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**THESIS**

**ANALYZING KEY COMMUNICATORS**

by

Alexander R. Wingate, Kyle M. Gerik, and John A. Benson

March 2022

Thesis Advisor:  
Second Reader:

Shannon C. Houck  
Robert E. Burks

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**ANALYZING KEY COMMUNICATORS**

Alexander R. Wingate  
Major, United States Army  
BS, United States Merchant Marine Academy, 2010

Kyle M. Gerik  
Major, United States Army  
BS, Black Hills State University, 2006

John A. Benson  
Major, United States Army  
BS, United States Military Academy, 2010

Submitted in partial fulfillment of the  
requirements for the degree of

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from the

**NAVAL POSTGRADUATE SCHOOL  
March 2022**

Approved by: Shannon C. Houck  
Advisor

Robert E. Burks  
Second Reader

Carter Malkasian  
Chair, Department of Defense Analysis

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## **ABSTRACT**

As history has shown, members of social groups trust select individuals who can access information and provide persuasive perspectives. Known by the Department of Defense as key communicators, these personalities maintain a great deal of influence deriving their authority from various official, cultural, religious, and social statuses within their respective communities. Although psychological operations and other national security personnel understand their value, current government training and processes do not adequately address the need for effective analysis of key communicators. The purpose of this research is to develop a foundational PSYOP analytical process to improve how practitioners select key communicators to support military objectives. Drawing from academic theories, scientific processes, and the experience of military service members, how can PSYOP personnel analyze key communicators to leverage their social networks? The research reviewed relevant theories, systems, processes, techniques, and procedures to develop the key communicator analytical process (KCAP). This process and its associated tool were designed to guide practitioners as they identify, categorize, organize, visualize, and evaluate relevant qualitative and quantitative communicator and audience variables to yield an appropriate index score with which to compare against others. Finally, this tool was applied to a historical case study to validate its functionality in future operational settings.

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## LIST OF ACRONYMS AND ABBREVIATIONS

ATP	Army techniques publications
CIA	Central Intelligence Agency
COA	course of action
COCOM	combatant command
COG	center of gravity
DOD	Department of Defense
FID	foreign internal defense
FM	field manual
GPF	general purpose forces
IE	information environment
IPB	intelligence preparation of the battlefield
IRC	information-related capabilities
JIPOE	joint intelligence preparation of the environment
JP	joint publications
KC	key communicator
KCAP	key communicator analytical process
KCAT	key communicator analytical tool
KGB	Komitet Gosudarstvennoy Bezopasnosti
MOS	military occupations specialty
NPS	Naval Postgraduate School
NTC	National Training Center
OIRA	Official Irish Republican Army
OPE	operational preparation of the environment
OSS	Office of Strategic Services
PIRA	Provisional Irish Republican Army
POB	psychological operations battalion
PSYOP	psychological operations
SET	social exchange theory
SIT	social identity theory
SME	subject matter expert

SMT	social movement theory
SNA	social network analytics
SOF	special operations forces
SOTD	Special Operations Training Detachment
STP	soldier training publications
TAA	target audience analysis
TTP	tactics techniques and procedures
USG	United States government

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## I. INTRODUCTION

The proliferation of disinformation and propaganda through advanced technology in recent years has increased the cognitive load placed on the average person.<sup>1</sup> In response, individuals and communities increasingly look to various key communicators (KCs) to interpret and present information for consumption. Despite this, the Department of Defense (DOD) regularly employs unilateral messaging efforts to reach and influence critical target audiences. If this continues, DOD narratives will become less competitive in hotly contested information environments (IE), resulting in the United States becoming largely anachronistic and ineffective at influencing audiences abroad. Two decades of counterinsurgency, foreign internal defense (FID), and combat operations have demonstrated the importance of KCs whenever the U.S. military and its allies interact with civil populations.<sup>2</sup> However, it is incumbent on individual service members to develop their own processes to understand and employ KCs. Despite the importance of this topic, the current military understanding of key communicators is limited.

Despite their recent novelty, the USG has effectively leveraged American personalities since the First World War. The Committee on Public Information hired 75,000 “Four Minute Men” as credible voices within communities across America to sway local audiences in favor of the war effort.<sup>3</sup> By the Second World War, key communicators were essential to the Office of Strategic Services (OSS) and the Coordinator of

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<sup>1</sup> Annie Lentz and Max Kampelman, “A Global Pandemic: Disinformation,” *The Commission on Security and Cooperation in Europe*, September 16, 2019, 4; Max Fisher and Amanda Taub, “How YouTube Radicalized Brazil - The New York Times,” News, The New York Times, August 11, 2019, <https://www.nytimes.com/2019/08/11/world/americas/youtube-brazil.html>; Jeff Orlovski, *The Social Dilemma* | Netflix Official Site, Documentary (Netflix, 2020), <https://www.netflix.com/title/81254224>; and William Gangware and Christina Nemr, “Weapons of Mass Distraction: Foreign State-Sponsored Disinformation in the Digital Age” (Park Advisors, March 2019).

<sup>2</sup> *Foreign Internal Defense*, ATP 3-05.2 (Washington, DC: Headquarters, Department of the Army, 2015); *Tactics in Counterinsurgency*, FM 3-24.2 (Washington, DC: Headquarters, Department of the Army, 2009); and Joint Chiefs of Staff, *Countering Threat Networks*, JP 3-25 (Washington, DC, 2016).

<sup>3</sup> Ashley Franz Holzmann, *Artists of War: A History of United States Propaganda, Psychological Warfare, Psychological Operations and a Proposal for Its Ever-Changing Future* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 2020), 23–24; and Adrian Room and Ebenezer Brewer, eds., “Four Minute Men” In Brewer’s *Dictionary of Modern Phrase and Fable*, 2nd ed. (Cassell, 2009), [https://search-credoreference-com.libproxy.nps.edu/content/entry/brewermod/four\\_minute\\_men/0](https://search-credoreference-com.libproxy.nps.edu/content/entry/brewermod/four_minute_men/0).

Information. One notable effort by the OSS included their support and distribution of John Steinbeck's work *The Moon is Down* in Nazi-Occupied Europe to promote resistance.<sup>4</sup> Similarly, the Allies used General George S. Patton's image, speeches, public appearances, and press releases to convince German intelligence that Pas de Calais, France would be the landing site for the invasion of Europe.<sup>5</sup> As history has shown, American musicians, artists, and iconic personalities are as important as U.S. diplomats and public officials.<sup>6</sup> As Watts discovered in his work *Messing with the Enemy*, a communicator's publicly available information, social media activity, and conversations could be used to understand how to recruit and leverage an influential personality to support another's agenda.<sup>7</sup> Although it is preferable to use a key communicator from within a local social network, these cases show how even American artists and public figures can be employed to support an effort overtly with the intent of exploiting it covertly.

Certain U.S. agencies and special operations forces (SOF) have a well-documented history of leveraging local key communicators to support interests and objectives abroad. During the Cold War, the Central Intelligence Agency (CIA) and SOF utilized key communicators to shape the operational environment in their favor. In the early 1950s, the CIA nearly leveraged the anti-communist Chinese networks of the well-respected "Tiger General" and former Chinese Republican Vice-President, Li Zongren. However, limited environmental analysis and verification discouraged Washington from approving any such operation before his influence dissipated.<sup>8</sup> Similarly, the CIA allegedly did subsidize the Dalai Lama and his brother during Operation ST CIRCUS, using their religious position to bolster Tibet's government in exile and other resistance efforts that could undermine the

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<sup>4</sup> Donald V Coers and John Steinbeck, *The Moon Is Down* (New York: Penguin Books, 2014), i–xv, <http://www.mylibrary.com?id=718118>; and Holzmann, *Artists of War*, 28.

<sup>5</sup> William B. Breuer, *Hoodwinking Hitler: The Normandy Deception*, First Edition (Westport, Conn: Praeger, 1993); and Brian Murphy, "Patton's Ghost Army: D-Day Deception," *America In WWII*, 2018, <http://www.americainwwii.com/articles/pattons-ghost-army/>.

<sup>6</sup> Clint Watts, *Messing with the Enemy: Surviving in a Social Media World of Hackers, Terrorists, Russians, and Fake News* (New York, NY: Harper, an imprint of Harper Collins Publishers, 2018), 192–93.

<sup>7</sup> Watts, 86.

<sup>8</sup> Roger Jeans, "Ghost Guerrillas: The CIA and 'Tiger General' Li Zongren's Third Force during the Early Cold War," *Journal of Military History* 81, no. 2 (April 2017): 491–509.

People’s Republic of China.<sup>9</sup> Around the same time, former advertising executive and CIA operative, COL Edward Landsdale, developed a relationship with a prominent host nation government official, Ramon Magsaysay, to exploit his networks as a counter to the Huk insurgency in the Philippines. Landsdale’s efforts to reform Filipino politics were so effective that he successfully orchestrated the election of Magsaysay to the presidency.<sup>10</sup> During the Vietnam War, the 4th Psychological Operations Group and the CIA supported the Chiêu Hồi National Reconciliation Program. Key communicators, in the form of officials of the local program centers, provided education and vocational training to Vietcong defectors before their reintegration into South Vietnamese society.<sup>11</sup> In turn, the USG gathered actionable intelligence on the battlefield, degraded the combat strength of the enemy, and undermined the North Vietnamese Communist ideology.<sup>12</sup> Recent efforts during the Global War on Terrorism have encouraged similar practices when combating the recruiting efforts of violent extremists. For example, practitioners have been encouraged to find moderate religious leaders who can dissuade potential recruits or encourage extremists to abandon their cause. Furthermore, practitioners can identify audiences who consume extremist messages by mapping their relationships based on the sharing of specific content online.<sup>13</sup> By empowering those moderate religious scholars and leaders with above-average access and influence with the audience, practitioners can

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<sup>9</sup> “CIA Helped Subsidize Dalai Lama, Other Exiles: [Final Edition],” *Edmonton Journal*, September 15, 1998, sec. World, <http://www.proquest.com/docview/252612650/abstract/59805656CEE4034PQ/1>; Anonymous, “Dalai Lama’s Brother Aided CIA Operations,” *National Post*, September 10, 2008, sec. Arts & Life, <http://www.proquest.com/docview/330810632/abstract/2FF4BF67D17E40E3PQ/1>; “Dalai Lama Was Not on CIA Payroll but His People Were: [Evening Update, C Edition],” *Chicago Tribune*, October 1, 1998, sec. NEWS, <http://www.proquest.com/docview/418716650/abstract/F5A50D436C9040DAPQ/1>; and Tyler Van Horn, “The Utility of Freedom a Principal-Agent Model for Unconventional Warfare” (Naval Postgraduate School, 2011).

<sup>10</sup> Daniel Immerwahr, *Thinking Small: The United States and the Lure of Community Development* (Cambridge: Harvard University Press, n.d.), 106–10.

<sup>11</sup> Herbert Friedman, “Chieu Hoi Program - Psychological Operations,” PSYWARRIOR, accessed June 8, 2021, <http://www.psywarrior.com/ChieuHoiProgram.html>.

<sup>12</sup> J.A. Koch, “The Chieu Hoi Program in South Vietnam, 1963–1971” (Santa Monica, CA: The RAND Corporation, January 1973), 91–94, <https://www.rand.org/content/dam/rand/pubs/reports/2006/R1172.pdf>.

<sup>13</sup> Nancy Roberts and Sean Everton, “Strategies for Combating Dark Networks,” *Journal of Social Structure* 12 (2011): 6, <https://calhoun.nps.edu/handle/10945/41260>; Todd C Helmus and Elizabeth Bodine-Baron, “Empowering ISIS Opponents on Twitter,” n.d., 1–11.

exploit social networks to their advantage. These and many more examples demonstrate the value of local voices and their potential impact on audiences and mission accomplishment.

Although these cases vary in scope, they highlight the importance key communicators can play within the operational environment. As practitioners develop ways to find, understand, and employ these influential personalities, they can draw from the lessons of the past and adopt their techniques for the modern age. The “Four Minute Men” demonstrate the value of grassroots communicators when organized at scale. Cases during the Second World War suggest that key communicators can support a wide range of IRCs, including Public Affairs, PSYOP, and Military Deception. The CIA’s Cold War operations in southeast Asia demonstrate the need for a validated analytical process that can account for operational risks but provide timely options. The success of COL Landsdale in the Philippines and support to Chiêu Hồi National Reconciliation Program in Vietnam show that when key communicators are leveraged, they can significantly influence the behaviors of large at-risk populations. As practitioners look to the future, they should employ a holistic analytical process for key communicators that draws from academia, technology, sciences, and history as a practical guide to reach desired solutions.



## II. LITERATURE REVIEW

### A. ANALYSIS OF KEY COMMUNICATORS IN MILITARY DOCTRINE

U.S. Army doctrine defines a key communicator as “an individual to whom the target audience turns most often for an analysis or interpretation of information and events” and are “deemed credible by members of a specific [target audience].”<sup>14</sup> A closer review of doctrine indicates that psychological operations (PSYOP) personnel are the primary force responsible for finding and interacting with foreign KCs.<sup>15</sup> In total, doctrine references key communicators seventy-four times among eight army field manuals (FM), seventeen Army techniques publications (ATP), and two soldier training publications (STP) in current use. Despite this, only 15% (4 out of 26) of Army doctrine include a definition, 58% (15 out of 26) recommend military personnel identifies KCs, and 62% (16

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<sup>14</sup> Field Manual 3-05.301: Psychological Operations Process Tactics, Techniques, and Procedures (Headquarters, Department of the Army, 2007), G-7; and Military Information Support Operations, FM 3-53 (Washington, DC: Headquarters, Department of the Army, 2013), 2–5.

<sup>15</sup> *Intelligence Preparation of the Battlefield*, ATP 2-01.3 (Washington, DC: Headquarters, Department of the Army, 2019); *Brigade Combat Team Intelligence Techniques*, ATP 2-19.4 (Washington, DC: Headquarters, Department of the Army, 2015); *Unconventional Warfare*, ATP 3-05.1 (Washington, DC: Headquarters, Department of the Army, 2013); *Foreign Internal Defense; Special Operations Intelligence*, ATP 3-05.20 (Washington, DC: Headquarters, Department of the Army, 2013); *The Conduct of Information Operations*, ATP 3-13.1 (Washington, DC: Headquarters, Department of the Army, 2018); *Special Forces Unconventional Warfare*, ATP 3-18.1 (Washington, DC: Headquarters, Department of the Army, 2019); *Military Information in Special Operations*, ATP 3-53.1 (Washington, DC: Headquarters, Department of the Army, 2015); *Military Information in Conventional Operations*, ATP 3-53.2 (Washington, DC: Headquarters, Department of the Army, 2015); *Techniques for Information Collection During Operations Among Populations*, ATP 3-55.4 (Washington, DC: Headquarters, Department of the Army, 2016); *Field Manual 3-05.301: Psychological Operations Process Tactics, Techniques, and Procedures; Tactics in Counterinsurgency; Military Information Support Operations; Commander and Staff Organization and Operations*, FM 6-0 (Washington, DC: Headquarters, Department of the Army, 2014); *Opposing Force Operations*, FM 7-100.1: (Washington, DC: Headquarters, Department of the Army, 2004); *Psychological Operations Specialist (Skill Levels 1 Through 4)*, STP 33–37F14-SM-TG (Washington, DC: Headquarters, Department of the Army, 2008); and *Officer Foundation Standards II Psychological Operations (37A) Officer’s Manual*, STP 33–37II-OFS (Washington, DC: Headquarters, Department of the Army, 2007).

out of 26) recommend leveraging the communicator’s social networks.<sup>16</sup> On the other hand, Joint Publications (JP) only reference KCs eleven times but include terms such as “key influencer,” “key leadership,” and “thought leadership,” which have similar meanings.<sup>17</sup> Additionally, the Army and joint doctrine review did not uncover any formalized military processes that specifically identify, analyze, or employ key communicators to reach audiences abroad. In addition to this, a recent review of training and doctrine by the U.S. John F. Kennedy Special Warfare Center and School identified “key communicator development” as a training gap for PSYOP personnel.<sup>18</sup> Since current military doctrine does not provide a scientific approach for employing KCs, it leaves the burden on individuals to apply their professional art, producing inconsistent results.

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<sup>16</sup> Intelligence Preparation of the Battlefield; Brigade Combat Team Intelligence Techniques; Unconventional Warfare; Foreign Internal Defense; Special Operations Intelligence; Division Artillery Operations and Fire Support for the Division, ATP 3-09.90 (Washington, DC: Headquarters, Department of the Army, 2017); The Conduct of Information Operations; Special Forces Unconventional Warfare; Tank Platoon, ATP 3-20.15: (Washington, DC: Headquarters, Department of the Army, 2019); Infantry Platoon and Squad, ATP 3-21.8 (Washington, DC: Headquarters, Department of the Army, 2016); Stryker Brigade Combat Team Weapons Troop, ATP 3-21.91 (Washington, DC: Headquarters, Department of the Army, 2017); Military Information in Special Operations; Military Information in Conventional Operations; Techniques for Information Collection During Operations Among Populations; Multi-Service Techniques for Civil Affairs Support to Foreign Humanitarian Assistance, ATP 3-57.20 (Washington, DC: Headquarters, Department of the Army, 2013); Civil Affairs Support to Nation Assistance, ATP 3-57.30 (Washington, DC: Headquarters, Department of the Army, 2014); Civil Affairs Planning, ATP 3-57.60 (Washington, DC: Headquarters, Department of the Army, 2014); Field Manual 3-05.301: Psychological Operations Process Tactics, Techniques, and Procedures; Special Forces Operations, FM 3-18 (Washington, DC: Headquarters, Department of the Army, 2014); Tactics in Counterinsurgency; Military Information Support Operations; Civil Affairs Operations, FM 3-57 (Washington, DC: Headquarters, Department of the Army, 2019); Commander and Staff Organization and Operations; Opposing Force Operations; Psychological Operations Specialist (Skill Levels 1 Through 4); and Officer Foundation Standards II Psychological Operations (37A) Officer’s Manual.

<sup>17</sup> Joint Chiefs of Staff, *Civil-Military Operations*, JP 3-57 (Washington, DC, 2018); Joint Chiefs of Staff, *Countering Threat Networks*; Joint Chiefs of Staff, *Defense Support of Civil Authorities*, JP 3-28 (Washington, DC, 2018); Joint Chiefs of Staff, *Foreign Humanitarian Assistance*, JP 3-29 (Washington, DC, 2019); Joint Chiefs of Staff, *Foreign Internal Defense*, JP 3-22 (Washington, DC, 2018); Joint Chiefs of Staff, *Informational Operations*, JP 3-13 (Washington, DC, 2014); Joint Chiefs of Staff, *Interorganizational Cooperation*, JP 3-08 (Washington, DC, 2017); Joint Chiefs of Staff, *Joint Planning*, JP 5-0 (Washington, DC, 2020); Joint Chiefs of Staff, *Multinational Operations*, JP 3-16 (Washington, DC, 2019); Joint Chiefs of Staff, *Noncombatant Evacuation Operations*, JP 3-68 (Washington, DC, 2017); and Joint Chiefs of Staff, *Public Affairs*, JP 3-61 (Washington, DC, 2016).

<sup>18</sup> Bradley Bloom, “SWPC Course Design Workshop” (SWPC Course Design Workshop, Fort Bragg, NC, January 27, 2021), sec. 9.

## **B. METHODS TO ANALYZE KEY COMMUNICATORS RELEVANT TO NATIONAL SECURITY PROFESSIONALS**

Serious discussions about key communicators are not limited to the Department of Defense and other United States government (USG) departments and agencies. Researchers and practitioners from diverse disciplines, such as organizational leadership and social media marketing, have applied various labels and definitions to describe and understand the influence and utility of key communicators in social networks.<sup>19</sup> Within the context applicable to national security professionals, categorization of the existing research can be as follows: 1) the study of drivers (motivations and behaviors) and capabilities of key communicators and 2) analytical tools and processes to find, evaluate, and employ them.

### **1. Study of Key Communicators Capabilities and Drivers**

Numerous studies describe key communicators' capabilities and drivers within a social network. Recent research by the RAND Corporation found that social network analysis in concert with word-of-mouth advertising can be employed to enable KCs to counter violent extremist propaganda.<sup>20</sup> Studies by Chakrabarti, O'Keefe, Farzanegan, and Askenasy suggest using specific audience surveys to determine the most relevant roles or occupations of their key communicators.<sup>21</sup> In some research, key communicators in education and crisis response, empowered by their official positions, became critical information gatekeepers with perceived credibility. When recruited, they can articulate

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<sup>19</sup> Helmus and Bodine-Baron, "Empowering ISIS Opponents on Twitter"; Orłowski, *The Social Dilemma* | *Netflix Official Site*; Alok K. Chakrabarti and Robert D. O'Keefe, "A Study of Key Communicators in Research and Development Laboratories," *Group & Organization Studies* 2, no. 3 (September 1977): 336–46, <https://doi.org/10.1177/105960117700200307>.

<sup>20</sup> Helmus and Bodine-Baron, "Empowering ISIS Opponents on Twitter," 3.

<sup>21</sup> Chakrabarti and O'Keefe, "A Study of Key Communicators in Research and Development Laboratories," 343; and M. Jacobs, F. Farzanegan, and A. R. Askenasy, "A Study of Key Communicators in Urban Thailand," *Social Forces* 45, no. 2 (December 1, 1966): 194–96, <https://doi.org/10.2307/2574389>.

perspectives to awaiting audiences.<sup>22</sup> However, another study by Charles Kelly suggests official positions alone do not make key communicators.<sup>23</sup> Studies by RAND, Andersen, and Silva indicate that potential key communicators can be identified, trained, and encouraged to use social media to improve their reach to critical audiences.<sup>24</sup>

## 2. Studies of Key Communicator Analytical Tools and Processes

In the last decade, numerous studies focused on applying social network analytics (SNA) and social movement theory (SMT) to the analysis of social networks within the context of military operations. Most notably, the research focuses on proving the utility of such methodologies for special operations planners and practitioners at tactical level organizations. *Disrupting Dark Networks* demonstrates the methodology and science of utilizing SNA in the setting of underground networks conducting illicit activities.<sup>25</sup> Other studies suggest that SMT and SNA can be leveraged together to 1) identify the relative influence of social networks and 2) identify influential members within networks.<sup>26</sup> In concert with existing military analytical tools and processes, such as target audience analysis (TAA), intelligence preparation of the battlefield (IPB), and center of gravity (COG) analysis, it would seem that SMT and SNA can help practitioners identify and analyze key communicators.<sup>27</sup>

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<sup>22</sup> Martha Buckner, “Key Communicators Can Amplify Support,” *American Association of School Administrators* 54, no. 5 (May 1997): 1, <http://libproxy.nps.edu/login?url=https://www.proquest.com/trade-journals/key-communicators-can-amplify-support/docview/219258711/se-2?accountid=12702>; and Harald Hornmoen et al., “Key Communicators’ Perspectives on The Use of Social Media in Risks and Crises,” in *The Routledge Companion To Media and Humanitarian Action*, ed. Robin Andersen and Purnaka L. de Silva, 1st ed. (New York and London : Routledge, Taylor & Francis Group, [2017]: Routledge, 2017), 439–40, <https://doi.org/10.4324/9781315538129-45>.

<sup>23</sup> Charles Kelly, “The Myth of the ‘Key Communicator,’” *Personnel Journal* 45, no. 1 (1966), <https://search-proquest-com.libproxy.nps.edu/docview/1310185763?pq-origsite=primo>.

<sup>24</sup> Helmus and Bodine-Baron, “Empowering ISIS Opponents on Twitter”; and Hornmoen et al., “Key Communicators’ Perspectives on The Use of Social Media in Risks and Crises.”

<sup>25</sup> Sean F. Everton, *Disrupting Dark Networks* (New York, NY: Cambridge University Press, 2012).

<sup>26</sup> Kevin A Horrigan and Matthew J Piosa, “Networks of Influence in the Central Asian States,” n.d., 119.

<sup>27</sup> Field Manual 3-05.301: Psychological Operations Process Tactics, Techniques, and Procedures; and Intelligence Preparation of the Battlefield.

## C. METHODS TO ANALYZE KEY COMMUNICATORS RELEVANT TO PSYCHOLOGICAL OPERATIONS

Although studies of drivers, capabilities, tools, and processes are relevant to the PSYOP community, the majority of recent research by practitioners has focused on the merit of the integration of SNA and SMT into the PSYOP process.<sup>28</sup> The academic focus generally fell into three categories of the research considered: 1) SNA and SMT integration, 2) case studies where KCs leveraged networks, and 3) an approach for employing influencers. Although such works are valuable, little research has suggested a comprehensive analytical approach for practitioners.

### 1. Studies of KCs from a Psychological Operations Standpoint

The core focus of recent research was primarily to leverage KCs for psychological operations, particularly by integrating SNA and SMT into existing processes. Studies proposing methodologies for integrating SNA into the PSYOP process have largely demonstrated that it is possible to effectively utilize network analytics to identify social networks, understand their relative influence in the overall community, and identify KCs within that network.<sup>29</sup> The second broad group of studies addresses case studies of specific instances where KCs used their social networks to reach various target audiences.<sup>30</sup> The final group discusses approach frameworks for finding, recruiting, and employing key communicators. More specifically, recent studies by RAND, a Command General Staff College thesis, and a Naval Postgraduate School thesis all suggest the importance of an analytical process to find, understand, and leverage KCs.<sup>31</sup> These studies highlight the

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<sup>28</sup> Holzmann, *Artists of War*; William R Orkins and Carla A Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” N.D., 106; And Andrew A Sadoun, *PSYOP and Social Networks* (Monterey, CA: Naval Postgraduate School, 2018).

<sup>29</sup> Andrew A Sadoun, *PSYOP and Social Networks* (Monterey, CA: Naval Postgraduate School, 2018); Horrigan and Piosa, “Networks of Influence in the Central Asian States”; William R Orkins and Carla A Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” n.d., 106., 106; Andrew A Sadoun, *PSYOP and Social Networks* (Monterey, CA: Naval Postgraduate School, 2018).

<sup>30</sup> Sadoun, *PSYOP and Social Networks*, 2018, v; and Holzmann, *Artists of War*, 129.

<sup>31</sup> Holzmann, *Artists of War*; Helmus and Bodine-Baron, “Empowering ISIS Opponents on Twitter”; and Sadoun, *PSYOP and Social Networks*, 2018.

serious need for a process to exploit datasets to build an institutional understanding of interactions between key communicators and the military.

#### **D. THE GAP**

Although psychological operations and other national security personnel understand their value, current government training and processes do not adequately address the need for effective analysis of key communicators. Current literature provides an understanding of the empirical data related to social networks and their associated key communicators. Most studies in this vein use either comparative analysis or a single case study to test a hypothesis. The reliance on case studies scopes the specificity of research to the point where it is challenging to apply conclusions outside of the tested time and place. This suggests a large gap in developing and using a generalized model for the predictive analysis of networks.

However, as E.E. Cummings once wrote, “life’s not a paragraph,” which appropriately illustrates how empirical data may provide clarity but can also mask the full complexity of interacting variables in the observed system.<sup>32</sup> Empirical data merely illuminates which people may be influential in a network but not how PSYOP personnel could leverage them. The discipline of social psychology provides an insight into the blind spots of identification conducted solely using empirical data. Since DOD influence and PSYOP often focus on core beliefs and behavior change with meaningful and long-term consequences for the target audience, social psychology brings together research on several key concepts for this thesis. First, it approaches the research question from the perspective of social groups. These groups are essential for PSYOP, as the final objective of developing a key communicator is to influence the more extensive social network. Analysis, likewise, must be focused on understanding how the KC operates in the context of the larger group, not merely as an individual. Additionally, social psychology provides a better fit for understanding the functioning of social networks with regards to core beliefs/values, irrational behaviors, and group decision-making than other disciplines such as marketing

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<sup>32</sup> E.E. Cummings, “Since Feeling Is First,” *Daily Poetry* (blog), September 12, 2013, <https://dailypoetry.me/e-e-cummings/since-feeling-is-first/>.

or behavioral economics. A key communicator analytical process informed by social psychology research and complemented by existing military intelligence and network analytics processes could inform operational understanding and assist practitioners in leveraging influential nodes.<sup>33</sup> Therefore, this thesis intends to understand how psychological operations personnel can analyze key communicators to leverage their social networks.

#### **E. RESEARCH QUESTION**

How can psychological operations personnel analyze key communicators to leverage their social networks?

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<sup>33</sup> Intelligence Preparation of the Battlefield; and Field Manual 3-05.301: Psychological Operations Process Tactics, Techniques, and Procedures.

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### III. APPROACH

As valuable as key communicators are to affect change among audiences, PSYOP personnel must employ an analytical process to find and understand them. An analysis is defined as the “detailed examination of anything complex in order to understand its nature or to determine its essential features.”<sup>34</sup> Within the military, service members regularly employ analytical processes to assist decision-makers in categorizing known variables, determining what needs to be understood and reaching a timely, well-reasoned conclusion.<sup>35</sup> To this end, PSYOP personnel must have an analytical process that can organize and model how a key communicator might influence a given network. Therefore, this research intends to recommend an empirically supported analytical process for psychological operations practitioners.

To effectively address this gap, it is essential any recommended process draws from emerging analytical theories and supports the traditional military, joint, interagency, special operations, and psychological operations communities at all levels of warfare. Recent research has noted the value of analytical processes and theories like social movement theory and social network analysis. By incorporating these and other relevant analytical models into a comprehensive process, practitioners could more efficiently sort through variables to find influential people capable of reaching critical audiences. However, this process cannot operate within a vacuum; it must align with existing military analytical processes such as TAA, IPB, COG analysis, joint intelligence preparation of the environment (JIPOE), operational preparation of the environment (OPE), and course of action (COA) analysis. Besides providing a fount of information to draw from, this will ensure that information from the analysis process easily feeds back into military systems to improve the awareness of the greater military community.

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<sup>34</sup> “Definition of ANALYSIS,” accessed February 24, 2021, <https://www.merriam-webster.com/dictionary/analysis>.

<sup>35</sup> Clayton Thomas et al., “ORSA/MAS Panel Report: Good Military Analysis: What Is It; How to Recognize It; How to Do It,” n.d., 27–28.

To accomplish this, the research will review existing relevant theories, systems, processes, techniques, and procedures, both within and outside of the military, to develop a testable key communicator analysis process and tool. The process and its associated tool will guide users to 1) use qualitative and quantitative data to help identify relevant key communicator characteristics, 2) weigh these characteristics within the context of the social network the communicator operates within, and 3) yield a relevant index score to compare key communicators against each other. Surveys of U.S. Army personnel and interviews with subject matter experts will gauge and gather knowledge relative to key communicators, furthering the development of the analytical process. The research uses four complementary methods: (1) aggregate similar analysis methods from the U.S. military and academia, (2) develop a PSYOP key communicator analytical process, (3) analyze key communicator survey and interview data, and (4) analyze a case study utilizing the key communicator process and tool.

#### **A. PHASE 1: AGGREGATION OF ANALYSIS METHODS**

A detailed review of U.S. Army and joint doctrine will help determine how a key communicator analytical process will enhance existing military analytical processes for the Department of Defense. To this end, research emphasis will be on TAA, IPB, JIPOE, OPE, COA analysis, and COG analysis. Army and joint doctrine recommend personnel to identify key communicators, and these processes are familiar and regularly used by PSYOP practitioners. Next, a thorough examination of the military analytical processes will detail key communicators' characteristics and drivers. The research will consider additional academic analytical processes and theories to supplement this review. These will include but are not limited to social movement theory (SMT), social identity theory (SIT), social exchange theory (SET), and social network analysis (SNA). The research will pay special attention to recent research conducted by PSYOP personnel suggesting techniques for finding, developing, and enabling key communicators. Finally, this research will enhance the thoroughness of the review via interviews and surveys of practitioners who have experience working with key communicators abroad—increasing external validity to the process.

## **B. PHASE 2: KEY COMMUNICATOR ANALYTICAL PROCESS**

The research will develop an analytical process and associated tool that PSYOP personnel can use to understand key communicators better. The process aims to assist PSYOP practitioners in categorizing and evaluating relevant information about key communicators. The output of this new process is (1) an effective approach to recruit the KC, (2) an understanding of the best ways to employ the communicator to reach audiences, (3) an index score to compare the influence of communicators, and (4) relevant information to feed into military systems and processes. With this tool, PSYOP professionals can efficiently organize and weigh KC characteristics drawn from various intelligence and information sources to produce a simplified index score. In order to develop the tool and process, research will categorize the previous phase into four broad KC segments: (1) interactions with the target audience, (2) communication style (techniques, message content, message structure), and (3) motivations, and (4) interaction with platforms to reach audiences. The end state of this phase is to propose a process and tool PSYOP personnel can use to analyze key communicators, evaluate their suitability to support military objectives, and initiate a communicator engagement ladder.

## **C. PHASE 3: ANALYZING KEY COMMUNICATOR SURVEY AND INTERVIEW DATA**

The research will use surveys and subject matter expert (SME) interviews to gain insight into key communicators' identification, assessment, and method(s) of interaction to develop the process and tool. The surveys and interviews will explore the participant's understanding of SNA, SMT, SET, and SIT. Furthermore, the surveys will examine the relevant knowledge of military analytical processes and tools. Survey participants (approximate N = 30–80) will include U.S. Army personnel from varying branches, including special operations and general-purpose forces. The interview participants will be SMEs with experience working in the Department of Defense or academia. Additionally, SMEs should have a working knowledge of current and past trends within the fields of information-related capabilities (IRC), intelligence, SNA, SMT, SET, or SIT. The interviews will provide unique insight into the combination of academic theories and

practical applications for military operations. The output of gathering this data is to integrate and improve the proposed analytical process and its associated tool.

#### **D. PHASE 4: VALIDATING THE KEY COMMUNICATOR ANALYTICAL PROCESS**

The final phase of the research will use a case study to test the utility of the key communicator process and tool. A case study will allow simulated use of the tool using a known network to validate the results. With well-defined source material, researchers can verify the functionality of the process and tool by analyzing variables gathered from a relatively complete data set. Validation through case study analysis will enhance and refine the process and tool to improve its utility for PSYOP personnel.

#### **E. METHODOLOGICAL APPROACH**

The key communicator analytical process (KCAP) provides PSYOP personnel with an effective way to categorize, measure, compare, and disseminate information regarding communicators within a network. The KCAP leveraged social network analysis (SNA), communication models, and limited social theories to include SNA, SMT, SET, SIT, layered models, and Schramm's communication model to find and evaluate key communicators. Subsequently, the research must answer four essential aspects regarding key communicators: how is relevant information about key communicators identified, organized, measured, and visualized? The research draws on the U.S. Army's theories, processes, and tools to establish these metrics while determining an organizational structure for the network information and defining the measurement and index scores.

The military authorities and operational environment limit the capabilities of practitioners to observe key communicators, their audiences, and the generalized information environment. These limitations hinder the ability to target and operate in the various domains, and as such, this study addresses the critical problem by proposing an analytical tool and process. The KCAP will address the shortfalls and limit potential duplicate methods when determining key communicators. Therefore, the research sought to determine those aspects and traits within the given populations. The study hypothesizes

that researchers develop an analytical process to critically examine key communicators to leverage their social networks for PSYOP objectives.

The study utilized three different methods to answer the research question—How can psychological operations personnel analyze key communicators to leverage their social networks to determine the usefulness of a qualitative key communicator process within PSYOP. First, we interviewed SMEs to (1) determine which processes, models, and theories to consider, (2) identify tools capable of supporting the practitioner, and (3) validate the use of specific processes and models in an operational setting. Second, we distributed online surveys to three populations of Army personnel—Naval Postgraduate School (NPS), 6th Psychological Operations Battalion (POB), and the Special Operations Training Detachment (SOTD) - National Training Center (NTC). The surveys gathered diverse viewpoints—Special Operations Forces (SOF) and general-purpose forces (GPF)—within the Army to better understand baseline knowledge. The purpose of the surveys was to (1) determine familiarity with specific processes, models, theories, and tools, (2) determine training and education gaps impacting the use of a novel analytical process, and (3) identify trends and experience with key communicators. Third, we use a historical case study of the Provisional Irish Republican Army (PIRA) to identify efficiencies, improvements, and validate the process and tool. Using these diverse methodological approaches in conjunction produces triangulating evidence that can help inform an optimal way to capture key communicator information holistically.

## **1. Surveys**

The online surveys provided unique viewpoints and experiences from varied U.S. Army populations. The surveys utilized the Qualtrics online platform to organize, disseminate, and collate the responses. Qualtrics allowed individuals to receive a unique survey link to complete the assessment and allowed the researchers to track responses and follow-up requests if required. The survey—the respondent size of 35—included open-ended and close-ended (single and multiple selectable answers) questions for both groups. The participant survey was 29 questions incorporating demographic/background data, service history, key communicator knowledge, and social theories knowledge. Before the

SME interviews, the study conducted online surveys to gain baseline data of key communicator and social theories knowledge. The SME survey slightly differed from the survey only (participant survey) distribution due to further inquiry and initiating additional key communicator topics during the interview. The SME survey was 31 questions with supplementary questions for perspective and experience. The SME survey was the precursor to the interview, allowing more tailored questions and conversation.

## **2. Interviews**

The SME interviews provided in-depth conversations about training, gaps, resources, and additional information for determining key communicators in practice. The research identified two individuals as SMEs to expound upon the initial surveys, gaining increased perspective and understanding due to relevant knowledge and implementation experience. The research determination of an SME were individuals deemed to have experience finding and working with key communicators giving preference to individuals with experience working with U.S. Army, DOD, Information Related Capabilities (IRC), or intelligence fields. Additionally, significant practical or academic experience with SNA, SMT, SET, and SIT were indicators of a potential SME. After initial contact to determine the willingness to participate, researchers utilized a phone call to conduct the interview. The interviews were free flow discussions based on the prior surveys and experience of the individual SME; however, the interviewer maintained baseline questions and topics for each interviewee.

## **3. Case Study: PIRA**

The case study of the PIRA focuses on the early period of the Troubles, beginning with the Belfast riots in 1969 and the split of the Irish Republican Army (IRA) into the PIRA and the Official IRA (OIRA). The case study provided known communicators and situations to determine the functionality of the KCAP. It used the personal interactions and networks between IRA and the Sinn Fein political party to combine a dark and light network that is a valuable tactic in guerilla struggles. The legitimacy and motivation of the different audiences within the networks provided unique access to key communicators during the duration of the Troubles. The period ended with the PIRA dropping the long-

held abstentionism policy and promoting political involvement more heavily than terrorism and guerilla conflict. The intervening period provided data points and key communicator activities to determine the functionality and utility of the KCAP through historical events.

The analysis of the information combined the interviews, surveys, and the case study to aggregate the data and use the different social theories to understand better the impact each might have on key communicators. The survey data allowed a better understanding of the differentiation between SOF and GPF. Additionally, the deployment and regional experience provided a unique perspective of different combatant commands (COCOMs) and the use or priority of key communicators within those COCOMs. The social theories information provided the surveyed populations' strengths, weaknesses, or knowledge gaps.

The methodological protocol for the surveys provided guidelines for who, how, and where to recruit participants. The research limited the survey population to 80 subjects of U.S. Army military occupations specialty (MOS) immaterial within NPS, 6th POB, and SOTD-NTC. The interview allowed up to nine participants across the aforementioned broad range of occupations. The initiation of recruitment of survey participants was through email solicitation. After expressing interest, the individuals received the survey link to Qualtrics. The system allowed a single source for the research to conduct the surveys and provided ease of access for the participants due to surveying through various applications—smartphone, tablet, computer, etc. Qualtrics provided the basis for the SME and participant surveys, enabling ease of access and data aggregation for the participants and researchers. The system allowed the researchers to gain participant consent, demographics, service history, and the survey data in a centralized location. Each participant-only survey consisted of three sub-sections: basic information, service history, and key communicator/social theories. The surveyed populations consisted of two independent timer periods utilizing the same Qualtrics system. The NPS population received the survey from September 2021 to February 2022, while the 6th POB and SOTD-NTC received the survey during January and February 2022. The lack of immediate follow-up and closed-ended questions hinders gathering further information from the question. Additionally, by conducting the survey online, clarification of questions was not possible

and this potentially allowed interpretation and perspective variances. The distribution of the SME survey was from September 2021 through February 2022 and consisted of two sub-sections: basic information and perspectives/experience. The limitations for the SME survey were the same as the participant survey; however, the researchers were able to overcome these through the follow-up interviews.

The interviews and surveys incurred limited risk to the research and participant. A breach of confidentiality was a potential risk as with any research project. It was deemed low with questionnaire responses and all information de-identified and stored on password-protected servers to minimize an occurrence. The potential existed for emotional discomfort from answering questions and explaining answers to the individual's profession. However, because of the voluntary nature of the surveys and interviews, participants and SMEs could opt out of questions. The discomfort experienced was unlikely to be more than an experience talking to a friend or colleague about these topics. Understanding the potential for the conflict allowed the researchers to prepare better for possible friction within the process; therefore, these interaction risks did not hinder the application or distribution of the surveys or interviews.

#### **4. Social Network Analysis (SNA)**

Social network analysis has considerable promise for PSYOP personnel seeking methods and metrics to find and exploit influential individuals. As Orkins and Kiernan note, military doctrine and processes could benefit from the inclusion of SNA, especially to improve analysis and inform the commander's decision-making.<sup>36</sup> It is no surprise that other PSYOP practitioners utilized SNA to help identify and measure the characteristics of social networks and the impact of influencers.<sup>37</sup> According to Centola's book, *How Behavior Spreads*, SNA can illuminate patterns among groups at scale, highlighting those

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<sup>36</sup> Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," n.d., 2.

<sup>37</sup> Sadoun, *PSYOP and Social Networks*, 2018; Charles M. Ware and Aaron Siebenaller, "Identifying Influencers for PSYOP" (master's thesis, Naval Postgraduate School, 2021), 13.



group attributes, attitudes, and behaviors associated with social relationships.<sup>38</sup> In his book *Disrupting Dark Networks*, Everton defines SNA as:

...a collection of theories and methods that assumes that the behavior of actors (whether individuals, groups, or organizations) is profoundly affected by their ties to others and the networks in which they are embedded...a primary goal of SNA has been to develop metrics that help analysts gain a better understanding of a particular network's structural features.<sup>39</sup>

Everton's definition demonstrates how SNA could support analytical processes that emphasize the social aspects of interaction, especially networks of influence and communication. PSYOP personnel should find SNA metrics useful for uncovering individuals that demonstrate the capability function as a key communicator. One unique feature of SNA tools, like Gephi, snExplorer, RStudio, Python, ORA, and iGraph is the quantifiable metrics and visualizations that demonstrate connections and influence.<sup>40</sup> For example, practitioners could map a generalized information environment by aggregating multiple social networks as layers into a single visualization, illuminating the diversity of ties between actors that may act as conduits for information transfer.<sup>41</sup> Appendix A provides a basic explanation of SNA metrics and applicability, as a complete review is outside the scope of this research.

Leveraging SNA data gathering techniques assist to reduce the potential variables when determining potential key communicators. For example, practitioners could observe specific actors with higher degrees of centrality to detect likely communicators and efficiently exploit an incomplete network. By asking individuals to nominate their friends,

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<sup>38</sup> Damon Centola, *How Behavior Spreads: The Science of Complex Contagions*, Princeton Analytical Sociology Series (Princeton: Princeton University Press, 2018), 16–18.

<sup>39</sup> Sean F. Everton, *Disrupting Dark Networks*, Structural Analysis in the Social Sciences 34 (New York, NY: Cambridge University Press, 2012), 5.

<sup>40</sup> Everton, *Disrupting Dark Networks*, 2012; Sean Everton, "Lab Assignment 1 - One-Mode Social Network Data," Dark Networks (Monterey, CA: Naval Postgraduate School, October 9, 2021); Robert Kava, On October 5th, 2021, the research team spoke with Robert Kava (Psychological Operations officer) regarding his experience identifying and analyzing key communicators in an operational setting., Virtual Teleconference, October 5, 2021; and Joseph Littell, On October 7th, 2021, the research team spoke with Joseph Littell (Psychological Operations officer) regarding his experience identifying and analyzing key communicators, SNA, and academic research., Virtual Teleconference, October 7, 2021.

<sup>41</sup> Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," n.d., 44.

researchers have noticed the “friendship paradox” where the friends of randomly selected network members tend to have a higher degree of betweenness centrality.<sup>42</sup> Practitioners can use surveys to determine connected individuals who may function as communicators. Similarly, they can use similar mechanisms to elicit those roles and occupations that best resonate with a given audience.<sup>43</sup> Practitioners may find this technique particularly useful, as surveys often provide observations on the effectiveness of psychological operations. By simply asking members of the target audience to identify which actors they follow and find the most credible, PSYOP personnel can map their ties in various SNA tools to infer a communicator’s power, prestige, and centrality within an information and trust network.<sup>44</sup> Similarly, practitioners can categorize the kinds of ties audience members share with the communicator and one another. After categorizing central actors, practitioners can passively monitor how they spread ideas, behaviors, norms, beliefs, and information to the target audience in real-time to target paths for efficient message diffusion. Since audiences may resist new or complex ideas, practitioners should seek strong ties that provide significant social reinforcement.<sup>45</sup> However, practitioners must have a general idea of who is a member of the target audience to do this.

To properly assess the impact of communicators, this process must also analyze the target audience. Practitioners should seek out those SNA metrics that describe how a community receives information and reacts to a communicator’s message. The sociologist Damon Centola argues that a particular communicator does not drive information dissemination but rather the optimal social network where messages spread through paths

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<sup>42</sup> Nicholas A. Christakis and James H. Fowler, “Social Network Sensors for Early Detection of Contagious Outbreaks,” ed. Olaf Sporns, *PLoS ONE* 5, no. 9 (September 15, 2010): 1–2, <https://doi.org/10.1371/journal.pone.0012948>.

<sup>43</sup> Chakrabarti and O’Keefe, “A Study of Key Communicators in Research and Development Laboratories,” 343; and Jacobs, Farzanegan, and Askenasy, “A Study of Key Communicators in Urban Thailand,” 194–96.

<sup>44</sup> Sean Everton, “Lab Assignment 7 - Centrality and Power,” Dark Networks (Monterey, CA: Naval Postgraduate School, November 11, 2021); and Sean Everton, “Lab Assignment 8 - Centrality and Prestige,” Dark Networks (Monterey, CA: Naval Postgraduate School, November 11, 2021).

<sup>45</sup> Christakis and Fowler, “Social Network Sensors for Early Detection of Contagious Outbreaks,” 13–14; Christakis and Fowler, 3–4; and Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” n.d., 42–45.

to improve their chances for adoption.<sup>46</sup> Other scholars agree that the contagious nature of information corresponds to the actors' position within a network and the strength of ties between individuals. Individuals accept and adopt ideas based on the complexity of provided information, social mechanisms (status, power, privilege, culture, and norms), and the proximal distance between the sender and receiver.<sup>47</sup> By observing and evaluating information the communicator spreads, practitioners will better understand the complexity and typical paths used for effective diffusion. For ideas contrary to the consensus among the audience, practitioners should seek dense clusters within the social network to use as essential interlockers to the audience.

Another important SNA technique is to map a network's important actors, especially those who can effectively broker the flow of resources. Some research indicates that specific algorithms, like Borgatti's key player algorithm, could identify those sets of actors whose removal would either significantly fragment a community or who demonstrate significant reach to others.<sup>48</sup> In either case, practitioners can assess an individual's capability for disseminating information efficiently and effectively. PSYOP personnel should consider any individual identified as a key player as a key communicator due to their shared role, optimal positioning, and centrality in a social network. Similarly, brokerage potential is an important metric that indicates who can diffuse information to audience members. After identifying actors, practitioners can map the average distance between individuals and paths which cut through the target audience.<sup>49</sup> Finally, measures of status, prestige, authority, and power can be valuable when observing potential communicators. With the right kind of data, practitioners can use SNA tools like Gephi

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<sup>46</sup> Centola, *How Behavior Spreads*, 14–15, 20–22, 28–30.

<sup>47</sup> Christakis and Fowler, "Social Network Sensors for Early Detection of Contagious Outbreaks," 1–7; Centola, *How Behavior Spreads*, 14–26; Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," n.d., 10–11; and Mark S. Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78, no. 6 (1973): 1361–70, <https://www.jstor.org/stable/2776392>.

<sup>48</sup> Everton, *Disrupting Dark Networks*, 2012, 271–72.

<sup>49</sup> Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," n.d., 44–45; Sean Everton, "Lab Assignment 9 - Brokers and Bridges," *Dark Networks* (Monterey, CA: Naval Postgraduate School, November 18, 2021); and Sean Everton, *Disrupting Dark Networks* (New York: Cambridge University Press, n.d.), 206–11, 253–54, 271–73, 397.

and RStudio algorithms and visualizations to measure brokerage, bridging, prestige, centrality, and power.<sup>50</sup> Practitioners can apply a practical methodology to identify and monitor key communicators and their affiliated audiences with these examples in mind.

## 5. Social Theories

Although SNA provides a practical methodology to understand social networks, it lacks the granularity necessary to comprehend how communicators and audience members interact and influence each other. For this reason, an analytical process that seeks to understand social networks should incorporate social theories that can explain how a key communicator influences the audience. The research reviewed three social theories: (1) social identity theory, (2) social movement theory, and (3) social exchange theory to understand the most relevant factors and characteristics for communicators.

One of the primary vehicles of social identity is the conceptualization and attribution of social categories. Categories, such as gender, race, ethnicity, religion, or political affiliation, are paradigms used by actors to understand the social environments around them. As Dina Al Raffie explains, “SIT is primarily interested in the socio-cognitive processes underlying group dynamics and how they shape identity... social identities are reflections of the social categories, groups, and networks into which individuals belong.”<sup>51</sup> These categories are the building blocks for norms and values since they define who should be considered a group member. When these identities become salient, self-professed members recognize the differences between the in-group and out-group, typically ascribing superiority to their group. As a result, these social categories establish group boundaries and create “thought communities” where shared norms, espoused attitudes, and well-articulated beliefs shape behaviors and perceptions. People define their social identity through numerous categories, personal achievements, and self-esteem.<sup>52</sup>

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<sup>50</sup> Everton, “DA4600,” November 11, 2021; Everton, “DA4600,” November 11, 2021; and Everton, “DA4600,” November 18, 2021.

<sup>51</sup> Dina Al Raffie, “Social Identity Theory for Investigating Islamic Extremism in the Diaspora,” *Journal of Strategic Security* 6, no. 4 (2013): 76–77.

<sup>52</sup> Al Raffie, 76–79.

Practitioners should be mindful of social categories and identities as they provide a unique paradigm to discern and influence audiences as espoused norms, attitudes, and beliefs of others in their social group can move audiences towards a new position. Preconceived categories can predispose audiences to polarization when they adopt extreme versions of in-group norms while having limited access to outside information. Group members establish these views through their social identity by considering persuasive arguments and comparing themselves to others.<sup>53</sup> Practitioners should be mindful of social categories and identities as they provide a unique paradigm to discern and influence audiences.

SIT can also describe unique communicator-centric variables. First, key communicators often fill an essential role within their social network. Since group members monitor others' adherence to group norms, individuals collectively validate membership and determine the social hierarchy of their community.<sup>54</sup> One potential catalyst for this socio-cognitive process is a key communicator who can reach audiences to encourage normative social identities through various mediums. Key communicators encourage members to follow shared norms through their words and actions. Since high-status members are more likely to initiate communication within a group, key communicators are motivated to maintain or improve their social status, lest they be deemed unworthy by a critical audience.<sup>55</sup> Secondly, effective communicators know their audience, using a mental model to determine what kinds of messages will resonate. When crafting content, communicators likely consider social categories, assessing if their message adheres to community standards. This SIT-specific model is advantageous for PSYOP personnel as it demonstrates the intersection between practitioners' and communicators' interests. By understanding how the communicator develops content, the practitioner can appreciate the communicator's perspective about the audience. Ultimately,

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<sup>53</sup> Cass Sunstein, "The Law of Group Polarization," *The Journal of Political Philosophy* 10, no. 2 (2002): 176–80, <https://doi.org/10.1111/1467-9760.00148>; and Al Raffie, "Social Identity Theory for Investigating Islamic Extremism in the Diaspora," 72.

<sup>54</sup> Al Raffie, "Social Identity Theory for Investigating Islamic Extremism in the Diaspora," 78.

<sup>55</sup> Sunstein, "The Law of Group Polarization," 190.

practitioners should be mindful of SIT variables—social status, social categories, and self-esteem—as they can suggest how key communicators and audiences might interact.

Like SIT, SMT can further describe what influences drive audiences to action. Researchers have studied many historical social movements, including the Polish “Solidarity,” the Egyptian Revolution, the Ukrainian Orange Revolution, the Euromaidan, and the Tibet insurgency.<sup>56</sup> According to contemporary SMT models, social movements are a vehicle to address perceived grievances within society that are outside the existing formal systems and institutions.<sup>57</sup> Contemporary SMT accounts for diverse social networks and the interplay between social change, mobilization of resources, opportunities, threats, and cultural framing to drive collective action. Many argue that the methods, resources, and threats of social movements are subject to interpretation, implying that the in-group and other sympathetic audiences must deem the movement’s approach socially acceptable.<sup>58</sup> As Diani points out relationships often leverage collective action through participation in a network of social and political organizations.<sup>59</sup>

These relationships suggest that it is essential for practitioners to document organizations and their ties when assessing a communicator’s potential influence over audiences. According to Kiernan and Orkins, PSYOP personnel should account for three SMT variables in their analysis: (1) group motivations, (2) existing political and cultural

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<sup>56</sup> Van Horn, “NPS Thesis,” 27–56; Otto C Fiala, *Resistance Operating Concept* (Stockholm, Sweden: Swedish Defence University, 2019), 57, 75, 107–108, <http://urn.kb.se/resolve?urn=urn:nbn:se:fhs:diva-9007>; Doowan Lee, “A Social Movement Approach to Unconventional Warfare,” *Special Warfare Magazine*, no. July-September 2013 (2013): 28; Mario Diani and Doug McAdam, *Social Movements and Networks: Relational Approaches to Collective Action* (Oxford, UNITED KINGDOM: Oxford University Press, Incorporated, 2003), 306–18, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=3052641>; Ware and Siebenaller, “Identifying Influencers for PSYOP,” 16–44; and Sadoun, *PSYOP and Social Networks*, 2018, 17–34.

<sup>57</sup> John Hannigan, “Alain Touraine, Manuel Castells, and Social Movement Theory: A Critical Appraisal,” *The Sociological Quarterly* 26, no. 4 (Winter 1985): 437–38, <https://www.jstor.org/stable/4106097>.

<sup>58</sup> Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” n.d., 13–17; Sean Everton, “Lesson 12 Trust, Influence, and Networks: Diffusion and Social Movements” (Trust, Influence, and Networks, Naval Postgraduate School, Monterey, CA, May 13, 2021); and Lee, “A Social Movement Approach to Unconventional Warfare,” 29–30.

<sup>59</sup> Mario Diani, “Introduction: Social Movements, Contentious Actions, and Social Networks: ‘From Metaphor to Substance’?,” in *Social Movements and Networks* (Oxford: University Press, 2003), 7–9, <https://doi.org/10.1093/0199251789.003.0001>.

factors, and (3) social framing of events or information that resonate with audiences.<sup>60</sup> Therefore, practitioners should account for social organizations, public and private ties, the communicator’s messaging mechanisms (themes, messages, and narratives), and how they mobilize members of their network.

SMT is also a helpful paradigm to understand the communicator’s role in the mobilization of audiences. According to Lee, an “insurgent consciousness” can arise from society’s destabilizing conditions, encouraging audiences to consider a social change. of Those movements with strong social ties and can provide, communicate and promote a compelling narrative demonstrate more resilient social networks.<sup>61</sup> Since social movements encourage inherently novel behaviors that require significant momentum for success, practitioners should identify dense redundant social networks and those communicators capable of reaching them to better mobilize audiences within the movement.<sup>62</sup> Sunstein argues that networks may include “professional polarizers” and “polarization entrepreneurs” who use their position to sway like-minded individuals toward accomplishing social reform.<sup>63</sup> As Soviet KGB agents found during the Cold War, such individuals could be supported, wittingly or not, as a useful way to push an agenda abroad.<sup>64</sup> Practitioners should consider the “professional polarizers” and “polarization entrepreneurs,” as they could prove influential as key communicators or as important members of the target audience. Conversely, monitoring such personalities is important, as their willingness to move groups to a social extreme could be detrimental to PSYOP objectives.

Social exchange theory can explain how the potential exchange of valued commodities, like information, is correlated to the amount of trust held between two actors.

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<sup>60</sup> Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” n.d., 14–17.

<sup>61</sup> Lee, “A Social Movement Approach to Unconventional Warfare,” 30.

<sup>62</sup> Centola, *How Behavior Spreads*, 2–3; Granovetter, “The Strength of Weak Ties,” 1370–71; and Diani, “Introduction,” 7.

<sup>63</sup> Sunstein, “The Law of Group Polarization,” 184.

<sup>64</sup> Watts, *Messing with the Enemy*, 131–33.

SET proposes a cost-benefit analysis as a driver in the relationship between actors where rewards and trust dictate the accumulation of successful exchanges and engagement.<sup>65</sup> As a result, those actors with greater access to resources exercise potential power over those who value and depend upon an exchange-based relationship.<sup>66</sup> Additionally, communicators benefit from their audience's attention, providing them a sense of validation and potentially other forms of physical support. Third-party sponsorship and endorsement of a communicator or the message could be a valued exchange, although audience support would remain a prerequisite for the communicator. Subsequently, variables such as trust, rewards, authenticity, reliability, credibility, and power can drive the successful and repeated exchange of information between key communicators and audiences.<sup>67</sup> In practice, PSYOP personnel should observe the degree to which a key communicator can access a given audience since one might thereby measure the reliance between actors, the communicator's potential power over an audience, and the value of information as perceived by the audience members. Practitioners should also assess the audience's access and attention to the communicator as a mechanism to measure trust and susceptibility to the arguments.

Coupled with SNA, SET may guide those practitioners attempting to predict optimal paths for information diffusion between the communicator and the target audience. One useful intersection of SET and SNA is social capital, which describes aspects of networks, norms, and the trust between actors.<sup>68</sup> Essential features of social capital are

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<sup>65</sup> Peter Jonason and James Middelton, "Dark Triad: The 'Dark Side' of Human Personality," *Social Exchange Theory - an Overview* | Sciedirect Topics, 2015, <https://www.sciencedirect.com/topics/social-sciences/social-exchange-theory>; "What Is Social Exchange Theory?," Tulane University School of Social Work, April 20, 2018, <https://socialwork.tulane.edu/blog/social-exchange-theory>.

<sup>66</sup> Karen Cook, Eric Rice, and Emerson, "Chapter 3: Social Exchange Theory," in *Handbook of Social Psychology*, ed. John Delamater (Springer, 2006), 5.

<sup>67</sup> Ware and Siebenaller, "Identifying Influencers for PSYOP," 58; Nicholas Tang et al., "To Thine Communication Partner Be True: The Effect of Presentation Consistency on Perceived Authenticity and Liking After Making a First Impression Online" 14, no. 3 (2020): 3–4, 7–8, <https://cyberpsychology.eu/article/view/11984/11554>; Herbert Lin and Trisha Wyman, "Special Operations Forces and Cyber-Enabled Influence Operations," in *The Role of Technology in a Revisionist Global Order and the Implications for Special Operations Forces*, ed. Zachary S Davis et al. (Lawrence Livermore National Laboratory, 2021), 347, <https://www.osti.gov/servlets/purl/1782516>; and Watts, *Messing with the Enemy*, 94.

<sup>68</sup> Karen Cook, "Exchange: Social," *Social Exchange Theory - an Overview* | Sciedirect Topics, 2015, <https://www.sciencedirect.com/topics/social-sciences/social-exchange-theory>.



information, influence, social credentials, and reinforced identity. As Lin explains in *Building a Network Theory of Social Capital*,

The premise behind the notion of social capital is rather simple and straightforward: *investment in social relations with expected returns*...Generally, three explanations can be offered as to why embedded resources in social networks will enhance the outcomes of actions. For one, it facilitates the flow of *information*. In the usual imperfect market situations, social ties located in certain strategic locations and/or hierarchical positions (and thus better informed on market needs and demands) can provide an individual with useful information about opportunities and choices otherwise not available.<sup>69</sup>

Based on this description, it is easy to see how a key communicator could exploit social capital since the flow of information drives exchange and ensures that actors can position themselves within a network to access other resources. Therefore, as practitioners consider actors as potential key communicators, they should be mindful of those individuals who demonstrate investment in relationships. Practitioners can assess motives and anticipated rewards through the exchange of information and social credential paths of communicators and audiences. Similarly, practitioners should corroborate SET, SNA, and social capital variables to better demonstrate the effectiveness of a communicator's ability to diffuse information to an audience.

## 6. Visual Models

Practitioners can organize variables by their nature (tangible vs. abstract), by the actor (communicator or audience), and along a communication spectrum (conceptualized vs. transmitted). A layered model is a way to organize variables as an analytical construct that describes foundational elements of something where each layer builds upon the last.<sup>70</sup> For example, Choucri and Clark's four-layered model considers how people, information,

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<sup>69</sup> Nan Lin, "Building a Network Theory of Social Capital," *INSNA*, Connections 22, 1999, 2-3, <http://www.analytitech.com/mb874/lin-socialcapital.htm>.

<sup>70</sup> Nazli Choucri and David Clark, *International Relations in the Cyber Age: The Co-Evolution Dilemma* (MIT Press, 2019), 40, <https://ieeexplore.ieee.org/book/8671655>; Omprakash Kaiwartya et al., "Internet of Vehicles: Motivation, Layered Architecture, Network Model, Challenges, and Future Aspects," *IEEE Access* 4 (2016): 5356-73, <https://doi.org/10.1109/ACCESS.2016.2603219>; and Chad Bollman, "Networking" (Cyberspace and Military Operations, Naval Postgraduate School, Monterey, CA, July 26, 2021).

platforms, and the physical architecture of the internet make up the worldwide web.<sup>71</sup> Similarly, a five-layered model was used to describe the coding “protocol stack,” which can account for interconnected systems such as business applications, smart devices, sensors, and even artificial intelligence.<sup>72</sup> A layered model can organize and describe the environment, providing a level of granularity that practitioners could find helpful in an operational setting.

A beneficial way to describe key communicators using a layered model is to organize them by the domains in which they operate to visualize the information more easily. The Department of Defense Command and Control Research Program (DOD CCRP) uses a layered model known as the three domains (physical, information, and cognitive) to categorize information. The physical domain includes people, organizations, systems, and those support networks in the real world. The information domain is less tangible, encompassing the collection, organization, storage, protection, and dissemination of information. The cognitive domain is the consciousness of the actors participating in the exchange of information.<sup>73</sup> Lin and Wyman contend that the cognitive domain can describe actors since this is the layer where “...human judgment and perception apply information and where people process, react to and make decisions...”<sup>74</sup> As with other layered models, the physical domain underpins the others, while the information domain acts as an essential intermediary between the physical and cognitive layers.<sup>75</sup> When guided by SNA and social theories, practitioners can find numerous variables affecting the communicator’s behavior within the physical, information, and cognitive components. For example, creating a tailored message is vital for communicators to influence their target audience. They would develop a message in the cognitive domain based on information

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<sup>71</sup> Choucri and Clark, *International Relations in the Cyber Age: The Co-Evolution Dilemma*, 36–40.

<sup>72</sup> Kaiwartya et al., “Internet of Vehicles,” 5360–61.

<sup>73</sup> Robert Cordray III and Marc Romanych, “Mapping the Information Environment,” *IO Sphere: The Professional Journal of Joint Information Operations.*, no. Summer (2005): 7; and Lin and Wyman, “Center for Global Security Research,” 337.

<sup>74</sup> Lin and Wyman, “Center for Global Security Research,” 338.

<sup>75</sup> Cordray III and Romanych, “Mapping the Information Environment,” 7.

observed in the physical and information domain. Therefore, domains prove instrumental as representations of the foundational structure behind exchanging information between communicators and audiences.

Another way practitioners can visualize the information environment is to employ a model that displays the communication cycle. Despite advancements in modern information technology, communication models are not novel concepts. Schramm suggested a simple model where messages are encoded, delivered, and interpreted by a given audience. Subsequently, the communicator must decipher feedback (returning signals) from the audience to determine the effectiveness of the message (see Figure 1).<sup>76</sup>

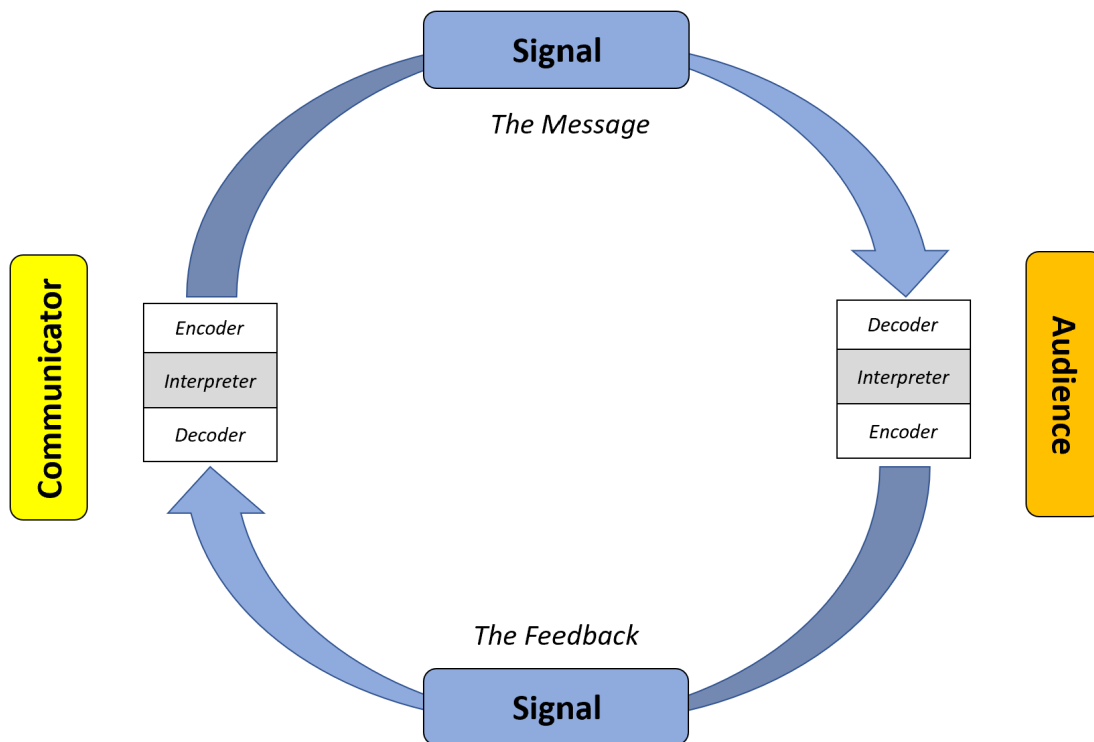


Figure 1. A Simplified Version of Wilbur Schramm's Communication Model<sup>77</sup>

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<sup>76</sup> Wilbur Schramm, *The Process and Effects of Mass Communication*, Rev. ed. (Urbana: University of Illinois Press, 1971), 1–6.

<sup>77</sup> Schramm, 6–7, 19–20.

The transfer of information from the communicator to the audience would remain consistent regardless of the chosen platform. The practitioner will find benefits from adopting Schramm's communication model. First, this model is agnostic to the platform, message, communicator, audience, and content type. Instead, his model emphasizes how the communicator and receiver deliver and receive signals from each other. Secondly, an important feature of this model is that it provides distinct roles for actors, namely the communicator and the audience. Finally, analysts can observe key points within the cycle to determine how the communicator develops content, how the audience interprets messages, how the audience responds, and how the communicator understands these reactions. Ultimately, the visual models selected by the practitioner must meet their needs.

## IV. SURVEY RESULTS AND FINDINGS

The resulting data from the combination of the participant and subject matter expert interview surveys provided insight into the understanding and knowledge of key communicators, social theories, and various tools within various U.S. Army populations. The data are an aggregate of 39 different respondents, in a range of job specialties (branches and MOS'), with the majority being those in the Army SOF. Within these populations, a critical unexplored determinate in understanding key communicators is knowing at what level, if at all, U.S. Army members identify, evaluate, and utilize the diverse groups of communicators. Knowledge of the various social theories and tools is integral to understanding respondents' familiarity, as it provides baseline data for applicability to the KCAP and KCAT.

The researchers composed the surveys to illicit candid responses that would assist in gaining a deeper understanding of how U.S. Army personnel recognize, utilize, and interact with key communicators. The survey divided the questions into different sections: background data, key communicator experience, familiarity with theories and processes, tools and sources, training courses and exercises, and barriers. The KC experience delved into the official and unofficial dealings of personnel and the communicators, to include the type of media used for communication. To deduce the familiarity, the survey asked about judgement indicators based on KC attributes, various social theories (SMT, SIT, and SET), and the processes which assisted in identifying and analyzing KCs. The questions explored the knowledge of various military and civilian programs, tools, and sources of information. Continuing in the same line of questioning, the survey inquired about educational and training courses, as well as the assorted training exercises and venues available to U.S. Army personnel. The final section regarded barriers to working with KCs and which of those perceived hinderances was the greatest detriment to working with key communicators. For additional questions and details for the survey see Appendix E.

The survey data indicated a general lack of knowledge or understanding regarding the processes and tools available to analyze and process various forms of data, yet the self-reported number of respondents who worked with five or more key communicators in an

official or unofficial capacity is more than 72%. The respondents’ preferred method of contacting key communicators was overwhelmingly to use email or messaging apps (Signal, WhatsApp, Telegram, etc.), although many noted that face-to-face engagement was also ideal for standard engagements (Figure 2). Of the potential techniques, greater than 50% of the interactions were through those two means. Respondents answered “unfamiliar” and “never used” more significantly throughout the survey than other more knowledgeable options. On average, these two choices signified at least 60% or more of the responses.

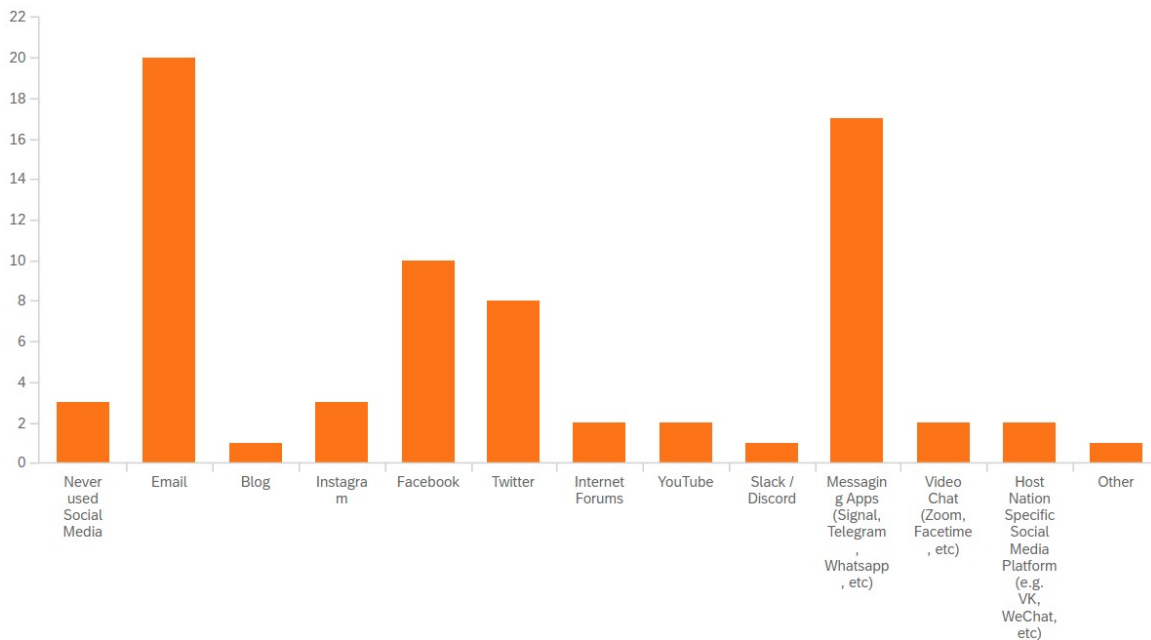


Figure 2. Communication Means

The respondents acknowledged a wide range of processes—those systems designed to gather, analyze, and categorize information—available to assist with analyzing key communicators. However, the response rate for each process and usefulness rarely exceeded 25% of the available survey takers. Responses indicate planned events within the Army—National Training Center, Joint Readiness Training Center, or unit-level training—vary in the effectiveness of incorporating key communicators within the activities. Effectively integrating communicators within the training is more effective at lower

echelons than larger training events. Seventy-seven percent of large-scale events “never” or “seldom” incorporate key communicators. However, 56% of unit-level or smaller “somewhat” or “considerably” integrate key communicators into the training exercises. The lack of integration, processes, and theoretical knowledge demonstrates a gap concerning key communicator variables and their utility.

The survey respondents’ disparity in knowledge regarding critical aspects of key communicators and the various communication methods indicates a training and knowledge gap. The responses show the majority do not know about available tools and processes. This lack of familiarity is a direct link to education and knowledge failures that Army personnel must remedy to increase the utility of key communicators. Additionally, the 10 identified processes, 19 identified tools, and 13 identified courses show that it is not a lack of availability for information. It could be an overabundance and fractured system that leads to more confusion. The 72% of self-reported respondents who worked with key communicators demonstrate the need to understand better how these communicators operate. There is an absence of understanding the various social theories that communicators use due to the lack of focus within the military education system (see Figure 3). To better utilize available resources requires understanding within the operators and throughout the chains of command and decision-making processes.

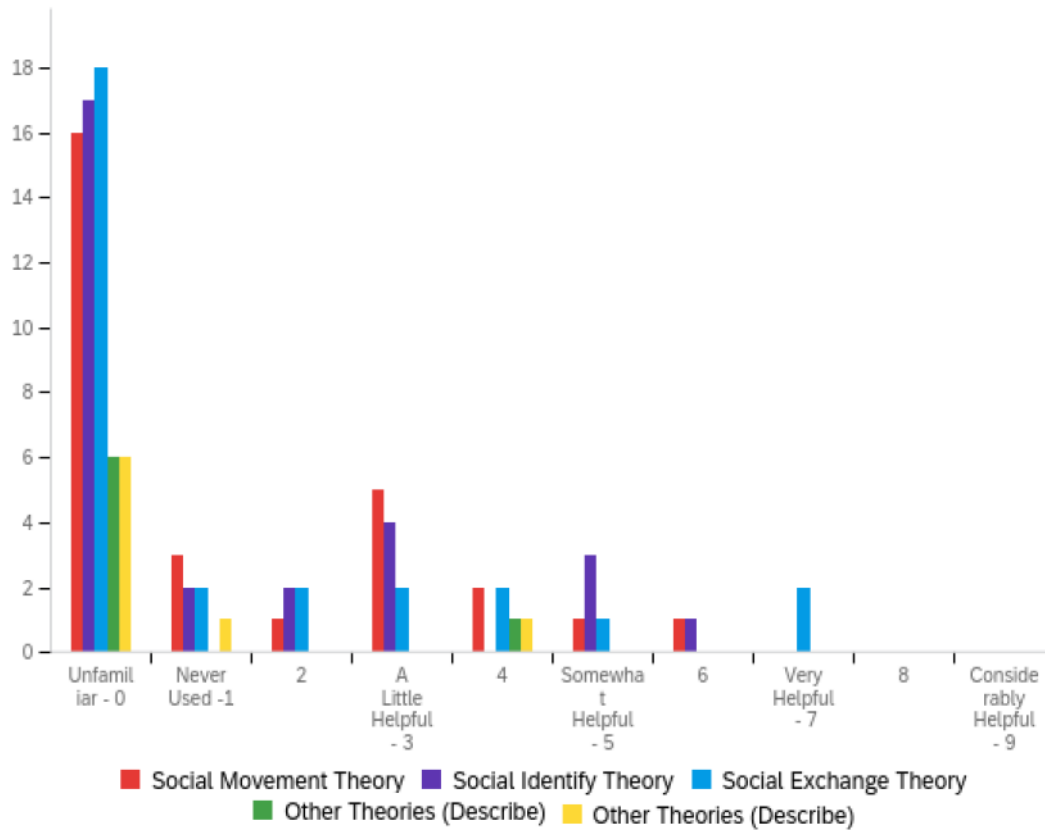


Figure 3. Social Theory Knowledge

The survey data indicates a need for a better understanding of processes; however, the Army’s bureaucracy is a hurdle to consider for leaders and decision-makers. Command priorities and a lack of military authorities accounted for over 35% of surveyed responses as to the greatest barrier to working with KCs (see Table 1). These concerns increase the friction of working with key communicators and, in turn, the systems and theories required to understand those individuals.



Table 1. Greatest Barrier to Working with a KC

#	Answer	%	Count
1	Doctrine	0.00%	0
2	Unit Training	7.14%	2
3	Military Capabilities (Tools, Sources, and Technology)	0.00%	0
4	Language Proficiency	0.00%	0
5	Authorities (US MIL)	10.71%	3
6	Permissions (US MIL and Interagency)	21.43%	6
7	Military Objectives	0.00%	0
8	Command Priorities	25.00%	7
9	Operational Timelines	0.00%	0
10	Practitioner Regional Experience	0.00%	0
11	Practitioner Operational Experience	0.00%	0
12	Established Processes and TTPs	3.57%	1
13	Cultural Understanding	10.71%	3
14	Risk Aversion	14.29%	4
15	Other (Describe)	7.14%	2
16	Other (Describe)	0.00%	0
	Total	100%	28

Bawden and Robinson state information anxiety as “...a condition of stress caused by the inability to access, understand, or make use of, necessary information.”<sup>78</sup> The numerous availabilities of these tools and processes decrease the likelihood of implementation and increase the difficulty of understanding its meaning. The cognitive overload from many different sources of information can dissuade the user and those in leadership positions from gaining the full advantage of the various networks.<sup>79</sup> To better understand and use key communicators, it is imperative to increase the knowledge of theories, processes, and tools throughout the Army’s structure.

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<sup>78</sup> David Bawden and Lyn Robinson, “The Dark Side of Information: Overload, Anxiety and Other Paradoxes and Pathologies,” *Journal of Information Science* 35, no. 2 (April 1, 2009): 184–85, <https://doi.org/10.1177/0165551508095781>.

<sup>79</sup> Bawden and Robinson, “The Dark Side of Information.”

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## V. KEY COMMUNICATOR ANALYTICAL PROCESS

Unfortunately, it is well known that planners struggle to make sense of the IE, and thus lack of understanding impedes timely and accurate decisions.<sup>80</sup> As practitioners sort through vast amounts of data, they need a scalable process to address their commander's concerns and intent. Recent research indicates that PSYOP personnel could apply specific analytical processes and social science theories to identify relevant information about actors and develop appropriate strategies.<sup>81</sup> Research notes that practitioners should map the foundational aspects of social networks early, ensuring they can leverage communicators embedded in communities when called to do so. He further contends that it is better to leverage existing influential personalities instead of deliberately embedding them within new social networks.<sup>82</sup> In this way, practitioners may better understand existing actors rather than attempting to create new ones. This research aims to establish a novel key communicator analytical process that can incorporate those foundational factors necessary to properly understand influential personalities.

The PSYOP-specific key communicator analytical process should support decision-makers to reach timely conclusions about the value and optimal employment of key communicators for a given operation. Like many military processes, the KCAP should mitigate the uncertainties of the operational environment by organizing and evaluating those factors which could impact mission accomplishment.<sup>83</sup> In this way, the key

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<sup>80</sup> Cordray III and Romanych, "Mapping the Information Environment," 7.

<sup>81</sup> Andrew A Sadoun, *PSYOP and Social Networks* (Monterey, CA: Naval Postgraduate School, 2018); William R Orkins and Carla A Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis" (Capstone, Monterey, CA, Naval Postgraduate School, 2014), 2, <https://calhoun.nps.edu/handle/10945/44638>; Nancy Roberts and Sean Everton, "Strategies for Combating Dark Networks," *Journal of Social Structure* 12 (2011): 3–4, 6–7, <https://calhoun.nps.edu/handle/10945/41260>; and Herbert Lin and Trisha Wyman, "Special Operations Forces and Cyber-Enabled Influence Operations," in *The Role of Technology in a Revisionist Global Order and the Implications for Special Operations Forces*, ed. Zachary S Davis et al. (Lawrence Livermore National Laboratory, 2021), 339–41, <https://www.osti.gov/servlets/purl/1782516>.

<sup>82</sup> Sadoun, *PSYOP and Social Networks*, 2018, 105.

<sup>83</sup> Operational Terms, FM 1-02.1 (Washington, DC: Headquarters, Department of the Army, 2019), 62, 66; and Field Manual 3-05.301: Psychological Operations Process Tactics, Techniques, and Procedures, 2.3-2.5.

communicator analytical process must guide practitioners to gather useful sources, effectively aggregate data, organize relevant variables, visualize the information environment, and draw informed conclusions.

## A. PROCESS INPUTS

The KCAP should order and appraise variables according to their relevance and impact on the target audience and the mission. In recent years, scholars and practitioners have identified several resources and tools capable of mapping the IE. The intent of military processes such as JIPOE, IPB, and TAA, is to organize and evaluate variables in the uncertainties of the operational environment.<sup>84</sup> Practitioners should commission new surveys and access available data sets to identify potential target audiences and to find likely key communicators when possible. Recent research suggests that the PSYOP community can benefit from access to open-source data, social theory studies, and any SNA tools to analyze and visualize social networks.<sup>85</sup> Ware and Siebenaller suggest that the PSYOP community leverage academia and the marketing industry to locate key communicators.<sup>86</sup> For example, free, open-source web-based tools like the Ground News App and Hamilton 2.0 could prove helpful for analysts. These user-friendly databases provide synthesized event bias spectrums, key communicator media consumption reports, hashtag trackers, Twitter network diagrams, and message attribution.<sup>87</sup> However, practitioners need a flexible key communicator process and tool that can consider the data and metrics from emerging technology. Concordantly this research seeks to utilize outside sources to ensure the KCAP is compatible with a wide array of tools and methods. Ultimately, those who gain appropriate resources will improve their personal and collective understanding of the operational environment.

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<sup>84</sup> Operational Terms, 62, 66; and Field Manual 3-05.301: Psychological Operations Process Tactics, Techniques, and Procedures, 2.3-2.5.

<sup>85</sup> Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” n.d., 2.

<sup>86</sup> Ware and Siebenaller, “Identifying Influencers for PSYOP,” 10.

<sup>87</sup> Watts, *Messing with the Enemy*, 182–85; Nick Nigro, “Hamilton 2.0 Dashboard,” *Alliance For Securing Democracy* (blog), accessed December 29, 2021, <https://securingdemocracy.gmfus.org/hamilton-dashboard/>; and “Ground News,” Ground News, accessed December 29, 2021, <https://ground.news/>.

## **B. PROCESS OUTPUTS**

The primary output of the KCAP is to increase the practitioner's understanding of the variables influencing interactions between key communicators and audiences that impact the operational environment. Determining how to organize, measure, and weigh relevant variables is essential for practitioners to effectively assess an actor's relevancy to the desired outcome. In turn, practitioners could identify which key communicators to recruit and recommend ways to employ them to reach audiences. Finally, practitioners should use the KCAP to draw pertinent conclusions and present various analysis-driven options to decision-makers. Therefore, this research seeks ways to visualize, organize, and measure variables so that practitioners and decision-makers can better understand the operational environment and reach timely conclusions.

As members of the USG, it is imperative that PSYOP personnel employ effective knowledge management and improve awareness of the joint and interagency community. The outputs of the KCAP should augment other military and interagency analysis processes and products. The results should include but are not limited to ongoing psychological operations processes, commander's critical intelligence and priority intelligence requirements, mission analysis, and operational assessments. Orkins and Kiernan conclude that an analysis underpinned by social theories and SNA will highlight opportunities to target or disrupt the influence of audiences.<sup>88</sup> PSYOP researchers Charles Ware and Aaron Siebenaller developed a process to identify key communicators online by adopting marketing and academic practices to fit military methodologies. However, they note that a more in-depth analytical process would be necessary to determine which communicators would be most effective in a given context.<sup>89</sup>

## **C. PROCESS STEPS**

Practitioners applying an analytical process need concise and ordered steps to reach desired conclusions. As Sadoun finds in his thesis *PSYOP and Social Networks*, PSYOP

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<sup>88</sup> Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," n.d., 28.

<sup>89</sup> Ware and Siebenaller, "Identifying Influencers for PSYOP," 80–82.

personnel should manage the influential aspects of these social networks. He recommends practitioners adopt a four-phase approach when working with key communicators:

1. Identify key influencers within or close to a particular target audience.
2. Analyze influencers.
3. Engage influencers.
4. Foster a relationship.<sup>90</sup>

When PSYOP personnel reach the second step (analysis) of the PSYOP process, they have a basic understanding of potential target audiences and have identified likely communicators. At this point, practitioners can employ the KCAP to isolate the best communicators and develop plans to work with them in steps three and four. Consequently, practitioners must deduce those relevant variables concerning communicators and their audiences. Researchers designed the KCAP with five core steps: (1) identify, (2) categorize, (3) organize, (4) visualize, and (5) evaluate. Furthermore, each step includes three to six sub-steps that provide process structure, which can elicit the granularity necessary for well-reasoned conclusions (see Figure 4). As with any process, it is up to practitioners and their organizations to develop tactics, techniques, and procedures (TTP) and systems and tools that can further refine the key communicator analysis process.

Drawing from the process inputs, the KCAP begins with identifying available information and critical gaps, particularly those connected to communicators and their audiences. The categorization and evaluation by practitioners as they record information into databases or knowledge management tools will generalize communicator and audience relationships through the adoption of SNA, SMT, SIT, and SET concepts. Although some may find little distinction between categorization and organization, practitioners should proceed to step three (organize) upon receiving the mission. In those cases where PSYOP personnel lack the authority or permission to pursue military objectives, they could seek further information or help others improve their understanding of the information environment. Therefore, this process establishes a delineation where the first two steps (identify and categorize) are continuous and iterative. The last three (organize, visualize, and evaluate) are deliberate and defined by mission requirements. The aim of this research

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<sup>90</sup> Sadoun, *PSYOP and Social Networks*, 2018, 108–9, 117.

is to provide a process that can guide practitioners as they select the most relevant variables, organize them, and visualize them appropriately. Consequently, adapting the communication and layered models allows practitioners to conclude relevant key communicator variables. Finally, each appropriate variable will be scored, weighed, and analyzed to determine a singular key communicator index score. The score is then comparable to other potential key communicators index scores.

	<b>Step 1: Identify</b>	<b>Step 2: Categorize</b>	<b>Step 3: Organize</b>	<b>Step 4: Visualize</b>	<b>Step 5: Evaluate</b>
<b>Purpose</b>	Find and review useful sources for analysis.	Record information about potential key communicators and audiences into a knowledge management database.	Identify those communicator and audience variables that should be relevant to the mission accomplishment.	Visualize the interaction between communicator and audience.	Weight relevant variables and calculate an individualized index score for each communicator.
<b>Input</b>	Reports, assessments, refined information, and raw data.	Reports, assessments, refined information, and raw data.	Information categorized in a knowledge management database.	All relevant variables scored and organized as layers within a relevance stack.	Assign a mission and audience weight in the swing weight matrix.
<b>Output</b>	Identify potential communicators associated with potential audiences in isolated communities.	Information categorized in a knowledge management database and information gaps identified for further resourcing.	All relevant variables scored and organized as layers within a relevance stack.	Adjust the relevance stack to account for more or less variables as needed.	Review all key communicator index scores and rank communicators for the given mission.

Figure 4. The Key Communicator Analytical Process Steps

### 1. Step 1: Identifying Relevant Information

In the first step of the KCAP, practitioners must review various sources to identify relevant information. Critical to this step is the efficient review of documents, especially those that provide clues about how a communicator interacts with an audience. Practitioners must consider data about the environment in which the communicator operates, particularly within a social network. PSYOP personnel should leverage surveys, focus groups, experiments, simulations, and pre-testing events, as resources may be limited.<sup>91</sup> Complemented by mission objectives, personal experience, and environmental context, practitioners can use metrics to establish standards for measuring variables and developing a generalized picture of a communicator’s effectiveness. This research found that SNA and its associated tools provide a user-friendly interface to understand such data while social theories contextualize social behaviors. Therefore, practitioners should collect

<sup>91</sup> Kava, Interview with Robert Kava; and Littell, On October 7th, 2021, the research team spoke with Joseph Littell (Psychological Operations officer) regarding his experience identifying and analyzing key communicators, SNA, and academic research.

resources or tools that can compile lists of individuals, identify audiences within the network, and generalize communication patterns in the information environment.

The objective of the KCAP is to identify communicators best positioned in a network to articulate arguments to audiences capable of taking the desired behavior. Analysts applying SNA must understand which metrics and techniques yield the most promise. Often centrality, paths, brokers, key players, bridges, centralization, clustering, and topography could help explain how influential actors interact within the information environment. Additionally, research determined the inclusion of tie strength, message complexity, diffusion, k-cores, cliques, modularity, components, prestige, hubs, authorities, in-degree centrality, eigenvector centrality, access to groups, and reach is beneficial to the process.<sup>92</sup> Therefore, practitioners should seek sources including SNA variables and their associated visualizations, as these observable and quantifiable metrics provide a foundational analysis component.

Similarly, practitioners should consider the application of these social theories in the KCAP to enhance their communicators, audiences, and social interaction analysis. It would be beneficial for practitioners to understand the basics of SIT, SMT, and SET before initiating analysis. These theories can assist with the explanation of what motivates, influences, and describes communicators and audience members. Practitioners should consider the SIT variables of social status, social categories, and self-esteem since they suggest how key communicators and audiences interact. SMT variables like group motivations, political factors, cultural factors, social framing, organizations, relationship type, and message mechanisms will prove essential for determining the mobilization of audiences. When applying SET to the KCAP, practitioners should identify exchange-specific information, including how communicators interpret events and the kinds of

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<sup>92</sup> Roberts and Everton, "Strategies for Combating Dark Networks," 8; Sadoun, *PSYOP and Social Networks*, 2018, 12–15; Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," n.d., 17–29; Ware and Siebenaller, "Identifying Influencers for PSYOP," 10, 12, 27–28, 43, 51; Granovetter, "The Strength of Weak Ties," 1361, 1364–66; Centola, *How Behavior Spreads*, 14–30; Kava, Interview with Robert Kava; Littell, On October 7th, 2021, the research team spoke with Joseph Littell (Psychological Operations officer) regarding his experience identifying and analyzing key communicators, SNA, and academic research.; Everton, "DA4600," November 11, 2021; Everton, "DA4600," November 11, 2021; Everton, "DA4600," November 18, 2021; and Everton, *Disrupting Dark Networks*, n.d., 5, 9–14.



information that audiences value. Similarly, practitioners should measure repeated interactions between the communicator and audience as a barometer for trust, rewards, authenticity, reliability, credibility, susceptibility, vulnerability, and power. Practitioners can increase their operational understanding by considering these variables and predicting which communicator can influence a target audience.

However, practitioners cannot expect SNA and social theories alone to explain the complex interactions between communicators and their audiences. Roberts and Everton argue that SNA cannot account for all the complex interactions between actors stating that "...the identification of key players depends on the strategy one pursues, not on the metrics one chooses..."<sup>93</sup> To understand key communicators, one must not rely solely upon a small number of SNA metrics or social theory descriptions. Instead, practitioners should apply a deliberate approach to reviewing available information while paying particular attention to those sources that include SNA and social theories. Interestingly, Everton further contends that there is no algorithm for military strategy, but rather that analysis in conjunction with relevant information should inform decision-making.<sup>94</sup> For this reason, this research also identified a wide array of variables that were not grounded in any specific theory or process. For example, researchers considered variables like integrative complexity and the cognitive economy to broaden options available to practitioners.<sup>95</sup> Therefore, the identification step should include but is not limited to the review of SNA and multiple social theories.

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<sup>93</sup> Everton, *Disrupting Dark Networks*, 2012, 285; and Roberts and Everton, "Strategies for Combating Dark Networks," 23.

<sup>94</sup> Everton, *Disrupting Dark Networks*, 2012, 285.

<sup>95</sup> Shannon C. Houck, Meredith A. Repke, and Lucian Gideon Conway, "Understanding What Makes Terrorist Groups' Propaganda Effective: An Integrative Complexity Analysis of Isil and Al Qaeda," *Journal of Policing, Intelligence and Counter Terrorism* 12, no. 2 (July 3, 2017): 108–10, <https://doi.org/10.1080/18335330.2017.1351032>; Eolene M. Boyd-MacMillan, Claire Campbell, and Andrea Furey, "An IC Intervention for Post-Conflict Northern Ireland Secondary Schools," *Journal of Strategic Security* 9, no. 4 (2016): 111, <https://www.jstor.org/stable/26471085>; and Lin and Wyman, "Center for Global Security Research," 339.

## **2. Step 2: Categorizing Relevant Information**

Practitioners should seek a wide array of sources to improve the quality of analysis for later steps of the KCAP after considering various concepts, metrics, and visualizations from SNA and social theories. Practitioners will continue to gather resources throughout the analytical process to increase the dataset and predictability of the process. Step two begins with categorizing variables into a single repository and reviewing relevant information for more deliberate analysis. Although practitioners could approach this step in many ways, it is most beneficial to categorize information as communicator or audience-specific broadly. Therefore, researchers compiled the concepts from SNA and social theories into two lists showcasing which variables were relevant for the communicator and the audience (see Figures 5 and 6). During a closer review of these tables, researchers identified efficiencies by determining where theories overlapped, and which variables were shared between actors.

Communicator (Actor)			
SNA	SMT	SET	SIT
<i>Access to Groups</i>	<i>Affiliated Audiences</i>	<i>Access to Groups</i>	<i>Access to Groups</i>
<i>Access to Platform</i>	<i>Affiliated Communicators</i>	<i>Access to Information</i>	<i>Affiliated Audiences</i>
<i>Affiliated Audiences</i>	<i>Authenticity</i>	<i>Access to Information</i>	<i>Affiliated Communicators</i>
<i>Affiliated Communicators</i>	<i>Authority</i>	<i>Affiliated Audiences</i>	<i>Authority</i>
<i>Authority</i>	<i>Collective Action</i>	<i>Affiliated Communicators</i>	<i>Betweenness Centrality</i>
<i>Betweenness Centrality</i>	<i>Credentials</i>	<i>Authenticity</i>	<i>Biases</i>
<i>Brokers</i>	<i>Credibility</i>	<i>Authority</i>	<i>Character Attributes</i>
<i>Bridges</i>	<i>Cultural Framing</i>	<i>Betweenness Centrality</i>	<i>Closeness Centrality</i>
<i>Centralization</i>	<i>Group Affiliations</i>	<i>Closeness Centrality</i>	<i>Credentials</i>
<i>Closeness Centrality</i>	<i>Insurgent Consciousness</i>	<i>Credentials</i>	<i>Credibility</i>
<i>Credentials</i>	<i>Interpretation</i>	<i>Credibility</i>	<i>Cultural Framing</i>
<i>Degree of Centrality</i>	<i>Narrative</i>	<i>Eigenvector Centrality</i>	<i>Eigenvector Centrality</i>
<i>Eigenvector Centrality</i>	<i>Perceived Threats</i>	<i>Group Affiliations</i>	<i>Group Affiliations</i>
<i>Group Affiliations</i>	<i>Polarizer</i>	<i>Influence Over Audience</i>	<i>Institutions</i>
<i>Key Players</i>	<i>Political Opportunities</i>	<i>Interpretation</i>	<i>Insurgent Consciousness</i>
<i>Location</i>	<i>Prestige</i>	<i>Key Players</i>	<i>Interpretation</i>
<i>Message</i>	<i>Profession</i>	<i>Message Mechanisms</i>	<i>Key Players</i>
<i>Paths</i>	<i>Recognizable Events</i>	<i>Narrative</i>	<i>Language</i>
<i>Patterns</i>	<i>Reliability</i>	<i>Paths</i>	<i>Motivations</i>
<i>Prestige</i>	<i>Resource Mobilization</i>	<i>Profession</i>	<i>Narrative</i>
<i>Sponsorship and Endorsement</i>	<i>Social Change</i>	<i>Prestige</i>	<i>Objectives</i>
<i>Ties</i>	<i>Social Roles</i>	<i>Reliability</i>	<i>Organizations</i>
<i>Social Roles</i>	<i>Social Status</i>	<i>Reward</i>	<i>Perceived Authenticity</i>
<i>Social Status</i>	<i>Solutions</i>	<i>Social Roles</i>	<i>Perceived Threats</i>
	<i>Sponsorship and Endorsement</i>	<i>Social Status</i>	<i>Physical Attributes</i>
	<i>Use Frequency</i>	<i>Solutions</i>	<i>Polarizer</i>
		<i>Sponsorship and Endorsement</i>	<i>Political Opportunities</i>
		<i>Ties</i>	<i>Prestige</i>
		<i>Trust</i>	<i>Profession</i>
		<i>Use Frequency</i>	<i>Recognizable Events</i>
			<i>Reliability</i>
			<i>Social Roles</i>
			<i>Social Status</i>
			<i>Solutions</i>
			<i>Sponsorship and Endorsement</i>
			<i>Themes</i>
			<i>Ties</i>
			<i>Use Frequency</i>
			<i>Values</i>

Figure 5. Communicator Relevant Variables<sup>96</sup>

<sup>96</sup> Everton, *Disrupting Dark Networks*; Paul Harrigan et al., “Identifying Influencers on Social Media,” *International Journal of Information Management* 56 (February 2021): 102246, <https://doi.org/10.1016/j.ijinfomgt.2020.102246>; Choucri and Clark, *International Relations in the Cyber Age: The Co-Evolution Dilemma*; Cordray III and Romanych, “Mapping the Information Environment”; Lin and Wyman, “Center for Global Security Research”; Hannigan, “Alain Touraine, Manuel Castells, and Social Movement Theory: A Critical Appraisal”; Jennifer Golbeck, “Analyzing Networks: Introduction to Social Media Analysis,” *Betweenness Centrality - an Overview | Scencedirect Topics*, 2015, <https://www.sciencedirect.com/topics/computer-science/betweenness-centrality>; Jonason and Middleton, “International Encyclopedia of Social & Behavioral Sciences”; Al Raffie, “Social Identity Theory for Investigating Islamic Extremism in the Diaspora”; Orkins and Kiernan, “Corenet”; Nan Lin, “Building a Network Theory of Social Capital,” *INSNA, Connections* 22, 1999, <http://www.analytitech.com/mb874/lin-socialcapital.htm>; Karen Cook, Eric Rice, and Emerson, “Chapter 3: Social Exchange Theory,” in *Handbook of Social Psychology*, ed. John Delamater (Springer, 2006); and Cass Sunstein, “The Law of Group Polarization,” *The Journal of Political Philosophy* 10, no. 2 (2002): 175–95, <https://doi.org/10.1111/1467-9760.00148>.

Audience (Actors)			
SNA	SMT	SET	SIT
Access to Groups	<b>Affiliated Communicators</b>	Access to Communicators	<b>Access to Groups</b>
Access to Platform	Assessed Threats	<b>Access to Groups</b>	<b>Affiliated Communicators</b>
<b>Affiliated Communicators</b>	<b>Collective Action</b>	Access to Key Communicator	Assessed Threats
Average Distance	<b>Cultural Framing</b>	<b>Affiliated Communicators</b>	<b>Betweenness Centrality</b>
<b>Betweenness Centrality</b>	Discussion Participation	Attention	Bridges
<b>Bridges</b>	General Dialogue	<b>Betweenness Centrality</b>	Brokers
<b>Brokers</b>	<b>Group Affiliations</b>	Bridges	<b>Closeness Centrality</b>
<b>Centralization</b>	<b>Insurgent Consciousness</b>	Brokers	Discussion Participation
<b>Closeness Centrality</b>	<b>Perceived Threats</b>	<b>Closeness Centrality</b>	<b>Eigenvector Centrality</b>
Cohesion	Polarization	Communicator's Influence	General Dialogue
Comments	<b>Political Opportunities</b>	Communicator's Power	Generalized Character Attributes
<b>Degree of Centrality</b>	<b>Recognizable Events</b>	Discussion Participation	Generalized Physical Attributes
Density	<b>Resource Mobilization</b>	<b>Eigenvector Centrality</b>	<b>Group Affiliations</b>
Distribution	Shared Attitudes	General Dialogue	<b>Institutions</b>
<b>Eigenvector Centrality</b>	Shared Behaviors	<b>Group Affiliations</b>	<b>Insurgent Consciousness</b>
Feedback	Shared Beliefs	<b>Paths</b>	<b>Organizations</b>
Fragmentation	Shared Desires	Provide Support to Cause	Perceived Authenticity
<b>Group Affiliations</b>	Shared Grievances	<b>Reward</b>	<b>Perceived Threats</b>
Locations	Shared Interpretation	Shared Attitudes	Polarization
<b>Message</b>	Shared Needs	Shared Behaviors	<b>Political Opportunities</b>
Network Diameter	Shared Norms	Shared Beliefs	<b>Recognizable Events</b>
Network Size	Shared Values	Shared Desires	Shared Attitudes
<b>Paths</b>	<b>Social Change</b>	Shared Grievances	Shared Behaviors
Questions	Susceptibility	Shared Interpretation	Shared Beliefs
Reactions	<b>Use Frequency</b>	Shared Needs	Shared Biases
Size	Vulnerability	Shared Norms	Shared Desires
Subnetworks and Clusters		Shared Values	Shared Grievances
<b>Ties</b>		Susceptibility	Shared Interpretation
		<b>Ties</b>	Shared Language
		<b>Trust</b>	Shared Needs
		<b>Use Frequency</b>	Shared Norms
		Vulnerability	Shared Values
			Subnetworks
			Susceptibility
			<b>Ties</b>
			<b>Use Frequency</b>
			Vulnerability

Figure 6. Audience Relevant Variables<sup>97</sup>

<sup>97</sup> Everton, *Disrupting Dark Networks*; Paul Harrigan et al., "Identifying Influencers on Social Media," *International Journal of Information Management* 56 (February 2021): 102246, <https://doi.org/10.1016/j.ijinfomgt.2020.102246>; Choucri and Clark, *International Relations in the Cyber Age: The Co-Evolution Dilemma*; Cordray III and Romanych, "Mapping the Information Environment"; Lin and Wyman, "Center for Global Security Research"; Hannigan, "Alain Touraine, Manuel Castells, and Social Movement Theory: A Critical Appraisal"; Jennifer Golbeck, "Analyzing Networks: Introduction to Social Media Analysis," *Betweenness Centrality - an Overview | Sciencedirect Topics*, 2015, <https://www.sciencedirect.com/topics/computer-science/betweenness-centrality>; Jonason and Middelton, "International Encyclopedia of Social & Behavioral Sciences"; Al Raffie, "Social Identity Theory for Investigating Islamic Extremism in the Diaspora"; Orkins and Kiernan, "Corenet"; Nan Lin, "Building a Network Theory of Social Capital," *INSNA, Connections* 22, 1999, <http://www.analytitech.com/mb874/lin-socialcapital.htm>; Karen Cook, Eric Rice, and Emerson, "Chapter 3: Social Exchange Theory," in *Handbook of Social Psychology*, ed. John Delamater (Springer, 2006); and Cass Sunstein, "The Law of Group Polarization," *The Journal of Political Philosophy* 10, no. 2 (2002): 175–95, <https://doi.org/10.1111/1467-9760.00148>.

Researchers identified and categorized 57 total variables for communicators and 72 for the audience by social theory or process. Within these tables, researchers highlighted those areas where practitioners could focus their efforts to optimize their approach and maximize outputs. For example, PSYOP personnel could document access to groups to understand the degree to which communicators and audience members are connected to each other (SNA), how they exchange resources (SET), or if they identify with the in-group (SIT). Interestingly, this research identified 27 variables shared between the audience and the communicator. Most notably, those variables indicate access (people, groups, and resources), centrality measures (closeness, degree, and eigenvector), paths, ties, and many SMT-specific variables. Similarly, 47 variables overlapped between social theories and SNA, mainly representing three theories.

Categorization of the relevant variables identified many different emphases within the theories. First, SET and SIT account for the most significant number of variables, indicating the potential importance of exchange and identity characteristics with key communicators. These components correspond with SIT because this theory suggests audiences are driven by personal status and self-esteem while communicators seek audience validation and affirmation of their social position.<sup>98</sup> Since the communicators serve a vital role by reinforcing through words and actions, these identity-driven variables should be congruent with the audience. An imbalance could suggest lower communicator social status and a potentially critical audience.<sup>99</sup> Practitioners should account for group dynamics, especially those that describe social boundaries, group membership, shared norms, behaviors, attitudes, and values. Nevertheless, SET's inherent focus on the interconnection between actors could be helpful to practitioners to understand how information can influence a network. In conjunction with SNA metrics like betweenness centrality, paths, tie strength, clusters, and network density, SET variables could help a practitioner determine the proximity of a communicator to an audience and how

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<sup>98</sup> Al Raffie, "Social Identity Theory for Investigating Islamic Extremism in the Diaspora," 78.

<sup>99</sup> Al Raffie, 78.

information could diffuse among the members.<sup>100</sup> Since accurate data and its interpretation should be considered valued commodities, the effective exchange of both could increase trust and reciprocity between parties.<sup>101</sup> The process should give practitioners a holistic view of the information environment, highlighting those identity and exchange variables inherent to key communicators.

### **3. Step 3: Organizing Relevant Information**

Step three begins with the receipt of a mission and the initiation of some form of deliberate military planning. After categorizing each variable by process or theory, a practitioner must determine how these factors can impact the information environment in which a communicator operates—while understanding information organization and placing it in different parts for later use.<sup>102</sup> This step aims to determine what information is most important and how to organize it. Previously, the research described how the layered models could affirm those important factors about communicators and their audiences. As such, practitioners should accomplish three objectives: (1) determine how these variables impact the physical, information, and cognitive domains (layered model), (2) organize these variables by their relevance (relevance stack), and (3) score their relevance. The development of evaluation criteria is critical in this step since it determines the information’s value during the evaluation phase.

#### ***a. The Relevance Stack***

Like the three domains, layered models can be beneficial for a practitioner during step three. However, a layered model is typically contextual, and assembling it with a specific case in mind is a requirement. Therefore, practitioners must organize the relevant information into a single-layered stack that best serves their needs. To this end, it was necessary to establish a relevance stack, which is a layered model specifically tailored to a

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<sup>100</sup> Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” n.d., 17–20.

<sup>101</sup> Cook, Rice, and Emerson, “Chapter 3: Social Exchange Theory,” 68–69; and Lin, “Building a Network Theory of Social Capital,” 2–3.

<sup>102</sup> “Organization Definition & Meaning,” Merriam-Webster Dictionary, 2021, <https://www.merriam-webster.com/dictionary/organization>.

single key communicator's case. The key to the relevance stack is to determine which variables are most important to a given analytical case and then organize them by layer. To identify the most important variables, practitioners must determine if the variable can meet three criteria: (1) it can be observed and measured, (2) it can impact a given mission, and (3) it can explain influence over a specific target audience. As the practitioner organizes these variables, it is vital to consider three conditions: (1) which domain it operates in, (2) how does it impact the communicator, and (3) how does it impact the audience. Distinctions in the variables that do and do not cross multiple domains are important to understand as they provide context to both the message and the communicator. Finally, the practitioner will order these variables such that the essential layers will underpin those above them. However, the practitioner must understand how these layers operate in time and space, necessitating some form of visualization. The relevance stack will be improved upon in the next section, drawing from the communication cycle, which further organizes variables by layer and stage of the cycle. An example of a completed relevance stack is in Table 2.

Table 2. Relevance Stack

Variable	References	Stages	Layers
Access to Groups	SNA, SIT, & SET	1, 2, 3, & 4	Physical
Authenticity	SMT, SIT, & SET	2 & 3	Cognitive and Informational
Betweenness Centrality	SNA & SET	2 & 3	Physical
Bridges	SNA, SIT, & SET	2 & 3	Physical
Brokers	SNA, SIT, & SET	1, 3, & 4	Physical
Cultural Framing	SMT & SIT	1, 2, & 3	Physical
Degree of Centrality	SNA	1, 2, 3, & 4	Physical
Eigenvector Centrality	SNA, SIT, & SET	2	Physical
Feedback	SNA & SET	3	Informational
Insurgent Consciousness	SMT & SIT	3 & 4	All
Message	SNA & SET	1 & 2	Informational
Narrative	SNA & SET	1	Cognitive and Informational
Paths	SNA & SET	2, 3, & 4	Cognitive and Informational
Perceived Threats	SMT & SIT	1 & 3	Cognitive and Informational
Political Opportunities	SNA & SET	3 & 4	Cognitive and Physical
Reactions	SNA & SET	3 & 4	Physical and Informational
Shared Attitudes	SMT, SIT, & SET	3	Cognitive and Informational
Shared Behaviors	SMT, SIT, & SET	3 & 4	Physical and Informational
Shared Beliefs	SMT, SIT, & SET	3	Cognitive and Informational
Shared Desires	SMT, SIT, & SET	3	Cognitive and Informational
Shared Grievances	SMT, SIT, & SET	3	Cognitive and Informational
Shared Interpretation	SMT, SIT, & SET	3	Cognitive and Informational
Shared Language	SMT, SIT, & SET	2 & 3	All
Shared Needs	SMT, SIT, & SET	3	Cognitive and Informational
Shared Norms	SMT, SIT, & SET	3	Cognitive and Informational
Shared Values	SMT, SIT, & SET	3	Cognitive and Informational
Subnetworks and Clusters	SNA	3	Physical
Ties	SNA, SIT, & SET	2 & 4	Physical

#### 4. Step 4: Visualizing Relevant Information

Up to this point, PSYOP personnel have accounted for the processes, social theories, and layered models to categorize and organize variables properly. In many cases, they would likely start their visualization back in Step 1 (identify) when they develop or locate simple link diagrams or SNA sociograms. Some of the most critical observable metrics from SNA are the paths, bridges, brokers, and key players, which underpin the transmission of ideas through the social network.<sup>103</sup> In doing so, practitioners can

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<sup>103</sup> Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” n.d., 17; Centola, *How Behavior Spreads*, 15.



determine the routes' particular messages may travel and predict the likelihood of an effective spread. Ultimately, this should be a crucial determinant in the key communicator analytical process and a prominent visual guide. Although an in-depth review of SNA sociograms is outside of the scope of this research, it is assumed that visualization of a social structure could highlight a communicator and their ties to subgroups.

Unfortunately, visualizations are imperfect tools. In this case, sociograms may not capture the communication life cycle necessary for the proper analysis of key communicators. Although tools and technology can aid in this endeavor, visualization is primarily an external expression of a process of the mind designed to lead an analyst from data input to comprehension.<sup>104</sup> As scholars have noted, it is not the model that delivers the analyst to knowledge but rather the repeat interaction between data, model design, and mental visualization.<sup>105</sup> Similarly, practitioners need to visualize data to identify patterns and information gaps in their research, ultimately improving the quality of their conclusions. This research adopted Schramm's communication cycle to visualize the frequency, direction, and content of signals transmitted between the communicator and audience. However, researchers modified his model since communications technology has advanced considerably and the cycle lacks the granularity necessary to account for the physical, informational, and cognitive domains. Understanding the connections and distinctions between layers is essential since they can illustrate the drivers and impediments to the target audience's desired behavior. Therefore, this research proposes a key communicator cycle that incorporates an adaptation of Schramm's communication model complemented by the three dimensions (see Figure 7).

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<sup>104</sup> Riccardo Mazza, *Introduction to Information Visualization* (London: Springer London, 2009), 7–9, <https://doi.org/10.1007/978-1-84800-219-7>.

<sup>105</sup> Daniel A Keim et al., "Visual Analytics," in *Encyclopedia of Database Systems* (Berlin: Springer Verlag, 2009), 2–3, [uni-konstanz.de](http://uni-konstanz.de).

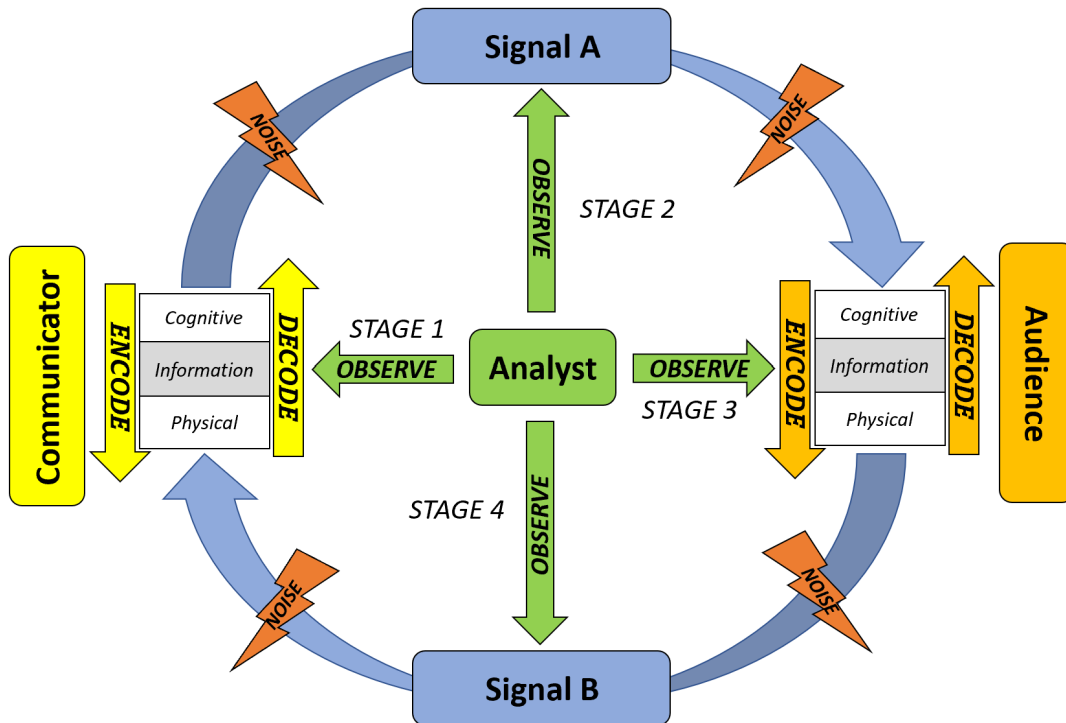


Figure 7. Key Communicator Cycle<sup>106</sup>

The purpose of the key communicator cycle is to represent the entire communication ecosystem, which is only a sample of the information environment of the key communicator. This new model adopts key aspects of Schramm's communication cycle, including the communicator, the audience, signals, encoding, and decoding.<sup>107</sup> Similarly, two distinct signals (Signal A and B) account for the communicator's message and the audience's feedback, respectively. The communicator and audience members must interpret incoming signals as they transition from the physical and informational layers to the cognitive (decoding) layers. Once interpreted, they devise reactions conceptualizing content in the cognitive domain, developing their design in the informational layer, and transmitting the signal back through the physical layer (encoding). This model accounts for the noise, which can distort or nearly disrupt the signal as it travels from communicator

<sup>106</sup> Schramm, *The Process and Effects of Mass Communication*, 1–6.

<sup>107</sup> Schramm, 6–7.

to audience. Finally, the practitioner observes four different stages to identify and catalog relevant variables for further analysis.

## **5. Step 5: Evaluation**

By this point, PSYOP personnel have identified, categorized, organized, stored, and visualized data to distinguish viable key communicators based on several relevant variables. Sadoun cautions practitioners against limiting their employment of key communicators to a single actor. Instead, he recommends understanding the network within the network of communicators who can best diffuse the message to encourage behavior change.<sup>108</sup> Therefore, the evaluation outcome is not to select one communicator but rather to determine the effectiveness of each in a given context. It is necessary to determine the most significant alignment between the target audience and the communicator to determine which communicators can promote a PSYOP objective. To this end, practitioners should monitor meaningful connections between communicators and audiences, noting message or narrative complexity and determining their likely congruence with the group's shared norms, values, attitudes, beliefs, and behaviors. Therefore, this step aims to assess the merit of each variable and quantitatively evaluate the effectiveness of each potential communicator.

Evaluation can be complicated when variables cannot be measured equally or, in some cases, at all. For example, some of the most valuable variables are SNA metrics since they are tangible and observable in the physical domain. For the remaining variables, practitioners must develop a scale to compare them, normalizing all scores to ensure one metric does not inadvertently outweigh the rest. In their recent research, Ware and Siebenaller developed an Influencer's Scorecard that could prove beneficial as a proof of concept. The design is a simple mechanism to measure a key communicator's effectiveness on social media. By adopting the military targeting CARVER method, this scorecard measures alignment with the desired behavior, followers, potential reach among the target audience, interaction rate, times shared, mentioned, and post frequency on an unweighted

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<sup>108</sup> Sadoun, PSYOP and Social Networks, 2018, 107.

1–5 scale.<sup>109</sup> Similarly, practitioners could assign a simple scale for a variable like “Access to Communicators” to indicate the ranking of the most connected individuals to an audience. However, just because scoring is normalized does not mean it is necessary to treat all variables equally. Instead, audience needs and mission requirements are the basis for each relevant variable weight. Therefore, variable scoring will be measured on a scale of 0 to 6, and weighting would be 0 to 0.9 so that data can be normalized but relevant to audience and mission needs.

To properly calculate scores and weights, selecting an evaluation method capable of yielding a single index score was necessary. One promising evaluation tool is the swing weight matrix model, designed to improve decision-making by accounting for the variance of weights of multiple variables in a given context.<sup>110</sup> During the October 5th, 2021 interview with Robert Kava, he indicated that he employed a swing weight matrix to great effect in two different areas of operation, particularly for determining the effectiveness of key communicators. Notably, he found that the swing weight matrix method provided military commanders accurate assessments and better portrayed the risks and benefits to the mission.<sup>111</sup> This research adopted a swing weight matrix that assigned weight values from 0 to 0.9 for importance to the mission (enhancing to critical) and the audience (resistant to susceptible). A calculation of the weight—mission weight multiplied by audience weight—results in a value from 0 to 0.81. Then, a simple variable calculation results as the weight affects the variable score. Finally, a normalization calculation results as the summation of each variable by the number of variables within a stack to yield a key communicator index score (Table 3).

Table 3. Swing Weight Matrix Example

Variable	Answers	Mission Weight	Audience Weight	Comparison	Scores	Calculation	MAX
Paths (a)	<b>Strong</b>	<b>0.7</b>	<b>0.6</b>	<b>0.42</b>	5	2.1	4.05
Paths (b)	<b>Weak</b>	<b>0.6</b>	<b>0.3</b>	<b>0.18</b>	2	0.36	1.62

<sup>109</sup> Ware and Siebenaller, “Identifying Influencers for PSYOP,” 62–79.

<sup>110</sup> Gregory Parnell and Timothy Trainor, “2.3.1 Using the Swing Weight Matrix to Weight Multiple Objectives,” *INCOSE International Symposium* 19 (July 1, 2009): 283–98, <https://doi.org/10.1002/j.2334-5837.2009.tb00949.x>.

<sup>111</sup> Kava, Interview with Robert Kava.

#### D. KEY COMMUNICATOR ANALYTICAL TOOL

Although an analytical process should provide practitioners with a methodology for addressing complex problems, this research aims to identify efficiencies further. The research developed a basic tool to optimize the KCAP steps and compare all identified potential key communicators. There were four requirements for the key communicator analytical tool (KCAT): (1) compatibility, (2) simplicity, (3) clarity, and (4) efficiency. In terms of compatibility, this tool must handle data from other sources per process steps one (identify) and two (categorize). Ideally, KCAT could import data streams directly from other tools, but this capability was outside the scope of the research. However, the research did account for tools from social network analysis (Gephi, snExplorer, RStudio, ORA, and iGraph), the commercial sector (PULSE, Palantir, Dataminr, Hamilton 2.0, and Ground News), and the military (Influencer's Scorecard and intelligence methods) when designing the KCAT. Utilizing these complemented the process, particularly the objectives of step five (evaluate).<sup>114</sup> <sup>112</sup>One inherent problem with the analysis is that practitioners must consider massive amounts of raw and refined data. The KCAT employs a centralized database that includes basic search features to simplify this endeavor. The design of the KCAT was to guide users through each step of the process, focusing attention on refined information most relevant to the analysis. Similarly, the KCAT was built with auto-fill capabilities, automatically exporting data to other points within the tool, reducing processing time, and improving situational understanding. Each researcher used the tool during the historical case study to validate its utility to improve features and functionality.

Although modern technology provides various options for developing such a tool, the research used Microsoft Excel as the appropriate platform (Figure 8). There were many reasons for this, but the decision was based mainly on resource limitations and the program's wide availability. The research sought specific user-friendly interfaces to

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<sup>112</sup> Ware and Siebenaller, "Identifying Influencers for PSYOP"; Everton, *Disrupting Dark Networks*, n.d.; Everton, "DA4600," October 9, 2021; *PULSE*, PULSE (Virginia: IST Research, 2020), [www.istresearch.com](http://www.istresearch.com); "Palantir Technologies," Palantir, 2022, <https://www.palantir.com/>; "Dataminr: Real-Time Event and Risk Detection," Dataminr, 2022, <https://www.dataminr.com>; "Ground News"; Nigro, "Hamilton 2.0 Dashboard"; Kava, Interview with Robert Kava; and Littell, On October 7th, 2021, the research team spoke with Joseph Littell (Psychological Operations officer) regarding his experience identifying and analyzing key communicators, SNA, and academic research.

improve practitioner capabilities and results. One of the primary utilities of Excel was that it could effectively manage the database of communicator and audience variables. The cornerstone of the database is the clarity of each variable, indicating actor, layer, stage, type, prompt, description, and score. As practitioners move through each step, the tool's tabs guide them, complete with instructions and indicators. The tool also empowers the user to update and reorganize relevant information to improve their awareness of the operational area. By quickly returning to previous steps, practitioners can adjust and visualize changes in real-time. Excel provides a robust interface for calculations making the evaluation seamless. It is unlikely that practitioners will have ample time to manually score, weigh, and calculate those factors necessary to make an informed decision. Whether PSYOP personnel apply a hasty or deliberate approach to the process, KCAT's evaluation feature should streamline calculations and provide transparency behind the numbers. KCAT exports raw and refined data to different points to improve the quality of finalized analysis. With any military process or tool, practitioners must provide their analysis in the preferred command or organizational format. To this end, data aggregation is at key points where practitioners can describe their conclusions. For example, the tab for step four (visualize) includes space to describe how information diffuses (diffusion plan), how analysts can observe future interactions (observation plan), and those factors that could modify signals between actors (noise). Each of these points automatically exports to a key communicator assessment tab that consolidates findings for decision-makers. Therefore, an Excel version of the KCAT provides all necessary features and should be considered a proof of concept for more robust technological solutions in the future. Appendix B provides a more detailed review of the KCAT and its functionality.

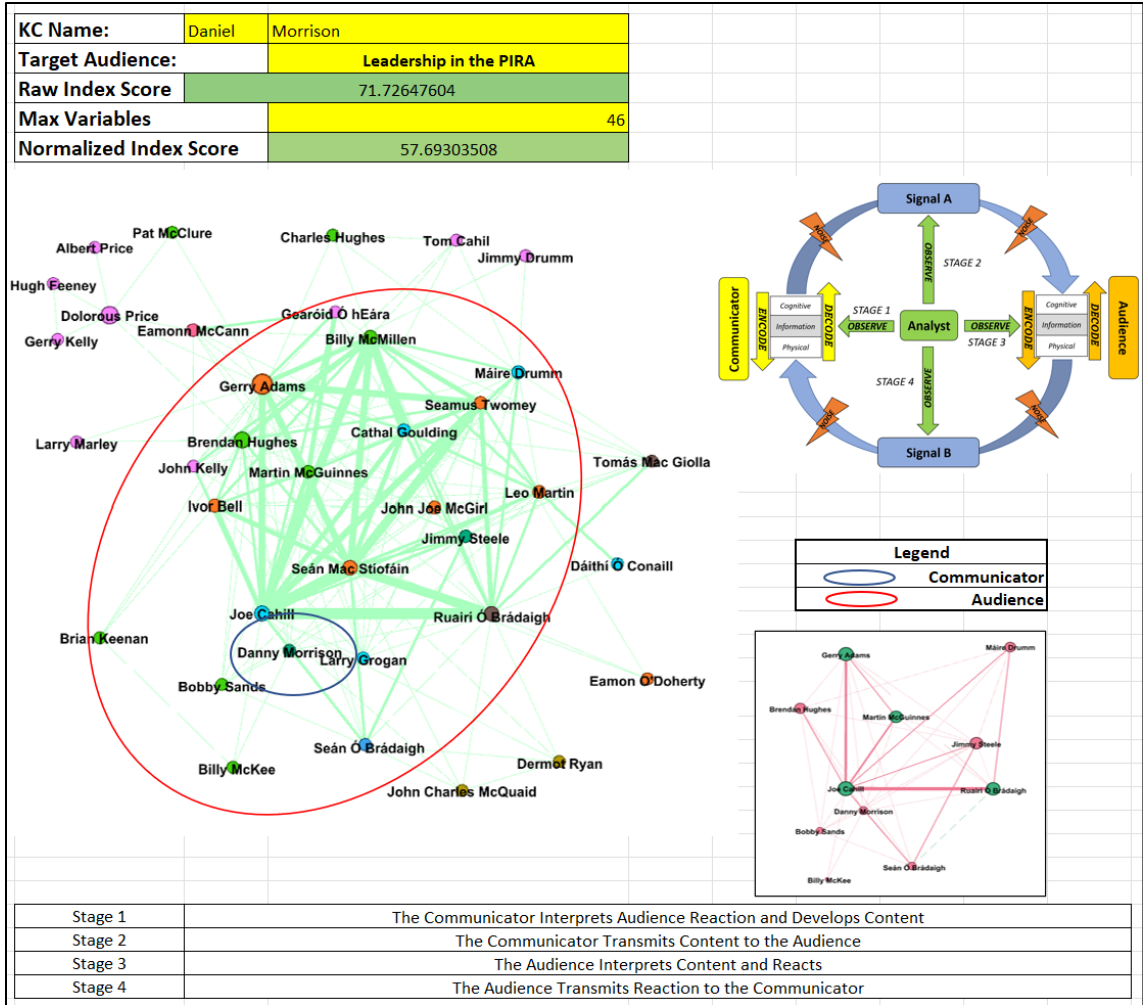


Figure 8. Key Communicator Analytical Tool

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## VI. CASE STUDY

### A. PURPOSE

This case study focuses on the early period of the Troubles, beginning with the Belfast riots in 1969 and the split of the Irish Republican Army into the Provisional IRA (PIRA) and the Official IRA (OIRA).<sup>113</sup> The case study seeks to use the network interactions among leaders and public figures between the PIRA and the political party, Sinn Féin, to demonstrate the utility of the KCAP and KCAT. To test the process and tool, this research considered the theoretical position of a third party from 1981 to 1984 that sought the end of hostilities without direct interference in the conflict. The target audience (TA) is the Provisional Irish Republican Army (PIRA) leadership consisting of those elected representatives to the Conventions and those appointed to the Executive. The desired behavior is the reduction of violent activities and adopting a peaceful resolution to the Troubles between the PIRA and the United Kingdom. Until the 1980s, the idea of a peaceful settlement with the British government had been almost unthinkable.<sup>114</sup> The PIRA's long-standing opinion was that they were the legitimate successors of the IRA and were the only legitimate government in Northern Ireland. By such logic, any participation in the government would legitimize it and, by extension, British rule. Thus, when Sinn Féin members were elected, they followed a strict policy of abstentionism where the elected members neither attended nor participated in the offices to which they were elected. Achieving this would require key communicators to influence, directly and indirectly, the TA to pursue non-violent reconciliation that would most certainly require political compromise and participation. In this scenario, the objective is to analyze key communicators within the PIRA to determine who is most suitable to approach and leverage for such a difficult mission.

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<sup>113</sup> Paul Gill and John Horgan, "Who Were the Volunteers? The Shifting Sociological and Operational Profile of 1240 Provisional Irish Republican Army Members," *Terrorism and Political Violence* 25, no. 3 (June 14, 2013): 437.

<sup>114</sup> Rogelio Alonso, "Terrorist Skin, Peace-Party Mask: The Political Communication Strategy of Sinn Féin and the PIRA," *Terrorism and Political Violence* 28, no. 3 (May 26, 2016): 522, <https://doi.org/10.1080/09546553.2016.1155934>.

The PIRA case study is a salient example of social forces' impact on a given mission for several reasons. Appendix C discusses the historical aspects of the case in greater depth; however, the social forces and other elements provide a greater context in this review. From an SNA perspective, the combination of dark and light social networks is a particularly valuable tactic in unconventional warfare scenarios since an organization can balance the movement's positive public image with the inherent controversies of an armed struggle. In this case, communicators acted as mouthpieces that maintained a political face while maintaining plausible deniability to their involvement in illegal or illicit activities. In this symbiotic relationship, the dark network can use coercive force to support the light network's political goals. In contrast, the light network produced and protected narratives that built popular support for the dark network. The PIRA increased operational security during this time, providing members with plausible deniability and protecting communicators from scrutiny.<sup>115</sup> Combining these networks provided legitimacy and motivation to mobilize different audiences already aligned with the Irish Republican cause. This case study also demonstrates how a communicator can exploit political opportunities to mobilize popular support to a movement. During this time, British and local law enforcement increased scrutiny, resulting in a policy of internment. In response, the PIRA leveraged growing international support for the civil rights movements through demonstrations and civil disobedience as a tactic to attract attention and sympathy.<sup>116</sup> Finally, the organizational shift from guerilla activities towards Northern Irish politics provides a unique opportunity for measuring identity and exchange variables. With Sinn Fein's adoption of political action in place of their long-held policy of political abstentionism, communicators moved to the forefront, leveraging social identity and exchange principles to reach audiences for their evolving cause.<sup>117</sup>

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<sup>115</sup> Alonso, 522–24; Andrew Sanders, *Inside The IRA: Dissident Republicans and The War For Legitimacy* (Edinburgh, United Kingdom: Edinburgh University Press, 2011), 34–36, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=714146>.

<sup>116</sup> M.L.R. Smith, *Fighting for Ireland? The Military Strategy of the Irish Republican Movement* (New York, NY: Routledge, 1995), 97; and Sanders, *Inside the IRA*, 34–36.

<sup>117</sup> Sanders, *Inside the IRA*, 29.

## **B. KEY COMMUNICATORS**

Drawing from available SNA tools and historical resources, researchers first built a sociogram in Gephi of Sinn Fein and PIRA leaders (see Appendix C). Researchers selected six KCs representing a broad spectrum of influential Irish Republican members from this sociogram for further consideration. At a minimum, each KC had to be positioned within three steps to members of the PIRA Executive Council, participated in the movement in April 1981, and demonstrated the potential to function as a communicator (e.g., exchange of information or access to the in-group). The identified potential communicators who could influence the audience and meet mission objectives were Gerry Adams, Joe Cahil, Martin McGuinness, Ruairí Ó Brádaigh, Bobby Sands, and Danny Morrison. Each of these communicators was analyzed using the foundations of the key communicator analytical process. Their various variables were categorized and documented in individual KCAT spreadsheets to establish a baseline from which to conclude. To minimize variance between communicators for comparison's sake, the researchers identified weighting conditions and the relevant variables for the case study. The researchers reviewed these variables using the KCATs visualization and evaluation functions to confirm their relevance and measurability. Next, relevant variables yielded a total weighted result and index score. Researchers then compared these results to identify computational errors, determine communicator potential effectiveness, and rank all communicators for potential use.

## **C. RELEVANCE STACK**

During step 3 (organize), the PIRA relevance stack consisted of 28 variables as they best explained how a communicator would influence the TA in this particular social network. To properly determine the viability of the KCAP, these variables represented an equitable sampling of each social theory, network metrics, cycle stages, and layers. Researchers identified, categorized, and organized from one to fifteen questions per variable in the KCAT to improve the quality of scoring and evaluation. Researchers used the KCAT visualization functionality to control for unbalanced observations to ensure that variables accounted for each stage and layer of the communication model (see Table 4).

Table 4. Case Study Relevance Stack

Variable	Questions	References	Stages	Layers
Access to Groups	8	SNA, SIT, & SET	1, 2, 3, & 4	Physical
Authenticity	5	SMT, SIT, & SET	2 & 3	Cognitive and Informational
Betweenness Centrality	4	SNA & SET	2 & 3	Physical
Bridges	5	SNA, SIT, & SET	2 & 3	Physical
Brokers	15	SNA, SIT, & SET	1, 3, & 4	Physical
Cultural Framing	10	SMT & SIT	1, 2, & 3	Physical
Degree of Centrality	7	SNA	1, 2, 3, & 4	Physical
Eigenvector Centrality	4	SNA, SIT, & SET	2	Physical
Feedback	1	SNA & SET	3	Informational
Insurgent Consciousness	2	SMT & SIT	3 & 4	All
Message	2	SNA & SET	1 & 2	Informational
Narrative	1	SNA & SET	1	Cognitive and Informational
Paths	14	SNA & SET	2, 3, & 4	Cognitive and Informational
Perceived Threats	3	SMT & SIT	1 & 3	Cognitive and Informational
Political Opportunities	3	SNA & SET	3 & 4	Cognitive and Physical
Reactions	4	SNA & SET	3 & 4	Physical and Informational
Shared Attitudes	2	SMT, SIT, & SET	3	Cognitive and Informational
Shared Behaviors	4	SMT, SIT, & SET	3 & 4	Physical and Informational
Shared Beliefs	2	SMT, SIT, & SET	3	Cognitive and Informational
Shared Desires	1	SMT, SIT, & SET	3	Cognitive and Informational
Shared Grievances	1	SMT, SIT, & SET	3	Cognitive and Informational
Shared Interpretation	2	SMT, SIT, & SET	3	Cognitive and Informational
Shared Language	6	SMT, SIT, & SET	2 & 3	All
Shared Needs	1	SMT, SIT, & SET	3	Cognitive and Informational
Shared Norms	2	SMT, SIT, & SET	3	Cognitive and Informational
Shared Values	2	SMT, SIT, & SET	3	Cognitive and Informational
Subnetworks and Clusters	6	SNA	3	Physical
Ties	4	SNA, SIT, & SET	2 & 4	Physical

#### D. SWING WEIGHT MATRIX

During step 3, the researchers established weighting conditions for variables within the swing weight matrix. Standardizing the mission and audience weights for the communicators was critical to minimize variable scoring bias before step 5 (evaluation). Researchers selected weighting standards for each variable based on the context of the given scenario (see Table 5). For example, the PIRA was a regimented and compartmentalized organization, so the communicator’s access to the group would benefit the mission and maximize the audience’s susceptibility to their message. On the other hand, the PIRA leadership was an isolated community with few significant ties outside the Conventions and Executive. For this reason, bridges into the audience would be rare and have a limited impact on their decisions. Similarly, the betweenness centrality of the core audience members would be consistent given that communicators generally had a path length of one to other audience members. Therefore, these two variables neither

significantly impacted the mission nor influenced the audience. However, of note, researchers could neither observe and measure every variable for each communicator nor could they be measured in the same manner. Researchers accounted for this by merging variables like shared desires, grievances, and needs. Doing so provided more latitude to practitioners, maximizing the number of measurable variables for the case study. Conversely, it was necessary to drop variables such as shared interpretation and ties as they could not be measured or were deemed redundant. Researchers further organized, refined, and scored each variable after establishing weighting conditions.

Table 5. Case Study Weighting Conditions Sorted by Largest Weight

Variable	Mission Weight	Audience Weight	Total Weight
Access to Groups	0.9	0.9	0.81
Feedback	0.9	0.9	0.81
Reactions	0.9	0.9	0.81
Authenticity	0.8	0.8	0.64
Eigenvector Centrality	0.8	0.8	0.64
Subnetworks and Clusters	0.8	0.8	0.64
Message	0.9	0.7	0.63
Shared Behaviors	0.9	0.7	0.63
Degree of Centrality	0.7	0.7	0.49
Paths	0.7	0.7	0.49
Cultural Framing	0.9	0.5	0.45
Insurgent Consciousness	0.6	0.7	0.42
Political Opportunities	0.6	0.7	0.42
Narrative	0.5	0.8	0.4
Shared Attitudes and Beliefs	0.5	0.8	0.4
Shared Desires, Greivances, and Needs	0.5	0.8	0.4
Shared Norms and Values	0.5	0.8	0.4
Shared Language	0.6	0.6	0.36
Perceived Threats	0.5	0.7	0.35
Brokers	0.5	0.4	0.2
Betweenness Centrality	0.3	0.3	0.09
Bridges	0.3	0.3	0.09

## E. CASE STUDY FINDINGS

The KCAT yielded each communicator’s raw and normalized index scores (see Table 6). PIRA communicators generally had an average raw index score of 61.87 and an

average normalized index score of 50.73. Initial analysis suggests normalized scores skewed in favor of communicators with more variables analyzed as they had a variable constant closer to 1.0. Researchers considered each communicator’s raw, normalized, and average rankings to determine which communicators could effectively influence the TA to take the desired behavior. However, the index scores and rankings alone do not provide the complete picture. Researchers acknowledged the evaluation results as a critical consideration for the final order. After completing the KCAT spreadsheets for each communicator, researchers reviewed the swing weight matrix variables and parameters to determine mission and audience suitability. As a result, researchers developed a diffusion plan, observation plan, general communicator description, and a potential use plan in the KCAT.

Table 6. Key Communicators with KCAT Scores and Sorted by Average Ranking

Communicator	Total Raw Score	Variable Constant	Raw Index Score	Normalized Index Score	Number of Variables	Raw Ranking	Normalized Ranking	Average Ranking
Danny Morrison	0.717	0.804	71.73	57.69	37	2	2	2
Ruairi Ó Brádaigh	0.589	1	58.86	58.86	46	4	1	2.5
Bobby Sands	0.622	0.847	62.2	52.7	39	3	4	3.5
Gerry Adams	0.851	0.5	85.12	42.56	23	1	6	3.5
Martin McGuinness	0.577	0.978	57.7	56.45	45	5	3	4
Joe Cahil	0.526	0.935	52.56	49.13	43	6	5	5.5

To write key communicator assessments, researchers built individual narratives for each communicator to determine strengths and weaknesses and to identify potential strategies for a given KC to achieve mission objectives. Of note, key communicators could be members of one or more key communicator groups. Key communicators for the Sinn Fein and PIRA fall within four potential groups—paramilitary leaders, politicians, community organizers/activists, and media/journalists— based on their different target audiences, tools, and techniques for messaging. Each category targeted a different segment of the population to promote the legitimacy of Sinn Fein and the PIRA. Researchers chose KCs for the case study from members of these four groups with a brief review of each communicator to demonstrate their potential utility. Appendix C describes these groups in greater detail.

## 1. Gerry Adams

Gerry Adams, in many ways, appears as a natural choice as a KC. Despite consistently denying involvement in the PIRA, it appears that he was a highly influential member and leader of both the PIRA and Sinn Fein in the 1970s and 80s. Adams is an alleged member of the Executive Council and a savvy political operator with apparent influence within the PIRA and Sinn Fein. When imprisoned, not only did other prisoners appear to defer to him as though he were a PIRA commander, but in 1972, the PIRA negotiated his early release so that he could negotiate with the British government on their behalf. Despite this, he has criticized Sinn Fein's policy and leadership through a series of written newspaper op-eds while also writing speeches for prominent members of the PIRA.<sup>118</sup> These events, taken together, suggest Adams maintained influence with the target audience and was open to policy changes that may finally resolve the conflict in Northern Ireland.

Adams scores highly in measures of social capital and influence. Even when limited to only 23 variables, his raw index score is higher than the other KCs (85.12). Presumably, this is because he always had a long-term strategic view of the conflict and his position in it. He expertly navigated between being too dovish on the one hand and too hawkish on the other. It allows him to avoid appearing inauthentic to the republican movement's armed roots while also allowing him to be progressive in policy and not risk losing his base of influence (authenticity score 6 out of 6). Although it is difficult to observe and place every indicator of authority and prestige (access to groups, brokerage, eigenvector, and betweenness centrality), it ranks him near the organization's top.

Gerry Adams is an obvious leader by any metric despite the ambiguity of a role within the PIRA. He is strongly tied with several influential people in the organization and appears to have strong direct ties with many members of the TA. The four main centrality measures place him in the top three (see Appendix C). In addition to this, he also routinely

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<sup>118</sup> Danny Morrison, "Gerry Adams Was Crucial in Persuading the IRA to Cease Fire," *The Irish Times*, accessed February 16, 2022, <https://www.irishtimes.com/news/ireland/irish-news/gerry-adams-was-crucial-in-persuading-the-ira-to-cease-fire-1.3385226>.; Ed Moloney, *A Secret History of the IRA*, Reprint edition (New York: W. W. Norton & Company, 2003), 150–51.

conducts public messaging through speeches and op-eds in newspapers and PIRA-affiliated periodicals and PIRA speeches. Adams would likely disseminate messages via both direct messaging and politicking with the Executive Council and attempt to force their opinion through public messaging to the PIRA “rank and file.” Gerry Adams scored high on the message, feedback, and cultural framing variables for these reasons.

## 2. Joe Cahill

Some could describe Joe Cahill as an elder statesman of the PIRA. He is known as a founding member of the PIRA and believed to be a member of the Executive Council since its establishment.<sup>119</sup> He has significant credibility with the target audience due to his age and experience, being one of few remaining members who fought and served jail time with the IRA in the 1940s. However, it is worth noting that he may be too extreme to work towards peace. He resigned from the IRA in the early 1960s when they began working towards a peaceful resolution under Cathal Goulding’s leadership.<sup>120</sup> It may be challenging to support a peace settlement; however, he would lend a great deal of credibility to the messaging. A consideration for Cahill is that he bases his authenticity as a broker and bridge between PIRA and other organizations such as arms smugglers and money laundering operations.<sup>121</sup> It is not entirely clear what would happen if he stopped supporting such activities. His rhetoric and actions suggest a tie between his authenticity, ideological purity, and direct involvement in activities.

Cahill’s degree centrality (see Appendix C) is an outlier among the other communicators, indicating prestige as well as a degree of control over information in the network. He also scored highly in the KCAT based on his embodiment of the TA’s shared attributes. However, as an ideologue, he may have difficulty conducting a significant policy shift and convincing others to do the same. Due to this fact, it is most likely that such a transition in favor of a peace process would involve gradual direct messaging to the

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<sup>119</sup> Chris Ryder, “Joe Cahill,” *The Guardian*, July 25, 2004, sec. UK news, <https://www.theguardian.com/news/2004/jul/26/guardianobituaries.northernireland>.

<sup>120</sup> Brendan Anderson, *Joe Cahill: A Life in the IRA*, 1st edition (Dublin: University of Wisconsin Press, 2005), 16.

<sup>121</sup> Sanders, *Inside the IRA*, 27–29; Ryder, “Joe Cahill.”



members of the TA while also continuing paramilitary activities, ostensibly to maintain a strong position for the PIRA. Cahill could be a strong ally; however, the KCAT scores suggest better options to approach initially.

### **3. Martin McGuinness**

Martin McGuinness demonstrated that he understood the need to compromise yet when needed, also took physical and political action. He was able to work alongside the rank-and-file PIRA members as the 2nd in command of the Derry brigade and communicate outwards with political entities in negotiations to end the conflict. PIRA leadership appears to have begun grooming as, at the age of 22, he took part alongside Gerry Adams in secret peace talks with the British government. He is dedicated to the cause and spent two terms in prison for PIRA activities. He appears to be a forward thinker that understands the need to reorganize and adapt to the current situations without changing the goals and desires of the organization.<sup>122</sup>

McGuinness's most significant contributing factor was his ability to link with multiple points throughout the network. He consistently scored above average for measures of path distance and eigenvector centrality. These connections coupled with a high broker and bridging scores demonstrate his knowledge and skill of utilizing and working within the PIRA networks. He capitalized on maintaining relationships both politically and insurgent-mindedly to continue progressing within the movement's leadership. McGuinness's understanding of networks and the connections wrought by them led him to work within the political side of the movement, Sinn Fein.

### **4. Ruairí Ó Brádaigh**

Ruairí Ó Brádaigh is a stalwart and the founding leader of the PIRA and current president of Sinn Fein. He has served on the executive council since its inception. Not only

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<sup>122</sup> "Martin McGuinness | Biography & Facts | Britannica," accessed February 11, 2022, <https://www.britannica.com/biography/Martin-McGuinness>; John F. Morrison, "The Provisional Irish Republican Army," in *Routledge Handbook Of Terrorism And Counterterrorism* (Routledge, 2018), 326; John F. Morrison, "Trust in Me: Allegiance Choices in a Post-Split Terrorist Movement," *Aggression and Violent Behavior* 28 (May 2016): 54, <https://doi.org/10.1016/j.avb.2016.03.006>; and Alonso, "Terrorist Skin, Peace-Party Mask," May 26, 2016, 523 and 530.

a political leader, but Ó Brádaigh was also a trainer and participated in assaults for the advancement of the PIRA. His historic influence appears to be waning as his signature policy Eire Nua has received enormous criticism from across the Republican movement. As the leader of the PIRA and Sinn Fein, he has received blame from younger members for several decisions, such as the 1975 ceasefire and the fighting between PIRA and other Republican paramilitaries (namely the Official IRA). He believes strongly in the policy of abstentionism. He likely will only support the peaceful resolution under very narrow conditions of British withdrawal and the reapportionment of Northern Ireland to the Republic of Ireland.<sup>123</sup>

Ó Brádaigh's centrality is a given, considering he is the president of Sinn Fein. This factor significantly increases the social scoring within the system. However, his adamant direction for the movement limits Ruairí's utility for a peaceful solution as a KC. He scored high for centrality and authenticity due to his elected positions and devoutness to his beliefs of the PIRA and a free independent Ireland. His interconnectedness and short path distances allow access to the most significant PIRA and Sinn Fein members. Even so, his ideals and steadfastness cause division within the movement's leadership. Considering these factors, his ability to broach a peace deal appears to be limited, and his devotion has the potential to cause a rift with those that are open to negotiation.

## **5. Danny Morrison**

Danny Morrison joined Sinn Fein in 1966 and the PIRA in 1969, becoming Sinn Fein's Director of Publicity by the 1980s. Well known for this role and his position as the editor for *Republican News* and *An Phoblacht*, Danny Morrison developed valuable connections within Irish and international media circles. He served as Bobby Sands' spokesperson during the 1981 Hunger Strike. Morrison articulated the "An Armalite in One Hand and a Ballot in the Other" policy, which abandoned the long-standing political

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<sup>123</sup> Jennifer Llewellyn and Steve Thompson, "Ruairí Ó Brádaigh," Alpha History, January 25, 2018, <https://alphahistory.com/northernireland/ruairi-o-bradaigh/>; Peter Murtagh, "Uncompromising Republican Ruairí Ó Brádaigh Dies Aged 80," The Irish Times, June 6, 2013, <https://www.irishtimes.com/news/politics/uncompromising-republican-ruair%C3%AD-%C3%B3-br%C3%A1daigh-dies-aged-80-1.1419019>.

abstentionism for the pragmatic political peace process. His speech in 1981 at Sinn Fein's convention signaled the beginning of a significant shift in strategy where the movement would work within a democratic system to force concessions alongside traditional violent activities. It likely broadened the domestic and international support base and propelled the left-wing Belfast Republicans under Gerry Adams and Martin McGuinness to the forefront of Northern Irish politics.<sup>124</sup>

Although Danny Morrison lacked overt and directed ties to the Executive Council, he held significant influence within the movement as the editor for the PIRA-affiliated periodicals and Sinn Fein public relations. However, their support for his Armalite and Ballot Box strategy suggests positive influence over the PIRA leaders. With his participation in various negotiations and communications, he has one of the highest brokerage potentials between the PIRA leaders and British Officials (scored as a 6 in the KCAT). His roles uniquely position him to access PIRA leaders (TA). His roles and access to the media and information gave him significant latitude to craft messages that agree with the overarching narratives. Unfortunately, he likely maintained a greater reach among audiences outside of the PIRA leadership. Therefore, Danny Morrison could exploit his power and social capital to diffuse ideas congruent with existing PIRA narratives, behaviors, norms, values, beliefs, and attitudes. However, he can only influence PIRA leaders if he can maintain his position and connections to influential personalities, like Gerry Adams.

## **6. Bobby Sands**

Prison protests have considerable roots in Irish culture and history; Bobby Sands achieved notoriety as the face of the PIRA-led prison protests that demonstrated the more prominent political struggle against alleged British violations of Irish civil rights. Leveraging the reach of the Catholic Church and Sinn Fein, Bobby Sands organized the

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<sup>124</sup> Alonso, "Terrorist Skin, Peace-Party Mask," May 26, 2016, 522–24, 527; Morrison, "The Provisional Irish Republican Army," 326; Morrison, "Trust in Me," 54; "IRA Disagreement Over 1981 Hunger Strike Files," *BBC News*, January 3, 2012, sec. Northern Ireland, <https://www.bbc.com/news/uk-northern-ireland-16392587>; and Richard English, *Armed Struggle: The History of the IRA* (Oxford; Oxford University Press, 2003), 225.

1981 prison hunger strike to pressure British authorities into the reinstatement of the prisoner special category status. In concert with several other high-profile prison protests in the 1970s, this effort criticized living conditions, prison uniforms, prison work, correspondence, and limited opportunities for education and recreation. To amplify his civil disobedience, Bobby Sands wrote song lyrics and published letters and articles in *An Phoblacht*. His efforts attracted international and domestic support and ultimately won him a seat that year in the UK House of Commons under the “Anti H-Block /Armagh Political Prisoner” political party. As a member of the PIRA, he filled an essential role as the Commander of Prisoners in Maze Prison, likely with direction from higher leaders. Before his death in May 1981, Bobby Sands demonstrated considerable potential as a communicator.<sup>125</sup>

Leveraging Sands as a key communicator would be difficult from a historical perspective. However, his image and memory as a martyr likely retained communicator value for Sinn Fein and the PIRA. Within the scope of the case study, his utility could have come should the protests have ended before his death. With established leadership ties to the PIRA supporting his efforts, Bobby Sands had few indications he could leverage directional ties to influence the overall direction and strategy of the PIRA. Another paradox of his position as a resistance symbol is he had limited reach to audiences outside of prison, relying on other platforms to communicate his message. However, his greatest strength was his communicator potential during the prison protests. For this reason, Bobby Sands scored high on authenticity, access to groups, and various shared variables in the KCAT. Furthermore, he is one of the few communicators who encouraged observable and measurable feedback among external audiences, such as bolstering Sinn Fein as a political party and his election to office. Unfortunately, his influence over the given TA suggests that he could only diffuse some simple ideas through weak ties. It is more likely that Bobby

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<sup>125</sup> James Dingley and Marcello Mollica, “The Human Body as a Terrorist Weapon: Hunger Strikes and Suicide Bombers,” *Studies in Conflict & Terrorism* 30, no. 6 (June 2007): 459–92, <https://doi.org/10.1080/10576100701329592>; “IRA Disagreement Over 1981 Hunger Strike Files”; Begoña Aretxaga, “Dirty Protest: Symbolic Overdetermination and Gender in Northern Ireland Ethnic Violence,” *Ethos* 23, no. 2 (1995): 133, <http://www.jstor.org/stable/640420>; James W. McGray, “Bobby Sands, Suicide, and Self-Sacrifice,” *The Journal of Value Inquiry* 17, no. 1 (January 1, 1983): 65–66, <http://www.proquest.com/docview/1303256950/citation/8DCB715B78284AB7PQ/1>; and Morrison, “The Provisional Irish Republican Army,” 331.

Sands would be useful as an amplifier for other communicators or a key communicator for a different audience.

#### **F. KCAP AND KCAT FINDINGS**

The purpose of the case study was to validate and improve the key communicator analytical process and tool. Researchers noted the underlying methodology of this analytical process should meet the practitioner's needs. The KCAP, in concert with the KCAT, improved the overall efficiency and user experience, indicating that such analysis has merit. While applying the KCAT to the PIRA case, researchers were mindful of four requirements: compatibility, simplicity, clarity, and efficiency. The tool demonstrated basic data handling necessary for steps one (identify) and two (categorize), however, the tool did not share information between databases in its current form. Researchers searched for and exported categorized information, improving the organization, visualization, and evaluation of relevant variables. However, researchers identified deficiencies in the KCAT requiring updates to the basic format. The two general categories for the issues are tool functionality and evaluation capabilities. All deficiencies were aggregated into a single table for further review after the study (see Table 7).

Table 7. KCAP and KCAT Issues, Discussion, and Recommendations

	Step	Issue	Discussion	Recommendation
KCAP	All	Linear Process	KCAP can appear to be a linear process.	Include decision points.
KCAP	Categorize	Overlapping and Shared Variables	Few distinctions between the average variables and those which have high payoff.	Include a deliberate review of overlapping and shared variables.
KCAP	Organize and Visualize	Physical Layers and Stages	Difficult to organize and visualize physical layers in the communication cycle.	Represent all physical layers as signals in stage 2 and 4.
KCAP	Evaluate	Weighting Conditions	Weighting conditions established late in the process.	Determine weighting conditions early in step 3 (organize).
KCAP	Evaluate	Normalized Index Scores	Normalized index scores skew in favor of communicators with more observable variables.	Test the utility of an inverse variable constant.
KCAT	Evaluate	Notes Section	Limited instruction and space to describe weighting.	Provide one cell for weighting instructions and one for score explanation.
KCAT	Organize	Variable Question Variance	Variables with more questions outweigh others.	Aggregate all variable questions into a single variable answer in the Relevance Stack.
KCAT	Categorize	Variable Question Clarity	Redundant and confusing questions inhibit proper scoring.	Reduce the number of variable questions where possible.
KCAT	Categorize	Communicator Database	Poor integration of KCAT communicator databases between communicators.	Identify suitable knowledge management platform to host all key communicator data.
KCAT	Organize and Evaluate	Variables and Index Scores	Variance among communicator variables can significantly impact index scores despite normalization.	Establish a minimum variable standard and an acceptable variable variance threshold if the inverse variable constant cannot normalize index scores.
KCAT	Organize and Evaluate	Weighting	Communicator and audience weighting guidance was too specific.	Replace "negative" language with "less effective" language in Weight Codebook Table.

One important observation about the KCAT results indicates that normalized scores skew towards KCs with more variables. As a result, Gerry Adams, who was historically the most relevant leader after the Troubles, has the lowest normalized index score despite having the highest raw index score. A solution to increase the accuracy of results is to use

variables in the KCAT that practitioners can answer for all KCs. Additionally, adjusting the equation may result in a simple fix; by using the inverse of the variable constant at any point of the variable constant. It creates the following equation for normalized scores where  $C_v$  is the variable constant, and  $I_n$  is the normalized index score.

$$I_n = 100 * raw\ score(1 - C_v) \tag{1}$$

Such an equation would provide the following recalculated normalized index scores:

Table 8. Normalized Scores Using Inverse Variable Constant

<b>Communicator</b>	<b>1- <math>C_v</math> Normalized Score</b>	<b>Ranking</b>
Gerry Adams	39.25	1
Danny Morrison	14.03	2
Bobby Sands	9.47	3
Joe Cahil	3.43	4
Martin McGuinness	1.25	5
Ruairí Ó Brádaigh	0*	6

\*0.58 with a stand-in  $C_v$  of 0.01

These scores provide some insights to deepen the analysis rather than a mere reversal of the rankings. As the regular function skews data towards KCs with more variables the inverse  $C_v$  skews the data back towards the middle range of values. This additional ranking may be combined with the previous two in the KCAT to produce an average that, while still imperfect, appears to reduce statistical bias (see Table 9).

Table 9. Revised Average Rankings Sorted by Average Ranking

<b>Key Communicator</b>	<b>Raw Rank</b>	<b>Normalized Ranking</b>	<b>1- C<sub>v</sub> Normalized Ranking</b>	<b>Average Ranking</b>
Danny Morrison	3	2	2	2.333
Gerry Adams	1	6	1	2.667
Bobby Sands	2	4	3	3
Ruairí Ó Brádaigh	4	1	6	3.667
Martin McGuinness	5	3	5	4.333
Joe Cahil	6	5	4	5

The new rankings in Table 9 provide data that matches more closely with the history of the PIRA and their eventual adoption of a peaceful resolution to the conflict. If a practitioner had been using this tool in 1981, it would have provided a reasonable predictor of key individuals to approach to achieve their objective. The only significant discrepancy is that Ó Brádaigh appears higher on the rankings than Martin McGuinness. Based on the point in time of the case study (1981), this suggests that it overemphasizes current centrality and does not adequately account for ongoing shifts in authority and prestige within an organization. There are two ways to account for this. A qualitative analysis to collect time data for SNA and calculate the changes in the SNA measures to map the derivatives of prestige, centrality, and authority. A qualitative study using operational art and understanding of the environment and network to observe and predict network changes. Ideally, both methods inform the final recommendations as each technique has biases and shortfalls in understanding complex social networks and predicting future behavior.

A strength of the KCAP is the process guides practitioners through research on the KC and their network. Ostensibly this is to find data points and answer information requirements; however, it also has an added benefit of stimulating understanding of the network and how each KC may effectively influence the network. Thus, producing the KCAT scores support the insight required to interpret them. For instance, it becomes apparent that each KC addresses separate segments of the collective consciousness of the



Republican Movement. Although we set out to determine which single communicator would be the best for an objective, the best solution may be to build a coalition of KCs so their strengths and weaknesses may build upon each other.

## **G. CASE STUDY CONCLUSIONS**

The KCAT provided an intriguing tool to conduct the KCAP. The general subjectivity of observing and determining scores made the index scores better as recommendations than facts in the case study. A scenario with more quantitative measures, such as a community that only exists on social media, may change the dynamic of the analysis as near all interactions will be captured and integrated into the KCAT. However, when interacting with dark networks, such as the PIRA, practitioners must seek to recognize and mitigate certain skewing of data. For example, Ruairí Ó Brádaigh has the highest normalized score, and Gerry Adams has the lowest. Ruairí's historical support for abstentionism and paramilitary activities suggests he may be against working towards a peaceful settlement acceptable to all parties. Additionally, public criticism was growing towards Ó Brádaigh's policies, suggesting his hold on the party and the paramilitary may have been waning. History substantiates this through the conflict where Adams ascends to the presidency of Sinn Fein and drops the policy of abstentionism, while Ó Brádaigh leaves the PIRA to form the Real IRA.

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## VII. CONCLUSION

As members of social groups gravitate towards key communicators in the operational environment, PSYOP personnel should identify these personalities and determine the degree of their influence over the audience and the mission at hand. The research proposes a foundational PSYOP analytical process to improve how practitioners select key communicators to support military objectives. This research began with a review of relevant theories and scientific processes. Then, U.S. Army members received surveys and interviews to gather differing viewpoints on analyzing and leveraging key communicators and their social networks. Researchers aggregated these inputs into the KCAP and KCAT to guide practitioners to evaluate and compare communicators to support a given military objective.

In the next phase, researchers applied the process and tool to a historical case study to validate its functionality in an operational setting. Researchers chose the PIRA and the Troubles because the case accentuated how certain key communicators could impact an audience. Using history as a guide, researchers measured variables at a critical point to infer how those factors could have affected a potential result. Researchers found the KCAP was a practical methodology to review individual communicators holistically. It is bolstered by the functionality of the KCAT, which ensured practitioners could quantify and explain variables at a granular level. Furthermore, the process and tool provided a model to visualize the communicator and audience through measurable and observable variables by stage and domain. However, researchers identified deficiencies and limitations in the process and tool to address before mass distribution of the key communicator analysis system to the PSYOP community.

### A. LIMITATIONS

As is the case with all research, the research is not without limitations. First, researchers focused on the interaction between two actor types: the communicator and the audience. Where appropriate, this research considered other nodes within the network, such as platforms that act as a medium for communications. However, researchers intentionally

limited the discussion of platforms as they are too numerous to consider, and a detailed study of such would be outside the scope of research. It simplifies the focus to mappable actors in a basic communication model to ensure the visualization and evaluation of social ties within the nuances of the IE. Second, this research acknowledges that many other models, processes, and theories could explain the interaction between actors in social networks. It was necessary to limit the scope of study to SNA, SMT, SET, SIT, layered models, and Schramm's communication model. Resource limitations are a consideration that impacts the design and implementation of any process or tool. The limited SNA tools and metrics were intentional to maintain manageable data sets—resulting in a lack of testing for some metrics, like prestige and key players. Constraints and restraints—military authorities and the operation environment—limit the capabilities of practitioners to observe key communicators, their audiences, and the IE and, in effect, shape the outcomes of the KCAP. However, the holistic and foundational KCAP addresses these limitations by providing the structure for practitioners to address complex concepts in a thorough manner. Similarly, KCAT has enough space to account for numerous variables in their many forms, ensuring practitioners are prompted towards solutions with minimal constraints.

## **B. SUGGESTED FUTURE RESEARCH**

This thesis lays important groundwork for future research to build upon. An important next step for future work is to improve practitioners' use of the KCAP. Utilizing the KCAP and an updated KCAT in an operational or experimental setting could enhance the functionality of both. Similarly, researchers could apply the KCAT with the updated normalized index score algorithm across multiple case studies to determine its validity and identify useful key communicator trends for practical application. Researchers could explore other social theories, data sources, and analytical methods to integrate with the KCAP. With advancements in big data, academic and scientific techniques like data mining, text analysis, geospatial tools, and visual analytics could improve the quality of key communicator analysis. Establishing a novel process allows exploring opportunities for technological solutions, like machine learning or artificial intelligence, into decision-making approaches. Future research could investigate the adaptation of tools or systems to the KCAP, such as an extensive key communicator database and knowledge management

tool. According to the survey results, PSYOP and all Army personnel could benefit from expanded access and training in the various processes and tools to identify and understand key communicators. What's more, any process or mechanism for analyzing potential key communicators and audiences comes with inherent risks. It would be beneficial to develop a broad understanding of ethical concerns and methods for PSYOP personnel to mitigate such risks. Finally, researchers could survey and interview various key communicators to learn what motivates them and to identify best practices for their employment.

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## APPENDIX A. SNA TERMS AND CONCEPTS

Social network analysis (SNA) has considerable promise for practitioners and decision-makers since SNA techniques and metrics can be used to find and understand influential individuals.<sup>126</sup> Practitioners should observe patterns of attributes, attitudes, and behaviors among groups to map these social relationships into a visual and quantifiable network.<sup>127</sup> Practitioners can use various SNA methods and tools to illuminate those individuals whose ties demonstrate the capability to act as key communicators within a social network. For example, PSYOP personnel could use SNA to identify those moderate religious leaders who could encourage at-risk audience members to avoid violent extremist content. In this case, practitioners could use SNA metrics in concert with attribute data to identify both audiences (at-risk youth) and communicators (moderate religious leaders) connected in a given network. As a result, practitioners could empower those moderate religious scholars and leaders who demonstrate a high degree of prestige and have considerable access to the audience.<sup>128</sup> This example demonstrates one of the many reasons why this research considers SNA methods, metrics, and visualizations as an expedient means to understand key communicators and their affiliated audiences.

SNA could provide foundational metrics for a key communicator analytical process (KCAP) for the PSYOP community. According to some prominent members of the PSYOP community, SNA metrics like centrality, paths, brokers, key players, bridges, centralization, clustering, prestige, topography, and attributes significantly enhance the military's understanding concerning the interactions among actors within the information environment.<sup>129</sup> SNA techniques and tools provide straightforward approaches and user-

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<sup>126</sup> Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," 2.

<sup>127</sup> Centola, *How Behavior Spreads*, 16–18.

<sup>128</sup> Roberts and Everton, "Strategies for Combating Dark Networks," 6; Helmus and Bodine-Baron, "Empowering ISIS Opponents on Twitter," 1–11.

<sup>129</sup> Everton, *Disrupting Dark Networks*, 2012, 5, 9–14; Sadoun, *PSYOP and Social Networks*, 2018, 12–15; Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," 17; and Ware and Siebenaller, "Identifying Influencers for PSYOP," 21–29.

friendly interfaces to understand data that can improve the military's common operating picture. Once practitioners map a network's structure, they can identify observable and measurable communicator and audience variables to determine an individual's influence potential. One way practitioners can gather key communicator-specific data is to map an individual's ego network through surveys, questionnaires, and interviews. PSYOP personnel can commission surveys that request respondents identify other individuals and answer questions that describe the nature of these relationships.<sup>130</sup> Similarly, practitioners can exploit media surveys that indicate which sources audiences rely upon for information and trust the most.

To establish a foundational process that incorporates social network analysis, researchers must understand the relevant terms and concepts as they relate to key communicators. This short review draws upon the work of many, including Dr. Sean Everton, whose work at Naval Postgraduate School suggests that SNA has utility for military communities.

#### **A. SOCIAL NETWORK**

A set of actors that have ties between each other.<sup>131</sup> For key communicators, social networks indicate the interconnectivity between the communicator and audiences, between audience members, and between communicators. Practitioners should observe and measure these interactions as quantifiable factors of influence and determine how information flows through a network to the target audience.

#### **B. ACTORS**

An individual or entity that participates in some form of social interaction within a network. For this research, actors are individuals or groups that participate in a

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<sup>130</sup> Everton, *Disrupting Dark Networks*, n.d., 80–82, 87–89; Chakrabarti and O'Keefe, "A Study of Key Communicators in Research and Development Laboratories"; and Jacobs, Farzanegan, and Askenasy, "A Study of Key Communicators in Urban Thailand."

<sup>131</sup> Everton, *Disrupting Dark Networks*, 2012, 9–10.



communication cycle.<sup>132</sup> It was determined that two kinds of actors should be analyzed during KCAP:

### **1. Communicator**

A single actor who initiates communications with an audience. A communicator is designated as key if he/she can effectively exchange information and influence a target audience to demonstrate the desired behavior.

### **2. Audience**

A single actor or group of actors, in a given social network, who observes and interprets signals from a communicator. Target audiences must have the capability to demonstrate a desired behavior such that it impacts a given military mission or objective. Practitioners should note that an audience may include other communicators who can be leveraged to amplify the key communicator's message.

## **C. TIES**

Any observed or suspected linkage between actors that describes their relationship within a network. Ties can be categorized by their direction, strength, and type. Practitioners should consider the strength and direction of ties since they indicate how the information will diffuse through a network. Practitioners should anticipate that weak ties (e.g., between acquaintances) may only support simple diffusion of ideas, while strong ties (e.g., kinship and close friends) may lead to the diffusion of more complex ones, like a risky social movement or innovation.<sup>133</sup> PSYOP personnel should seek out prolific actors in communication, advice, sentiment, resources, association, behavior, status, and hierarchy networks as these could indicate key communicator potential.<sup>134</sup> When

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<sup>132</sup> Everton, 8.

<sup>133</sup> Centola, *How Behavior Spreads*, 6, 21–22; and Everton, *Disrupting Dark Networks*, n.d., 18–21.

<sup>134</sup> Everton, *Disrupting Dark Networks*, 2012, 8–9.

observing the behaviors and attitudes of the audience, practitioners should consider those ties between key individuals and collective trends.<sup>135</sup>

#### **D. PATHS**

A sequence of actors and ties that do not occur more than once and can be measured from one end to the other.<sup>136</sup> For key communicators, this measurement indicates the likely direction of information diffusion, and the likelihood social norms will be adopted.<sup>137</sup> For more targeted efforts, practitioners should select those actors with the most ideal paths to reach specific audiences. Since people are naturally resistant to new or complicated ideas, practitioners should be mindful of the kinds of ties (weak vs strong) and paths that are best for diffusion.<sup>138</sup> To assess the communicator's potential to promote a PSYOP objective, practitioners should use various tools and algorithms to monitor paths as a mechanism to measure if messages transmit between communicators and audiences encouraging beliefs, attitudes, norms, and behaviors.<sup>139</sup>

#### **E. TOPOGRAPHY**

There are six metrics of topography that may indicate how the structure of a network dictates how a key communicator and audience interact:

##### **1. Density**

The comparison of observed and potential ties as an indicator of the interconnectedness of a given network.<sup>140</sup> For key communicators, understanding the

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<sup>135</sup> Centola, *How Behavior Spreads*, 4, 7–8.

<sup>136</sup> Everton, *Disrupting Dark Networks*, 2012, 10.

<sup>137</sup> Centola, *How Behavior Spreads*, 2–9.

<sup>138</sup> Centola, 14–15; and Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” 18.

<sup>139</sup> Christakis and Fowler, “Social Network Sensors for Early Detection of Contagious Outbreaks,” 3–6; Nicholas A. Christakis and James H. Fowler, “Social Contagion Theory: Examining Dynamic Social Networks and Human Behavior,” *Statistics in Medicine* 32, no. 4 (February 20, 2013): 568–70, <https://doi.org/10.1002/sim.5408>; Centola, *How Behavior Spreads*, 15; and Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” 17, 42–45.

<sup>140</sup> Everton, *Disrupting Dark Networks*, 2012, 10–11, 137–38.

density of the ties among audience members could indicate how quickly their message could spread and its overall reach potential in the community.

## **2. Centralization**

Measures how centralized a network is around a few actors.<sup>141</sup> For communication networks, identifying these actors could provide practitioners with a list of potential communicators and important audience members.

## **3. Network Size**

The number of actors within a given network.<sup>142</sup> This indicates the size of the audience and dictates the number of communicator candidates.

## **4. Average Distance**

The average path measurement (the fewest consecutive ties) between members of a network.<sup>143</sup> For practitioners attempting to map the possible paths to reach a given target audience, average distance provides a baseline for message diffusion.

## **5. Network Diameter**

The length of the longest geodesic (shortest path) within a given network.<sup>144</sup> Practitioners can contextualize path lengths by comparing the shortest path across the social network or audience to the shortest path between the communicator and the audience.

## **6. Fragmentation**

The proportion of all pairs of actors that are neither directly nor indirectly tied to one another.<sup>145</sup> Practitioners should note those communicators that are positioned between

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<sup>141</sup> Everton, 11, 137–38.

<sup>142</sup> Everton, 12, 137–38.

<sup>143</sup> Everton, 12, 137–38.

<sup>144</sup> Everton, 12, 137–38.

<sup>145</sup> Everton, 12, 137–38.

an audience that can fragment. If an audience has a higher degree of fragmentation, these communicators are more essential.

## **F. SUBNETWORKS**

A dense cluster of actors and ties that share commonalities of identity, behavior, norms, or social engagements.<sup>146</sup> Since sampling of large networks can be difficult and inaccurate, practitioners can isolate and measure trends among an audience subnetwork to explain why the diffusion of information could be effective.<sup>147</sup> As a targeted approach, an audience can be a subnetwork that a key communicator can reach.

## **G. COHESION AND SUBGROUPS**

### **1. Clusters**

A dense grouping of actors and ties, typically based on attributes or relationship types.<sup>148</sup> Practitioners should seek out clusters as they are the best indicator of a potential target audience within a social network.

### **2. Cliques**

A subgroup that has at least three connected actors.<sup>149</sup> Practitioners can use this metric as a minimum threshold for a given audience.

### **3. K-cores**

The maximum number of actors within a group who have a specific number of ties to other group members.<sup>150</sup> K-cores can contextualize the size and connectivity of an audience.

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<sup>146</sup> Everton, 12.

<sup>147</sup> Everton, *Disrupting Dark Networks*, n.d., 80–82.

<sup>148</sup> Everton, *Disrupting Dark Networks*, 2012, 170.

<sup>149</sup> Everton, *Disrupting Dark Networks*, n.d., 171; and Sean Everton, “Lab Assignment 6 - Identifying Subgroups,” *Dark Networks* (Monterey, CA: Naval Postgraduate School, November 11, 2021).

<sup>150</sup> Everton, *Disrupting Dark Networks*, n.d., 182; and Everton, “DA4600,” November 11, 2021.

#### 4. Components

A subgroup within a social network where the actors only share relationships with each another instead of other groups.<sup>151</sup> Ideally, practitioners should seek the largest component as the target audience.

#### 5. Modularity

Scores produced by the detection algorithms, like those created by Girvan-Newman and Louvain, to determine communities within a social network. Once these scores are normalized to find the best correlation, practitioners can identify the number of distinct groups to which the communicator has access.<sup>152</sup>

### H. CENTRALITY

Actors that lie more central to the network than others and experience a higher degree of influence over the flow of resources have higher centrality.<sup>153</sup> By mere virtue of their name, key communicators should have the greatest influence over the flow of information through the network within a given context. There are four common ways to measure centrality:

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<sup>151</sup> Everton, *Disrupting Dark Networks*, n.d., 171; and Everton, “DA4600,” November 11, 2021.

<sup>152</sup> Everton, *Disrupting Dark Networks*, n.d., 194–95; and Everton, “DA4600,” November 11, 2021.

<sup>153</sup> Golbeck, “Analyzing Networks: Introduction to Social Media Analysis,” 52; Charles Perez and Rony Germon, “Automating Open Source Intelligence,” Betweenness Centrality - an Overview | Scimedirect Topics, 2016, <https://www.sciencedirect.com/topics/computer-science/betweenness-centrality>; Jennifer Golbeck, “Analyzing the Social Web,” 2013, <https://www.sciencedirect.com/topics/computer-science/eigenvector-centrality>; Everton, “DA4600,” November 11, 2021; Everton, “DA4600,” November 11, 2021; and Everton, *Disrupting Dark Networks*, 2012, 13–14.

## 1. Degree of Centrality

The count of the number of ties of any one actor. Although it may not be a requirement, it could be useful for key communicators that have a larger number of ties within the audience.<sup>154</sup>

## 2. Closeness Centrality

The average path length between an actor and all other actors in the network. This measurement is normalized on a scale from 0 to 1.<sup>155</sup> This metric indicates which communicators have a better chance to diffuse information through the audience.

## 3. Betweenness Centrality

A measurement of an actor's shortest paths with two other actors in a network.<sup>156</sup> This metric indicates which communicators can quickly diffuse information through an audience.

## 4. Eigenvector Centrality

A measurement of an actor's importance by calculating the total number of ties to other nodes and weighting them by their total number of ties to other actors.<sup>157</sup> Such a measurement could prove useful to a practitioner when comparing communicators to determine which are more relevant and credible to an audience.

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<sup>154</sup> Perez and Germon, "Analyzing Networks: Introduction to Social Media Analysis"; Golbeck, "Eigenvector Centrality - an Overview | Sciencedirect Topics"; Everton, "DA4600," November 11, 2021; Everton, "DA4600," November 11, 2021; and Everton, *Disrupting Dark Networks*, 2012, 12.

<sup>155</sup> Golbeck, "Analyzing Networks: Introduction to Social Media Analysis," 52; Golbeck, "Eigenvector Centrality - an Overview | Sciencedirect Topics"; Everton, "DA4600," November 11, 2021; Everton, "DA4600," November 11, 2021; and Everton, *Disrupting Dark Networks*, 2012, 12.

<sup>156</sup> Golbeck, "Analyzing Networks: Introduction to Social Media Analysis," 52; "Betweenness Centrality," accessed June 13, 2021, <https://www.sci.unich.it/~francesc/teaching/network/betweenness.html>; Golbeck, "Eigenvector Centrality - an Overview | Sciencedirect Topics"; Everton, "DA4600," November 11, 2021; Everton, "DA4600," November 11, 2021; and Everton, *Disrupting Dark Networks*, 2012, 13.

<sup>157</sup> Golbeck, "Analyzing Networks: Introduction to Social Media Analysis," 52; "Betweenness Centrality"; Golbeck, "Eigenvector Centrality - an Overview | Sciencedirect Topics"; Everton, "DA4600," November 11, 2021; Everton, "DA4600," November 11, 2021; and Everton, *Disrupting Dark Networks*, 2012, 13.

## **I. BRIDGES**

Ties that span the gaps in a social network (structural holes), especially between subnetworks, and control the flow of resources. These ties tend to be weak and lie on the shortest path between actors.<sup>158</sup> Practitioners should account for bridges to and between audience members, as these relationships present opportunities for a communicator to reach isolated groups within the network.

## **J. BROKERS**

Important actors who sit aside a bridge can control the flow of resources, and, if removed from the network, would cause substantial fragmentation. Practitioners should seek out communicators who can close structural holes since they could leverage their position to broker the flow of raw information or analysis to the target audience.<sup>159</sup> Five kinds of brokers are relevant to key communicators:

### **1. Coordinator**

An actor who mediates between members of a group in which the actor is a member.<sup>160</sup> Coordinator key communicators who are embedded in the target audience as a broker.

### **2. Itinerant Broker/Consultant**

An actor that mediates between members of a group in which the actor is not a member.<sup>161</sup> Consultant key communicators who are not members of the audience but can span the gap between their communities.

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<sup>158</sup> Everton, *Disrupting Dark Networks*, 2012, 13, 254–55, 282–85; Everton, “DA4600,” November 18, 2021; and Centola, *How Behavior Spreads*, 6–7.

<sup>159</sup> Everton, *Disrupting Dark Networks*, 2012, 13, 254–55, 271–78; Everton, “DA4600,” November 18, 2021; and Orkins and Kiernan, “Corenet: The Fusion of Social Network Analysis and Target Audience Analysis,” 19.

<sup>160</sup> Everton, *Disrupting Dark Networks*, 2012, 277; and Everton, “DA4600,” November 18, 2021.

<sup>161</sup> Everton, *Disrupting Dark Networks*, 2012, 277; and Everton, “DA4600,” November 18, 2021.

### **3. Gatekeeper**

An actor that provides mediation between groups but regulates the flow of resources, such as information, to one group.<sup>162</sup> Gatekeeper key communicators can be members of a group and control the flow of information to or from the target audience.

### **4. Representative**

An actor that provides mediation between groups but regulates the flow of resources, such as information, from one group.<sup>163</sup> If the representative key communicator is a member of the audience, he/she controls the information from the audience to other communities. If he/she is not a member, then the flow of information is controlled to the target audience.

### **5. Liaison**

An actor, who is not a member of either group and mediates between members of those two or more groups.<sup>164</sup> Liaison key communicators are not members of the audience and other groups that they mediate.

## **K. ROLES, POSITIONS, AND STATUS**

Unlike a relational approach, which focuses on the ties between actors to determine if they can explain behavior, practitioners can observe actors in similar roles or positions, even if they are not connected. The purpose of this approach is to predict attitudes and behaviors by observing others in similar positions. This approach may prove useful in those cases where information about network topography is incomplete or unavailable.<sup>165</sup> Roles and positions are especially important for key communicators, as they may indicate how the audience expects them to behave. In conjunction with other social theories, these variables should prove important to PSYOP personnel.

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<sup>162</sup> Everton, *Disrupting Dark Networks*, 2012, 277; and Everton, “DA4600,” November 18, 2021.

<sup>163</sup> Everton, *Disrupting Dark Networks*, 2012, 277; and Everton, “DA4600,” November 18, 2021.

<sup>164</sup> Everton, *Disrupting Dark Networks*, 2012, 277; and Everton, “DA4600,” November 18, 2021.

<sup>165</sup> Everton, *Disrupting Dark Networks*, 2012, 13–14.



## **L. PRESTIGE**

Various measures that indicate potential trust, status, authenticity, and importance within a social network. These metrics include in-degree centrality, out-degree centrality, authorities, hubs, and proximity prestige. A unique feature of prestige metrics is that they account for the direction of ties, suggesting that inbound relationships to key communicators indicate trust, and outbound shows their status or authority.<sup>166</sup>

## **M. POWER**

Various centrality measures indicate which actors have power in a social network. These metrics include average degree, average weighted degree, average path length, eigenvector centrality, harmonic closeness (ARD), freeman closeness, and betweenness centrality.<sup>167</sup> Key communicators who display greater scores over these metrics are more central to the audience and demonstrate high potential power for influence.

## **N. KEY PLAYERS**

Algorithms designed to identify actors whose removal will cause significant fragmentation or can amplify the dissemination of information through the network. By applying Borgatti's key player algorithms, practitioners can locate a pool of communicators and amplifiers who can quickly disseminate information through the target audience. Actors identified with the KPP-1 algorithm are important to the total connectivity of the network. Actors identified with the KPP-2 algorithm are essential to the flow of information and demonstrate high key communicator potential.<sup>168</sup>

## **O. ATTRIBUTES**

These non-relational characteristics of an individual or group describe important factors about members of the network but do not describe the patterns of the ties between

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<sup>166</sup> Everton, "DA4600," November 11, 2021; and Everton, *Disrupting Dark Networks*, n.d., 240–51.

<sup>167</sup> Everton, "DA4600," November 11, 2021; and Everton, *Disrupting Dark Networks*, n.d., 211–40.

<sup>168</sup> Orkins and Kiernan, "Corenet: The Fusion of Social Network Analysis and Target Audience Analysis," 44–45; and Everton, *Disrupting Dark Networks*, n.d., 206–11, 253–54, 271–73, 397.

actors. In general, practitioners can use attributes to describe position, infer reputation, or identify other commonalities among communicators and audience members.<sup>169</sup>

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<sup>169</sup> Everton, *Disrupting Dark Networks*, n.d., 14, 78; and Sean Everton, “Lab Assignment 4 - Multiple Networks,” *Dark Networks* (Monterey, CA: Naval Postgraduate School, November 11, 2021), 4.

## **APPENDIX B. KEY COMMUNICATOR ANALYTICAL TOOL**

To improve the functionality and efficiency of the key communicator analytical process, a basic tool was designed that could optimize the KCAP steps and compare all identified potential key communicators. The key communicator analytical tool (KCAT) was designed to meet four requirements: 1) compatibility, 2) simplicity, 3) clarity, and 4) efficiency. As practitioners move through each step of the process, they are guided by instructions and other indicators through various interconnected excel tabs. By simply returning to previous sections, practitioners can quickly navigate steps and adjust and visualize changes in real-time. Practitioners are empowered and incentivized to update and reorganize relevant information as their situational awareness improves. Since practitioners must consider massive amounts of raw and refined data, KCAT employs a centralized database with basic search features. For simplicity and efficiency reasons, KCAT was designed to guide users through each step of the process, focusing attention on refined information most relevant to the analysis. The cornerstone of the database is the clarity of each variable, which prompts the user to consider the actor, layer, stage, type, prompt, description, and score. Similarly, it was built with auto-fill capabilities that automatically export data to other points within the tool and reducing processing time and improving situational understanding. Finally, KCAT's robust evaluation interface makes calculations seamless, aggregating data for deeper consideration and decision-making. Since it is unlikely that practitioners will have ample time, they can apply KCAT's evaluation features to simplify values to provide transparency behind the numbers.

### **A. STEP 1: IDENTIFY**

The purpose of the first step is to find and review all available sources, like intelligence reports, area assessments, social network analysis, and raw or synthesized data, to determine if it could be useful for the analysis of key communicators. As practitioners conduct this step, they will gather a clear picture of what is and is not known about the information environment. They must initiate requests for information early through intelligence and support channels to address identified gaps in the common operating

picture. Although PSYOP personnel will gather resources throughout the KCAP, they will not proceed to the second step until they have enough basic information to categorize. The following is required at a minimum:

1. Identified one or more potential communicators for consideration.
2. The communicator's basic information (name, general location, language, etc).
3. A basic link diagram or sociogram mapping the communicator's ego network.
4. General audience demographics.
5. Any available link diagram or sociogram mapping a potential audience network.
6. Potential audiences within the communicator's social network.

During step one, practitioners can fill out basic information in KCAT. Practitioners can open the landing page tab to fill in select yellow cells and upload a useful sociogram in which the communicator is embedded (see Figure 9).

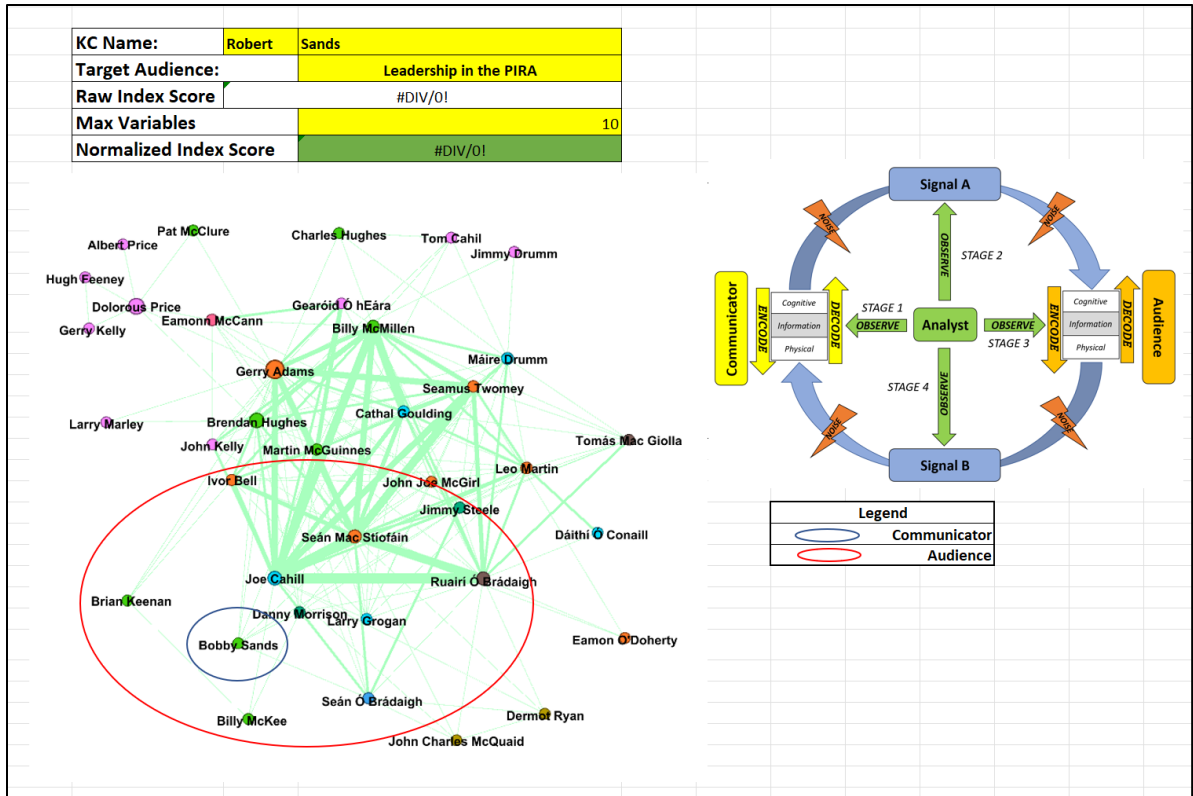


Figure 9. KCAT Landing Page with the Communicator Information and Sociogram

Practitioners should note that if the target audience is unknown, they must be identified and input into KCAT before step 3 (categorize). Some information on the landing page, like max variables which indicated the largest number of variables in the relevance stack of all considered communicators, will not be updated until the end of step 5 (evaluate).

## B. STEP 2: CATEGORIZE

The purpose of the second step is to categorize available data into a KCAP specific repository to improve the practitioner’s understanding of the information environment. Since the first two steps of KCAP are continuous and iterative, it is recommended that PSYOP personnel use a cyclic approach where they simultaneously seek out sources and input available data until a suitable baseline is established. In KCAT, data is aggregated into a database that characterizes various components of key communicator variables.

During this step, practitioners will use three KCAT interfaces to efficiently input information into the database's variable fields. This database is essential for the effective retrieval of valuable information that should be reviewed for more deliberate analysis. Although practitioners could approach this step in many ways, researchers determined that information should be broadly categorized as a communicator or audience-specific variable. At a minimum, the practitioner must consider the following when categorizing information as variables:

1. Does this information describe the audience, the communicator, or both?
2. Which variable(s) does the information describe?
3. If data is structured or processed, can the practitioner understand the original source?
4. If the data is raw, can the practitioner contextualize it for future analysis?

During step two, practitioners can update three linked KCAT interfaces to categorize available data. PSYOP personnel should input specific information into the database, communicator, and audience tabs to build a better picture of communicator activities in the IE (see Figures 10, 11, and 12). Each variable field (highlighted in yellow) includes a variable prompt so that information can be categorized efficiently and to draw out those nuances that can be useful in the later stages of analysis. Since the amount of categorization is based on the availability of information and/or the resource constraints of the practitioner (time, data, system access, etc), foundational features of KCAT are its search, sort, and auto-fill capabilities. Although each tab has a unique interface and features, all three will incorporate search and sort tools to guide the practitioner and streamline inputs. For example, both the communicator and audience tabs are equipped with a variable search tool, which displays all the questions for a given variable. This is useful in those cases where the practitioner has input information into the database by variable type but needs to compare or export those factors into each actor's specific profile (see Figure 13). A practitioner can input notes and scores in the Database tab for certain variables as a means to record useful metrics. However, these should be updated during the final scoring in step 5 (evaluate). Finally, before the initiation of step 3 (organize), the

practitioner can use the free-text box to provide a basic synopsis of the communicator and audience (see Figures 14 and 15). The process of constructing these narratives can improve the quality of analysis by providing a baseline for the organization of relevant variables.

<b>Basic Attributes and Characteristics:</b>		
Given Name		Daniel
Surname		Morrison
Nickname		"Danny"
Hometown		Belfast, Northern Ireland
Current Location		Belfast, Northern Ireland
Race		Irish
Age		28 (in 1981)
Gender		Male
Attributes		Politically savvy
		Articulate
		Motivation: Self-determinism, authority, personal accomplishment
		Ideology: Irish Nationalism / Republican
		Compromise: Strategy to Peace
	Ego: Unwilling to compromise PIRA values for Peace	
Current Profession		Sinn Fein Spokesperson
Credentials		Sinn Fein Member, PIRA Member, Spokesperson
Professional Attributes		Political, savvy, articulate
Education Level		College of Business Studies (which he left after Bloody Sunday in 1972)
<b>Group Affiliations:</b>		
Home of Origin		Belfast, Northern Ireland
Language		Irish and English
Ethnicity		Irish
Religious Affiliations		Catholic
Political Affiliations		Sinn Fein and Irish Nationalism
Organizations		Sinn Fein(1966), PIRA (1969)
Institutions		Imprisoned in 1972-73 in Long Kesh
Important Roles		Director of Publicity, Sinn Fein (1979), Editor for Republican News (1975), and Editor for An Phoblacht

Figure 10. KCAT Communicator Tab

<b>Basic Attributes and Characteristics:</b>		
Target Audience		Leadership in the PIRA
Audience Subgroup 1		Sinn Fein Leaders
Audience Subgroup 2		Paramilitary Affiliated Leaders
Audience Subgroup 3		Irish National Political Leaders
Audience Subgroup 4		Gerry Adams' Affiliated Members
<b>Locational Information:</b>		
Location 1 (Country)		Northern Ireland
Location 2 (City 1)		Belfast
Location 3 (City 2)		London Derry / "Free" Derry
Location 4 (City 3)		Maze Prison / H-Block
<b>Demographics:</b>		
Majority Gender		Male
Majority Age		25 - 40
Shared Language		English and Irish
Majority Ethnicity		Northern Irish

Figure 11. KCAT Audience Tab

Communicator Database						Review variable questions an input information into the "Answer" Field.	
Stage	Actor or Node	Layer	Variable Type	Variable	Notes	Answer	Score
1	Communicator	Physical (C)	Access to Groups	Access to Groups (a)	Can the communicator access groups to develop content?	Yes	0
2	Communicator / Audience	Physical (C) / Physical (A)	Access to Groups	Access to Groups (b)	Can the communicator access groups associated with the target audience?	Yes, both PIRA and Sinn Fein Leadership. Works closely with Gerry Adams' sect.	0
2	Communicator	Physical (C)	Access to Groups	Access to Groups (c)	Can the communicator disseminate content within groups he/she has access to?	Yes, both PIRA and Sinn Fein Leadership. Works closely with Gerry Adams' sect.	0
2	Communicator	Physical (C)	Access to Groups	Access to Groups (d)	Does the communicator have access to the audience within the platform?	Yes, various platforms are available to Danny Morrison as the Sinn Fein Spokesperson.	0
3	Audience	Physical (A)	Access to Groups	Access to Groups (e)	Can the audience access groups to organize a response?	Yes	0
4	Audience / Communicator	Physical (A) / Physical (C)	Access to Groups	Access to Groups (h)	Does the audience have access to the communicator within the platform?	Yes - Direct access	0
4	Audience / Communicator	Physical (A) / Physical (C)	Access to Groups	Access to Groups (f)	Can the audience access groups associated with the communicator?	Yes	0
4	Signal B / Audience	Physical (SB) / Physical (A)	Access to Groups	Access to Groups (g)	Can the audience transmit responses within groups they have access to?	Yes	0

Figure 12. KCAT Database Tab Sorted By Variable

Variable Search Tool				
Variable	Access to Groups	< - - Drop Down		
Stage	Actor	Variable	Notes	Answer
1	Communicator	Access to Groups (a)	Can the communicator access groups to develop content?	Yes
2	Communicator / Audience	Access to Groups (b)	Can the communicator access groups associated with the target audience?	Yes, both PIRA and Sinn Fein Leadership. Works closely with Gerry Adams' sect.
2	Communicator	Access to Groups (c)	Can the communicator disseminate content within groups he/she has access to?	Yes, both PIRA and Sinn Fein Leadership. Works closely with Gerry Adams' sect.
2	Communicator	Access to Groups (d)	Does the communicator have access to the audience within the platform?	Yes, various platforms are available to Danny Morrison as the Sinn Fein Spokesperson.
3	Audience	Access to Groups (e)	Can the audience access groups to organize a response?	Yes
4	Audience / Communicator	Access to Groups (h)	Does the audience have access to the communicator within the platform?	Yes - Direct access
4	Audience / Communicator	Access to Groups (f)	Can the audience access groups associated with the communicator?	Yes
4	Signal B / Audience	Access to Groups (g)	Can the audience transmit responses within groups they have access to?	Yes

Figure 13. KCAT Variable Search Tool

General Communicator Description:
Joined Sinn Fein in 1966 and the PIRA in 1969. Known for his writing and was appointed editor for Republican News. Affiliated with left-wing Belfast republicans under Gerry Adams. Believed the 1975 IRA ceasefire was a disaster and that targeting other republicans and protestant civilians was wrong. Became the director of Publicity for Sinn Fein and was the spokesperson for Bobby Sands during the 1981 Hunger Strike. Suspected to have brokerage potential between the PIRA and British Officials (alongside Gerry Adams and Martin McGuinness). Devised and communicated the "An Armalite in One Hand and a Ballot in the Other" in a 1981 speech for Sinn Fein. Ran for local political office (Northern Ireland Assembly) and European Parliament.
Potential Use:
Danny Morrison could be useful for reaching members of Gerry Adams' sect (modularity) and for accessing various forms of media for outside audiences. Danny Morrison likely has a high degree and eigenvector centrality. Using his various strong and weak ties, Morrison could be useful for disseminating complex and simple messages throughout various social networks. His high degree of authority and authenticity among Irish Nationalists will make him a useful spokesperson for any Sinn Fein / PIRA cause.

Figure 14. General Communicator Description and Potential Use (Free Text Boxes)



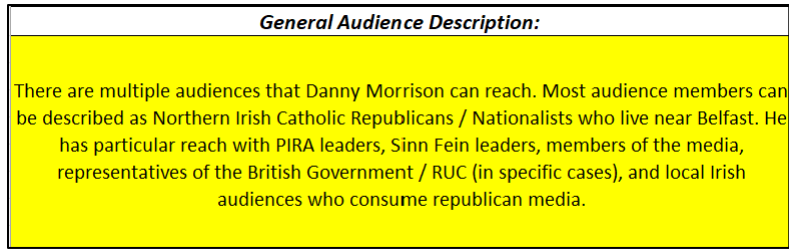


Figure 15. General Audience Description (Free Text Box)

### C. STEP 3: ORGANIZE

Step three begins with the receipt of a mission and the initiation of some form of deliberate military planning. Unlike the categorization of variables, PSYOP personnel should deliberately organize variables to meet defined mission requirements. Critical to this step is to identify and organize information deemed most important to the mission decision-making. One key output of this step is the establishment of evaluation criteria since a true determination of the information's value can only be made during the evaluation step. The primary vehicle for this is the relevance stack which is a layered model which organizes all important variables by ordered stages and domains. The relevance stack is also useful for determining which variables indicate an alignment between the communicator and target audience. Practitioners must measure this alignment, as well as the communicator's ability to promote a PSYOP objective, using the KCAP specific swing weight matrix. It is during step 3 that PSYOP personnel must establish the variable's impacts on the audience and the mission along a 0 to 0.9 weighting scale (see Figure 16). This ensures that measurement consistency between observed communicators which is essential during step 5 (evaluation). Using the database, practitioners should consider the following when establishing the relevance stack and weighting:

1. What are the key communicator's mission requirements?
2. How do these key communicator variables impact the physical, information, and cognitive domains?
3. How should these variables be organized?
4. How many variables should be considered?

5. Can the variable be observed and measured?
6. How does each variable impact the mission?
7. How does this variable impact mission accomplishment (Mission Weight)?
8. How does this variable indicate the communicator's influence over the audience (Audience Weight)?

Weight Codebook Table											
Review each description to determine how to weight each variable in the swing weight matrix.											
		Mission									
		Degrading			Neutral			Enhancing			
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
Audience	Resistant	0.1	Significantly detrimental to the mission and significant audience resistance.	Detracts from the mission and significant audience resistant to influence.	Detracts from the mission and significant audience resistant to influence.	Neither beneficial nor detrimental to mission and significant audience resistant to influence.	Neither beneficial nor detrimental to mission and significant audience resistant to influence.	Neither beneficial nor detrimental to mission and significant audience resistant to influence.	Beneficial to the mission and significant audience resistant to influence.	Beneficial to the mission and significant audience resistant to influence.	Significantly beneficial to the mission and significant audience resistant to influence.
		0.2	Significantly detrimental to the mission and the audience is resistant to influence.	Detracts from the mission and the audience is resistant to influence.	Detracts from the mission and the audience is resistant to influence.	Neither beneficial nor detrimental to mission and the audience is resistant to influence.	Neither beneficial nor detrimental to mission and the audience is resistant to influence.	Neither beneficial nor detrimental to mission and the audience is resistant to influence.	Beneficial to the mission and the audience is resistant to influence.	Beneficial to the mission and the audience is resistant to influence.	Significantly beneficial to the mission and the audience is resistant to influence.
		0.3	Significantly detrimental to the mission and the audience is resistant to influence.	Detracts from the mission and the audience is resistant to influence.	Detracts from the mission and the audience is resistant to influence.	Neither beneficial nor detrimental to mission and the audience is resistant to influence.	Neither beneficial nor detrimental to mission and the audience is resistant to influence.	Neither beneficial nor detrimental to mission and the audience is resistant to influence.	Beneficial to the mission and the audience is resistant to influence.	Beneficial to the mission and the audience is resistant to influence.	Significantly beneficial to the mission and the audience is resistant to influence.
	Neutral	0.4	Significantly detrimental to the mission and the audience is neutral to influence.	Detracts from the mission and the audience is neutral to influence.	Detracts from the mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Beneficial to the mission and the audience is neutral to influence.	Beneficial to the mission and the audience is neutral to influence.	Significantly beneficial to the mission and the audience is neutral to influence.
		0.5	Significantly detrimental to the mission and the audience is neutral to influence.	Detracts from the mission and the audience is neutral to influence.	Detracts from the mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Beneficial to the mission and the audience is neutral to influence.	Beneficial to the mission and the audience is neutral to influence.	Significantly beneficial to the mission and the audience is neutral to influence.
		0.6	Significantly detrimental to the mission and the audience is neutral to influence.	Detracts from the mission and the audience is neutral to influence.	Detracts from the mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Neither beneficial nor detrimental to mission and the audience is neutral to influence.	Beneficial to the mission and the audience is neutral to influence.	Beneficial to the mission and the audience is neutral to influence.	Significantly beneficial to the mission and the audience is neutral to influence.
	Susceptible	0.7	Significantly detrimental to the mission and the audience is susceptible to influence.	Detracts from the mission and the audience is susceptible to influence.	Detracts from the mission and the audience is susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is susceptible to influence.	Beneficial to the mission and the audience is susceptible to influence.	Beneficial to the mission and the audience is susceptible to influence.	Significantly beneficial to the mission and the audience is susceptible to influence.
		0.8	Significantly detrimental to the mission and the audience is susceptible to influence.	Detracts from the mission and the audience is susceptible to influence.	Detracts from the mission and the audience is susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is susceptible to influence.	Beneficial to the mission and the audience is susceptible to influence.	Beneficial to the mission and the audience is susceptible to influence.	Significantly beneficial to the mission and the audience is susceptible to influence.
		0.9	Significantly detrimental to the mission and the audience is very susceptible to influence.	Detracts from the mission and the audience is very susceptible to influence.	Detracts from the mission and the audience is very susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is very susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is very susceptible to influence.	Neither beneficial nor detrimental to mission and the audience is very susceptible to influence.	Beneficial to the mission and the audience is very susceptible to influence.	Beneficial to the mission and the audience is very susceptible to influence.	Optimal benefit to mission and audience susceptibility.

Figure 16. Weight Codebook Table

During step 3, practitioners use KCAT's search and organizational features to establish the relevance stack. Using KCAT's relevance tab, PSYOP personnel call up information from the database in the variable search tool to efficiently review and identify

those which are relevant to the mission and audience (see Figure 17). Then, practitioners can export, condense, update, and record those most relevant variables into a single stack. To streamline the process, KCAT automatically exports and organizes variables in the relevance stack by stage to support steps 4 (visualization) and 5 (evaluation). The tool also tracks the total number of variables considered for a given communicator which will impact the normalized index score. Finally, practitioners should establish each variable's weighting conditions in the evaluation tab. Practitioners should review the weight codebook table to determine which mission and audience weights should be applied for a given variable (see Figure 16). After updating each key communicator's swing weight matrix, they should explain the weighting in the reasoning column (see Figure 18).

Variable Search Tool							Relevance Stack (All)							
<div style="border: 1px solid black; padding: 5px;"> <span style="border: 1px solid black; padding: 2px;">Variable</span> <span style="border: 1px solid black; padding: 2px;">Access to Groups</span> <span style="font-size: small;">Drop Down</span> </div>							Step 1) Use the Variable Search Tool to locate variable types which could be relevant for the communicator and the audience.							
							Step 2) For each variable that is relevant, copy the layer into the Relevance Stack below. Note: Use the "Paste Values" option							
							Stack Total							
Stage	Actor or Node	Layer	Variable Type	Variable	Notes	Answer	Stage	Actor or Node	Layer	Variable Type	Variable	Notes	Answer	
1	Communicator	Physical (C)	Access to Groups	Access to Groups (a)	Can the communicator access groups to develop content?	Yes	1	1	Communicator	Physical (C)	Access to Groups	Access to Groups (a)	Can the communicator access groups to develop content?	Yes
2	Communicator / Audience	Physical (C) / Physical (A)	Access to Groups	Access to Groups (b)	Can the communicator access groups associated with the target audience?	Yes, both PIRA and Sinn Fein Leadership. Works closely with Gerry Adams' sect.	2	2	Communicator / Audience	Physical (C) / Physical (A)	Access to Groups	Access to Groups (b)	1) Can the communicator access groups associated with the target audience and disseminate content? 2) Does the communicator have access to the audience within the platform?	1) Yes, both PIRA and Sinn Fein Leadership. Works closely with Gerry Adams' sect. 2) Yes, various platforms are available to Danny Morrison as the Sinn Fein Spokesperson.
2	Communicator	Physical (C)	Access to Groups	Access to Groups (c)	Can the communicator disseminate content within groups he/she has access to?	Yes, both PIRA and Sinn Fein Leadership	3	3	Audience	Physical (A)	Access to Groups	Access to Groups (e)	Can the audience access groups to organize a response?	Yes
2	Communicator	Physical (C)	Access to Groups	Access to Groups (d)	Does the communicator have access to the audience within the platform?	Yes, various platforms are available to Danny Morrison as the Sinn Fein Spokesperson.	4	4	Audience / Communicator	Physical (A) / Physical (C)	Access to Groups	Access to Groups (h)	1) Does the audience have access to the communicator within the platform? 2) Can the audience access groups associated with the communicator? 3) Can the audience transmit responses within groups they has access to?	Yes - Direct access, 2) Yes, 3) Yes
3	Audience	Physical (A)	Access to Groups	Access to Groups (e)	Can the audience access groups to organize a response?	Yes	5	1	Communicator	Information (C)	Access to Information	Access to Information (a)	Can the communicator access information necessary for interpretation? Can the communicator provide information (sources) to audience?	Danny Morrison is able to access information due to his position in Sinn Fein and the PIRA. He is able to provide sources to his audience by virtue of his access to information and key personalities. One unique case is his position as the spokesperson for Bobby Sands during the 1981 Hunger Strike.

Figure 17. KCAT Relevance Tab with Variable Search Tool and Relevance Stack

Swing Weight Matrix Variables									
Adjust drop down options for the "Mission Weight" and "Audience Weight" columns. Explain reasoning for weights in the "Reasoning" column. Then check the calculation of the Index Score.									
Variable	Answers	Mission Weigh	Audience Weigh	Compari	Reasoning	Scor	Calculati	MAX	
Stage 1	Access to Groups (a)	Yes	0.9	0.9	0.81	Best positioned individual to generate content.	6	4.86	4.86
	Access to Information (a)	Danny Morrison is able to access information due to his position in Sinn Fein and the PIRA. He is able to provide sources to his audience by virtue of his access to information and key personalities. One unique case is his position as the spokesperson for Bobby Sands during the 1981 Hunger Strike.	0.8	0.8	0.64	As the architect of the Armalite and Ballot Box, Morrison shows the most pragmatic and forward thinking frame for the PIRA/Sinn Fein.	6	3.84	4.86
	Cultural Framing (a)	1) Negative Frame for historical events. 2) Danny Morrison can take advantage of historical issues between the UK/RUC and Catholic Irish on the grounds of Civil Rights and Politics. 3) Sinn Fein as a semi-legitimate political party.	0.9	0.5	0.45	Important to shift frame for objective but audience could be resistant or supportive to change.	6	2.7	4.86

Figure 18. KCAT Evaluate Tab and Swing Weight Matrix

**D. STEP 4: VISUALIZE**

After categorizing and organizing relevant variables, practitioners must visualize data to recognize patterns, identify information gaps, and understand how they operate in time and space. The purpose of step 4 is to visualize variables by domain and stage of the communication cycle since the connections between these layers may indicate the drivers and impediments to the target audience’s desired behavior. Practitioners should visualize how messages will reach the communicator’s audiences as a key determinant of their effectiveness. The key communicator cycle was designed as a visual model that represents

a sample of the communication ecosystem in which the key communicator is embedded (see Figure 19). This new model adopts key aspects of Schramm's communication cycle, including the communicator, the audience, signals, encoding, and decoding. Similarly, there are two distinct signals (Signal A and B), which account for the communicator's message and the audience's feedback, respectively. This model captures the transmission of information between the communicator and audience (Signal A and B), the interpretation of such information (decoding), the development of messages between parties (encoding), and the noise which can distort or disrupt these signals. When visualizing the diffusion of information from the communicator to the target audience, the following should be considered:

1. What kind of link diagrams, sociograms, and/or visualizations informed steps 2 and 3?
2. Which social theories informed steps 2 and 3?
3. Which SNA metrics informed steps 2 and 3?
4. Which subgroups in the communicator's social network comprise the target audience?
5. How does information travel through the ties in the communicator's social network?
6. How can the communicator diffuse information through the social network?
7. Which stage has the most variables?
8. Which stage has the least variables?
9. Which stage(s) of the communication cycle requires further observation?

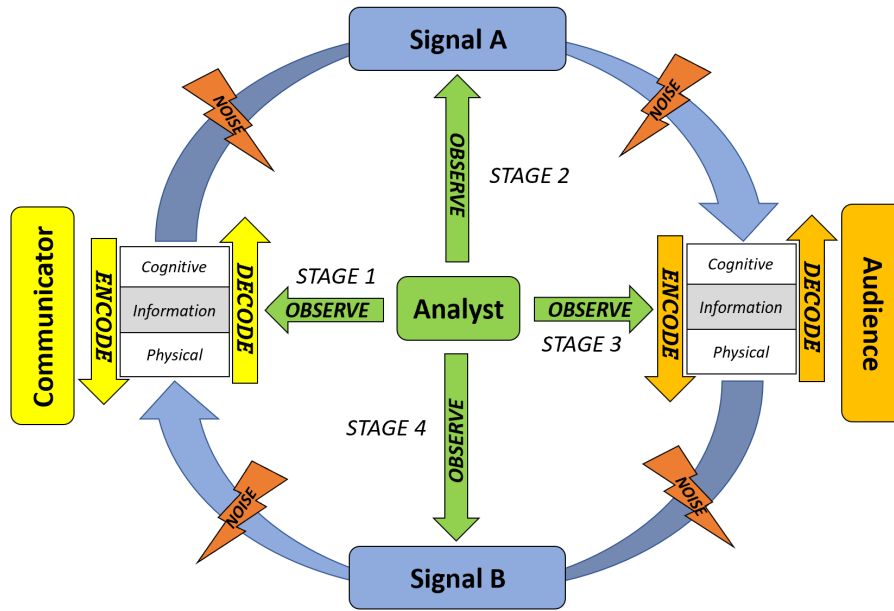
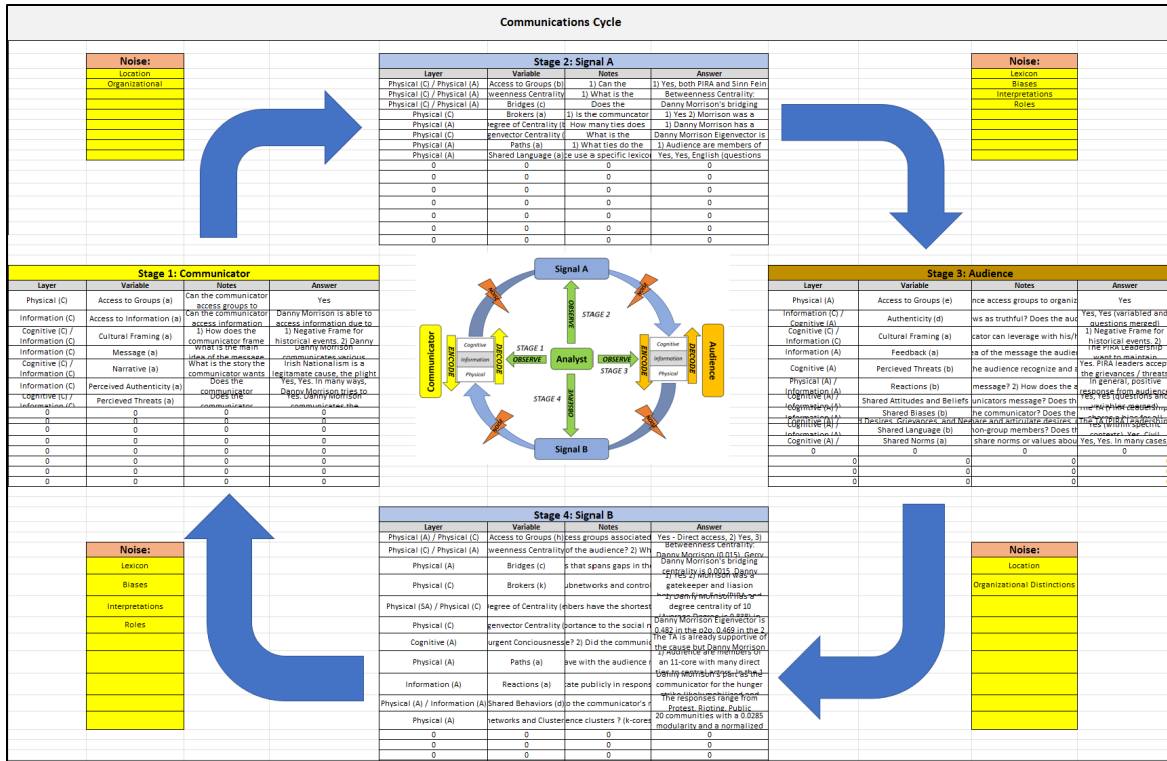


Figure 19. Key Communicator Cycle<sup>170</sup>

During step four, practitioners use KCAT’s review of the key communicator cycle in the visualize tab to determine the effectiveness of the relevance stack (see Figure 20). Since KCAT automatically exports variables from the relevance tab to the visualization tab, practitioners can adjust the number of variables or specific data fields by updating the relevance stack. Next, PSYOP personnel should determine what factors could inhibit the transmission of information between the communicator and audience and record them in the noise section. Once they have developed a complete picture, practitioners should describe how the information will diffuse through the network in the diffusion plan section (see Figure 21). Finally, they should describe in the observation plan section how PSYOP personnel will observe future interactions to collect data about the communicator and audience (see Figure 22).

<sup>170</sup> Schramm, *The Process and Effects of Mass Communication*, 1–6; and Cordray III and Romanych, “Mapping the Information Environment,” 7.



**Diffusion Plan**

Danny Morrison occupies a unique position as the spokesperson for Sinn Fein and the spokesperson for major events (1981 Hunger Strike). By mere virtue of his position, he has significant access to leaders (TA) and information. He is given significant latitude to craft messages that agree with the overarching narratives. This ensures he can access a number of platforms to reach audiences and to guide the attitudes, desires, beliefs, grievances, and behaviors. Unfortunately, most of his influence would be over audiences outside of the PIRA leadership. Since his ties are 1) unweighted and 2) undirected, it is likely that we cannot capture the true nature of his ties with the TA (PIRA Leadership). However, observations of their support for his Armalite and Ballot Box strategy suggests positive influence over the PIRA. More so, his efforts bolster Sinn Fein, indicating that he has a stronger influence over those leaders who occupy official political positions. Therefore, the diffusion plan of ideas that are simple (congruent with PIRA narratives, behaviors, norms, values, beliefs and attitudes) with weak ties (potentially directional - influence) suggest power and high social capital. As long as Danny Morrison can occupy an important communicator/leader position and can stay connected to individuals like Gerry Adams, his efforts will have impacts on the TA.

Figure 21. Diffusion Plan (Free Text Box)

**Observation Plan**

The PSYOP team will use intelligence reporting to determine if Danny Morrison's influence increases, decreases, or stabilizes among PIRA leadership. The team will record the number of references to the "Ballot Box and Armalite" strategy in all Sinn Fein and PIRA public speeches, periodicals, and other public platforms. The team will measure the increase/decrease in violence in Derry and Belfast before and after the shift in policy towards peace. These measurements should suggest the increase or decrease of Danny Morrison's authenticity, shared attitudes/beliefs/behaviors/values/norms. They will also impact the scoring for insurgent consciousness, cultural framing, audience reactions, and brokerage.

Figure 22. Observation Plan (Free Text Box)

## **E. STEP 5: EVALUATE**

By step five, practitioners have identified, categorized, organized, stored, and visualized data to the best of their ability. Since practitioners determined audience and mission weighting in step 3, practitioners apply a simple 0 to 6 scoring method signifying the demonstration of a relevant variable. This final component of the equation will provide the quantitative assessment of each variable as an indication of a communicator's potential effectiveness. Once the relevance stack is complete and all variables have been weighed and scored in the swing weight matrix, practitioners review the evaluation outputs to determine which communicator is best. However, since communicators and their variables cannot be measured equally, practitioners should consider the key communicator index score produced by a normalizing algorithm. The end state of the evaluation is not to select one communicator, but rather to rank them as a determination of their effectiveness of each in a given context. These outputs include the raw index score, variable constant, and normalized index score. These three factors should determine if a communicator is acceptable for a given mission and inform the overall ranking of key communicators. When employing the swing weight matrix, practitioners should consider the following:

1. How does each variable score on a 0 to 6 demonstration-scale?
2. Which mission weight has the most variables?
3. Which audience weight has the most variables?
4. Which combined mission and audience weight has the most variables?
5. What is the raw key communicator index score?
6. What is the variable constant and normalized key communicator index score?
7. How does the key communicator index score compare between communicators?
8. Which communicators are best suited for the mission?

During step 5, practitioners should review the weighting criteria and consolidate variable data in the evaluation tab. KCAT's evaluation interface includes multiple tools to



improve the accuracy of scoring and the quality of the analysis. First, practitioners should score each variable in the relevance tab to update the total calculations in the swing weight matrix. Scoring should indicate whether a communicator or audience was not observed (0), minimally demonstrated (1 to 2), demonstrated (3 to 4), or significantly demonstrated (5 to 6) a particular relevant variable. Next, PSYOP personnel should review the variable tracker to determine if certain variables yield higher scores if certain stages yield higher scores and if certain stages require further evaluation (see Figure 23). Practitioners should review the weight values table to confirm the total weight output for each variable is correct (see Figure 24). Then, they should review the variable weights table to see the number of variables with a specific weight ratio. This is important as it indicates weighting trends that explain the general importance of observed variables (see Figure 25). It is recommended that practitioners adjust variable scores and weights at any time in the relevance stack and swing weight matrix. Finally, practitioners should review the KCAT raw and normalized index scores. The raw score is calculated as a percentage of the sum of all weighted variables divided by the sum of all potential weighted variables so that communicators are compared on a 1 to 100 scale. The normalized index score is the raw index score multiplied by the variable constant.

Variable Tracker															
Review the variables by stage. Return to the Organize tab if adjustments must be made to the relevance stack.															
Stage 1				Stage 2				Stage 3				Stage 4			
Variable	Answers	Scores	Calc	Variable	Answers	Scores	Calc	Variable	Answers	Scores	Calc	Variable	Answers	Scores	Calc
Access to Groups (a)	Yes	6	4.86	Access to Groups (b)	1) Yes, both PIRA and Sinn Fein Leadership. Works closely with Gerry Adams' sect. 2) Yes, various platforms are available to Danny Morrison as the Sinn Fein Liaison Officer.	6	2.88	Access to Groups (e)	Yes	6	4.86	Access to Groups (h)	Yes - Direct access, 2) Yes, 3) Yes	6	4.86
Access to Information (a)	Danny Morrison is able to access information due to his position.	6	3.84	Betweenness Centrality (a)	Centrality: Danny Morrison (0.015), Gerry Adams (0.262), Joe Cahill (0.115), Ruairi (0.078). 2) Shortest Path	2	1.28	Authenticity (d)	Yes, Yes [variable and questions merged]	5	3.2	Betweenness Centrality (a)	Betweenness Centrality: Danny Morrison (0.015).	2	1.12
Cultural Framing (a)	1) Negative Frame for historical events. 2) Danny Morrison can take advantage of...	6	4.86	Bridges (c)	Danny Morrison's bridging centrality is 0.0015. Danny Morrison is connected to 8 individuals with...	5	2.8	Cultural Framing (a)	1) Negative Frame for historical events. 2) Danny Morrison can take advantage of...	6	4.86	Bridges (c)	Danny Morrison's bridging centrality is 0.0015.	5	3.2
Message (a)	Danny Morrison communicates various...	6	3.24	Brokers (a)	1) Yes 2) Morrison was a gatekeeper and liaison between Sinn Fein/PIRA and the...	6	0.9	Feedback (a)	Leadership want to maintain enough pressure on the UK...	5	4.05	Brokers (k)	1) Yes 2) Morrison was a gatekeeper...	6	0.9
Narrative (a)	Irish Nationalism is a legitimate cause, the right of the people...	6	2.1	Degree of Centrality (b)	1) Danny Morrison has a degree centrality of 10 (Average Degree is 9.838) in the p2p. 2) Top five communicators are...	3	0.9	Perceived Threats (b)	Yes, PIRA leaders accept the grievances / threats as conveyed by Danny Morrison. He communicates...	6	4.86	Degree of Centrality (e)	1) Danny Morrison has a degree centrality of 10.	3	0.9
Perceived Authenticity (a)	many ways, Danny Morrison tries to separate his...	5	2.45	Eigenvector Centrality (a)	Eigenvector is 0.482 in the p2p, 0.469 in the 2 ego, and 1 in the 1 ego. The highest eigenvector in the p2p...	4	1.44	Reactions (b)	The general positive response from audience as it supports the agenda of the PIRA and Sinn Fein.	6	4.86	Eigenvector Centrality (a)	Morrison Eigenvect or is 0.482 in the p2p, 0.469 in the 2 ego...	4	1.44
Perceived Threats (a)	Morrison communicates...	6	4.86	Paths (a)	members of an 11-core with many direct ties...	5	2.1	Shared Attitudes and Beliefs	Yes, Yes (questions and variables merged)	5	4.05	Insurgent Consciousness (a)	already supportive	6	2.52
0	0	0	0	Shared Language (a)	Yes, Yes, English (questions merged)	6	4.86	Shared Biases (b)	The TA (PIRA Leadership) shares a bias for all...	6	3.78	Paths (a)	1) Audience are members...	5	3.15
0	0	0	0	0	0	0	0	Shared Desires, Grievances, and Needs (a)	Leadership shares desires, grievances, and needs...	5	1.75	Reactions (a)	Morrison's part as the communicator...	6	3.84
0	0	0	0	0	0	0	0	Shared Language (b)	Yes, Yes, English (questions merged)	5	3.2	Shared Behaviors (d)	responses range	5	2.8
0	0	0	0	0	0	0	0	Shared Norms (a)	Yes, Yes, in many cases, those norms and frames are dictated by Danny Morrison.	6	1.2	Subnetworks and Clusters (a)	20 communities with a 0.0285 modular...	6	3.36
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		41	26.21	TOTAL		37	17.16	TOTAL		61	40.67	TOTAL		54	28.09

Figure 23. KCAT Evaluation Tab and Variable Tracker

Weight Values Table											
Review the table to determine the total calculated weights.											
		Mission									
		Degrading			Neutral			Enhancing			
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
		0.1	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
Audience	Resistant	0.2	0.002	0.04	0.06	0.08	0.1	0.12	0.14	0.16	0.18
		0.3	0.003	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27
		0.4	0.004	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36
	Neutral	0.5	0.005	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45
		0.6	0.006	0.12	0.18	0.24	0.3	0.36	0.42	0.48	0.54
		0.7	0.007	0.14	0.21	0.28	0.35	0.42	0.49	0.56	0.63
	Susceptible	0.8	0.008	0.16	0.24	0.32	0.4	0.48	0.56	0.64	0.72
		0.9	0.009	0.18	0.27	0.36	0.45	0.54	0.63	0.72	0.81

Figure 24. Weight Values Table

Variable Weights Table											
<i>Review the number of variables which generate specific mission and audience weights.</i>											
		Mission									
		Degrading			Neutral			Enhancing			
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
Audience	Resistant	0.1	0	0	0	0	0	0	0	0	0
		0.2	0	0	0	0	0	0	0	0	0
		0.3	0	0	0	0	2	0	0	0	0
	Neutral	0.4	0	0	1	0	0	0	0	0	0
		0.5	0	0	0	1	0	2	0	0	0
		0.6	0	0	0	0	0	2	0	1	1
	Suceptible	0.7	0	0	0	0	2	2	1	4	2
		0.8	0	0	0	0	0	0	0	6	0
		0.9	0	0	0	0	0	0	0	0	11

Figure 25. Variable Weights Table

## F. CONCLUSION

At the end state, practitioners should use the index scores, relevance stacks, and swing weight matrices to determine the final ranking of key communicators concerning a given target audience and mission. KCAT provides multiple interfaces, tools, and methods to evaluate the overall effectiveness of a given communicator. By aggregating and simplifying the analysis into three metrics (raw index, normalized index, and variable constant), practitioners can consider these data points when determining the final rankings. A complete list of KCAP steps and substeps can be found in Figure 26. Although no process can account for every variable or situation, KCAP has the potential to change the way PSYOP personnel comprehends the information environment. As a foundational key communicator process and tool, it is expected that both will improve as technology, techniques, and the information environment evolves. When paired together, practitioners can seamlessly reach desired conclusions about key communicators and inform decision-makers about the impact these individuals can have on the operational environment.

	<b>Step 1: Identify</b>	<b>Step 2: Categorize</b>	<b>Step 3: Organize</b>	<b>Step 4: Visualize</b>	<b>Step 5: Evaluate</b>
<b>a)</b>	Find and review useful sources (i.e. reports, assessments, SNA metrics, and other data)	Record information about potential audiences into a knowledge management database.	Define mission requirements for an ideal key communicator.	Visualize the layers for the audience.	Assign scores to each relevant variable in the relevance stack.
<b>b)</b>	Identify information gaps.	Record information about potential communicators into a knowledge management database.	Identify those audience variables that should be relevant to the mission accomplishment.	Visualize the layers for the communicator.	Calculate weighted score for each variable.
<b>c)</b>	Initiate resourcing for information gaps (e.g. intelligence requests, surveys, or analysis products)	Record information about signals between audiences and communicators into a knowledge management database.	Identify those communicator variables that should be relevant to the mission accomplishment.	Visualize the layers for the transmission signal from communicator to audience (Signal A).	Calculate the total variable weighted scores into a raw index score.
<b>d)</b>	Isolate specific communities within social network for detailed analysis (e.g. SNA visualizations).	Identify information gaps that require further resourcing.	Identify those signal variables that should be relevant to the mission accomplishment.	Visualize the layers for the transmission signal from audience to communicator (Signal B).	Calculate the variable constant.
<b>e)</b>	Identify potential audiences within isolated communities.	<i>Without a specified mission, return to Step 1: Identify.</i>	Organize all relevant variables as layers within a relevance stack.	Adjust the relevance stack to account for more or less variables as needed.	Normalize the raw index score.
<b>f)</b>	Identify potential communicators associated with potential audiences in isolated communities.	<i>With a specified mission, proceed to Step 3: Organize.</i>	Assign an audience weight score to the relevant variable in the swing weight matrix.	Visualize and describe the diffusion of information through the isolated community (diffusion plan).	Review all key communicator index scores and rank communicators for the given mission.
<b>g)</b>			Calculate weighted score for each variable.	Describe how to observe relevant variables as measures of effectiveness (observation plan).	For the selected key communicator(s), develop a key communicator assessment, engagement plan, and management plan.
<b>h)</b>			Calculate the total variable weighted scores.		

Figure 26. The Key Communicator Analytical Process Steps

## APPENDIX C. CASE STUDY BACKGROUND INFORMATION

This appendix seeks to understand three dimensions of the PIRA from 1969–1985: the PIRA leadership’s key communicator network, target audience dynamics, and messaging/signal dynamics. It analyzes the key communicator network using social network analytics and analyzes the audience and messaging dynamics by overlaying historical accounts with frameworks from Social Influence Theory (SIT), Social Exchange Theory (SET), and Social Movement Theory (SMT). The analysis provides the base of understanding for data input into the key communicator analysis process tool for the case study. The appendix is divided into a broad historical overview, an overview of PIRA organization structure, and the three analysis sections described above.

### A. HISTORICAL OVERVIEW

In 1969 several civil rights and discrimination issues in Northern Ireland against the Catholic minority led to an upswell of protests and riots in the city of Derry (official name Londonderry). These events were strongly affiliated with members of the Catholic Irish Republican movement and engendered violent responses by Protestant-led loyalist groups such as the Ulster Volunteer Force. The conflict in Derry quickly spread to Belfast beginning the thirty-year cycle of violence, colloquially referred to as the Troubles. The Irish Republican Army (IRA) was heavily lambasted for what was believed to have been an inadequate response to protect Catholic communities in Belfast. Various sources claim that this failure was caused by dwindling numbers of the IRA in the post WW2 era as well as a focus under the far left-leaning Cathal Goulding’s leadership on class conflict over religious-focused conflict.<sup>171</sup> This criticism led to a dramatic schism when Ruari O Bradaigh walked out of the Sinn Fein Ard Fheis (annual party convention) and established the Provisional IRA (PIRA).<sup>172</sup> The remaining faction, led by Cathal Goulding, became known as the Official IRA (OIRA). Parallel to this schism, the political wing of the IRA,

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<sup>171</sup> J. Bowyer Bell, *The Secret Army*, 2nd edition (New Brunswick, N.J., U.S.A: Routledge, 1997).

<sup>172</sup> Robert White, *Out of the Ashes: An Oral History of the Provisional Irish Republican Movement* (Merrion Press, 2017), 64–65.

Sinn Fein, split into a Marxist-Leninist aligned Official Sinn Fein and the PIRA aligned Provisional Sinn Fein. Official Sinn Fein would later rename itself as the Worker's Party and reject violent extremism as a solution to Irish grievances, allowing for PIRA and Provisional Sinn Fein to lay claim to the names "IRA" and "Sinn Fein."

When Ruari O Bradaigh established the PIRA as a splinter group from the IRA he did so in protest of a proposal to end the policy of abstentionism and allow for Sinn Fein members to take seats in the Northern Ireland Parliament. This schism is often cited as one of the catalysts for what is colloquially known as the Troubles; the period of unrest in Northern Ireland from 1969–1997 which was marked by acts of terrorism and conflict between various Irish separatist and pro-British (loyalist) paramilitaries. Sinn Fein at the time had been moving towards policies of peaceful conflict resolution as well as developing policy based on Marxist class conflict theory. Ruari's movement led a reaffirmation of older Irish Republican policy and the root of the conflict as being between Irish Catholics and British Protestants. In the wake of violence targeted at primarily Catholic neighborhoods in the end of 1969 this was a particularly resonant message. Likewise, through much of the 1970s the group was primarily focused on the paramilitary activities with Sinn Fein acting as little more than a public messaging platform for PIRA with many of the same leaders running both organizations.

1970–1975 saw increased violence through paramilitary terrorism from many groups. During this period there were some attempts at peace negotiations with various parties; however, they were largely unproductive. PIRA activities were supported by the light network of the political party Sinn Fein, which consistently built narratives conceptualizing the struggle as a civil rights conflict and later that PIRA's place in it was as peace warriors. In the period up to 1980 the PIRA increasingly used political events such as hunger strikes and prison protests to support their illicit activities. This strategy would later be described by Sinn Fein's director of publicity, Danny Morrison, as "An Armalite in One Hand and a Ballot in the Other"<sup>173</sup> and in retrospect marks a relatively successful

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<sup>173</sup> Richard English, *Armed Struggle: The History of the IRA* (Oxford University Press, 2005), 224–25.

insurgency strategy. By aligning public figures, relatively unsullied by terrorism, with guerilla objectives the PIRA was able to achieve long term objectives decades later.

In the early 1980s Sinn Fein and PIRA shifted towards a strategy with both political and paramilitary operations. The Sinn Fein director of publicity described this as a strategy to seize power in Northern Ireland by having, “a ballot paper in this hand and an Armalite in the other”.<sup>174</sup> Through this period the two wings of the movement became more balanced and gradually opened up to peaceful conflict resolution and participation in the Northern Ireland Government. Consequently, Sinn Fein, as a public platform for paramilitary leaders, became a particularly useful tool in the reconciliation process where Sinn Fein officers were able to negotiate on behalf of the paramilitary wing of PIRA.<sup>175</sup>

After the Good Friday Agreement engendered the apparent demobilization of paramilitaries in Northern Ireland the relative balance between PIRA and Sinn Fein shifted again where now all (or almost all) activities are legitimate political activities and there is allegedly no remaining paramilitary activity. There are occasional questions of if the PIRA completed decommissioning their weapons and despite police acknowledgments that PIRA’s structure still exists. However, most members are committed to peaceful agendas currently.<sup>176</sup> All evidence appears to corroborate this point, particularly since those who disagreed with Sinn Fein’s current agenda have had ample opportunity to split off or join one of many splinter groups that continue to execute terrorist activities in Northern Ireland.

## **B. PIRA ORGANIZATIONAL STRUCTURE**

Initially, the PIRA maintained an organizational structure based on a traditional military organization with companies organized into battalions and then brigades covering

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<sup>174</sup> Richard English, *Armed Struggle: The History of the IRA*, Reprints edition (London: Pan, 2012), 225.

<sup>175</sup> Brian Feeney, *Sinn Féin: A Hundred Turbulent Years*, 1st edition (Madison, WI: University of Wisconsin Press, 2003), 272.

<sup>176</sup> “Chief Constable’s Statement – PSNI’s Assessment of the Current Status of the Provisional IRA. | Police Service of Northern Ireland,” August 24, 2015, [https://web.archive.org/web/20150824022205/http://www.psnipolice.uk/index/news-archive/newpage-4/august-2015/chief\\_constable\\_s\\_statement\\_\\_psni\\_s\\_assessment\\_of\\_the\\_current\\_status\\_of\\_the\\_provisional\\_ira](https://web.archive.org/web/20150824022205/http://www.psnipolice.uk/index/news-archive/newpage-4/august-2015/chief_constable_s_statement__psni_s_assessment_of_the_current_status_of_the_provisional_ira).

geographic areas of responsibility.<sup>177</sup> These brigades were run by commanders (Officer's Commanding) and executive officers, and quartermasters like modern state-sponsored militaries.<sup>178</sup> They were commanded by the seven-person Army Council which was responsible for the day-to-day running of the PIRA.<sup>179</sup> The Army Council always included the chief of staff and quartermaster general, but the other positions were appointed by the twelve-person Army Executive Council.<sup>180</sup> The Army Executive Council met at a minimum every six months and acted as a board of directors for the IRA. Members of the Army Executive Council could not simultaneously serve on the Army Council.<sup>181</sup> The Army Executive Council was elected by the General Army Convention (GAC), which according to IRA bylaws, occurred once every two years. Some believe, however, that the GAC has only met three times to bookmark key policy shifts in the IRA/PIRA.<sup>182</sup> Although the GAC is billed as the supreme authority of the IRA, it is much more similar in function to the United States Electoral College where delegates meet solely to cast ballots. Under the Chief of Staff was the General Headquarters (GHQ) and, in later years, the Northern and Southern commands.<sup>183</sup> Sometime around 1976, according to captured internal documents, the PIRA began a reorganization to improve operations security in a move that drastically reduced arrests of PIRA members (see Figure 27).<sup>184</sup> To do this they dissolved most of the brigades<sup>185</sup> and established the Northern and Southern commands to oversee

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<sup>177</sup> Brian A. Jackson et al., *Aptitude for Destruction*, vol. Volume 2: Case Studies of Organizational Learning in Five Terrorist Groups (RAND Corporation, 2005), 96.

<sup>178</sup> "Inside The Ira - Organization And Command | The Ira & Sinn Fein | FRONTLINE | PBS," accessed June 15, 2021, <https://www.pbs.org/wgbh/pages/frontline/shows/ira/inside/org.html>.

<sup>179</sup> "Inside The Ira - Organization And Command | The Ira & Sinn Fein | FRONTLINE | PBS."

<sup>180</sup> "Inside The Ira - Organization And Command | The Ira & Sinn Fein | FRONTLINE | PBS."

<sup>181</sup> John Horgan and Max. Taylor, "The Provisional Irish Republican Army: Command and Functional Structure," *Terrorism and Political Violence* 9, no. 3 (December 21, 1997): 5.

<sup>182</sup> Horgan and Taylor, 5.

<sup>183</sup> "Inside The Ira - Organization And Command | The Ira & Sinn Fein | FRONTLINE | PBS," accessed June 15, 2021, <https://www.pbs.org/wgbh/pages/frontline/shows/ira/inside/org.html>.

<sup>184</sup> Horgan and Taylor, 21.

<sup>185</sup> Some Brigades remained in operation due to popular demand. This was mostly in rural areas where PIRA activities were uncontested by rival paramilitaries or police forces.



the new Active Service Units (ASUs): small independent and decentralized cells that were unable to compromise the larger PIRA organization. This move coincidentally increased organizational ambiguity to outside observers as ASUs alternatively took orders directly from their command's, the GHQ, or directly from the Army Council.<sup>186</sup> It is also possible that this move consolidated power for the Army Council as they were now able to directly task ASUs without other PIRA elites outside of their faction/community knowing about it or being able to prevent it.

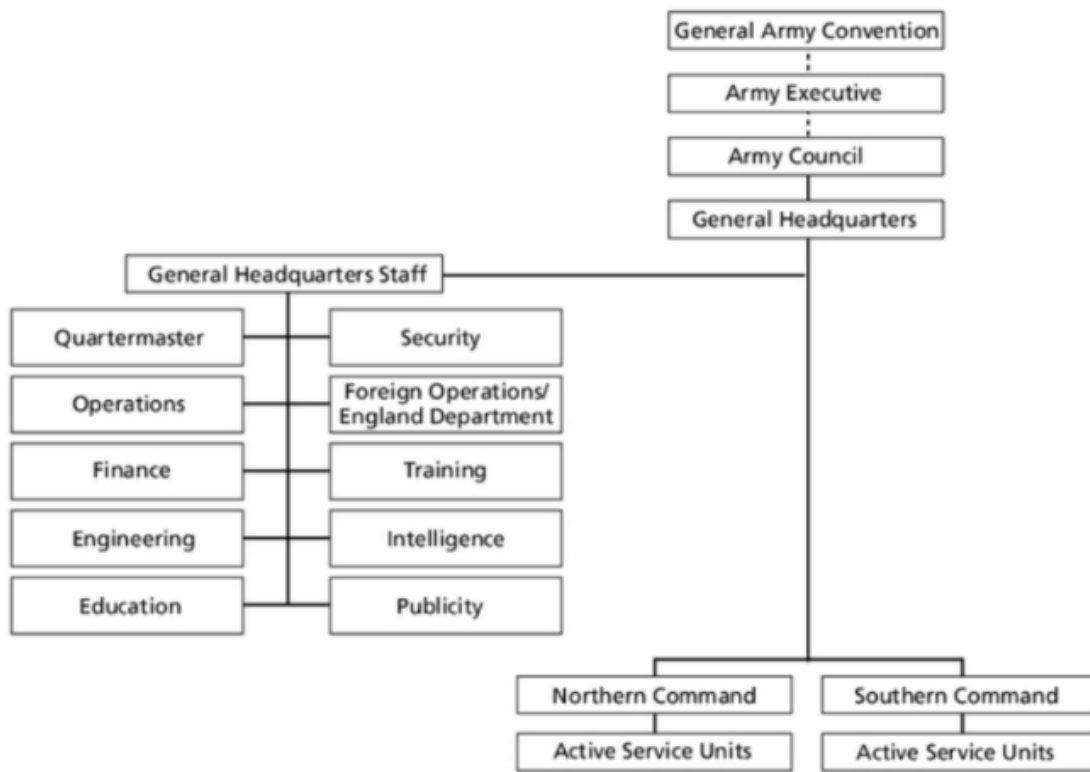


Figure 27. PIRA Organization<sup>187</sup>

<sup>186</sup> Horgan and Taylor, "The Provisional Irish Republican Army: Command and Functional Structure," 6.

<sup>187</sup> Jackson et al., *Aptitude for Destruction*, Volume 2: Case Studies of Organizational Learning in Five Terrorist Groups:96.

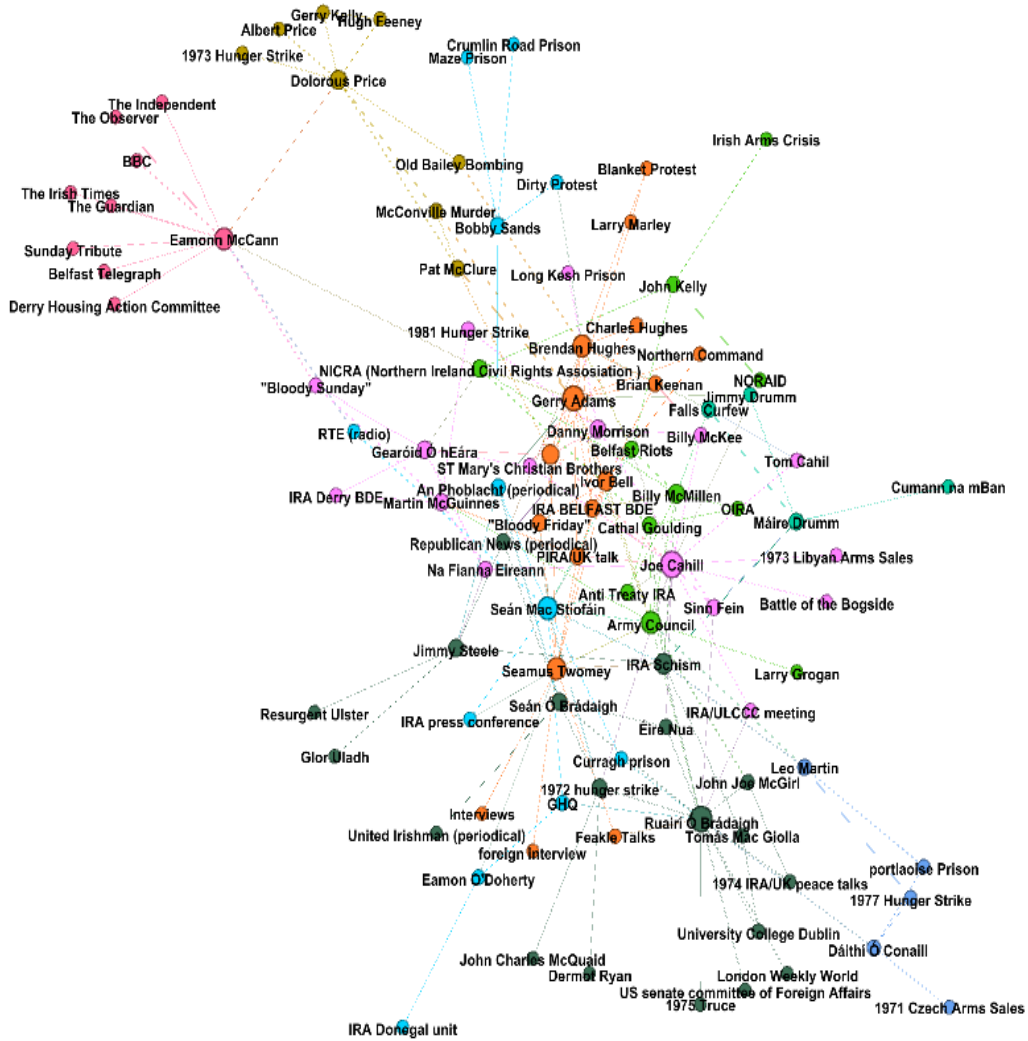
### C. PIRA KEY LEADER SOCIAL NETWORK ANALYSIS

The IRA Affiliation Network is a two-mode network consisting of 100 nodes (37 actors,<sup>188</sup> 38 organizations, and 25 events). The network consists of 184 edges falling into four types of relationships in the network. Analysis of public criticism<sup>189</sup> by actors in the Affiliation Network yielded a separate two-mode directed network with 18 edges (see Figure 28). Research also produced a one-mode Collaboration and Kinship Network with 27 edges (see Figure 29). Methodology for data input is found in Appendix D: codebook. We transformed the affiliation network from a two-mode network into two, one-mode affiliation networks between actors and organizations/events. Aggregating the transformed networks with the collaboration and kinship network yielded a one mode person-to-person network with 37 actors and 182 edges (see Figure 30). Transforming the network to show non-person to non-person network yielded a one-mode network with 65 nodes and 435 edges (see Figure 33). Analysis of these networks show the relationships and bridges between the IRA's overt (public figures, organizations, and events) and covert sides (paramilitary leaders, organizations, and terrorist activities). The focus of this analysis is to illuminate the tactics, organizations, and actors that allowed the IRA to coordinate and execute simultaneous public and insurgent campaigns.

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<sup>188</sup> Actors that were identified but had one or fewer ties to the network were removed from the final sociogram.

<sup>189</sup> Public support for an actor, event or organization counted as a tie in the Affiliation Network.

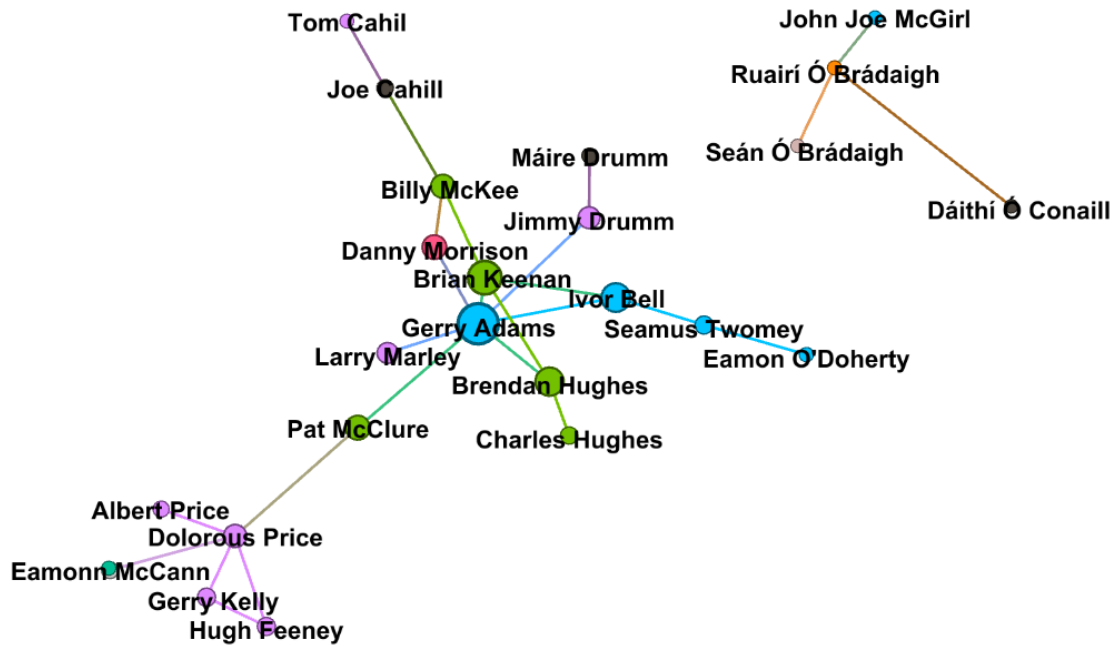


\*Node color by modularity class, node size by degree centrality.

Figure 28. Affiliation Network

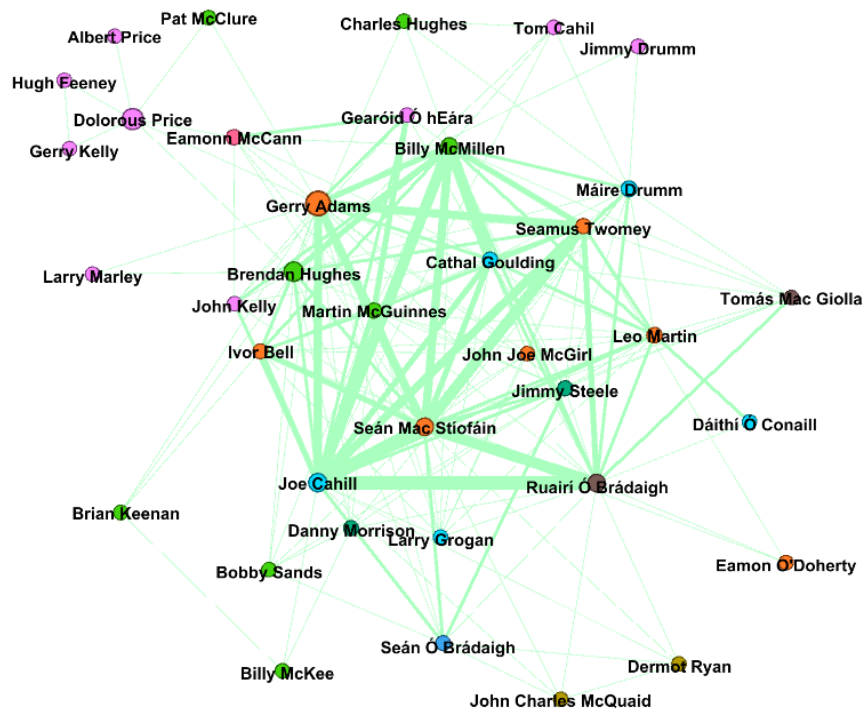
Table 10. Highest Degree Centralities in Affiliation Network

People	Organizations	Events
Joe Cahill (18)	Army Council (12)	IRA Schism (10)
Ruari O Bradaigh (17)	NICRA (6)	PIRA/UK talks (6)
Gerry Adams (16)	IRA Belfast BDE (6)	1972 Hunger Strike (6)
Sean Mac Stiofain (13)	An Phoblacht (5)	Belfast Riots (5)
Brendan Hughes (12)	Sinn Fein (4)	Falls Curfew (5)
Seamus Twomey (12)	Republican News (4)	Bloody Friday (5)
Eamonn McCann (12)	Anti Treaty IRA (4)	Bloody Sunday (3)
Ivor Bell (9)	Na Fianna Eireann (4)	McConville Murder (3)



\*Node color by role.

Figure 29. Direct Collaboration and Kinship Network



\*Node color by modularity class, size by betweenness centrality

Figure 30. Person X Person Network

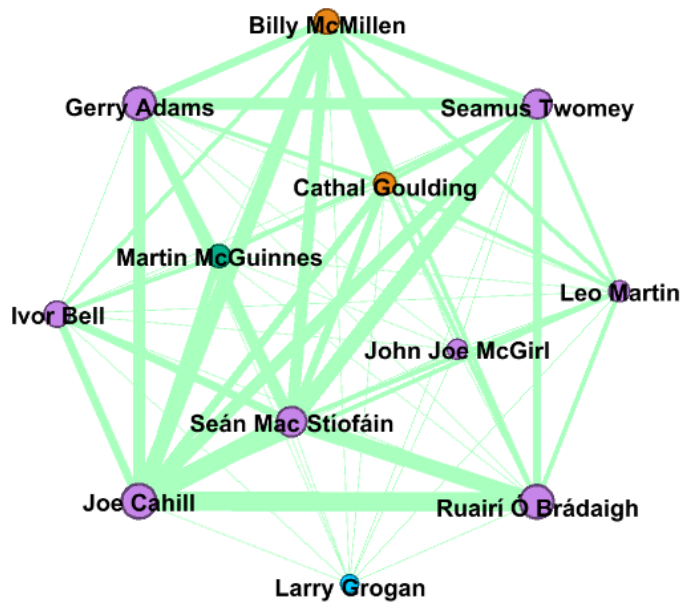


Figure 31. Person X Person 11-Core Network

Table 11. Person X Person Network Central Actors

<b>Closeness Centrality</b>	<b>Eigenvector centrality</b>	<b>Betweenness centrality</b>	<b>Degree Centrality</b>
Gerry Adams (0.739)	Joe Cahill (1.00)	Gerry Adams (0.262)	Gerry Adams (24)
Joe Cahill (0.68)	Sean Mac Stioffin (0.975)	Dolorous Price (0.173)	Joe Cahill (23)
Sean Mac Stioffin (0.666)	Gerry Adams (0.938)	Brendan Hughes (0.144)	Sean Mac Stioffin (22)
Ruari O Braidaigh (0.641)	Billy McMillen (0.912)	Joe Cahill (0.115)	Ruari O Braidaigh (20)
Brendan Hughes (0.641)	Ruari O Braidaigh (0.871)	Sean Mac Stioffin (0.089)	Billy McMillen (20)
Seamus Twomey (0.596)	Seamus Twomey (0.831)	Ruari O Braidaigh (0.078)	Cathal Goulding (17)
Jimmy Steele (0.596)	Cathal Goulding (831)	Marie Drumm (0.044)	Brendan Hughes (17)
Martin McGuinness (0.586)	Martin McGuinness (0.792)	Leo Martin (0.029)	Seamus Twomey (16)
Leo Martin (0.586)	Jimmy Steele(0.788)	Seamus Twomey (0.023)	Martin McGuinness (16)
Marie Drumm (0.566)	Leo Martin (0.766)	Martin McGuinness (0.018)	Jimmy Steele(16)

Initial analysis of the aggregated network shows a network with redundant leadership at its center and volunteers and media members located to the periphery. Analyzing degree centrality suggests several things, first, the centrality of Joe Cahill in the IRA and PIRA was due to his involvement with several key events, particularly the schism and founding of the PIRA. Additionally, the Northern Ireland Civil Rights Association (NICRA) has the highest degree out of any non-IRA sponsored organization. NICRA was often criticized during this time period for being an IRA puppet organization, and although it had few overt ties, they are much clearer via analysis. Interestingly, however, this contrasts with the Derry Housing Action Committee (DHAC), which, although it is often credited with sparking the “Troubles,” has an extremely low degree with the IRA network. This could, in part, be due to a lack of publicly accessible information but could also be related to the fact that IRA leadership was geographically centered around Belfast and so

unlike the Belfast-based NICRA it never gained widespread support from the IRA Army council.<sup>190</sup>

The direct collaboration and kinship network shows two components clustered around the two main PIRA policymakers in the 1970s. First Ruari O Bradaigh has a small network clustered around kinship and direct collaboration on the Eire Nua policy. Of additional interest is the fact that during the period where Ruari O Bradaigh is the president of Sinn Fein, his brother Sean O Bradaigh was the director of publicity.<sup>191</sup> Gerry Adams, however, shows a much more robust direct collaboration network, of which he has undisputed centrality. Although this network is undoubtedly incomplete (in part due to ambiguity in accounts of his positions), it does show the majority of Adam's contacts are with other senior leaders in the network (other commanders and chiefs of staff). Interestingly, he has two direct relationships with volunteers. One is described as a personal friend (Larry Marley). The other was someone whom Adams wrote a speech for (Jimmy Drum), who was the husband of Sinn Fein's vice president Marie Drumm.

The Public Criticism Network (see Figure 32) did not yield particularly insightful notes due to the small amount of information available. Several public articles were written under pseudonyms making the identification of the originator difficult to determine (for instance three actors, Gerry Adams included, used the pen name "Brownie"). The results, however, do show a trend of criticism against current leadership by future leaders. Billy McMillian had the largest in-degree due to his failure to react adequately to the Belfast Riots. Ruari O Bradaigh and Billy McKee both criticize him publicly before splitting from the IRA. Gerry Adams later criticizes Ruari and Billy when he is building up influence in the PIRA. Gerry Adams has the largest out-degree in this network meaning that he was highly prolific in criticizing his rivals before consolidating control of the organization.

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<sup>190</sup> Robert W. White, *Ruairí Ó Brádaigh: The Life and Politics of an Irish Revolutionary* (Indiana University Press, 2020).

<sup>191</sup> Seán Cronin, *Irish Nationalism: A History of Its Roots and Ideology*, 1981, 295.

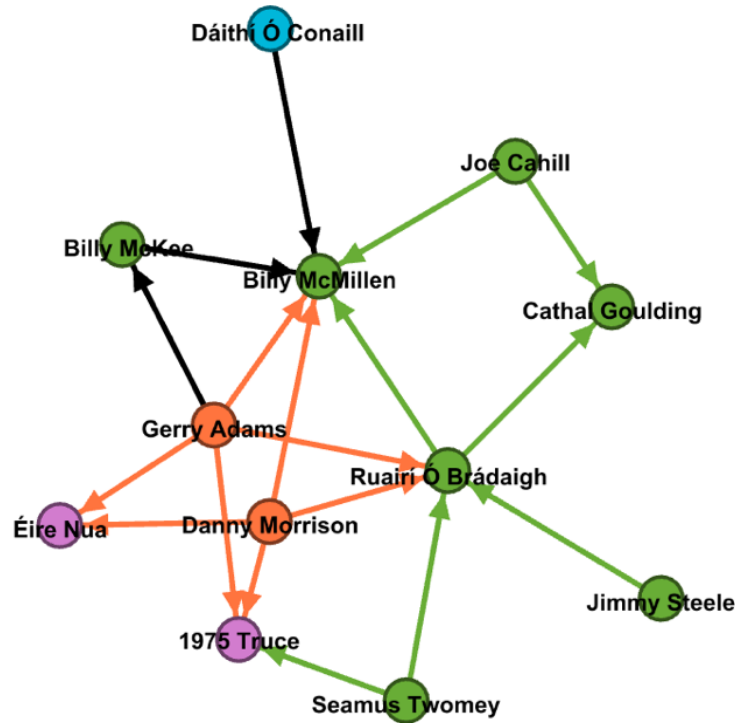


Figure 32. Public Criticism Network

The person X person network analysis reinforces that the IRA had an extremely dense leadership cadre 11-core (see Figure 31). This cadre was also made up primarily of members who had been in the Anti Treaty IRA before 1969. Martin McGuinness is the only person in this 11-core who was not a part of the Anti Treaty IRA; however, he does not score particularly high on any centrality measures. Interestingly, however, after this period, Martin McGuinness went on to be a highly successful Sinn Fein politician, arguably second only to Gerry Adams in the 1990s. His interconnectedness with so many central figures so early in his Republican career could have provided an indicator of his future importance. More peripheral members have fewer and fewer ties to this core group and the overall network density is only 0.273. The centralization of the network is 0.393 showing a relatively centralized network. This dense leadership core is likely due to the need for redundancy in the IRA during this period. Of the 11-core, every single member is imprisoned at some point during the period. This coupled with the IRA policy that members lost all rank upon imprisonment meant that there was a regular rotation of members to the



central IRA Army Council. To ensure continuity, redundancy among leadership was paramount. Additionally, of note is that during this period, public figures, writers, journalists, and editors appear on the network's periphery (Kevin Myers, Sean O Bradaigh, etc). Even Ruari O Bradaigh and Marie Drumm are less central than one would expect based on their prominence in Sinn Fein and the public sphere at large. This suggests that members of the Army Council wanted public figures to "keep their hands clean" and stay in the public space where they could frame the Irish Republican movement as a human rights issue rather than as merely an insurgency.

Analysis of the non-person network primarily reinforces takeaways from the previous networks. NICRA provides the largest bridging centrality, closely followed by the radio station RTE. These connect events with public news agencies and suggest that they were (witting or unwitting) conduits for the IRA to push its public agenda. Similar to the person X person network there is a large 14-core center to this network centered around events and organizations surrounding the IRA Army Council, the Belfast Brigade, and the founding of the PIRA (see Figure 27). Of interest, however, St. Mary's Christian Brothers (a high school) and Na Fianna Eireann (the youth wing of Sinn Fein) are in this 15-core, suggesting a school-to-insurgency pipeline that was very successful in funneling leaders into the PIRA. Additionally, outside of policy discussions/development, arms sales and hunger strikes are the only operations tied with this central core. This suggests the strategic importance of these two types of operations to the core leadership of the PIRA. Most of the core leaders of the PIRA and Sinn Fein took part in hunger strikes in the 1970s and the strategic importance and funding required for arms sales explain these.

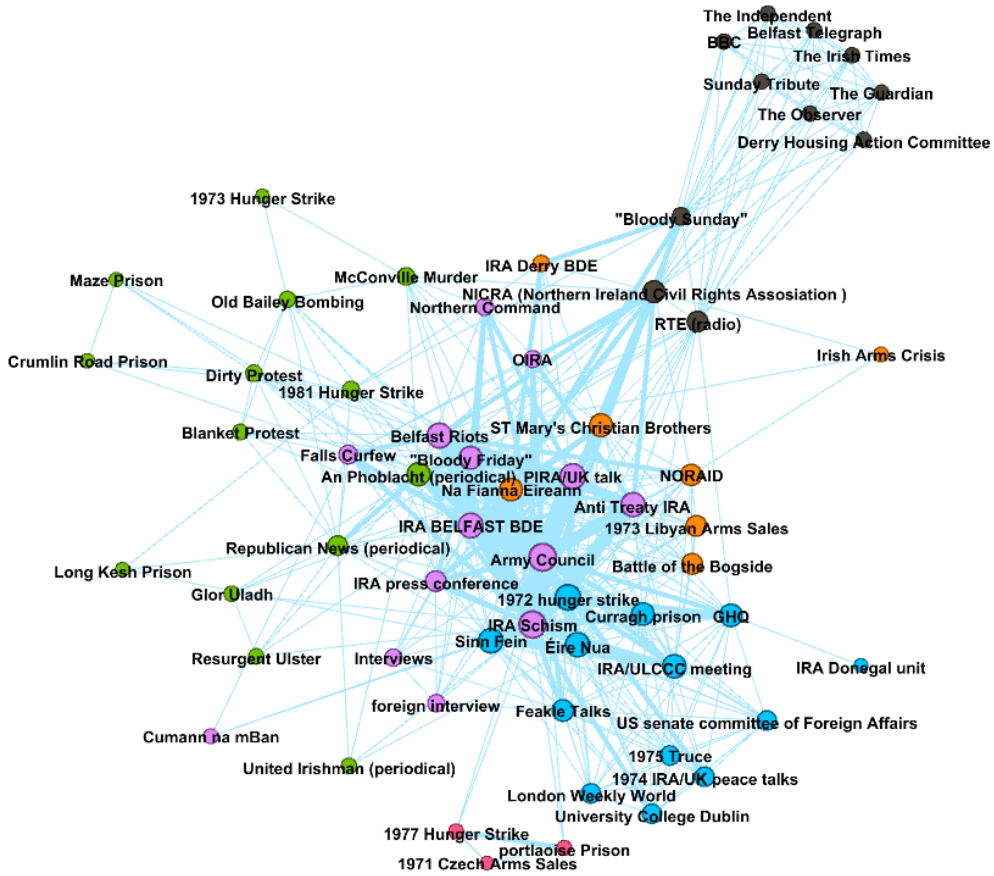


Figure 33. Organization X Organization Network, Color by Modularity Class, Size by Eigenvector

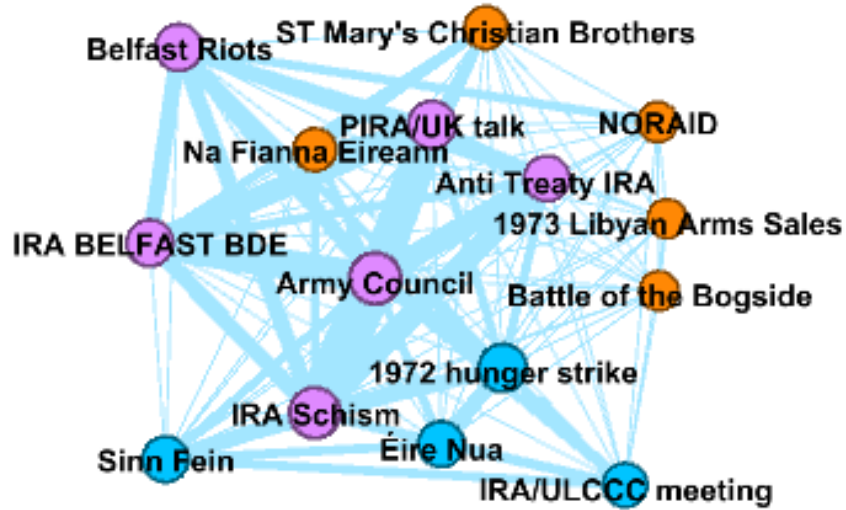


Figure 34. Org X Org Network 14-Core Cluster, Color by Modularity Class, Size by Eigenvector

Table 12. Org X Org Top Centrality measures

Closeness Centrality	Degree centrality	Betweenness centrality	Eigenvector Centrality
<i>Organizations</i>			
Army Council (0.726)	Army Council (38)	Army Council (234)	Army Council (1)
IRA Belfast BDE (0.642)	PIRA Belfast BDE (29)	NICRA (217)	PIRA Belfast BDE (0.814)
An Phoblacht (0.629)	Sinn Fein (27)	RTE (radio) (157)	Sinn Fein (0.783)
NICRA (0.622)	NICRA (27)	An Phoblacht (139)	AIRA (0.768)
ST Mary's Christian School (0.592)	An Phoblacht (26)	GHQ (76)	An Phoblacht (0.692)
<i>Events</i>			
IRA Schism (0.709)	IRA Schism (37)	IRA Schism (220)	IRA Schism (0.974)
PIRA/UK talk (0.649)	PIRA/UK talk (29)	Belfast Riots (82)	1972 Hunger Strike (0.863)
Belfast Riots (0.642)	Belfast Riots (28)	Bloody Sunday (66)	PIRA/UK talk (0.857)
1972 Hunger Strike (0.635)	Eire Nua (25)	PIRA/UK talk (61)	Eire Nua (0.781)
Bloody Friday (0.616)	Bloody Friday (24)	Bloody Friday (56)	PIRA/ULCCC meeting (0.721)

Of note in this graph is the relative disconnect of Sinn Fein from direct ties to terrorism. Besides arms sales, there is no direct tie between Sinn Fein and terrorism. The organization is tied with various protests and hunger strikes, however, and does have a tie with the PIRA Army Council. Acts of terrorism appear to have been solely connected directly with the PIRA.

Based on the above analysis, the PIRA during this period operated by keeping a largely redundant dense core. This core then instructed peripheral actors to operate along with either public or guerilla methods. In this way, the public messaging was separated and did not conflict with terrorist objectives. Interestingly, however, PIRA leaders would often shift over to public messaging after arrest. An example of this is Gerry Adams who entered public office in the 1982 election. Additionally, Ruari O Bradaigh allegedly was on the Army Council at the same time as being Sinn Fein's president. The key to the operation of this network appears to be rather than security or secrecy of the network the maintenance of plausible deniability between the aspects of the operation. The topography of the network makes the overall network lower density than one would expect (0.434 for the person X person network) and the redundancy at the senior ranks makes the leadership relatively resilient (as evidenced by a large number of arrests of senior leaders during this period).

Finally, there is an interesting aside revealed when we look at Gerry Adams in this period. He was influential in the PIRA, serving as the Chief of Staff in the late 1970s; however, his centrality scores are an outlier compared to other actors with the same role during this time. It follows that during this period Gerry Adams was deliberately building centrality and prestige in the network. He was relatively young compared to other members of the Army Council. This culminates in his consolidation of power in 1986 when he essentially pushed the old guard out. After 1986, Joe Cahill is the only remaining PIRA member with centrality rivaling Gerry Adams.

The above social network analysis provides interesting clues as to how the PIRA and Sinn Fein leveraged key communicators to meet their political objectives. First, an initial analysis of the identified key communicators indicates that Sinn Fein and the PIRA exploited individuals and groups to generate and propagate their message. Further analysis

of these nodes reveals their ties to various communities that were critical to support the movement. Most notably, the PIRA and Sinn Fein messaging and activities specifically targeted local Irish communities, the British Government, and international audiences.

To answer the essential SNA questions, practitioners should note that PIRA and Sinn Fein leveraged a wide variety of key communicators that could be described in several ways. For example, many paramilitary leaders and politicians acted as brokers of information, specifically as coordinators, gatekeepers, and representatives. Conversely, the PIRA and Sinn Fein acted as gatekeepers and liaisons to the media, particularly those who were most sympathetic to the cause. On the other hand, community organizers, especially the clergy, acted as bridges to the PIRA by communicating the conditions of prison protests to wider external audiences while attempting to maintain their neutrality to the conflict.

PIRA and Sinn Fein key communicators were members of various subnetworks that shared a common language, identity, ideology, behaviors, and norms. Since these networks' attributes existed before their exploitation, practitioners can measure the attributes and the kinds of relationships within these networks to understand why they proved useful to the PIRA. What is evident is that these audiences were selected deliberately for two reasons. First, each audience could influence the achievement of a political objective, like the international pressure of the Catholic communities on the British Government. Second, the diffusion of information within that audience was suitable enough to carry both simple and complex messages. Given that complex information requires strong ties to propagate within a network, it is reasonable that PIRA and Sinn Fein key communicators leveraged both weak and strong ties to reach their audience. Since dense networks tend to follow similar norms and behaviors, likely, the paramilitary leaders, politicians, activists, and the clergy had a much easier time encouraging their networks to support the cause.<sup>192</sup> However, it is likely that those networks with lower average path distance, namely where key communicators had a persistent platform to reach their

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<sup>192</sup> Everton, *Disrupting Dark Networks*, 2012, 49.

audience, diffused PIRA and Sinn Fein narratives more effectively during the Troubles of Northern Ireland.<sup>193</sup>

#### **D. AUDIENCE & MESSAGING DYNAMICS**

When Ruari O Bradaigh formed the PIRA he used both practical and political grievances to distance his network of followers from the previous IRA policy. The resulting organization built a platform based on the protection of Irish Catholic civil rights and the demand for the end of British rule over Ireland stood in contrast to the increasingly non-violent and Marxist platform of main IRA leadership.<sup>194</sup>

From early on, PIRA leadership sought to cast itself as the legitimate political entity that could address legitimate grievances in Irish Catholic communities.<sup>195</sup> To this end, they invested heavily in a political wing (Sinn Fein) to maintain legitimacy and build trust. Similarly, they developed a noteworthy presence in civil rights organizations such as the Northern Ireland Civil Rights Association (NICRA). Initially, the PIRA focused heavily on violent activities, specifically targeting British forces to impose significant costs and encourage their withdrawal from Northern Ireland.<sup>196</sup> Over time, however, the focus shifted towards nonviolent messaging suggesting increased belief in the efficacy of nonviolent protest, sympathetic journalism, and establishing a voice in the existing political process.

PIRA leaders understood that the Irish population was not merely a source of volunteers for their guerilla movement but also the cultural medium to spread their unique ideology.<sup>197</sup> However, the PIRA and Sinn Fein represent two seemingly parallel platforms. Their new strategy promised a renewed fight by PIRA volunteers against the British while

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<sup>193</sup> Everton, 267.

<sup>194</sup> Paul Gill and John Horgan, "Who Were The Volunteers? The Shifting Sociological and Operational Profile of 1240 Provisional Irish Republican Army Members," *Terrorism and Political Violence* 25, no. 3 (June 14, 2013): 437.

<sup>195</sup> J. Bowyer Bell, *The IRA, 1968–2000: An Analysis of a Secret Army* (London, UNITED KINGDOM: Taylor & Francis Group, 2000), 58, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=1166381>.

<sup>196</sup> Smith, *Fighting for Ireland? The Military Strategy of the Irish Republican Movement*, 97.

<sup>197</sup> Bell, *The IRA, 1968–2000*, 20.

also attempting to work from within a representative democratic system to force concessions. These efforts were built to support and trust with two key demographics: disenfranchised populations with little to lose, and populations sympathetic to the movement but unable or unwilling to join in armed struggle. This strategy was later described by Sinn Fein director of publicity, Danny Morrison, as “a ballot paper in this hand and an Armalite in the other.”<sup>198</sup> By building trusting relationships within the Irish communities, the PIRA shaped perceptions, gained support, and achieved its political objectives over a few decades. This strategy was underpinned by the careful use of relationships with four groups of key communicators that could reach their target audiences: politicians, journalists, community organizers, activists, and paramilitary leaders.

This study sorts key communicators into four groups: paramilitary leaders, politicians, journalists, and community organizers. Each group was generalized to consider major trends among communicators, though variance existed between the approach, platforms, audiences, and reach of each. The use of these groups is merely for organizational purposes and does not represent a part of the key communicator analysis process.

### **1. Paramilitary Leaders**

Initially designed to fight a war of independence, the PIRA was organized like a conventional Army unit. As described previously, it was comprised of paramilitary companies and brigades that were directed by a General Headquarters (GHQ). This organization was useful since it created a facsimile of a recognizable military formation that could promote the legitimacy of their cause to those audiences external to Northern Ireland and those sympathetic to the movement. However, the hierarchal structure was tactically inefficient and, by the late 1970s, the PIRA reorganized into a more heterarchical cell-based network to reduce their signature among the British and Loyalist security forces

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<sup>198</sup> Richard English, *Armed Struggle: The History of the IRA*, Reprints edition (London: Pan, 2012), 225.

and loyalist paramilitaries.<sup>199</sup> This shift likely consolidated power with organizational elites who, after this period, were emboldened to conduct secret peace negotiations. This departure from traditional policy norms was likely due to limited public scrutiny as negotiations were not made public until the late 1990s, a few years before the Good Friday Agreement.<sup>200</sup>

Paramilitary leaders also provided “legitimacy” to Sinn Fein by directly linking Sinn Fein and PIRA leadership in the struggle.<sup>201</sup> This was necessary to balance the desire for action with pragmatism among supporters of the Republican cause. It seems that while Sinn Fein was responsible for the greater long-term achievements, it was the activities of the PIRA that provide legitimacy among its loyal members. Sinn Fein would not have accomplished its political aims, had the PIRA’s armed struggle failed to bring the British Government to the negotiating table. Likewise, paramilitary leaders provided legitimacy to Sinn Fein by transferring over to Sinn Fein after imprisonment forced them out of PIRA leadership positions. Since incarcerated leaders lost their position and rank within the PIRA, many opted to continue the ideological struggle through the political arm of the movement. Former paramilitary leaders, such as Gerry Adams, Martin McGuinness, and Ruari O Bradaigh, who held positions within the PIRA ended up within the senior ranks of Sinn Fein by the time of the peace process. This likely furthered the credibility of the political organization in the eyes of their former subordinates and cross-pollinated ideas between groups.

## **2. Politicians**

PIRA paramilitary leaders and politicians occupied similar roles but for different audiences. As ideological leaders, they both attempted to catalyze action using the passion of the audience. Sinn Fein provided an effective platform for PIRA-affiliated key

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<sup>199</sup> Gill and Horgan, “Who Were the Volunteers? The Shifting Sociological and Operational Profile of 1240 Provisional Irish Republican Army Members,” 437.

<sup>200</sup> Gill and Horgan, 437.

<sup>201</sup> Bell, *The IRA, 1968–2000*, 63.



communicators to frame events, legitimize PIRA activities, and attract support from more moderate members of society.

One of the important functions Sinn Fein politicians had was as “agents of influence to ensure entitlement” for the disenfranchised Irish Catholics.<sup>202</sup> They capitalized on existing grievances among Irish Catholics to build a narrative frame that legitimized the PIRA.<sup>203</sup> In turn, the PIRA was viewed by many as defenders of the Irish people and later as “Peacemakers.”<sup>204</sup> Remarkably, this framing was often at odds with the reality, especially those cases, like the 1972 murder of Jean McConville, when the PIRA’s violence was particularly egregious. Over time, through repeated, consistent references to the peace process, Sinn Fein morally disengaged from PIRA terrorism and shifted blame to other parties, typically the British occupation of Northern Ireland.<sup>205</sup> It was this moral disengagement that provided a pathway for former PIRA commanders, such as Gerry Adams and Martin McGuinness, to achieve credibility and public office. They effectively squashed criticism by reframing their actions and branding themselves as the pro-peace leaders of Sinn Fein instead of the violent leaders of the PIRA.<sup>206</sup> When questioned as to why PIRA activities should not be classified as terrorism, Sinn Fein politicians often resorted to accusing journalists of trying to undermine the peace process.<sup>207</sup> Ultimately, Sinn Fein politicians played a crucial role in legitimizing all PIRA activities for both external and internal audiences.

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<sup>202</sup> Bell, 64.

<sup>203</sup> Christopher Hewitt, “Catholic Grievances, Catholic Nationalism and Violence in Northern Ireland during the Civil Rights Period: A Reconsideration,” *The British Journal of Sociology* 32, no. 3 (1981): 362–80, <https://doi.org/10.2307/589283>; Rogelio Alonso, “Terrorist Skin, Peace-Party Mask: The Political Communication Strategy of Sinn Féin and the PIRA,” *Terrorism and Political Violence* 28, no. 3 (May 26, 2016): 520–40, <https://doi.org/10.1080/09546553.2016.1155934>.

<sup>204</sup> Alonso, “Terrorist Skin, Peace-Party Mask,” May 26, 2016.

<sup>205</sup> Alonso.

<sup>206</sup> Alonso.

<sup>207</sup> Alonso.

As the organization shifted its paramilitary formations to reduce their public signature, politicians were also key in maintaining PIRA's voice in the public discourse.<sup>208</sup> This change made the nexus of the public and paramilitary wings more vital as the PIRA depended on the overt political messages of Sinn Fein to maintain a presence in the collective consciousness of the Irish public. One notable example includes the increased use of youth organizations, such as *Na Fianna Eireann*, to actively indoctrinate and socialize youth into PIRA belief. This also provided an invaluable connection between potential recruits and paramilitary leaders.<sup>209</sup>

### **3. Media/Journalists**

Studies have shown that the relationship between terrorism and the free press trends towards a symbiotic relationship in which terrorist organizations can exploit the press and their need for ratings to gain the “oxygen of publicity” for their cause.<sup>210</sup> The British government understood this and exerted considerable influence on domestic media outlets via informal pressure, disinformation, and banning the press from quoting Sinn Fein members. The purpose of these measures was to ensure that domestic media narratives were congruent with the Unionist cause.<sup>211</sup> PIRA key communicators circumvented these measures via interviews and ties with international journalists which provided a platform for their messaging.

Sinn Fein also manipulated the press by rewarding journalism that was uncritical of the PIRA. Not only did Sinn Fein directors of publicity work more closely with friendly journalists, but they also publicly rebuked any critics as enemies of the peace process. This process was so effective that, by the 1990s, the media would self-censor for fear of

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<sup>208</sup> Gill and Horgan, “Who Were the Volunteers? The Shifting Sociological and Operational Profile of 1240 Provisional Irish Republican Army Members,” 442.

<sup>209</sup> Gill and Horgan, 442.

<sup>210</sup> Mark Hayes and Paul Norris, “Paramilitary Groups in Northern Ireland, the Media War and the State: Semantics and Symbiosis - A Comparative Case Study of the PIRA and UDA” (Societies Under Siege, Istanbul, Turkey: Kadir Has University, n.d.), 45.

<sup>211</sup> Hayes and Norris, 46–47.

damaging reconciliation efforts.<sup>212</sup> Like Sinn Fein, the PIRA also used the media to reframe grievances as humanitarian issues. In the early 1980s, the PIRA conducted a series of hunger strikes and other protests when the British withdrew Special Category Status (combatant status) from paramilitary prisoners.<sup>213</sup> In one notable instance in 1981, a hunger strike resulted in the deaths of ten prisoners and sparked rioting in Northern Ireland as well as the lionization of the dead leader Bobby Sands.<sup>214</sup> In essence, Sinn Fein and PIRA effectively coerced the media and exploited sympathies to rebrand their cause, gaining substantial legitimacy for the movement.

#### 4. Community Organizers

The PIRA and Sinn Fein also co-opted community organizers to achieve similar objectives. Both organizations leveraged two kinds of community organizers to great effect: civil rights activists and clergy. Sinn Fein and the PIRA leveraged connections with a wide range of civil rights organizations to tap into the broader network of Irish Nationalist leaders. For example, at the inception of the Northern Ireland Civil Rights Association (NICRA), its board contained members of Irish nationalist groups such as the Wolfe Tone Society, PIRA, Original IRA, as well as members of the press, and several other political parties. Civil rights organizations aided these groups in framing paramilitaries as a response to previously existing issues caused by the British government.

Whether wittingly or not, the clergy of the Catholic Church often publicly framed the PIRA as victims and defenders of the Catholic Irish community. The Church's unwillingness to excommunicate PIRA leaders suggested their tacit support making claims of neutrality questionable.<sup>215</sup> Additionally, the Church was prompted to make increasingly

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<sup>212</sup> Alonso, "Terrorist Skin, Peace-Party Mask," May 26, 2016.

<sup>213</sup> "CAIN: Report of a Committee to Consider, in the Context of Civil Liberties and Human Rights, Measures to Deal with Terrorism in Northern Ireland," accessed March 6, 2022, <https://cain.ulster.ac.uk/hmso/gardiner.htm#1>.

<sup>214</sup> James Dingley and Marcello Mollica, "The Human Body as a Terrorist Weapon: Hunger Strikes and Suicide Bombers," *Studies in Conflict & Terrorism* 30, no. 6 (May 24, 2007): 459–92, <https://doi.org/10.1080/10576100701329592>.

<sup>215</sup> Maggie Scull, "How the Catholic Church Impacted on the Troubles," July 21, 2019, <https://www.rte.ie/brainstorm/2019/0721/1064368-how-the-catholic-church-impacted-on-the-troubles/>.

critical public statements concerning the living conditions of PIRA prisoners after they were confronted by the unsanitary and unsafe nature of the prison protests (dirty protest, no-wash protest, hunger strikes) tended to scrutinize.<sup>216</sup> These conditions were often manufactured by the prisoners, however, they conveniently placed the clergy in a position where, by virtue of their position and role in society, were forced to speak out about the situation and culturally frame the PIRA as the victims in the struggle for independence.

#### **E. PIRA KEY COMMUNICATORS AND SIT**

Social Identity Theory (SIT) serves as a useful paradigm to understand both PIRA key communicators and audiences within Northern Ireland. First, PIRA and Sinn Fein communicators leveraged their social positions within various communities to diffuse select information to critical target audiences. Most notably, the clergy used their official positions as prominent members of the Catholic Church to maintain favor with Northern Irish and international religious communities.<sup>217</sup> However, they also identified as neutral parties to the conflict, giving them access to social circles within politics and the government.<sup>218</sup> For the PIRA, who lacked the legitimacy to these groups, the clergy offered an important node to deliver messages that supported their political objectives. It is not hard to see how social positions impacted the reach of other key communicators, all of which were dictated by the social categories of the group and member perceptions of communicator behavior.

Concerning audiences, the PIRA and Sinn Fein may have had marginal influence over in-group boundaries but could actively shape the perception of the out-group. For example, PIRA used access to information and counter-messaging to intimidate the media to legitimize the cause.<sup>219</sup> In this case, the media was not a member of the in-group (the

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<sup>216</sup> Begoña Aretxaga, "Dirty Protest: Symbolic Overdetermination and Gender in Northern Ireland Ethnic Violence," *Ethos* 23, no. 2 (1995): 133.

<sup>217</sup> Maggie Scull, "How the Catholic Church Impacted on the Troubles," July 21, 2019, <https://www.rte.ie/brainstorm/2019/0721/1064368-how-the-catholic-church-impacted-on-the-troubles/>.

<sup>218</sup> Scull.

<sup>219</sup> Rogelio Alonso, "Terrorist Skin, Peace-Party Mask: The Political Communication Strategy of Sinn Féin and the PIRA," *Terrorism and Political Violence* 28, no. 3 (May 26, 2016): 520–40, <https://doi.org/10.1080/09546553.2016.1155934>.

movement) and sought to protect their access to valued resources (information and ratings). Conversely, Sinn Fein constantly modified its approach to remain appealing to sympathetic audiences, as well as keeping its position within the in-group (political circles). It is evident that the words and actions of key communicators were driven by the social identity of the group of which they were members. Since membership and social position are correlated to the reach a communicator would have, they sought to maintain status and project adherence to group values, norms, beliefs, and behaviors.

#### **F. PIRA KEY COMMUNICATORS AND SET**

PIRA and Sinn Fein key communicators exercised considerable power and social capital over target audiences considered critical to the movement. For example, community organizers and politicians exhibited a degree of potential power over their networks since they created messages that articulated the grievances of the Northern Irish communities in a manner that was congruent with the larger social struggle of the 1960 and 1970s. In turn, their analysis of complex information served as a useful resource to mobilize non-violent efforts and encourage political action against the local authorities and the British. Similarly, politicians and organizers shared a high degree of trust with their communities, proving useful for the PIRA to leverage when communicating their political objectives. Key communicators, like paramilitary leaders, politicians, and the clergy demonstrated social credentials within Catholic Irish communities, while journalists with access to PIRA information could still leverage credibility with outside audiences. Finally, community organizers and journalists were exploited for their long-standing social capital, while paramilitary leaders and politicians had to build capital to become effective communicators for the movement.

#### **G. PIRA KEY COMMUNICATORS AND SMT**

One way to explain how the PIRA employed key communicators is through the lens of social movement theory. All four categories of key communicators employed cultural framing, but politicians and paramilitary leaders provided a linkage between framing and resource mobilization. Although they began with legitimate grievances, the PIRA leaders appear to have exploited/manufactured threats to their existence that further

solidified their image as victims and defenders of the Irish Catholic community. Additionally, one of the main reasons the PIRA was formed was due to dissatisfaction with the existing IRA's embrace of political processes. Paramilitary leaders and politicians served as a tool for the PIRA to create tension within the Nationalist movement. The paramilitary leaders portrayed the formation of the PIRA as an opportunity and mobilized resources to sustain the movement. Meanwhile, this encouraged politicians to establish longer-term social change objectives since the PIRA could maintain short-term tactical objectives. Key communicators used cultural framing to maintain their place as socially acceptable members of the peace process. The symbiotic relationship between the groups likely sustained the social movement for 30 years, particularly because they could mobilize recruits from each other.

Although Northern Ireland was considerably polarized by the end of the Troubles, it is possible that those audiences who shared sympathies with the cause were far less radical. Paramilitary leaders and some activists were most likely to radicalize their networks in support of the cause. Journalists, politicians, and the clergy could have encouraged polarization through persuasive arguments of their audiences, but only in those cases where conditions were right, and individuals were predisposed to such an outcome.

## APPENDIX D. CASE STUDY SNA CODEBOOK

### A. DATA BOUNDARIES

The organizations and relational ties featured in this study must meet three main criteria:

1. *Timely*: active in the IRA, PIRA, OIRA, or Sinn Fein from 1 January 1969 to 31 December 1980. The only exception to this is attribute data relating to public office and imprisonment.
2. *Relevant*: Tied by two or fewer degrees to PIRA leaders, activities, or policies. Additionally, as the focus of this is public figures there will be less focus on illuminating the network of lower-level volunteers in the IRA. Links are determined through open-source information such as news media, public statements, and books.

### B. DATA SOURCES

In researching the data, researchers relied on both International and Northern Ireland reporting during the prescribed period and after. The articles and video clips are available on their online archive. In addition to reporting, researchers looked at primary source statements by IRA members that were published as Op-Eds in news sources. Some newspapers were no longer in print, however, were available on The British Newspaper Archive website.

New York Times - <https://www.nytimes.com/>

An Phoblacht - <https://www.anphoblacht.com/?no-splash=true>

The BBC - <https://www.bbc.com/news>

United Irishman - <https://digital.library.villanova.edu/Collection/vudl:150680>

The Sunday Tribune - <https://www.britishnewspaperarchive.co.uk/>

The Independent - <https://www.britishnewspaperarchive.co.uk/>

The Guardian - <https://www.theguardian.com/uk>

The Observer - <https://www.theguardian.com/observer>

In addition to news sources, researchers used publicly available books and journal articles. For a full list refer to the list of references:

### **C. RELATIONAL DATA (PERSON TO PERSON/ORGANIZATION)**

1. *Collaboration (one-mode undirected)*: Two or more persons who are explicitly stated to work or interact with each other in a manner that is not captured in other relational data.
2. *Kinship (one-mode undirected)*: Two or more persons linked by familial ties. These include indirect ties by marriage (e.g., Dáithí Ó Conaill is linked to Ruairí Ó Brádaigh via marriage to Ruairí's 2nd cousin).
3. *Public Criticism (two-mode, directed)*: A directional link between two actors, or an actor and an event, based on public criticism by of the second node. Public statements may be gathered from written articles, op-eds, interviews, or transcripts of public speeches.

### **D. RELATIONAL DATA (PERSON TO ORGANIZATION)**

*Affiliation (one-mode, undirected)*: A direct link between an actor and an organization, observed via membership, participation in events sponsored by the organization, and credible public statements regarding affiliation with the organization.

### **E. RELATIONAL DATA (PERSON-TO-EVENT)**

*Events (two mode)*: Defined as leadership, planning, or direct participation in events related to one of the below categories:

*Demonstrations*: Defined as direct participation or leadership in a demonstration or protest of policy or discrimination. This is inclusive of non-violent protests, riots, hunger strikes, and other activities that are not primarily focused at achieving violent objectives.

*Terrorism*: Defined as leadership of or direct participation in an act of terrorism. Terrorism includes assassinations, bombings, asymmetric battles and other events that are primarily violent in nature and objective.

*Negotiations*: any incident involving representatives of two or more opposing organizations meeting to discuss peaceful resolution of grievances.

*Policy/Legislation*: policy or legislation linked to an organization.



*Public Statements*: interviews, newspaper articles, press conferences or other statements made for public audiences.

## **F. ATTRIBUTE DATA**

Paramilitary affiliations: describes membership in one or more of three Irish Republican paramilitary organizations common in Northern Ireland during the time. Membership is assigned when the preponderance of evidence/statements place an individual in the organization (e.g., although Gerry Adams has consistently denied PIRA membership, he has been placed as a member of the IRA by multiple credible eyewitness statements)

1. The Anti-Treaty IRA (ATIRA). More commonly referred to simply as the IRA. This describes the IRA from the end of the Irish War of Independence until the split between Socialist and Nationalist wings of the IRA (1922-1969)
2. Provisional IRA (PIRA)
3. Original IRA (OIRA)
4. ATIRA and PIRA
5. ATIRA and OIRA
6. PIRA AND OIRA
7. No paramilitary affiliation

### Role

1. President of Sinn Fein
2. Vice President of Sinn Fein
3. Chief of Staff
4. Officer Commanding (O/C) or Army Council Officer (i.e. Quartermaster General)
5. Editor (periodical)

6. Director of Publicity
7. Reporter
8. Volunteer
9. Activist
10. Representative (other organization)

Elected to Government Office

1. Before 1969
2. Between 1969 and 1980
3. After 1980
4. Never elected.

Imprisoned

1. Before 1969
2. Between 1969 and 1980
3. After 1980
4. Never imprisoned.

Age in 1969

1. 24 and younger
2. 25-35
3. 36 and older

Location

1. Belfast
2. Derry
3. Dublin
4. Miscellaneous Ireland

5. Miscellaneous Northern Ireland

Type of Node

1. Person
2. Demonstration
3. Terrorism
4. Negotiations
5. Policy/Legislation
6. Public Statements
7. Paramilitary
8. Political party
9. News organization
10. Government group
11. Social aid group
12. School

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## APPENDIX E. SURVEY QUESTIONS

### A. KEY COMMUNICATOR EXPERIENCE

- When working with OFFICIAL or UNOFFICIAL Key Communicators, which social media platforms have you ever used to find, analyze, and/or engage them?

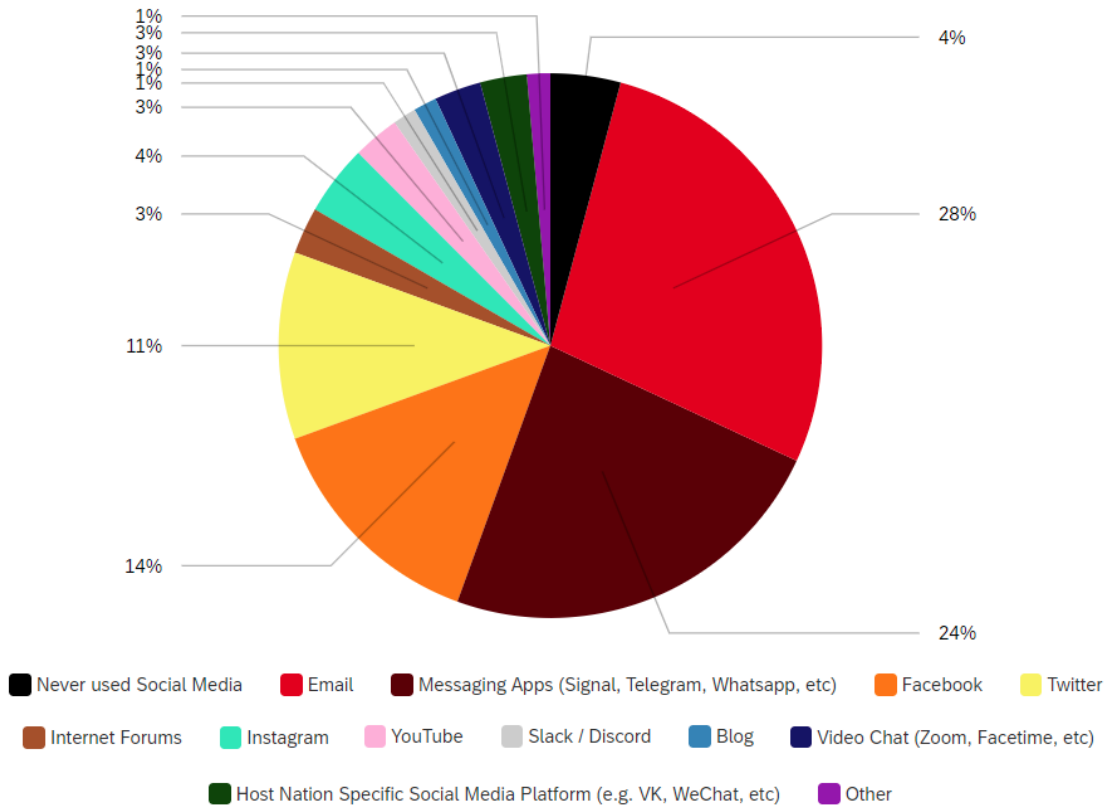


Figure 35. Key Communicator Experience Survey Results

## B. FAMILIARITY

- How would you rate your familiarity with the following topics concerning Key Communicators?

Table 13. Familiarity Survey Results

Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
How to judge the reach of a Key Communicator	1	9	4.43	2.16	4.65	30
How to assess the audience of a Key Communicator	1	9	4.4	2.32	5.37	30
How to judge the utility of a relationship with a Key Communicator	1	9	4.33	2.26	5.09	30
How to judge the strength of a relationship with a Key Communicator	1	8	3.87	2.17	4.72	30
How to understand the Key Communicator's arguments and themes	1	9	4.33	2.27	5.16	30
How a Key Communicator uses specific communication platforms	1	9	4.77	2.51	6.31	30
How to judge the quality of Key Communicator products	1	9	4	2.32	5.4	30

### C. THEORIES

- Please rate how each theory helped you identify and analyze Key Communicators?

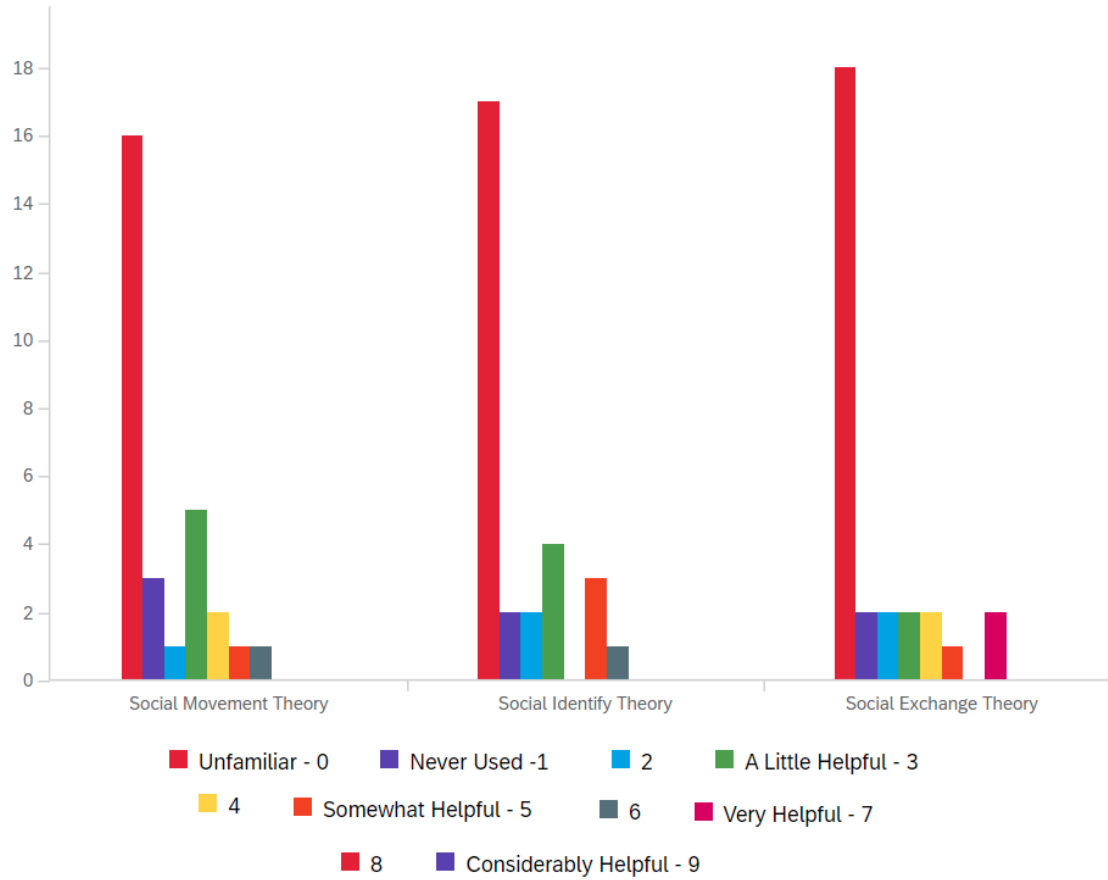


Figure 37. Theory Survey Results

## D. PROCESSES

- How much did each process help you identify and analyze Key Communicators?

Table 14. Processes Survey Results

Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Social Network Analysis (SNA)	1	9	4.57	2.72	7.38	30
Intelligence Preparation of the Battlefield (IPB)	1	8	5.93	1.71	2.93	30
Common Operating Picture (COP)	1	8	5.4	1.91	3.64	30
Operational Preparation of the Environment (OPE)	1	9	4.93	2.39	5.73	30
Informational Preparation of the Environment (IPE)	1	9	4.55	2.72	7.42	29
7 Phase PSYOP Process	1	8	3.03	2.44	5.97	30
Target Audience Analysis (TAA)	1	9	3.83	2.81	7.87	30
Center of Gravity (COG) Analysis	1	9	5.37	2.47	6.1	30
Critical Factors Analysis (CFA)	1	8	3.52	2.5	6.25	29
Operational Variables (PMESII-PT)	1	9	5.73	1.91	3.66	30
Other Processes (Describe)	1	8	3.6	2.87	8.24	5



## E. TOOLS AND SOURCES

- Please rate how each tool or source help you identify and analyze Key Communicators?

Table 15. Tools and Sources Survey Results

Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Open Source Intelligence (OSINT)	1	9	6.77	1.8	3.25	30
Human Source Intelligence (HUMINT)	1	10	5.7	2.48	6.14	30
Palantir	1	8	3.43	2.22	4.91	30
Gephi	1	8	1.53	1.28	1.65	30
snExplorer	1	2	1.37	0.48	0.23	30
PULSE	1	10	2.73	2.34	5.46	30
iGraph	1	2	1.27	0.44	0.2	30
NetworkX	1	2	1.27	0.44	0.2	30
NetLogo	1	2	1.28	0.45	0.2	29
Digital Diplomacy Index	1	6	1.41	0.97	0.93	29
Hootsuite	1	4	1.4	0.66	0.44	30
Semrush	1	2	1.27	0.44	0.2	30
Keyhole	1	6	1.63	1.02	1.03	30
Datareportal	1	2	1.27	0.44	0.2	30
UCNET	1	2	1.28	0.45	0.2	29
ORA	1	2	1.3	0.46	0.21	30
Snappy	1	5	1.37	0.8	0.63	30
"R"	1	8	1.83	1.64	2.69	29
Hamilton 2.0 Dashboard	1	2	1.27	0.44	0.2	30

## F. COURSES

- Please rate how each course assisted you during your identification and analysis of Key Communicators?

Table 16. Courses Survey Results

Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
Network Development Course (NDC)	1	9	2.5	2.54	6.45	30
Operational Design Course (ODC)	1	9	2.7	2.61	6.81	30
Psychological Operations Qualification Course (POQC)	1	8	3.07	2.5	6.26	30
Information Operations Military Deception Course (IO MILDEC)	1	8	1.9	1.6	2.56	30
Special Operations Military Deception Course (SO MILDEC)	1	8	2.37	2.01	4.03	30
MISO Program Design and Assessment Course (MPDAC)	1	2	1.33	0.47	0.22	30
Echo Analytics (EAG)	1	8	1.8	1.66	2.76	30
Naval Postgraduate School (NPS)	1	8	3.3	2.16	4.68	30
Army Command General Staff College (CGSC)	1	6	1.6	1.02	1.04	30
National Defense University (NDU)	1	6	1.57	0.99	0.98	30
Information Operations Planner Course (IOPC)	1	7	2.37	1.99	3.97	30
Joint Information Operations Planner Course (JIOPC)	1	7	1.87	1.5	2.25	30
JSOU courses (Describe)	1	7	2.58	1.89	3.58	12
Other courses (Describe)	1	8	2.86	2.7	7.27	7

## G. TRAINING EXERCISES

- How would you rate the military's use of Key Communicators in military exercise scenarios?

Table 17. Training Exercises Survey Results

Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
National Training Center (NTC)	1	9	3.03	2.11	4.43	30
Joint Readiness Training Center (JRTC)	1	8	2.73	2.17	4.73	30
NATO or Multinational Exercises	1	10	3.37	2.36	5.57	30
Pre-Mission / Mission Readiness Exercises	1	10	4.93	2.48	6.13	30
Detachment or Team Training	1	10	4.57	2.6	6.78	30

## H. BARRIERS

- In your opinion, what is the GREATEST barrier for practitioners trying to work with Key Communicators?

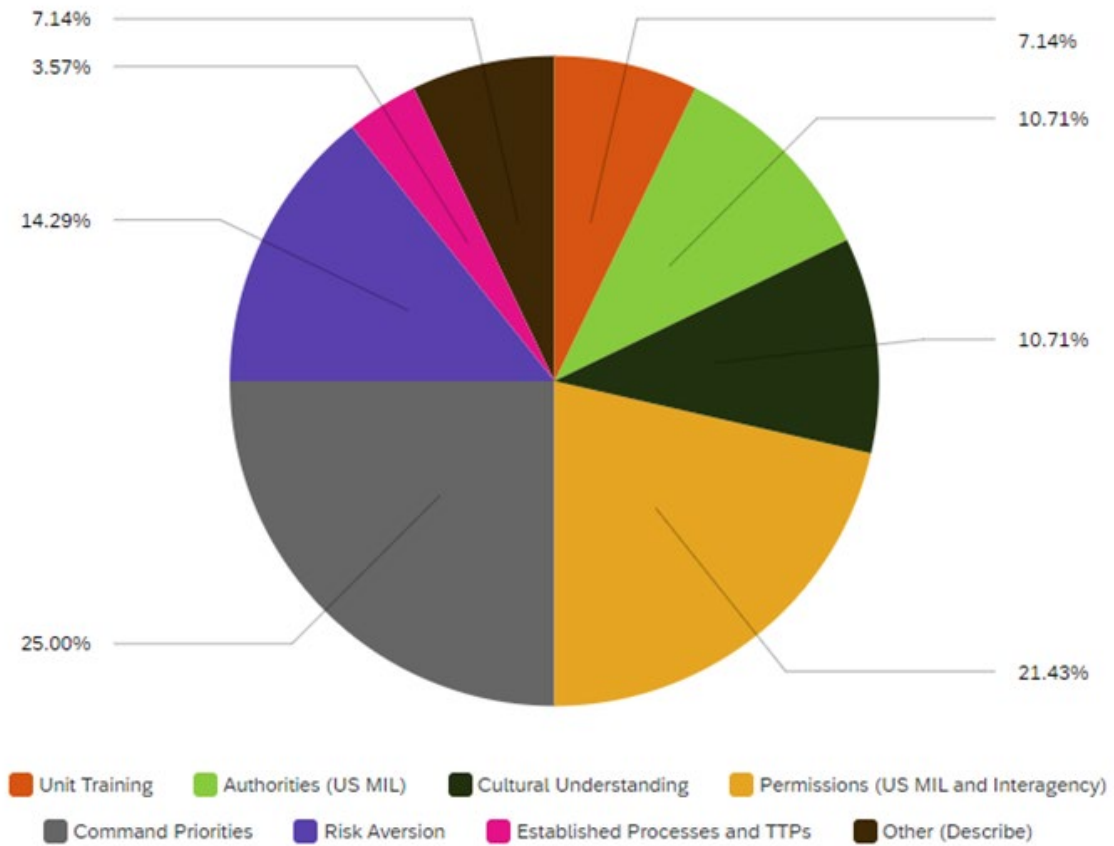


Figure 38. Barriers Survey Results

# I. COMPILATION OF ALL SURVEY QUESTIONS

## 1. Background Information

- What is your current Branch of Service?
- Are / were you an Officer or NCO in the U.S. Military?
- What is / was your paygrade?
- How many years of service do you have?
- Have you been assigned to USASOC or USACAPOC?
- How many military deployments or overseas tours do you have?
- Do you have Regional Expertise?
  - No
  - INDOPACOM
  - CENTCOM
  - EUCOM
  - AFRICOM
  - SOUTHCOM
  - NORTHCOM
  - Multiple Regions
- Which Area of Responsibility do you feel you have the most experience in?
  - INDOPACOM
  - CENTCOM
  - EUCOM
  - AFRICOM
  - SOUTHCOM
  - NORTHCOM

## 2. Key Communicator Experience

- To the best of your knowledge, how many Key Communicators or Influencers have you worked with in an OFFICIAL capacity?
- To the best of your knowledge, how many Key Communicators or Influencers have you worked with in an UNOFFICIAL capacity?
- When working with OFFICIAL or UNOFFICIAL Key Communicators, which social media platforms have you ever used to find, analyze, and/or engage them?
  - Never used social media
  - Email
  - Blog
  - Instagram
  - Facebook
  - Twitter
  - Internet Forums
  - YouTube
  - Slack / Discord
  - Messaging Apps (Signal, Telegram, Whatsapp, etc)
  - Video Chat (Zoom, Facetime, etc)
  - Host Nation Specific Social Media Platform (e.g. VK, WeChat, etc)

- Other
- Outside of those engagements on social media, please describe your interactions with any Key Communicators.
- Please describe your experience with Key Communicators (officially and unofficially) and how various tools, processes, theories, and training supported your efforts.

### **3. Familiarity**

- How would you rate your familiarity with the following topics concerning Key Communicators?
  - How to judge the reach of a key communicator
  - How to assess the audience of a key communicator
  - How to judge the utility of a relationship with a key communicator
  - How to judge the strength of a relationship with a key communicator
  - How to understand the key communicator's arguments and themes.
  - How a key communicator uses specific communication platforms
  - How to judge the quality of key communicator products

### **4. Theories**

- Please rate how each theory helped you identify and analyze Key Communicators?
  - Social Movement Theory
  - Social Identity Theory
  - Social Exchange Theory
  - Other
- How much did each theory help you identify and analyze Key Communicators?
- Describe any theories that were not listed but you believe could help in the identification and analysis of Key Communicators. Describe how these assisted you.

### **5. Processes**

- Please rate how each process helped you identify and analyze Key Communicators?
  - Social Network Analysis (SNA)
  - Intelligence Preparation of the Battlefield (IPB)
  - Common Operating Picture (COP)
  - Operational Preparation of the Environment (OPE)
  - Informational Preparation of the Environment (IPE)
  - 7 Phase PSYOP Process
  - Target Audience Analysis (TAA)
  - Center of Gravity (COG) Analysis
  - Critical Factors Analysis (CFA)
  - Operational Variables (PMESII-PT)
  - Other
- How much did each process help you identify and analyze Key Communicators?
- Describe any process(es) that were not listed but you believe could help in the identification and analysis of Key Communicators. Describe how these assisted you.

## 6. Tools and Sources

- Please rate how each tool or source help you identify and analyze Key Communicators?
  - Open Source Intelligence (OSINT)
  - Human Source Intelligence (HUMINT)
  - Palantir
  - Gephi
  - snExplorer
  - PULSE
  - iGraph
  - NetworkX
  - NetLogo
  - Digital Diplomacy Index
  - Hootsuite
  - Semrush
  - Keyhole
  - Datareportal
  - UCNET
  - ORA
  - Snappy
  - Hamilton 2.0 Dashboard
  - Other
- How much did each tool or source help you identify and analyze Key Communicators?
- Describe any sources or tools that were not listed but you believe could help in the identification and analysis of Key Communicators. Describe how these assisted you.

## 7. Courses

- Please rate how each course assisted you during your identification and analysis of Key Communicators?
  - Network Development Course (NDC)
  - Operational Design Course (ODC)
  - Psychological Operations Qualification Course (POQC)
  - Information Operations Military Deception Course (IO MILDEC)
  - Special Operations Military Deception Course (SO MILDEC)
  - MISO Program Design and Assessment Course (MPDAC)
  - Echo Analytics (EAG)
  - Naval Postgraduate School (NPS)
  - Army Command General Staff College (CGSC)
  - National Defense University (NDU)
  - Information Operations Planner Course
  - Joint Information Operations Planner Course (JIOPC)
  - Any JSOU courses
  - Any other courses
- How did each course assist you during your identification and analysis of Key Communicators?

- Describe any JSOU, military, civilian, or other courses that were not listed but assisted you when identifying and analyzing Key Communicators. Describe how these courses assisted you.
- Do any processes include a Key Communicator Analysis Process?
- What processes do you believe should be incorporated into a Key Communicator Analysis Process?
- Do any tools currently include a Key Communicator Analysis Process?
- What tools could support a Key Communicator Analysis Process?
- Do any courses teach a Key Communicator Analysis Process?

## **8. Training Exercises**

- How would you rate the military's use of Key Communicators in military exercise scenarios?
  - National Training Center (NTC)
  - Joint Readiness Training Center (JRTC)
  - NATO or Multinational Exercises
  - Pre-Mission / Mission Readiness Exercises
  - Detachment or Team Training
- In what ways did exercises successfully incorporate Key Communicators into the training environment?

## **9. Barriers**

- In your experience, what barriers exist for practitioners trying to work with Key Communicators?
  - Doctrine
  - Unit Training
  - Military Capabilities (Tools, Sources, and Technology)
  - Language Proficiency
  - Authorities (US MIL)
  - Permissions (US MIL and Interagency)
  - Military Objectives
  - Command Priorities
  - Operational Timelines
  - Practitioner Regional Experience
  - Practitioner Operational Experience
  - Established Processes and TTPs
  - Cultural Understanding
  - Risk Aversion
  - Other
- In your opinion, what is the GREATEST barrier for practitioners trying to work with Key Communicators?
  - Doctrine
  - Unit Training
  - Military Capabilities (Tools, Sources, and Technology)
  - Language Proficiency



- Authorities (US MIL)
- Permissions (US MIL and Interagency)
- Military Objectives
- Command Priorities
- Operational Timelines
- Practitioner Regional Experience
- Practitioner Operational Experience
- Established Processes and TTPs
- Cultural Understanding
- Risk Aversion
- Other
- Describe how barriers have limited your ability to work with Key Communicators

## **10. Additional**

- What theories do you believe should be incorporated into a Key Communicator Analysis Process?
- Based on your operational experience and training, what should the researchers consider when designing a Key Communicator Analysis Process?
- How can the PSYOP Regiment improve their understanding and use of Key Communicators?
- Any final thoughts or feedback about Key Communicators that you would like the research team to consider?

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