difference is in the perception of the importance and consequences of a lack of publicly stated ambition for operations in the information environment by the *NORSOFF 2030* strategy. Comments also indicate a lack of political and strategic interest in advocating IRCs and OIEs.

The final questions of the FFI survey concentrated on the apparent absence of explicit ambitions and mention of capability development for offensive tactical use in the information environment. When asked if the lack of specific information or cognitive goals in the NORSOFF strategy indicates that the organization has an incomplete understanding of the IE in the future, 54 percent, to some degree, agreed with the statement.²⁴³ When grouped by education level or organizational role, though without statistical significance, the respondents with higher levels of education and staff positions tended to agree more. In contrast, those in a leadership role mirrored the overall distribution. However, as shown in the righthand graphic in Figure 21, 70 percent disagreed when asked if lacking a clear information-related vision indicated a potential loss of strategic utility in the future.²⁴⁴ Categorizing for the independent variables, no significant variation among the groups was found.

²⁴³ Forsvarets Forskningsinstitut, Q27(a).

²⁴⁴ Forsvarets Forskningsinstitut, Q27(b).

Q27(a) - The absence of specific information or cognitive related goals & visions in the NORSO 2030 Strategy indicates NORSO's incomplete understanding of the importance of the informational environment and cognitive dimension in the future conflict

Q27(b) - The absence of specific information or cognitive-related goals & vision in the NORSO 2030 strategy indicates the potential reduction of strategic utility in the future operating environment

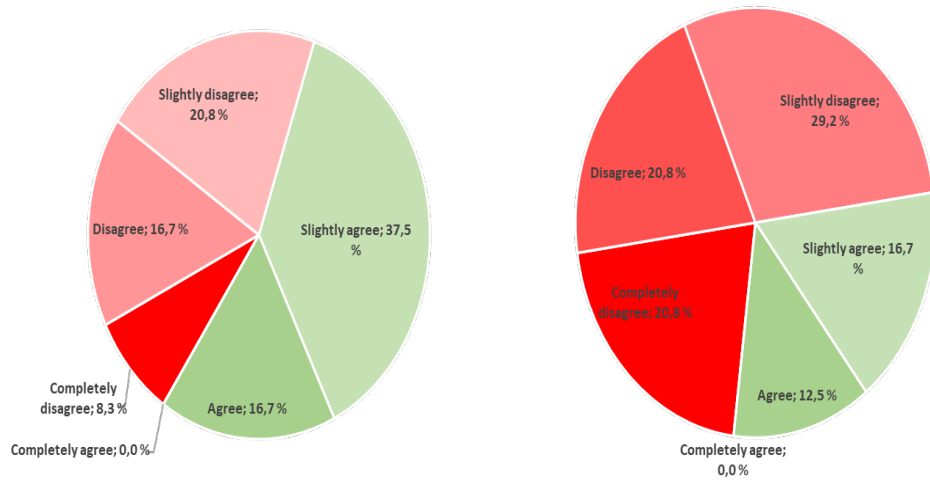


Figure 21. Responses to NORSO 2030 strategy-related questions in the FFI survey.²⁴⁵

As mentioned in Chapter III, the *NORSO 2030* strategy is not the only source where NORSO leaders promulgate their thoughts and visions. Internal forums, leadership dialog, and classified documents provide a more detailed and nuanced picture. Additionally, as shown previously in Figures 8 and 9 the FFI data ranked lack of *leadership guidance and intent on OIEs* relatively low as both internal and external factors that inhibit the integration of IRCs.²⁴⁶

No questions directly addressed the role of political or strategic leadership advocacy for either NORSO or information-related operations, capabilities, or activities. Some qualitative comments indicate a perception of a tepid interest by higher command levels for OIEs and IRCs. One experienced NORSO leader with JPME level education commented, “There is no use to emphasize the employment of IO effects within SOF if the

²⁴⁵ Adapted from Forsvarets Forskningsinstitut, *FFI Survey*.

²⁴⁶ Forsvarets Forskningsinstitut, Q20 & Q21.

strategic or operational level can exploit a higher level of competence within SOF on this.”²⁴⁷ While another junior leader commented,

In my experience, neither the operational or strategic level shows any interest in the active and deliberate use of IO/IA. We have tried to get them to use media to shape opinions on exercises. Still, they have no interest in doing so. If anything is produced, it’s too late and out of sync with the action on the ground.

The comments indicate that some NORSOE employees do not believe that pushing information integration will garner more advocacy.

F. MATERIAL AND RESOURCES, FACILITIES, FUNDING

The FFI survey does not directly address material resources, facilities, or funding. The few questions that broach the subject are not specific enough to discern in-depth patterns. Open text remarks made in the survey indicate a lack of priority and resources for information-related capabilities and activities. Similarly, Figures 8 and 9 show that NORSOE ranks organizational resources as a principal internal inhibitor and the fifth leading external factor.²⁴⁸ Most of these factors are later identified as personnel, billets, knowledge, and training, which require material resources, facilities, and sufficient funding. Further studies on these elements are beyond the scope of this thesis and the FFI survey.

G. CHAPTER FINDINGS

This chapter has analyzed data from the previously administered FFI survey on NORSOE personnel’s perceptions and understanding of OIE in relation to Norwegian Special Operations. The analysis revealed that 96 percent of the respondents find NORSOE underprepared to fully exploit the potential of future operations in the information environment. NORSOE still sees its utility tied to generating effects in the physical domain, which are findings similar to those in both the literature review and the policy study. However, NORSOE personnel pointed primarily to external factors as the primary

²⁴⁷ Forsvarets Forskningsinstitut, Q25 comment.

²⁴⁸ Forsvarets Forskningsinstitut, Q20, 21.

inhibitors for effective integration and development of IRCs, while the data also suggested internal factors play a notable role.

According to the data, most of the respondents pointed to the fragmentation of NAF IRCs as the critical external factor. However, comments also pointed to insufficient policies as a limiting factor; apart from the critical external issues, internal and external factors that affect NORSOF's ability to execute effective OIEs mirror each other. Insufficient organizational resources, an underdeveloped understanding of the information environment, and limited attention to information and influence related operations in professional military education were ranked by respondents as the leading causes for NORSOF's lack of preparedness to meet challenges in the information environment.

Both Chapter II's policy study and the survey data indicated that Norwegian IRCs are siloed within the respective service branches. The survey data suggested that NORSOF does not see IRCs and activities as a purely conventional responsibility. However, NORSOF sees itself as best suited to conduct IAs in a supporting role and does not see specific IRCs as core tasks in line with SR, MA, and DA. Additionally, 76 percent of the NORSOF respondents viewed changes to the NATO strategic communication and information operations doctrine as an opportunity for NORSOF to evolve its OIEs.

The analysis of the survey data indicated a lack of organizational resources in NORSOF—dedicated personnel, roles, and functions—to take responsibility for information-related tasks at the tactical unit and NORSOCOM level. Furthermore, respondents with staff and leadership positions found NORSOF has a nascent practice of considering information integration in national and inter-agency support missions to a greater degree than those in other functions.²⁴⁹ Additionally, underdeveloped SOPs and practices across the organizations were an identified area of concern for NORSOF's integration of OIEs in training and operations. The results showed that most respondents support a horizontal split of responsibility between NORSOF HQ and tactical units to

²⁴⁹ See the appendix more detail on the categorical group compositions. "Others" is a combination of enablers and squadron level functions.

coordinate NORSOFF operations and activities with the overarching military Strategic Communications narrative.

The survey exposed a relatively large, self-assessed knowledge gap among the NORSOFF respondents. Apart from familiar concepts such as KLE, OPSEC, and EW, more than 50 percent reported limited knowledge of seven out of ten named IRCs. The survey data agreed with the findings from the policy study regarding the amount and quality of content in NORSOFF and NAF NCO/Officer education, indicating marginal training content and venues and a lack of recognized specific career opportunities. Some comments also clearly noted that working with information-related capabilities is not seen as a career-enhancing specialty, and few key leaders have served within this line of MOS. The NORSOFF respondents did see the value of having a specified career track for information professionals and a need for more information-related education for its personnel. While there was a nearly 50/50 percent split among those who think an information-related career track should start at the company level, and more than 80 percent agreed that an information-related career patch should start at the battalion staff level or above.

The policy study found leadership visions and goals combined with explicit and enduring advocacy from senior leaders as necessary when innovating new concepts. The survey data indicated a difference between the literature and opinions of the surveyed NORSOFF personnel regarding NORSOFF's shared vision. While a slight majority agreed that the absence of specific information or cognitive-related goals and vision in the *NORSOF 2030* strategy indicates NORSOFF's incomplete understanding of OIE's, more than 73 percent disagreed that the absence reduces the potential strategic utility of NORSOFF. However, comments also indicated a lack of political and strategic interest in advocating for IRCs and OIEs. Although explicit leadership guidance was rated as a lesser issue and not a critical factor, the challenge for NORSOCOM remains how to align internal and external higher-level guidance and priorities regarding operations in the information environment.

The FFI survey did not directly address material resources, facilities, or funding. The few questions that broached the subject were not specific enough to discern in-depth

patterns. Open text remarks made in the survey indicated a lack of priority and resources for information-related capabilities and activities, both internally and externally.

V. CONCLUSION AND RECOMMENDATIONS

A. INTRODUCTION

This thesis has examined the options and limitations impacting NORSOFF's effective integration and development of information-related capabilities in activities and operations. First, this thesis reviewed the literature on the utility of special operations and origins operations in the information environment. Next, to understand the conditions for OIEs in Norway, the thesis analyzed Norwegian policy documents and the NORSOFF capability elements: doctrine, organization, training and education, material resources, leadership, personnel, facilities, and funding (DOTmLPF-F). Data already collected from a previously administered survey of NORSOFF personnel conducted by the Norwegian Defense Research Establishment (FFI) supported the latter policy study. The results from the policy study were contrasted with the survey data to reveal gaps, constraints, and opportunities for NORSOFF to optimize its utility by improving the integration of information-related capabilities.

This thesis has aimed to give Norwegian Special Operations Command a foundation for assessing necessary improvements and changes within NORSOFF to expand its options for operations in the information environment. While the research studied both Norwegian SOF and conventional forces' information-related organizations and capabilities, the scope was limited to recommending improvements for NORSOFF. Due to the NORSOFF and the Norwegian Armed Forces' size and numerous joint functions, several recommendations will require close coordination and changes outside of NORSOFF authority.

This research suggests five areas of focus to NORSOFF for immediate improvements: expanding education, assigning leadership priority, defining organizational responsibility, expanding joint targeting process involvement, and establishing dedicated involvement in ongoing strategic level and Army IO projects. Furthermore, the thesis recommends three long-term approaches for enduring effects. First, deliberate integration of IRCs and information and influence objectives in training and exercises is needed;

second, the Norwegian Defense College and PME must be encouraged to include more influence and information-related curriculum; and finally, an active dialog with military strategic and political leadership must be initiated to encourage increased advocacy of and authorities for operations in the information environment.

B. SUMMARY OF FINDINGS

The findings are divided into three categories: gaps, constraints, and areas of opportunity for NORSOE. Based on this categorization, options for immediate and long-term measures to improve information integration and capabilities have been identified, thereby answering the research question:

What gaps, challenges, and opportunities does NORSOE face to effectively integrate and develop information-related capabilities to increase operational utility in the future information environment?

The three categories of results are not hewn in stone and should be viewed as dynamic and influenced by several internal and external factors. The following three sections present the trends as interpreted from both the policy study and data already collected from the previously administered survey.

1. Gaps

The study of Norwegian political and military governing documents exposed a contrast in recognition of the complex threats in the information environment and the prioritization of the means and ways to counter these threats. Norwegian policy acknowledges the complex threats facing the nation and expects the Norwegian Armed Forces to utilize the potential for OIEs in the defense against foreign influence. However, the suggested and promoted means of building comprehensive situational awareness for effective strategic communications are described as reactive with little room for initiative. Norwegian strategy and doctrine subsequently follow the same trend, describing defensive measures to a greater extent than proactive and offensive means of influencing opponents in the IE. Subsequently, there is a gap between the expectation of the NAF capitalizing on

the potential for operations in the OIE and the ways and means that are prioritized and promoted in governing documents and by political and military leaders.

The say-do gap in policy, strategy, and leadership affects doctrine, personnel, organization, and funding. Norwegian doctrine accurately depicts the information environment and its impact on the operating environment but does not fully describe how to effectively and proactively operate in the information environment. Though the importance of strategic communication is surfacing in strategy and the latest doctrine, the organizational gap between technical/system focus versus content-focused IRCs is evident in the NAF. Within NORSOFF, the research exposes a contrast between NORSOFF personnel's perception of the importance of IRCs and OIEs and the organization's level of personal and institutional knowledge. Furthermore, there is a potential gap between the personal traits of NORSOFF-selected personnel and the potential requirements of future information-related personnel.

Finally, there is a gap between funding and both the allocation priorities and requirements needed for developing a credible information capability across the NAF and NORSOFF. A predominance of funding is allocated to traditional lethal and kinetic warfighting systems or technical information systems, while little is geared toward organizational resources or content-related capabilities. Overall, there is a say-do gap and a system versus content gap relative to information and IRC integration in the NAF and NORSOFF.

2. Challenges

NORSOFF should be cognizant of constraints that may impact its efforts to expand IRCs and integration and find ways to mitigate the issues. The research suggests that an overarching challenge is conservative attitudes about proactive and offensive OIE as measures along the competition continuum. In general, the policies are conservative and defensive, prioritizing cyber defense and other defensive measures against foreign influence operations. These priorities are mirrored in some of the strategic documents, with limited goals and prioritization of influence and information-related capabilities. Though NORSOFF personnel are not concerned with a doctrinal tie, NATO and Norwegian doctrine

do not directly link SOF and information-related doctrine. This may not be a constraint at the tactical level but could prove challenging at the operational and strategic levels when seeking to influence decision-makers or building advocacy for information innovation efforts.

As addressed by NORSOFF personnel in the FFI-survey, a majority of the limitations are organizational, resource, or knowledge-driven. An internal concern is the lack of dedicated personnel, functions, procedures, and routines for integrating IRCs and information effects in NORSOFF. Additionally, FFI survey data from NORSOFF personnel and the policy study indicate a low level of understanding of the IRCs and operations in the information environment. Regardless of the approach NORSOFF takes in developing its information-related capabilities, personnel will be a critical resource. Recruiting, selection, and training of dedicated information personnel are all identified in the literature and the FFI survey as vulnerable points.

NORSOFF also faces external challenges in education, career management, and IRC organization that impact IRC integration and internal capability development. Norwegian PME does not have a comprehensive inclusion of and focus on OIE-related curriculum, causing the knowledge gap in NORSOFF and NAF organizations and personnel. Similarly, limited recognition of information personnel's competence and the absence of information and influence related career paths may inhibit the recruitment of competent and motivated personnel. Another area of concern is the fragmentation and firewalling of some IRCs in the NAF, like offensive CNO inside the NIS. Additionally, limited operational level integration resources may require extra attention and effort by NORSOFF in immediate integration. Also, the missing content-focused IRC, PsyOp, may impede a broad NORSOFF approach to integrating full-spectrum IRCs. Other external challenges include a constrained budget for NORSOFF and the NAF, which will likely lead to an even tougher battle for resources and advocacy from the strategic leadership.

3. Areas of Opportunity

NORSOFF has a broad palette of opportunities from which to work as it increases its capabilities to operate in the information environment. Norwegian political and strategic

efforts to expand strategic communications capabilities and NATO's parallel pursuit of doctrinal evolution of Strategic Communications and Information Operations are promising trends. NORSOFF could benefit from supporting and joining with the Norwegian Army's projects for the integration of information activities and capabilities, combined with both the *Norwegian Land Warfare* doctrine and the Army's *Tomorrow's Army* future concept. NORSOFF's strategy, *NORSOF 2030*, is a lean and flexible vision that can easily be updated and provide a good platform for promoting more explicit goals and concepts for NORSOFF OIE capabilities.

Within NORSOFF, a culture for joint operations and a concentration of the mission portfolio serves as a platform for the decentralized integration of IRCs. Following the distribution of core capabilities across the NORSOFF force, a similar distribution for integration of IRCs is a natural fit. The current priorities in developing robust C2 systems, increased intelligence capabilities, and influential contributions to the joint targeting cycle are also foundational elements for IRC integration in NORSOFF. Similarly, NORSOFF already has many joint and combined training and exercise arenas that can serve as educational, research, and development arenas. Various concepts for using information-related capabilities and integration at the staff and tactical levels can easily be integrated into these activities.

Although the process would be long, NORSOFF has good experience developing career pathways and opportunities for its personnel. NORSOFF can leverage its external senior-level advocates and the inclusive and innovative NORSOFF culture as a breeding ground for information professionals. In short, NORSOFF can be a showcase for the utility of well-integrated and effective operations in the information environment.

C. RECOMMENDATIONS

Although the previous section exposed some gaps, background research, the literature review, policy study, and comments in the FFI survey underline the extent to which NORSOFF operations in the information environment depend on political and strategic conditions, desired effects, and end-states. Tactical and operational level

integration hinges on more knowledge, greater prioritization by leadership, and sufficient organizational resources.

As established by the literature review, NORSOFF's utility is tied to providing strategic and operational level decision makers with expanded options outside of conventional military assets, either organically or as an enabler acting as a synergist. In a strategic and operational environment where affecting and exerting information power is becoming increasingly important, there is room for innovation of SOF strategic utility. For NORSOFF, closing the identified gaps while mitigating some of the challenges is an opportunity. Therefore, the following recommendations for immediate and long-term actions are presented.

1. Immediate Actions

One of the central challenges to expanding NORSOFF information integration and capability development includes current political and strategic guidance and permissions. The MoD should increase its efforts to create an environment conducive to NORSOFF integrating and joint operations with IRCs. If NORSOFF is to step up and improve its utility without higher level support, actions need to be taken within the realms of NORSOFF authority and NAF level approval. These immediate action recommendations are meant to be executable within the current resource and allocation framework and in line with dedicated priorities from the NORSOFF and NAF leadership.

Closing the NORSOFF OIE knowledge gap should be the highest priority, but it should be done systematically and intentionally. Sending individuals to various information-related courses at random does not build institutional knowledge or capability. NORSOFF should systemically leverage established relations with the Norwegian Defense College, the Naval Postgraduate School, and NATO partners to educate and train leaders from the platoon to the operational level. Through deliberate use of short-duration courses and specific educational goals for VOU education and research would quickly raise explicit knowledge among NORSOFF decision makers, enabling tacit organizational knowledge to grow. Similarly, current and future intelligence, operations, plans, and fires personnel

should receive specific information and influence related education in addition to the suggested improvements in the NORSOF strategy.

NORSOF should dedicate staff functions and personnel at the squadron, regimental, and NORSOCOM level with responsibilities of ensuring the integration of information and influencing perspectives into activities, plans, and operations. At the NORSOCOM level, one dedicated function in the J3 and J5 sections should be assigned to coordinate, synchronize, and assess NORSOF activities, plans, and operations with the NAF Strategic Communication and narrative.

NORSOF leadership should, through the chain of command from squadron to COM NORSOCOM, express clear intentions, goals, and objectives for cognitive effects achieved through the use, integration, and development of operations in the information environment. By internally advocating for the imperative symbiotic relationship between SOF core capabilities and information-related capabilities, the organization's culture will foster innovation and integration as a natural process.

NORSOF's stated priority of increasing contributions to the joint targeting cycle is a natural expansion point for integrating information and influence activities. The IRCs are intrinsically linked with joint targeting to affect target audiences through the IE. NORSOF's historical trend in working at the forefront of evolving concepts and capabilities suggests a proactive, dedicated involvement is warranted. Redirecting resources to the ongoing involvement in the joint targeting cycle development and Norwegian Joint Headquarters' (NJHQ) strengthening of the joint fires cell with IO-function personnel is a low-cost, potentially high-payoff investment.

The Norwegian Army and MoD/Chief of Defense Staff (FSST) have ongoing strategic communication and Information Activities integration projects. NORSOF should dedicate personnel to these projects to observe, coordinate and influence developments.

2. Long-Term Options

Many of the challenges and gaps identified do not have immediate fixes and may be ingrained in organizational culture and practices. At the same time, some are tied to

national strategic deterrence and assurance goals. NORSOFF must leverage external resources to influence and support its own capability development as a small organization with finite resources. This section presents four long-term approaches to help build NORSOFF and NAF options for operations in the information environment.

Systemic integration of information and influence related goals and objectives in NORSOFF exercises will require planning for, using, and integrating various information-related capabilities. Establishing mutual liaison functions and relations with the relevant IRCs will be imperative. Many of these links exist and only need to be strengthened or refocused. By providing exercise arenas with room for innovation and experimentation in a realistic environment, NORSOFF and IRCs can develop a stronger symbiotic relationship through a bottom-up approach.

Developing the content and focus within the professional military education in Norway that includes more information and a non-lethal influence-oriented curriculum in a multi-domain perspective on operations will benefit NORSOFF and the NAF. NORSOFF should use its ability as a strategic enabler to influence the various service branches to promote joint requirements for information-related education. Subsequently, the Norwegian Defense College should be influenced to re-assess its curriculum for entry-level, joint-level, and higher-level officers and NCO education. By educating, training, and exercising NORSOFF personnel in close integration with various IRCs and NJHQ IO function, dedicated individuals could function as subject matter experts and instructors in PME level education programs. NORSOFF, NDCU, and NAF would benefit significantly from a synergetic relationship.

NORSOFF should use its existing innovation and research and development program with FFI to tie the academic and operational communities closer in research on the subject. NORSOFF leadership should specify OIE research priorities and capitalize on established links to the U.S. Joint Special Operations University and Naval Postgraduate School research communities. These same institutions should be used to bolster training and exercise construction and execution. Introducing modeling and simulation exercises can create realistic training environments to test information objectives and the effects of IRCs.

So far, all suggestions have involved bottom-up approaches that can be remedied through priorities at the military tactical, operational, and strategic levels without MoD-level involvement. A final approach is for NORSOFF to actively engage in the influence of the combined political and military strategic leadership to build senior-level advocacy for new and content-focused IRC. Such influence campaigns should be closely coordinated with the various IRCs, their service branches, and operational commands to ensure alignment with national strategical and operational objectives and end states. By the deliberate, enduring, and persistent influence of key stakeholders and processes, combined with showcasing the effects of the previously mentioned bottom-up approaches, NORSOFF can expand the borders of its operational environment and thereby expand its utility.

D. CONCLUSION

Norwegian Special Operations Command's goal is to be a world-class Special Operations Force that is a reliable and relevant tool for Norwegian political and military decision makers. The expansion of the information environment in conjunction with the shifting security environment demands a swift and focused adaptation of NORSOFF capabilities. The research and recommendations of this thesis provide an information-focused perspective on how NORSOFF should adapt. By implementing the recommendations, NORSOFF will truly expand its focus outside the physical domains of air, sea, and land and become a multi-domain full spectrum SOF. Increasing the personnel and organizational knowledge about the opportunities in the information environment will increase NORSOFF's organic capabilities and the ability to inform, influence, leverage, and enable external resources. Closing the gap between SOF and IRCs through a tighter symbiosis can provide increased economy of force and, when properly employed, vastly expanded options for decision makers across the whole competition continuum.

E. FURTHER RESEARCH

All the findings and recommendations just described are essential to NORSOFF's effective integration and development of capabilities to expand operations in the information environment. Nearly all of these areas would benefit from more in-depth and

focused research. Based on the findings and recommendations, this thesis encourages further research on the following topics.

1. Content Focused IRC – A Norwegian PsyOp Unit

Norway lacks a content-focused information-related capability and currently has only a tiny, dispersed community of individuals with subject matter interests. This lack of a content-focused IRC that can be used for the non-lethal influence of adversary and third-party targets, in line with the national political and legal framework, would be a significant added asset for the Norwegian Armed Forces and NORSOF. While this capability in NATO typically falls under conventional control, the United States Special Operations Command has PsyOp dedicated to it as a special operations asset. Future research should consider the implications of the new NATO *AJP-10 Strategic Communications* doctrine and the best organizational fit, command relations, and parent organization for a PsyOp unit in the Norwegian Armed Forces.

2. Why Does Norway Limit its Policies on OIE?

When examining Norway's policy for operations in the information environment, there is a clearly stated goal for the Norwegian Armed Forces to exploit the opportunities in the information environment. However, when reviewing strategic documents, it becomes evident that the expressed expectations may be constrained by other policies such as being limited to engaging only in truthful communications and having limited influence authorities toward adversary target audiences. Exploring the roots and causes for these constraints through a strategic thinking process using systems dynamic modeling would be highly beneficial for the effort to influence the permissions and authorities to expand operational and strategic utility for NORSOF.

3. Information Related Education and Training Standards for NORSOF

According to FFI data, there is a knowledge gap within NORSOF regarding information-related capabilities and operations in the information environment. This thesis recommends prioritizing additional education of today's NORSOF leadership and staff through existing Norwegian, NATO, and U.S. courses to close the gap in the near term.

Further research should be conducted to identify a more specific need for different staff functions, subject matter experts, and the tactical level assaulters in NORSO. Such research can be done comprehensively by looking at education during the selection and qualification of assaulters and enablers, role/function/rank dependent PME or personal development, and leadership requirements. Further expanding the research, it could be beneficial to study the selection criteria for recruitment or retraining of personnel for information-specific functions.

4. Opportunities for Shared Nordic IRCs as a Consequences of a Nordic NATO Expansion

As the research for this thesis concludes, NATO is on the verge of a membership expansion involving two Nordic states, Finland and Sweden. New opportunities for closer defense and security cooperation emerge with all the Nordic countries as NATO members. Sweden's recent establishment of a PsyOps unit and Finland's long experience with countering Soviet influence operations are two examples of untapped resources Norwegian SOF and NAF should examine before developing their capabilities. Future research should explore questions such as: What is the potential for combined Nordic joint information forces? How should Nordic SOF cooperate on developing capabilities for operations in the information environment facing Russian conventional and hybrid threats?

Answering these questions will advance and strengthen the defenses of Norway, NATO and Europe in any competition and conflict in the Information Environment.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX. FFI SURVEY: INFORMATION OPERATIONS IN NORSOF

A. INTRODUCTION

This thesis has analyzed data from a Norwegian Defense Research Establishment (FFI) survey of Norwegian Special Operations Forces (NORSOF), *Information Operations in Norwegian Special Operations*, conducted in February and March 2022.²⁵⁰ NORSOCOM endorsed the survey as one of several measures to improve NORSOF's understanding of the information dimension's impact on the operating environment.

The primary target audiences for the survey were leaders, staff functions, and tactical subject matter experts in Norwegian Special Operations Command (NORSOCOM) HQ and the two tactical units *Forsvarets Spesialkommando* (FSK) and *Marinejegerkommandoen* (MJK). The survey was conducted as an anonymous poll on an unclassified platform to ensure sufficient operational security (OPSEC) and discretion to solicit truthful and informative answers. Each respondent was assigned a random respondent-ID for data attribution with no electronic metadata linkage. Questions about the survey and data set can be directed to research scientist Frank Brundtland Steder of the Norwegian Defense Research Establishment.

1. Purpose and Format

The survey's primary intent was to capture current opinions, perceptions, and knowledge among NORSOF personnel about information and how it is used by, with, and throughout Norwegian Special Operations. Furthermore, recent lessons identified from a Norwegian joint command post exercise (CPX) Polaris/Gram and an ongoing project in the Norwegian Army on strategic communication have identified areas for improvement relevant to NORSOF. The survey is part of the work to identify areas of concern and opportunities to close the identified and assessed gaps.

²⁵⁰ Forsvarets Forskningsinstitutt, *FFI Survey*.

The survey format was quantitative but offered an option for subjective comments. The intent of this format was to capture both categorical and subjective data. The respondents were given three forms of queries. One question form contained a qualitative statement. The respondents were asked to indicate their response along a six-interval scale from “Completely Disagree” to “Completely Agree.” In the second type of question, the respondents were asked to choose and rank statements in order of importance. In the third form, free textboxes at the end of most question sets allowed for voluntary qualitative comments, to capture subjective opinions.

2. Respondents

The target audience for the previously administered FFI survey had been chosen to represent a broad segment of personnel with information-related responsibilities or experience across the NORSOF organizations. Therefore, 160 respondents in leadership, staff, and support/enabler functions from platoon level to NORSOCOM HQ received the survey. The respondents covered staff functional areas such as intelligence, operations and planning, logistics, fires, selection and training, and leaders at various levels of command.

Of the total 160 individuals in the target population, 61 respondents opened the survey link provided in an email, six of these recipients declined to participate. Furthermore, 10 participants did not provide categorical metadata and were deemed invalid. Of the remaining 45 consenting respondents with metadata, nine chose not to start answering the subject-related questions. The survey allowed respondents to skip single questions or sections of questions during the process, leading to several incomplete responses. Of those consenting and providing metadata, 25 respondents completed the survey, and 11 had a partial completion. The trend shows a dwindling answer percentage as the survey progressed, causing a potentially decreasing validity to the latter questions in the survey. The thesis has chosen to include the 36 respondents with a complete or partial completion for categorical analysis. The analysis accounts for the inaccuracy of lower answer numbers in the choice of the statistical analysis tool, as explained in the next section.

The reason for the low completion rate is assessed to be threefold. First, the subject of information itself is not a core task or focus of SOF and is unfamiliar to the respondents on a general level. Hence, respondents may have found it difficult to answer questions on an unfamiliar subject. Second, based on qualitative comments by respondents, the questions were regarded as formulated in a complex and ambiguous way, likely leading to loss of interest and survey fatigue.²⁵¹ Third, the timing of the survey coincided with the Russian invasion of Ukraine at the end of February 2022 and the NATO Cold Response exercise, both of which likely took priority over an academic survey.

3. Thesis Application of Data

This thesis applied the categorical data collected by the FFI survey in three ways. Simple frequency analysis was the primary method, showing the agreement variation or ranking among the respondents. A second method involved a more detailed frequency analysis, looking at the variation among the different categorical groups on specific topics or statements. Due to the limited number of respondents, some subgroups contained 0, 1, or 2 respondents, limiting the possibility for comparison. For analysis purposes, the research reorganized data into the categories (1) information-related experience, (2) professional military education, (3) civilian education, and (4) organizational function. Some subgroups were combined to provide three categorical groups in each demographic category. Information on which subgroups were merged is provided in a later section.

Finally, two different analysis methods were used to identify the statistical significance of the answers. Due to the limited number of respondents, the thesis used a combination of the Chi-squared test and Fisher's exact test. These tests are more suitable for analyzing small categorical data sets. First, the Chi-squared test was used as an automated macro in MS Excel to analyze most questions categorically. This test best compares two or more categorical groups; however, it preconditions an expected number of ≥ 5 , recommending a sample size larger than 60.²⁵² Due to the limitation of the Chi-

²⁵¹ Forsvarets Forskningsinstitut, Q9 comments.

²⁵² Jean-Baptist du Prel et al., "Choosing Statistical Tests," *Deutsches Ärzteblatt International* 107, no. 19 (May 2010): 345, <https://doi.org/10.3238/arztebl.2010.0343>.

squared test by the small sample size, selected questions and categories were re-validated using Fisher's exact test. This test methodology is recommended for frequency and association testing of unpaired categorical small-sample sizes data.²⁵³ An internet-based Fisher's exact test calculator was used to perform the calculation, developed by Professor Daniel Soper at California State University, Fullerton.²⁵⁴ Questions with categories that either showed too low expected values to be deemed statistically valid or showed a p-value indicating significant deviation was re-assessed. However, it is vital to assess all the statistically significant findings with the small-n in mind.

4. Categorical Groups

The survey solicited five types of data to group the respondents categorically. The five categories are (1) experience with information-related activities and capabilities, (2) military education level, (3) civilian education level, (4) organizational role, and (5) completion of a NORSOFF selection and qualification course. This thesis used all five categories to analyze and compare the data collected to findings in the literature and deviations within the NORSOFF organization.

After sorting out invalid data responses, such as no consent completed demographic data collection and partial or full completion of the survey of the different respondent categories groups, the total number of respondents was 36.

a. Sensitive analysis of the different respondent categories

1. Experience with information-related activities and capabilities
Respondents were asked at what organizational level they had experience with information operations and activities. There were six response choices, and the answers were categorized as follows:
 - None: 7
 - Sub-tactical level: 6
 - Tactical staff level: 18
 - Operational staff, as a SOF representative: 1

²⁵³ du Prel et al., 345.

²⁵⁴ Daniel Soper, "Calculator: Fisher's Exact Test for 2x3 Contingent Table," Commercial, Free Statistics Calculators, version 4.0, 2022, <https://www.danielsoper.com/statcalc/calculator.aspx?id=58>.

- Operational staff, as an IO Subject matter expert: 1
- Strategic level, at part of Strategic Communication directorate or similar: 3

Grouped for in-depth frequency analysis due to low respondent numbers in several categories, the aggregated groups were as follows:

- None: 7
- Tactical level: 24
- Operational/Strategic level: 5

2. Professional military education:

Respondents were asked about their highest level of military education. There were six response choices, and the answers were categorized as follows:

- Noncommissioned officers (NCO) candidate course (GBU): 1
- NCO Joint PME level (VBU 1–2): 4
- Military Academy (GOU): 22
- Command & Staff College or equivalent (VOU): 8
- War College (HOU): 1
- Other military education: 0

Grouped for in-depth frequency analysis due to low respondent numbers in several categories, the aggregated groups were as follows:

- NCO courses: 5
- GOU: 22
- V/HOU: 9

3. Civilian education level:

Respondents were asked how much education from non-military schools they received. There were six response choices, and the answers were categorized as follows:

- None: 7
- Independent course at the college level, no complete degree: 8
- Bachelor's degree: 8
- Master's degree: 12
- Post-doctorate degree: 0
- Other: 0

Grouped for in-depth frequency analysis due to low respondent numbers in several categories, the aggregated groups were as follows:

- None: 7
 - Some (independent and bachelor's degree): 16
 - Master's degree: 12
4. Current function in the NORSOF organization
 Respondents were asked about their current organizational function within NORSOF. There were six response choices, and the answers were categorized as follows:
- Leadership function: 21
 - Staff function: 7
 - Staff function – Battalion level: 3
 - Support/Enabler function: 1
 - Operational Squadron function: 4
 - Other: 0

Grouped for in-depth frequency analysis due to low respondent numbers in several categories, the aggregated groups were as follows:

- Leadership: 21
- Staff: 10
- Other: 5

5. Completed NORSOF Selection and Qualification course or not.
 Respondents were asked if they had completed one of the Norwegian Army or Navy Special Operations Selection and Qualification courses. There were two response choices, and the answers were categorized as follows:

- Yes: 13
- No: 22

B. FFI SURVEY

The following pages present a series of screenshots from the survey to illustrate how the survey looked to the respondents online. Due to technical formatting, the question numbering in the FFI data set is slightly different from the order of the questions in the online presentation. Therefore, the figure notes contain both the page number and the data set numbering of the questions.



FFI Forsvarets
forskningsinstitutt

The Norwegian Defense Research Establishment (FFI) invites you to participate in a survey regarding Information Operations in Norwegian Special Operations. The survey is anonymous which means that you will not be recognized in the publication or presentation of the survey results.

It is voluntary to participate in the survey, and you may at anytime withdraw your consent without any given reason, before finishing the survey. By consenting (check the box below) you certify that you participate voluntarily and acknowledge that the survey is anonymous.

If you have questions regarding the survey, please contact Frank Brundtland Steder at The Norwegian Defense Research Establishment (FFI) on email frank.steder@ffi.no

- I consent to participate in this survey
- I do not wish to participate in this survey

Figure 22. FFI survey – Page 1, Introduction and Q1 consent.²⁵⁵

²⁵⁵ Forsvarets Forskningsinstitutt, *FFI Survey*.

Please consider this survey's survey's definition of the following concepts before starting.

When asked to consider NORSO capability or utility, please consider the Norwegian Special Operations Community as a whole. When asked to evaluate your unit or organization, please assess your current or most recent home unit.

Strategic utility:

The contribution of a particular military activity to the course and outcome of an entire situation by the actions in the field that the particular force/unit may generate.

Capability:

The qualitative ability to perform the relevant concept, task, or activity.

Dimension:

An aspect of a larger whole that can span across several domains. For example, the physical, virtual or cognitive dimension.

Domain:

A field or sphere in which access, influence, and control are exercised by an actor for the freedom of action and superiority required by the mission. For example, the land, sea, and air domain.

Information environment:

The environment of information contained in three dimensions and the relations between them. The physical dimension holds actions, persons, organizations, and systems that process, receive, and convey the information in the virtual dimension, leading to the formation of thoughts, opinions, and decisions in the cognitive dimension.

Cognitive effects:

Exploiting the information environment to influence interconnected beliefs, values, and culture of individuals, groups, and/or populations

Back

Forward

Figure 23. FFI survey – Page 2, Terms and definitions.²⁵⁶

²⁵⁶ Forsvarets Forskningsinstitutt.

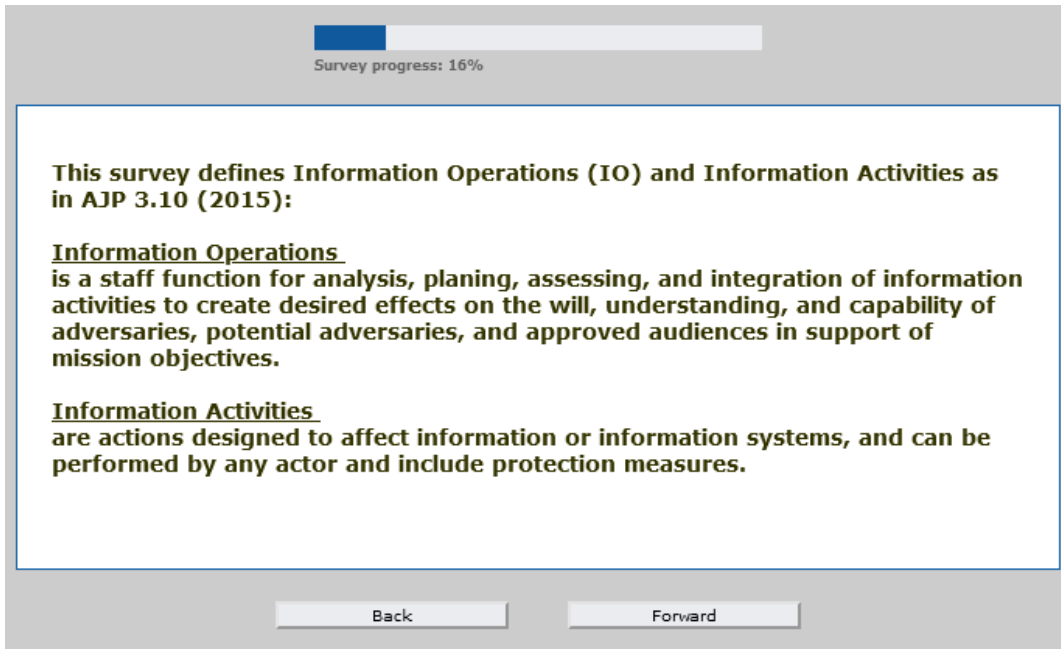


Figure 24. FFI survey – Page 3, NATO AJP 3.10 information operations definitions.²⁵⁷

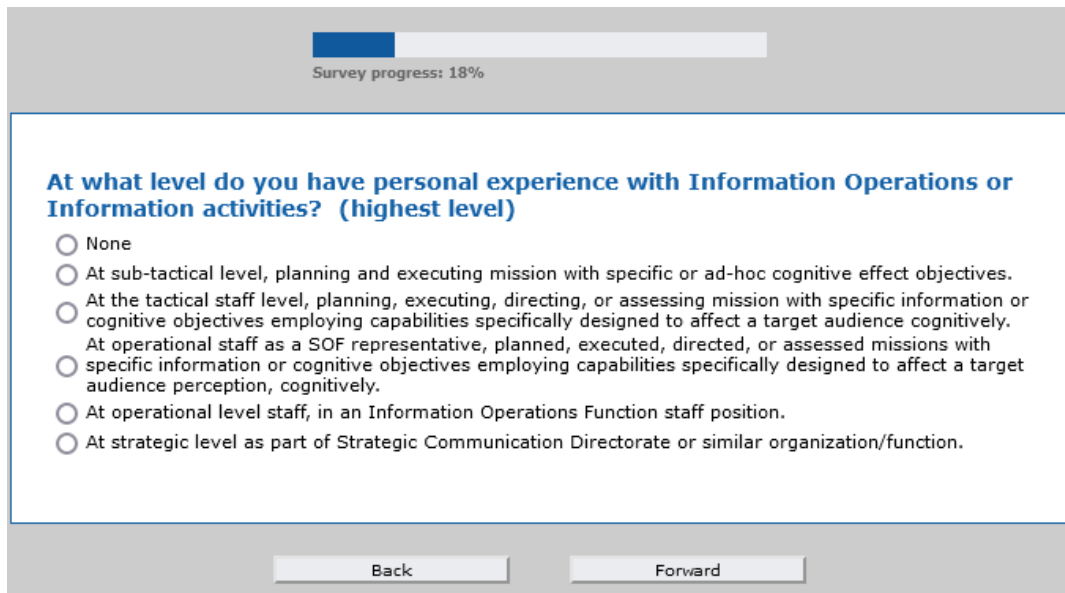


Figure 25. FFI survey – Page 4, Question 2.²⁵⁸

²⁵⁷ Forsvarets Forskningsinstitut.

²⁵⁸ Forsvarets Forskningsinstitut.

Survey progress: 23%

Have you completed the Norwegian Army or Navy Special Operations Selection & Qualification Course?

Yes
 No

Categorize your current function?

Leadership function
 Staff function
 Staff function – Bn level
 Support/Enabler function
 Operational Squadron function
 Other

Figure 26. FFI survey – Page 5, Questions 3 and 4.²⁵⁹

²⁵⁹ Forsvarets Forskningsinstitutt.

What is your *highest* level of military education?

- Non commissioned Officer Candidate School/ GBU
- NCO Joint Professional Military Education level/ VBU 1 or 2
- Military Academy – GOU
- Command & Staff College or equivalent – VOU
- War College – HOU
- Other military education (Specify)

Do you have non-military education higher than High School?

not counting degrees from professional military institutions

- None
- Independent courses at the College or University level. Not a complete degree
- Bachelor degree
- Masters degree
- PhD
- Other (specify)

Back

Forward

Figure 27. FFI survey – Page 6, Questions 5 and 6.²⁶⁰

²⁶⁰ Forsvarets Forskningsinstitut.

Survey progress: 30%

What do you consider your primary source of understanding of Information Operations and Information Activities as concepts:

Mover to the chosen option to the right and rank 1-3

Professional Military Education (GOU/GBU)	
Joint Professional Military Education (VOU/VBU 1-2)	
Military Technical education/training (National or Allied specific courses)	
Formal civilian education	1
Personal interest, research, and reading of academic sources	2
Personal interest, research, and reading of doctrine and SOPs	3
Professional practical experience	
Public media	
Social media platforms	

Back

Forward

Figure 28. FFI survey – Page 7, Question 7.261

What do you consider your primary source of understanding of Strategic Communication as a concept

Mover to the chosen option to the right and rank 1-3

- Professional Military Education (GOU/GBU)
- Joint Professional Military Education (VOU/VBU 1-2)
- Military Technical education/training (National or Allied specific courses)
- Formal civilian education
- Personal interest, research, and reading of academic sources
- Personal interest, study, and reading of doctrine and SOPs
- Professional practical experience
- Public media
- Social media platforms

1	<input type="text"/>	▲
2	<input type="text"/>	▼
3	<input type="text"/>	

Back

Forward

Figure 29. FFI survey – Page 8, Question 8.²⁶²

²⁶² Forsvarets Forskningsinstitut.

Consider following statements

	Completely disagree	2	3	4	5	Completely agree
Today, NORSOF is best suited to coordinate and utilize Information Activities directed at its <i>tactical targets in defense of Norway below the threshold of armed conflict.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Today, NORSOF is best suited to support and utilize Information Activities directed at its <i>tactical targets in defense of Norway above the threshold of armed conflict.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Today, NORSOF is best suited to support and utilize Information Activities directed at its <i>tactical targets during expeditionary campaigns in a coalition/alliance setting.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Today, NORSOF is best suited to support and utilize Information Activities in support of or directed at <i>operational level targets in defense of Norway below the threshold of armed conflict.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Today, NORSOF is best suited to support and utilize Information Activities in support of or directed at <i>operational level targets in defense of Norway above the threshold of armed conflict.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Today, NORSOF is best suited to support and utilize Information Activities in support of or directed at <i>operational level targets during expeditionary campaigns in a coalition/alliance setting.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Today, NORSOF is best suited to coordinate and utilize Information Activities to support military operations against <i>strategic level targets through a narrative-driven approach below the threshold of war.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Today, NORSOF is best suited to coordinate and utilize Information Activities to support military operations against <i>strategic level targets through a narrative-driven approach above the threshold of war.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personal augmenting comments:

Back

Forward

Figure 30. FFI survey – Page 9, Question 9 (a, b, c, d, e, f, g, h).²⁶³

²⁶³ Forsvarets Forskningsinstitutt.

Consider following statements

	Completely disagree	2	3	4	5	Completely agree
SR/DA are NORFORS's "Core capabilities" and are primarily executed in the physical dimension. The cognitive dimension is not an essential aspect of these capabilities. Non-lethal influence capabilities should not be developed at the cost of NORFORS's lethal and physical SR/DA capabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SR/DA are NORFORS's "Core capabilities" and are primarily executed in the physical dimension. The cognitive dimension is an essential aspect of these capabilities but is often down-prioritized. Non-lethal influence capabilities should be developed even if it affects NORFORS's lethal and physical SR/DA capabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MA is the most used NORFORS "Core capability" and is more cognitive in nature than SR/DA. Non-lethal influence capabilities are a key component and should be developed regardless of the impact on NORFORS's lethal SR/DA capabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding the information environment and cognitive dimension is vital to NORFORS's strategic utility. This should be reflected better in NORFORS selection, training, education, and organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IO is principally directed and coordinated by the operational level. Therefore, it is no apparent reason why NORFORS should develop information operations planning, integration, execution, and assessment capabilities at the tactical level.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the Norwegian Armed Forces (NAF) conventional units possess most of the technical capabilities to perform Information Activities (IA), hence IA is primarily a conventional responsibility. NORFORS has enough responsibilities in a national setting and should not take on a doctrinal role for IA within the NAF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IA capabilities are provided by allies and partners when in an expeditionary setting. NORFORS only needs the ability to integrate these assets to increase the operational effectiveness in the information environment and the cognitive dimension when on missions abroad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personal augmenting comments:

Back

Forward

Figure 31. FFI survey – Page 10, Question 10 (a, b, c, d, e, f, g).²⁶⁴

²⁶⁴ Forsvarets Forskningsinstitutt.

Assess own knowledge level

1 - No prior knowledge	2	3	4	5	6 - Expert level knowledge
------------------------	---	---	---	---	----------------------------

Assess your level of knowledge of these concepts categories as Information Activities (IA)

Operational Security (OPSEC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deception (MILDEC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Network Operations (CNO)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronic Warfare (EW)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Psychological Operations (PsyOps)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presence Profile Posture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Key Leader Engagement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Assess your level of knowledge of these concepts related to Information activities:

Civil-Military Cooperation (CIMIC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public Affairs (PA)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Assess your level of knowledge of the concept

Strategic Communications (StratCom).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
--------------------------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

Back

Forward

Figure 32. FFI survey – Page 11, Question 11.²⁶⁵

²⁶⁵ Forsvarets Forskningsinstitut.

Based on your knowledge of Information Operations and Information Activities, where along the competition continuum, does NORSOF have the greatest capability today in influencing targets through the following activities:

Choose max 2 pr line:

	Cooperation	Rivalry	Confrontation	Armed Conflict	None
Operational Security (OPSEC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deception (MILDEC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computer Network Operations (CNO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Warfare (EW)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Psychological Operations (PsyOps)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presence Profile Posture (PPP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Leader Engagement (KLE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Civil-Military Cooperation (CIMIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Affairs (PA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical attack or destruction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Back

Forward

Figure 33. FFI survey – Page 12, Question 13.²⁶⁶

²⁶⁶ Forsvarets Forskningsinstitut.

Based on your knowledge of Information Operations and Information Activities, where along the competition continuum, should NORSOFF focus on developing its capabilities to influence targets through the following activities.

Choose max 2 pr line:

	Cooperation	Rivalry	Confrontation	Armed Conflict	None
Operational Security (OPSEC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deception (MILDEC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computer Network Operations (CNO)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Warfare (EW)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Psychological Operations (PsyOps)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presence Profile Posture (PPP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key Leader Engagement (KLE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Civil-Military Cooperation (CIMIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Affairs (PA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical attack or destruction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emerging and disruptive technologies (EDT)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Back

Forward

Figure 34. FFI survey – Page 13, Question 14.²⁶⁷

²⁶⁷ Forsvarets Forskningsinstitut.

Consider following statements

	Completely disagree	2	3	4	5	Completely agree
NORSOF, as a whole, is well prepared for operating in the future operational environment and does not need to specifically address any information or influence related capabilities in the near future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit/organization is well prepared to operate in the future operational environment and is resourced and capable of integrating information-related activities in its operations, and support to joint operations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF's strategic utility is tied to the physical domain and the ability to plan, project, execute and assess physical operations in a joint operational environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF's strategic utility would be increased across all phases of conflict and assigned mission if the organization increased its understanding of the information environment and cognitive dimension.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF's strategic utility would be increased across all phases of conflict and assigned mission if the organization increased its capability to operate in the information environment and cognitive dimension.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF's ability to conduct, support, or be supported by information-related capabilities and activities is primarily an <i>internal</i> organizational, training/education, and resource issue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF's ability to conduct, support, or be supported by information-related operations and activities is primarily an <i>external</i> policy, doctrinal, or resource-driven issue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Back

Forward

Figure 35. FFI survey – Page 14, Question 15 (a, b, c, d, e, f, g).²⁶⁸

²⁶⁸ Forsvarets Forskningsinstitut.

Consider following statements

	Completely disagree	2	3	4	5	Completely agree
My unit/organization has a designated role, function, or person responsible for integrating strategic narratives into operational planning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit/organization has a designated role, function, or person responsible for integrating the information and cognitive objectives and effects into operational planning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit/organization has a designated person, role, or function responsible for integrating the information environment and cognitive dimension into intelligence planning and analysis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit/organization has a designated person, role, or function responsible for integrating the information and cognitive objectives into training and exercises.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit/organization has a designated person, role, or function responsible for assessing information and cognitive effects and outcomes of operations or activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personal augmenting comments:

Back

Forward

Figure 36. FFI survey – Page 15, Question 17 (a, b, c, d, e).²⁶⁹

²⁶⁹ Forsvarets Forskningsinstitut.

Consider following statements

	Completely disagree	2	3	4	5	Completely agree
My organization/unit has a Standard Operating Procedure (SOP) for planning, execution, integration, and responsibilities in Information Activities in the conduct of or support to own or higher headquarters influence operations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization/unit consistently and deliberately considers information and cognitive effects during mission analysis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During operational planning, my organization/unit consistently and deliberately defines specific cognitive objectives against the designated adversary and third-party actors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization/unit consistently and deliberately integrates no-organic tactical or joint capabilities to achieve informational or cognitive objectives against the designated adversary and third-party actors <i>during operations abroad</i> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization/unit consistently and deliberately integrates no-organic tactical or joint capabilities to achieve informational or cognitive objectives against the designated adversary and third-party actors during national operations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization/unit consistently and deliberately integrates no-organic tactical or joint capabilities to achieve informational or cognitive objectives during support to government agencies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF effectively, consistently, and deliberately assess potential information effects of training and exercise activities in light of the Norwegian Political and Military Strategic Narrative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personal augmenting comments:

Back

Forward

Figure 37. FFI survey – Page 16, Question 18 (a, b, c, d, e, f, g).²⁷⁰

²⁷⁰ Forsvarets Forskningsinstitutt.

Consider following statements

	Completely disagree	2	3	4	5	Completely agree
NORSOF places an equal emphasis on the use of non-lethal and lethal activities during operational planning to degrade, disrupt, deceive, destroy or deny adversary decision-makers ability to exercise effective command and initiative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF emphasizes the offensive influence activities affecting adversary information, information systems, and personnel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF emphasizes the defensive activities protecting own information, information systems, and personnel from adversary influence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit places an equal emphasis on the use of non-lethal and lethal activities during operational planning to degrade, disrupt, deceive, destroy or deny adversary decision-makers ability to exercise effective command and initiative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit emphasizes the offensive activities affecting adversary information, information systems, or personnel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit emphasizes the defensive activities protecting own information, information systems, and personnel from adversary influence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personal augmenting comments:

Back

Forward

Figure 38. FFI survey – Page 17, Question 19 (a, b, c, d, e, f).²⁷¹

²⁷¹ Forsvarets Forskningsinstitut.

Information Operations and Information Activities integration are essential to all NORSOF mission sets in defense of Norway and during operations abroad. Several factors internal to NORSOF may reduce the capability to integrate information activities in operations.

Pick and rank three factors according to importance (press, and pull to the right)

Lack of IO or IA specific training (i.e., technical, procedural training)

Lack of general understanding of the cognitive dimension.

Lack of doctrinal understanding of the Information Operations and Information Activities.

Lack of organizational resources (personnel, functions, roles)

Lack of organizational procedures and memory (lessons learned, SOPs, documentation of activity)

Lack of leaders intent and guidance for operations in the information environment affecting the cognitive dimension.

Lack of clear targets sets for non-lethal influence.

Organizational culture of focusing on the physical domain.

1		
2		
3		

Back

Forward

Figure 39. FFI survey – Page 18, Question 20.²⁷²

²⁷² Forsvarets Forskningsinstitut.

Information Operations and Information Activities integration are essential to all NORSOF mission sets in defense of Norway and during operations abroad. Several national factors external to NORSOF may reduce NORSOF's capability to integrate information activities in operations.

Pick and rank three factors according to importance (press, and pull to the right)

- Lack of IO or IA-specific training (i.e. technical and procedural training) in adjacent or higher organizations.
- Fragmentation of military capabilities and responsibilities for information activities (CNO, EW, PSYOPS, Deception)
- Lack of specific understanding of the Information Operations and Information Activities in adjacent or higher organizations.
- Lack of organizational resources (personnel, functions, roles) in adjacent or higher organizations.
- Lack of organizational procedures and memory (lessons learned, SOPs/TTPs, activity documentation).
- Lack of doctrine or concepts for IO at an operational level.
- Lack of doctrine or field manuals for Information Activities at a tactical level.
- Lack of leader's intent and guidance for operations in the information environment to achieve specific effects in the cognitive dimension.
- Lack of clear target packs for non-lethal influence.
- Lack of understanding of the targets designated for cognitive or informational influence.
- A organizational culture of focusing on the physical domain.
- The NAF organizational perception is that anything information-related is the responsibility of Public Affairs.

1	<input type="text"/>
2	<input type="text"/>
3	<input type="text"/>

Back

Forward

Figure 40. FFI survey – Page 19, Question 21.²⁷³

²⁷³ Forsvarets Forskningsinstitutt.

To develop NORSOF as a world-class relevant dynamic joint-interagency integrated combat-system that can operate in an increasingly complex and ambiguous operating environment, NORSOF investment in the education of its personnel must meet the necessary requirements.

Consider following statements

	Completely disagree	2	3	4	5	Completely agree
NORSOF training and education of NCOs is primarily focused on physical and technical skills for SR/DA.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF training and education of NCOs should include more content focused on understanding and operating in the information and virtual environment to achieve cognitive effects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF training and education of officers is primarily focused on physical, technical, and leadership skills for operations in the physical domain.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF training and education of officers should include more content focused on understanding, planning and operating in the information and virtual environment to achieve cognitive effects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My unit/organization consistently and deliberately educate personnel in IO/IA-related skills and capabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF training and education of joint fires-related capabilities sufficiently incorporates non-lethal means of targeting and influencing targets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The current officer and senior NCO training and education are sufficient and focused enough to enable NORSOF to develop its ability to influence targets through non-lethal means.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF is primarily a combat system. Influence operations and cognitive effects are just secondary or third-order effects of what we do in the physical domain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Back

Forward

Figure 41. FFI survey – Page 20, Question 22 (a, b, c, d, e, f, g, h).²⁷⁴

²⁷⁴ Forsvarets Forskningsinstitut.

Survey progress: 79%

Based on your understanding of the future operating environment, should NORSO establish a specific career and educational track for information and influence related skills, roles, and functions at the following organizational level:

	Completely disagree	2	3	4	5	Completely agree
Platoon level and up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Squadron level and up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Battalion Level and up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Service level and up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOF does not need a career or educational track specific for information and influence-related skills at any level.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personal augmenting comments:

Figure 42. FFI survey – Page 21, Question 23 (a, b, c, d, e).²⁷⁵

Survey progress: 81%

Do you have education or training specifically focused on Strategic Communication, Information Operations or Information Activities?

If yes, what are you experiences with this type of training or education?

Please provide a short explanation:

Figure 43. FFI survey – Page 22, Question 24.²⁷⁶

²⁷⁵ Forsvarets Forskningsinstitut.

²⁷⁶ Forsvarets Forskningsinstitut.

NATO is developing three new interconnected doctrines focused on cognitive and informational influence, AJP-10 Strategic Communication, AJP-10.1 Public Affairs, and AJP-3.10 Information Operations. The doctrines reflect a change in approach from an effects-based focus to a behavior-centric approach as the tenet for influencing a target audience. The doctrine explains the narrative-led execution as the Alliance aiming to demonstrate consistency in images, words, and deeds, ensuring they always reflect the strategic and micro-narratives, and thus pre-empting any attempts by adversaries to exploit gaps between what NATO does, shows and says through the use of soft power to mobilize, incite and disempower the population. The narrative-led approach uses the narrative as an overarching expression of the strategy to influence audiences and gives context to the campaign, operation, or situation. The narrative binds the Alliance vertically through the levels of operations and horizontally across the instruments of power and with partners.

The future definition of Information Operations is focused on the Staff Functions role as the guardian of the NATO Alliance narrative and the integration in planning of training, exercises, and operations. The planning and execution of information activities rely on understanding the Alliance's objectives, StratCom guidance, and a comprehensive understanding of the information environment.

	Completely disagree	2	3	4	5	Completely agree
This doctrinal change is an opportunity for SOF to expand its role in operations across the competition continuum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This change is a distraction for SOF from developing the capabilities needed in armed conflict.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Norwegian Armed Forces (NAF) doctrine (FFOD) should adopt this change quickly, and NORSOFF as a strategic and operational level force should seize this opportunity to take a leading role in developing the cognitive influence capabilities in NAF and the Total Defense.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOFF is already heavily vested in developing the Joint Targeting process and concept. Including the development of non-lethal fires for influence purposes is a natural next step to expand the fires and targeting concept within NORSOFF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our organization is already stretched thin, and we should not involve ourselves in another function or capability outside of our stated tasks and missions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Back

Forward

Figure 44. FFI survey – Page 23, Question 26 (a, b, c, d, e).²⁷⁷

²⁷⁷ Forsvarets Forskningsinstitut.

Survey progress: 89%

Consider these statements

	Completely disagree	2	3	4	5	Completely agree
I fear that the extensive focus on Strategic Communication among the political- and senior military decision-makers will lead to misuse of NORSOE.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I fear that an extensive focus on improving NORSOE capabilities in the information environment and cognitive dimension in support of Strategic Communication narratives will reduce NORSOE core physical capabilities of SR, MA, DA.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I fear that an extensive focus on Information Operations and Activities in the rivalry area of the competition continuum will impair NORSOE core capabilities SR, MA, DA in the high-intensity armed conflict end of the competition continuum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you have any concerns regarding increased focus on NORSOE operations in the information environment to affect the cognitive dimension in the future?

Please elaborate

Figure 45. FFI survey – Page 24, Question 25 (a, b, c).²⁷⁸

Survey progress: 91%

Because NORSOE is a strategic force, all actions and operations undertaken by NORSOE have a Strategic Communication impact. Therefore, NORSOE needs to improve its understanding of and ability to integrate Strategic Communication in its everyday battle rhythm, activities, plans, and operations.

The responsibility of the planning, integrating, and assessing effects of NORSOE activities, plans and operations into Military Strategic Communications Narratives should be the responsibility of:

	Completely disagree	2	3	4	5	Completely agree
Defense Staff Communications Unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NJHQ planners and public affairs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NORSOCOM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tactical Units staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sub-tactical unit staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 46. FFI survey – Page 25, Question 16 (a, b, c, d, e).²⁷⁹

²⁷⁸ Forsvarets Forskningsinstitut.

²⁷⁹ Forsvarets Forskningsinstitut.

Consider the following statements

	Completely disagree	2	3	4	5	Completely agree
The absence of specific information or cognitive related goals & visions in the NORSOF 2030 Strategy indicates NORSOF's incomplete understanding of the importance of the informational environment and cognitive dimension in the future conflict environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The absence of specific information or cognitive-related goals & vision in the NORSOF 2030 strategy indicates the potential reduction of strategic utility in the future operating environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The absence of any specific information or cognitive-related goals & vision in the NORSOF 2030 strategy is irrelevant to the purpose of the future utility of NORSOF. NORSOF's ability as a combat system to innovate, educate and create synergies with joint assets and national/international partners already covers the relevant aspects of influence and operations in the information environment and cognitive dimension.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When you press "Forward" your answers will be final. You are no longer able to change your answers!

Back Forward

Figure 47. FFI survey – Page 27, Question 27 (a, b, c).²⁸⁰

Thank you very much for your time.

Ok

Figure 48. FFI survey – Page 28.²⁸¹

²⁸⁰ Forsvarets Forskningsinstitut.

²⁸¹ Forsvarets Forskningsinstitut.

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF REFERENCES

- Arctic Roost. *EK Visjon 2025 [EW Vision 2025]*. 2. Version. Oslo: Norwegian Chapter of AOC - Arctic Roost, 2014. [https://arcticroost.org/EKvisjon/EK%20Visjon%202025%20v20%20\(final\).pdf](https://arcticroost.org/EKvisjon/EK%20Visjon%202025%20v20%20(final).pdf).
- Armistead, Leigh. *Information Operations Matters: Best Practices*. 1st ed. Washington, D.C.: Potomac Books Inc., 2010.
- Arquilla, John. *Bitskrieg - The New Challenge of Cyberwarfare*. 1st ed. Medford, MA: Polity Press, 2021.
- , ed. *From Troy to Entebbe - Special Operations in Ancient and Modern Times*. 1st ed. New York: University Press of America, Inc, 1996.
- Arquilla, John, and David Ronfeldt, eds. *In Athena's Camp: Preparing for Conflict in the Information Age*. Santa Monica, CA: RAND Corporation, 1997. https://www.rand.org/pubs/monograph_reports/MR880.html.
- Berglund, Jan. "Network Centric Warfare: A Realistic Defense Alternative for Smaller Nations?" Master Thesis, Naval Postgraduate School, 2004. https://calhoun.nps.edu/bitstream/handle/10945/1603/04Jun_Berglund.pdf?sequence=1&isAllowed=y.
- Cohen, Eliot A. *Commandos and Politicians - Elite Military Units in Modern Democracies*. Vol. 40. Harvard Studies in International Affairs. Cambridge, MA: Harvard Center for International Affairs, 1978.
- Ertsvåg, Oda. "Støre om norsk forsvarspolitik: – Vi skal ikke overraske [Støre about Norwegian defense politics - We are not going to surprise]." *VG*. March 1, 2022, Online edition, sec. News. <https://www.vg.no/i/OrB67k>.
- Etterretningstjenesten. *Fokus 2021 - Etterretningstjenestens vurdering av aktuelle sikkerhetsutfordringer [Focus 2021 - The Intelligence Service's assessment of current security challenges]*. Norwegian paper edition. Oslo: Norwegian Armed Forces, 2021.
- Forsvaret. "Marinejeger." Governmental Recruiting. Forsvaret, February 11, 2022. <https://www.forsvaret.no/jobb/forsvarets-spesialstyrker/marinejeger>.
- . "Spesialjeger." Governmental Recruiting. Forsvaret, February 14, 2022. <https://www.forsvaret.no/jobb/forsvarets-spesialstyrker/spesialjeger>.
- Forsvarets Forskningsinstitutt. *FFI Survey: Information Operations in NORSO*. Edited by Frank B. Steder. Kjeller, Norway: Forsvarets Forsknings Institutt, 2022.

- Forsvarets Høgskole. “Bachelor ingeniør – Telematikk [Bachelor in engineering and telematics].” Forsvaret, July 7, 2020. <https://www.forsvaret.no/utdanning/utdanninger/ingeniorfag-studieretning-telematikk>.
- . “Fagplan Videregående befalsutdanning 1 [Curriculum Advanced NCO course level 1].” Forsvarets Høgskole, March 15, 2021. <https://utdanning.forsvaret.no/en/studieplaner/2021/Videreg%C3%A5ende%20befalsutdanning%201%20-%20Sj%C3%B8>.
- . “Fagplan Videregående befalsutdanning 2 [Curriculum Advanced NCO course level 2].” Forsvarets Høgskole, March 15, 2021.
- . “Grunnleggende fellesoperasjoner [Basic Joint Operations].” Forsvaret, July 7, 2020. <https://www.forsvaret.no/utdanning/emner/OPS3101/2021-H%C3%98ST>.
- . “Master i militære studier [Master in military studies].” Forsvaret, March 7, 2022. <https://www.forsvaret.no/utdanning/utdanninger/master-i-militaere-studier-forsvarets-hogskole-milma>.
- . “Militærstrategi og fellesoperasjoner [Military Strategy and Joint Operations].” Forsvaret, February 17, 2022. <https://www.forsvaret.no/utdanning/emner/OPS4103/2022-V%C3%85R>.
- Forsvarets Høgskole/Luftkrigskolen. “Complex Operations.” Forsvaret, July 7, 2020. <https://www.forsvaret.no/utdanning/emner/OPS2203/2021-H%C3%98ST>.
- . *Forsvarets doktrine for luftoperasjoner [NAF Doctrine for Air Operations]*. 2nd ed. Oslo: Forsvarets høgskole, 2018.
- Forsvarets Spesialkommando. “Karriereveilder Spesialjeger Offiser [Career guide NORASOC Officer].” Unpublished. Rena, Norway: Forsvarets Spesialstyrker, 2017.
- Forsvarets stabsskole, ed. *Forsvarets doktrine for Landoperasjoner [NAF Land Warfare Doctrine]*. 1st ed. Oslo: Forsvarsstaben, 2004.
- . *Forsvarets doktrine for luftoperasjoner [NAF Doctrine for Air Operations]*. 1st ed. Oslo: Forsvarets overkommando, 2002.
- . *Forsvarets doktrine for Maritime Operasjoner [NAF Doctrine for Maritime Operations]*. 1st ed. Oslo: Forsvarets overkommando, 2002.
- . *Forsvarets fellesoperative doktrine [Norwegian Armed Forces Joint Operations Doctrine]*. Vol. B. 2 vols. Oslo: Forsvarets overkommando, 2000.
- . *Forsvarets fellesoperative doktrine [Norwegian Armed Forces Joint Operations Doctrine]*. Oslo: Forsvarsstaben, 2007.

- Forsvarsdepartementet. *Prop. 1 S - Proposisjon til Stortinget for budsjettåret 2022 [Proposition to Stortinget for the budget year 2022]*. Parliamentary Proposition, Annual defense budget. Oslo: Forsvarsdepartementet, 2022.
https://www.regjeringen.no/contentassets/ac3c943108aa44cd8ecb59e217833ed7/no/pdfs/prp202120220001_fdddddpdfs.pdf.
- Forsvarssjefen. *Et styrket forsvar - Forsvarsjefens fagmilitær råd 2019 [A Stronger Defense - The Military Advice of the Chief of Defense 2019]*. Norwegian digital. Oslo: Forsvaret, 2019. https://www.regjeringen.no/contentassets/8abeb7eedf034b1aaaf1c2b63729f2cd/fmr_2019_utskriftbar-versjon.pdf.
- Forsvarsstaben. *Forsvarets doktrine for maritime operasjoner [NAF Maritime Operations Doctrine]*. 1st ed. Bergen, Norway: Forsvarsstaben, 2015.
- . *Forsvarets fellesoperative doktrine [Norwegian Armed Forces Joint Operations Doctrine]*. Oslo: Forsvarsstaben, 2014.
- . *Forsvarets Fellesoperative Doktrine [Norwegian Armed Forces Joint Operations Doctrine]*. FFOD. Oslo: Forsvarsstaben, 2019.
- Gråterud, Torgeir. “Norwegian Special Operations Forces - Special Operations Forces in Competition Short of Conflict.” Unclassified Power Point presentation, Oslo, Norway, May 21, 2021.
- . *Norwegian Special Operations Forces Towards 2030*. Digital. Oslo, Norway: Norwegian Special Operations Command, n.d.
- Gray, Colin S. *Explorations in Strategy*. 1st ed. Westport, CT: Praeger Publishers, 1996.
- Hærens Våpenskole. *Forsvarets doktrine for landoperasjoner studietkast 1–2 [NAF Doctrine for land operations studydraft 1–2]*. Study Draft 1. Rena, Norway: Unpublished, 2022.
- Hærstaben. *Prosjekt MilStratKom: Militærstrategisk Kommunikasjon og Forsvarets bidrag til Nasjonal Strategisk Kommunikasjon (B) [Project MilStratCom: Military Strategic Communication and the Norwegian Armed Forces Contribution to National Strategic Communication (R)]*. Paper Nov 21. Bardufoss, Norway: Hærstaben, 2021.
- Hagen, Janne M., and Henning A. Søgaard. *Strategisk Kommunikasjon som redskap i krisehåndtering [Strategic Communication As a Tool In Crisis Managment]*. FFI-report 2013/03101. Kjeller: Norwegian Defense Research Establishment, 2014.
<https://publications.ffi.no/nb/item/asset/dspace:2403/13-03101.pdf>.
- Hammersmark, John Inge. “Fra skjult ressurs til politisk spydspiss [From hidden resource to tip of the political spear].” Occasional paper. Military Studier. Oslo: Forsvarets stabsskole/FHS, 2015.

- Headquarters, United States Marine Corps. “Definitions for Information Related Terms.” Joint Memorandum. Washington, D.C.: Department of Defense, January 22, 2020.
- Hedenstrøm, Andreas, and Marius Kristiansen. “NORSOF Military Assistance Capability Development.” Master Thesis, Naval Postgraduate School, 2016. <https://calhoun.nps.edu/handle/10945/50557>.
- Hellum, Nina. *Trick or Treat? - samfunnvitenskaplig refleksjoner rundt militær villedning [Trick or Treat? - Social Science reflections on military deception]*. FFI-report 2013/02885. Kjeller: Norwegian Defense Research Establishment, 2014. <http://18.195.19.6/bitstream/handle/20.500.12242/1038/13-02885.pdf?sequence=1&isAllowed=y>.
- Høiback, Harald. “Chapter 8 What Is Doctrine.” In *Contemporary Military Innovation*, edited by Dima Adamsky and Kjell I. Bjerga, 1st ed. London: Routledge, 2012.
- Holden, Reid B. *A Doctrinal Perspective, 1988–98*. Occasional Paper, No. 33. Camberly, Surrey: Strategic and Combat Studies Institute, 1998.
- Johansen, Iver, and Henrik Gråterud. *Fra Taktisk elite til strategisk tilrettelegger - hvordan Forsvarets spesialstyrker kan møte fremtidens utfordringer [From Tactical Elite to Strategic Enabler - How Norwegian Special Operations Forces can meet the challenges of the future]*. FFI-report 18/01435. Kjeller: Norwegian Defense Research Establishment, 2018. <https://publications.ffi.no/nb/item/asset/dspace:4176/18-01435.pdf>.
- Joint Chiefs of Staff. *Doctrine for the Armed Forces of the United States*. 2017 Change 1. Joint Publications 1. Washington, D.C.: Department of Defense, 2013.
- . *Information Operations*. 2014 Change 1. Joint Publications 3–13. Washington, D.C.: Department of Defense, 2012.
- . *Joint Concept for Operating in the Information Environment (JCOIE)*. Joint Publications. Washington, D.C.: U.S. Department of Defense, 2018. https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joint_concepts_jcoie.pdf?ver=2018-08-01-142119-830.
- . *Joint Publication 1-02 Department of Defense Dictionary of Military and Associated Terms*. As amended through 15 FEB 2016. Vol. 02. Joint Publications 1. Washington, D.C.: Department of Defense, 2010. https://irp.fas.org/doddir/dod/jp1_02.pdf.
- . *Manual for the Operation of the Joint Capabilities Integration and Development System*. JCIDS Manual. Washington, D.C.: Joint Chiefs of Staff, 2018. https://jitc.fhu.disa.mil/isg/downloads/Manual-JCIDS_31Aug2018.pdf.

- . *Special Operations*. Joint Publications 3–05. Washington, D.C.: Department of Defense, 2014.
- Kneip, Markus. “NATO Policy on Strategic Communication.” Supreme Headquarters Allied Powers Europe, August 14, 2017.
- Kolstad, Daniel. “Between War and Peace: Toward Creating a NORSOF Strategy to Defend Against Gray Zone Threats.” Master Thesis, Naval Postgraduate School, 2020. https://calhoun.nps.edu/bitstream/handle/10945/64915/20Mar_Kolstad_Daniel.pdf?sequence=1&isAllowed=y.
- Kristiansen, Marius. “Women: A NATO Special Operations Forces Force Multiplier - Part 1/2.” *Stratagem* (blog), August 28, 2019. <https://www.stratagem.no/women-a-nato-special-operations-forces-force-multiplier-1/>.
- . “Women: A NATO Special Operations Forces Force Multiplier - Part 2/2.” *Stratagem* (blog), September 4, 2019. <https://www.stratagem.no/women-a-nato-special-operations-forces-force-multiplier-2/>.
- Kristoffersen, Eirik. *Jegerånd - Å lede i fred, krise og krig [Rangerspirit - To lead in peace, crisis and war]*. Oslo: Gyldendal Norske Forlag AS, 2020.
- Krogdahl, Per. Email correspondence with author regarding Norwegian PME curriculum, July 12, 2021.
- Lervik, Lars S. *Utviklingskonsept for Hæren - Morgendagens Hær [Development concept for the Army - Tomorrow's Army]*. Digital. Bardufoss: Hærstaben, 2021.
- Libicki, Martin C. “The Convergence of Information Warfare.” *Strategic Studies Quarterly* 11, no. 1-Spring (February 28, 2017): 15–26.
- . *What Is Information Warfare?* Washington, D.C.: National Defense University Press, 1995. <https://apps.dtic.mil/sti/pdfs/ADA367662.pdf>.
- Lunenburg, Fred C. “Organizational Structure: Mintzberg’s Framework.” *International Journal of Scholarly, Academic, Intellectual Diversity* 14, no. 1 (2012): 8.
- McGee, Luke. “Germany Will Buy F-35 Jets as It Ramps up Military Spending after Russia’s Ukraine Invasion.” *CNN*, March 15, 2022, Online edition. <https://www.cnn.com/2022/03/15/europe/germany-f-35-fighter-jets-replace-tornado-intl/index.html>.
- McGrath, James R. “Twenty-First Century Information Warfare and the Third Offset Strategy.” *Joint Force Quarterly* 82, no. 3rd quarter (2016): 16–24.

- Mellingen, Kjetil. "Strategic Utilization of Norwegian Special Operations Forces." Master Thesis, Naval Postgraduate School, 2010. https://calhoun.nps.edu/bitstream/handle/10945/5246/10Jun_Mellingen.pdf?sequence=1&isAllowed=y.
- Institute for Veterans and Military Families. "Military Training and Personality Trait Development: Does the Military Make the Man, or Does the Man Make the Military?" Accessed April 18, 2022. <https://ivmf.syracuse.edu/article/military-training-and-personality-trait-development-does-the-military-make-the-man-or-does-the-man-make-the-military/>.
- Mitchell, Mark E. "Strategic Leverage : Information Operations and Special Operations Forces." Master Thesis, Naval Postgraduate School, 1999. <https://calhoun.nps.edu/handle/10945/13631>.
- Morud, John Birger, Andrea Rognstrand, and NTB. "Regjeringen foreslår 3,5 milliarder kroner ekstra for å styrke Forsvaret og sivil beredskap i år [The [Norwegian] Government suggest appropriation of 3,5 billion kroner extra to strengthen the defense and civilian readiness this year]." *Forsvarets Forum*. March 18, 2022, Online edition, sec. nyheter. <https://forsvaretsforum.no/budsjett-forsvaret-politikk/regjeringen-foreslar-35-milliarder-kroner-ekstra-for-a-styrke-forsvaret-og-sivil-beredskap-i-ar/254626>.
- Muller, Lilly Pijnenburg. "Military Offensive Cyber-Capabilities: Small-State Perspective." *Norwegian Institute of International Affairs Policy Brief* 2019, no. 1 (2019): 5.
- Muller, Richard R. "4 – Close Air Support - The German, British and American Experiences, 1918–1941." In *Military Innovation in the Interwar Period*, edited by Allan R. Millet and Williamson Murray, 21st printed paperback., 144–90. New York, NY: Cambridge University Press, 2009.
- Mundy III, Carl E. *MARSOF 2030 - A Strategic Vision for the Future*. Camp Lejune, NC: Marine Forces Special Operations Command, 2018. <https://www.marsoc.marines.mil/Portals/31/Documents/MARSOF%202030.pdf>.
- Murray, Williamson. "8 – Innovations: Past and Future." In *Military Innovation in the Interwar Period*, edited by Allan R. Millet and Williamson Murray, 21st printed paperback., 300–328. New York, NY: Cambridge University Press, 2009.
- Murray, Williamson, and Barry Watts. "10 – Military Innovation in Peacetime." In *Military Innovation in the Interwar Period*, edited by Allan R. Millet and Williamson Murray, 21st printed paperback., 369–415. New York, NY: Cambridge University Press, 2009.
- NATO. *AJP-3.5 Allied Joint Doctrine for Special Operations*. B v1. Allied Joint Publications 3–5. Brussels: NATO Standardization Office (NSO), 2019.

———. *AJP-3.10 Allied Joint Doctrine for Information Operations*. B v1-Study Draft 2. Allied Joint Publications 3–10. Brussels: NATO Standardization Office (NSO), 2021.

———. *AJP-10 Allied Joint Doctrine for Strategic Communications*. A v. 1 Study Draft 2. Allied Joint Publications 10. Brussels: NATO Standardization Office (NSO), 2020.

———. *MC 0422/6 NATO Military Policy for Information Operations*. Working Draft. Vol. Information Operations. NATO Military Policy. Brussels: NATO Military Committee, 2018. https://shape.nato.int/resources/3/images/2018/upcoming%20events/mc%20draft_info%20ops.pdf.

———. *NATO Glossary of Terms and Definitions (English and French)*. 2021st ed. AAP-06. Brussels: NATO Standardization Office (NSO), 2021.

———. “NATOTerm - The Official NATO Terminology Database.” NATO - OTAN, May 9, 2022. <https://nso.nato.int/natoterm/Web.mvc>.

Netherlands Special Operations Command. *Netherlands Special Operations Forces 2035 - Altijd en overal, een strategische handlingsoptie voor special inzet [Netherlands Special Operations Forces 2035: Anytime, Anywhere, a strategic action option for special deployment]*. Digital. The Hague, The Netherlands: Ministrie Van Defensie, 2021.

Newdick, Thomas. “Norwegian Undersea Surveillance Network Had Its Cables Mysteriously Cut.” *The Drive*, November 11, 2021. <https://www.thedrive.com/the-war-zone/43094/norwegian-undersea-surveillance-network-had-its-cables-mysteriously-cut>.

North Atlantic Military Committee. *MC 0628 NATO Military Policy on Strategic Communications*. MC 0628. Brussels: NATO, 2017.

Norwegian Ministry of Finance. *Prop. 78S (2021-2022) Proposisjon til Stortinget [Proposition to Stortinget]*. Approved draft. Oslo, Norway: Norwegian Ministry of Finance, 2022. <https://www.regjeringen.no/contentassets/8ec464ed072f4f459a3b0ad75e4637cd/no/pdfs/prp202120220078000dddpdfs.pdf>.

Norwegian Ministry of Government Administration and Reform. *Central Government Communication Policy*. English Abridged Digital Edition. Oslo: Norwegian Ministry of Government Administration and Reform, 2009. https://www.regjeringen.no/globalassets/upload/fad/vedlegg/informasjonspolitikk/statkompol_eng.pdf.

Paul, Christopher. *Information Operations Doctrine and Practice - A Reference Handbook*. 1st ed. Westport, CT: Praeger Security International, 2008.

- Paul, Christopher, Colin Clarke, Michael Schwille, Jakub Hlavka, Michael Brown, Steven Davenport, Isaac Porche, and Joel Harding. *Lessons from Others for Future U.S. Army Operations in and Through the Information Environment*. Santa Monica, CA: RAND Corporation, 2018. <https://doi.org/10.7249/RR1925.1>.
- Paul, Christopher, Colin Clarke, Bonnie Triezenberg, David Manheim, and Bradley Wilson. *Improving C2 and Situational Awareness for Operations in and Through the Information Environment*. Santa Monica, CA: RAND Corporation, 2018. <https://doi.org/10.7249/RR2489>.
- Paul, Christopher E, and Michael Schwille. “The Evolution of Special Operations as a Model for Information Forces.” *Joint Force Quarterly*, Forum, 100, no. 1 (2021): 6–13.
- Porche, Isaac, Christopher Paul, Micheal York, Chad C. Serena, Jerry M. Sollinger, Elliot Axelband, Endy Y. Min, and Bruce J. Held. *Redefining Information Warfare Boundaries for an Army in a Wireless World*. Santa Monica, CA: RAND, 2013.
- Prel, Jean-Baptist du, Bernd Röhrig, Gerhard Hommel, and Maria Blettner. “Choosing Statistical Tests.” *Deutsches Ärzteblatt International* 107, no. 19 (May 2010): 343–48. <https://doi.org/10.3238/arztebl.2010.0343>.
- Regjeringen Solberg. *Meld. St. 5 - Samfunnssikkerhet i en usikker verden [Societal Security in an Uncertain World]*. Melding til Stortinget, 5 (2020-2021). Oslo, Norway: Ministry of Justice and Public Security, 2020. <https://www.regjeringen.no/contentassets/ba8d1c1470dd491f83c556e709b1cf06/no/pdfs/stm202020210005000dddpdfs.pdf>.
- . *Melding til Stortinget (2020-2021) - Mennesker, muligheter og norske interesser i nord [Executive white paper (2020-2021)- People, opportunities and Norwegian interest in the North]*. Oslo: Norwegian Ministry of Foreign Affairs, 2020. <https://www.regjeringen.no/contentassets/268c112ec4ad4b1eb6e486b0280ff8a0/no/pdfs/stm202020210009000dddpdfs.pdf>.
- . *Prop. 14S (2020-2021) - Evne to forsvar -vilje til beredskap Langtidsplan for forsvarssektoren [Ability to Defend - Determination to Readiness A Longterm Plan for the Defense Sector]*. Proposisjon til Stortinget (forslag til stortingsvedtak), 14 S. Oslo: Forsvarsdepartementet, 2020.
- Rona, Thomas. *Weapon Systems and Information War*. Seattle, WA: Boeing Aerospace Company, 1976. https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Science_and_Technology/09-F-0070-Weapon-Systems-and-Information-War.pdf.
- Ronfeldt, David, and John Arquilla. “Cyberwar Is Coming!” In *In Athena’s Camp: Preparing for Conflict in the Information Age*, edited by David Ronfeldt and John Arquilla, 23–60. Santa Monica, CA: RAND Corporation, 1997.

- Rubright, Richard W. *A Unified Theory of Special Operations*. Tampa, FL: Joint Special Operations University, 2017. https://jsou.libguides.com/ld.php?content_id=51792001.
- Schwille, Michael, Anthony Adler, Jonathan Welch, Christopher Paul, and Richard C. Baffa. *Intelligence Support for Operations in the Information Environment: Dividing Roles and Responsibilities Between Intelligence and Information Professionals*. Santa Monica, CA: RAND Corporation, 2020. <https://doi.org/10.7249/RR3161>.
- Searle, Tom. *Outside the Box: A New General Theory of Special Operations*. Tampa, FL: Joint Special Operations University, 2017. <https://jsou.libguides.com/jsoupublications>.
- Simons, Anna. "Diversity and SOF: Boon or Bane?" *Special Operations Journal* 5, no. 1 (January 2, 2019): 42–52. <https://doi.org/10.1080/23296151.2019.1581431>.
- Skjelland, Espen, Espen Berg-Knutsen, Brynjar Arnfinnsson, Sverre Diesen, Sigurd Glærum, Mona Sagsveen Guttelvik, Sverre Kvalvik et al. *Forsvarsanalysen 2022 [The Defense Analysis 2022]*. Kjeller: Norwegian Defense Research Establishment, 2022. <https://publications.ffi.no/nb/item/asset/dspace:7306/22-00659.pdf>.
- Soper, Daniel. "Calculator: Fisher's Exact Test for 2x3 Contingent Table." Commercial. Free Statistics Calculators, version 4.0, 2022. <https://www.danielsoper.com/statcalc/calculator.aspx?id=58>.
- Spulak, Robert G. *A Theory of Special Operations - The Origins, Qualites and Use of SOF*. Tampa, FL: Joint Special Operations University, 2007. <https://apps.dtic.mil/sti/pdfs/ADA495521.pdf>.
- Thuv, Aasmund. *An Essay on Strategic Communication, Information Operations and Public Affairs*. Kjeller: Norwegian Defense Research Establishment (FFI), 2014. <https://publications.ffi.no/nb/item/asset/dspace:2380/13-02227.pdf>.
- Tucker, David, and Christopher J. Lamb. *Restructuring Special Operations Forces for Emergin Threats*. Washington, D.C.: National Defense University, 2006. <https://www.hsdl.org/?view&did=466325>.
- U.S. Army Special Operations Command Historian. "A Timeline of U.S. Army Special Operations Forces." Office of the Command Historian. Accessed April 18, 2022. https://arsof-history.org/arsof_timeline/index.html#top.
- U.S. Army Training and Doctrine Command. *The U.S. Army in Multi-Domain Operations 2028*. TRADOC Pamphlet 525-3-1. Washington, D.C.: Department of the Army, 2018. <https://adminpubs.tradoc.army.mil/pamphlets/TP525-3-1.pdf>.

- Vandenbroucke, Lucien S. *Perilous Options - Special Operations as an Instrument of U.S. Foreign Policy*. New York: Oxford University Press, 1993.
- Ventre, Daniel. *Information Warfare*. 2nd ed. Information Systems, Web and Pervasive Computing Series. Hoboken, NJ: ISTE ; Wiley, 2016.
- Waltz, Edward. *Information Warfare - Principles and Operations*. 1st ed. Boston: Artech House, 1998.
- Watling, Jack. *Sharpening the Dagger - Optimising Special Forces for Future Conflict*. London, UK: Royal United Services Institute, 2021.
- Wendt, Eric. *Comprehensive Defense Handbook*. A-1. Vol. 2. Brussels: NATO Special Operations Headquarters (NSHQ), 2020.
- Wilson, James Q. "Chapter 12 - Innovation." In *Bureaucracy - What Governement Agencies Do and Why They Do It*, 218–32. New York: Basic Books, 1989.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California