ExplorationN WorkshopS

NSI

Measuring Information Effects

Understanding where we are, and where we need to be in the information environment

Belinda Bragg, PhD

July 2021

Produced in support of the Strategic Multilayer Assessment (SMA) Office (Joint Staff, J39)

What are NSI's Exploration Workshops?

NSI's exploration workshops are half- to full-day events to explore and determine an initial framing of emerging national security issues. Pursuing the maxim that the journey is often more important than the destination, workshops are descriptive, not prescriptive. These workshops will explore complex topics, with the goal of identifying key factors and generating better questions for further inquiry—not providing answers.

Series Editor: Belinda Bragg, PhD (NSI, Inc.)

Point of contact for this report: Belinda Bragg, PhD (NSI, Inc.), bbragg@nsiteam.com

Workshop Contributors

As the exploration workshop sessions are conducted under Chatham House rules, there are no attributed quotes or citations in this report. It represents the collective wisdom of the participating experts, and the views expressed are those of the individual authors and do not reflect the official policy or position of the Department of Defense, individual Services, or the US government.

1 anonymous contributor

Dr. Leo Blanken, Associate Professor, Defense Analysis Department, Naval Postgraduate School

Mr. Andrew Bockover, MA, Grants Management Specialist, Department of State's Global Engagement Center

Maj. Andrew Caulk, Public Affairs Director, SOCAFRICA, United States Africa Command

Dr. Skye Cooley, Oklahoma State University

Mr. Jonathan Fujiwara, Senior Technical Analyst, RAND

Ms. Marsha Grodnicki, MA MS, Monitoring and Evaluation Team Lead, Alutiiq Contractor to the Department of State's Global Engagement Center

Dr. Nathan Hedges, Senior Evaluation Specialist, Alutiiq Contractor to the Department of State's Global Engagement Center

Mr. Phillip McGuinn, Chief, Strategy, Plans & Assessment, Joint Planning Support Element – Public Affairs (JPSE-PA)

COL Matthew J. Sheiffer, US Army

Dr. Jonathan Schroden, Research Program Director, Center for Naval Analyses

Lt. Colonel Benjamin Stegmann, MA, LTC, US Army, Chief of Plans, Department of Defense Detailee to the Department of State's Global Engagement Center

Accessing SMA Publications

Available on the open Internet: https://nsiteam.com/sma-publications/
Available on NIPR (IntelDocs) requiring CAC/PIV certificate: https://go.intelink.gov/QzR772f
For any questions, please contact Ms. Mariah Yager, J39, SMA (mariah.c.yager.ctr@mail.mil).

Disclaimers

The views expressed in these papers are those of the individual authors and do not reflect the official policy or position of the Department of Defense, individual Services, or the US government. The purpose of this series is to expose a range of views and stimulate thinking on ways to address challenges that the US faces.

Mention of any commercial product in these papers does not imply Department of Defense (DoD) endorsement or recommendation for or against the use of any such product. No infringement on the rights of the holders of the registered trademarks is intended.

The appearance of external hyperlinks does not constitute endorsement by the United States DoD of the linked websites, or the information, products, or services contained therein. The DoD does not exercise any editorial, security, or other control over the information you may find at these locations.

Introduction

The objective of the Integrating Information into Joint Operations (IIJO) project is to assess the ways in which the Joint Force can most effectively integrate information[1] into its activities across the competition-conflict continuum. During the course of this project, we have spoken to many people familiar with both Department of Defense (DOD) and Department of State (DOS) efforts to integrate information and shape the information environment (IE); their overall assessment has been remarkably consistent.[2] Namely, information is playing an increasingly important role in states' ability to protect and further their national interests, but the United States is not currently equipped or positioned to counter the scope and scale of our adversaries' information activities.

However, there was also general consensus that if we improve our understanding of the IE and how our actions are perceived by populations (foreign and domestic as well as target audiences), we can proactively shape the environment and make the United States more competitive. Furthermore, if senior leaders and decision makers prioritize and fund information activities, agencies will be incentivized to integrate information across the planning process. In order to do either of these things, however, we need to improve our ability to monitor the IE and assess the informational effects of US actions. This requires the development of measures of effectiveness (MOEs) specifically designed to capture these informational effects—MOE(IE).

In order to examine the issue of MOE(IE) we organized a small, virtual workshop with three sessions. The goal for the workshop was to identify a set of basic guidelines for developing MOEs for information. Session 1 focused on conceptual-level issues, particularly what design principles can and cannot be carried over from assessment of kinetic effects. Session 2 built on Session 1, moving the discussion to consideration of the operational-level challenges to MOE development. Session 3 considered these combined findings in light of the challenges and opportunities presented by monitoring and assessment at the interagency level. This report integrates the three workshop discussions: expanding on the importance of MOE(IE), where we are now in our ability to measure and assess the information effects of our actions, and the current barriers to improvement. It ends with a suggested process for MOE development that pulls together the suggestions, recommendations, and observations of best existing practices, from all workshop participants. Although the focus of these sessions, and thus this report, is on measuring assessing US activities and capabilities

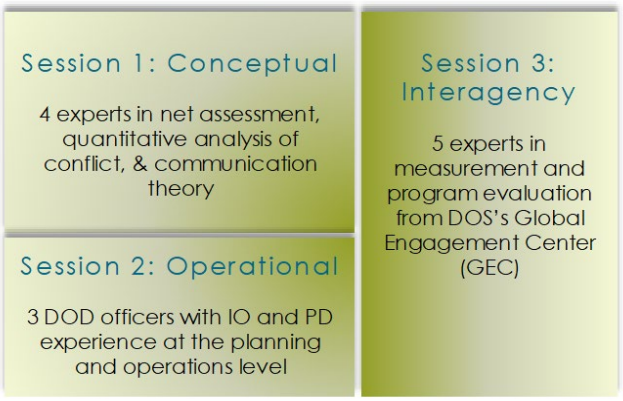

Figure 1: Workshop Design & Participants

[1] See discussion that follows and glossary at end of report for key definitions.

[2] See, in particular: (a) Bragg, B., & Polansky, S. (2021). Integrating information: Expert insights into a complex problem and (b) Kuznar, L. (2021). Net Assessment. These reports have restricted distribution to federal employees and contractors. To request a copy, please email Ms. Mariah Yager (mariah.c.yager.ctr@mail.mil) from your .mil or .gov email.

there is no reason why the same approach could not be applied to the activities and capabilities of other actors. In fact, as discussed later in the report, the ideal would be to have a real-time monitor of US influence relative to other regional and global actors. Such a tool would, of course, require us to monitor and measure the informational effects of other actors as well as the US.

A Brief Word About Terminology

As almost all elements of the IIJO project have highlighted, information and the information environment (IE) are very broad and fluid concepts. Therefore, before moving on to discussion of the workshop, we need to address the issue of terminology. For this report, we have aligned our definitions to doctrine wherever possible (see glossary). However, specific to this report, we have we have adopted the following terms to streamline discussion:

INTEGRATING INFORMATION: The Joint Concept for Operating in the Information Environment (JCOIE) defines integration of physical and informational power as "[t]he deliberate leveraging of information and the inherent informational aspects of military activities to direct or influence the behaviors of relevant actors and the course of events." For the purposes of this report, we apply this definition to two broad categories of activity undertaken by the Departments of Defense and State: (1) general efforts to integrate information into planning across all horizons (current and future operations), targeting, analysis, assessment, and execution; and 2) more specific information and engagement activities, such as psychological operations (PSYOP), public diplomacy (PD), public affairs (PA), and information operations (IO), including civil affairs (CA). Where appropriate, we use more specific terminology.

INFORMATIONAL EFFECTS: In the context of this report, this refers to the effects any action (see integrating information above) has on the perceptions, attitudes, and behavior of individuals and groups and how these effects propagate through and shape the broader IE.

MOE(IE): We use this term to refer to a measurable indicator of the informational effect of an action or series of actions, which can be used to assess the informational power of that action.

INFORMATIONAL POWER is the ability to leverage information to shape the perceptions, attitudes, and other elements that drive desired behaviors and the course of events. This includes the ability to use information to affect the observations, perceptions, decisions, and behaviors of relevant actors; ability to protect and ensure the observations, perceptions, decisions, and behaviors of the Joint Force; and the ability to acquire, process, distribute, and employ data (information) (JCOIE).

Why Focus on MOE(IE)s?

Without effective MOE(IE)s, we are flying blind in the information environment (IE)

The pivotal role monitoring and assessment play in the development and evolution of strategy as well as operational and tactical planning has long been accepted. Think, for example of the Army Weapons System Handbook, which describes each system's purpose, specifications, program status, projected activities, and benefits to the soldier. Such consistent and systematically compiled information, combined with known probability calculations of the hit

(P_{HIT}), kill (P_K), detection (P_D), and reliability of a weapon (R_W) or system (R_{SYS}) provides military planners with quantifiable measures of the type and quantity of weapons they will need to achieve a mission objective, and the likely physical effects of their actions. However, they tell us nothing about the broader and longer-term informational effects: whether and how those physical effects influence the attitudes and behavior of target audiences and how they are represented and move through the IE to affect the attitudes and behaviors of more distant audiences. Without the means of observing and measuring informational effects, we are essentially flying blind—relying on ad hoc approaches and anecdotal reasoning. We accept that every action has an informational component, yet we are unable to determine, or even predict, the influence of such information as it spreads through the global IE. Therefore, the development of MOE(IE)s is critical to our ability to shape the operational environment.

MOE(IE)s offer a powerful point of leverage for generating support for the integration and prioritization of information at all levels of government

Expert contributors to this and prior IIJO reports[3] identify cultural buy-in as a necessary condition for effective integration of information. Cultural buy-in requires a USG-wide acceptance of the role of information in the global system and a corresponding conviction that mastering the use of information matters for US interests. The current lack of cultural buy-in seen at all levels of the United States Government (USG), but especially among senior leaders and decision makers, is attributed in part to an absence of clear and compelling evidence that planning for information effects of kinetic activities or conducting information and engagement activities can positively shape the IE to advantage the US. Compiling such evidence requires the first designing then implementing measures to monitor and assess the informational power and effects of our actions.

Source: Vanderbilt University

Figure 2: The Incredulity of St. Thomas, Caravaggio, 1601-1602

Workshop participants link cultural buy-in among senior leaders, (including political decision makers), to the prioritization of information integration, and greater willingness to devote resources and personnel to these efforts. This creates the potential for a virtuous cycle to emerge, whereby the planning of information effects and execution of information activities in turn can be improved. If prioritized, MOE(IE)s can be designed in conjunction with operational planning, and sufficient time and resources can be devoted to their monitoring and analysis. Findings from these MOE(IE)s can then be incorporated into the next round of planning. Over time, this iterative learning process will improve our understanding of how our actions shape the IE. As our understanding improves, so will our ability to effectively account for the informational effects of our actions.

[3] See, in particular: (a) Bragg, B., & Polansky, S. (2021). Integrating information: Expert insights into a complex problem. This report has restricted distribution to federal employees and contractors. To request a copy, please email Ms. Mariah Yager (mariah.c.yager.ctr@mail.mil) from your .mil or .gov email.

Where are we Now?

Absent a clear strategic goal, defining MOE(IE)s is problematic

MOE(IE)s are intrinsically linked to intention. In order to measure the outcomes of your actions, you must a priori define what the intended outcomes are. Without clear strategic goals, and a compelling narrative to communicate, the DOD will struggle to develop meaningful MOE(IE)s.

Consistent with the assessment of other SME contributors to the IIJO project, Session 1 participants consider the lack of a clearly defined and articulated grand strategy to leave the US at a disadvantage—responding to adversary messaging and narratives, rather than constructing and communicating our own story. Lack of strategic clarity has direct implications for the development of meaningful MOE(IE)s. If we want to move from measuring outputs (measures of performance, or MOPs) to measuring outcomes (MOEs), we need to know what is the desired outcome, and how operational and tactical outcomes nest inside strategic goals[4]. For example, the number of tweets or retweets regarding a USG activity would be an operational MOP, whereas survey data showing increased audience awareness of US messaging around that activity, post-tweets, would be an MOE(IE).

We must start addressing MOE(IE)s at all levels of analysis—strategic through tactical—and carefully consider what changes in the IE associated goals require

Regardless of the context, the aspects of a system an organization chooses to assess reflects its priorities and goals. For example, advertisers have a simple, clear, and consistent goal—sell more product X—making the choice of an MOE simple: increase in sale of product X. Although we hear a lot about the DOD being able to learn from advertising to improve its information and influence activities, its situation is fundamentally different. The DOD (and the USG more broadly) does not have a consistent strategic goal (e.g., sell more product) that can be used to inform *all* operational and tactical plans and objectives. In absence of clear strategic guidance, the Session 1 participants indicate that two things are likely to happen. First, MOEs may become conflated with measures of performance (MOPs), which measure outputs rather than outcomes. Second, incentive structures within the organization may shape the selection of MOEs to reflect the aspects of performance that are associated with measures of professional success and/or promotion decisions.

However, when we establish a clear picture of the changes we want to see in the IE —what success looks like—we can design MOE(IE)s that translate operational end states and goals into well-crafted questions. Then we can collect data (quantitative or qualitative) against those questions to determine whether our actions are doing what we think they are, and what we want them to

[4] In another example of the terminological complexity of the IIJO effort, session 3 participants caution that this distinction between MOPs and MOEs is particular to the DOD and may not translate directly across to the concepts and processes used by other agencies. They recommend explicitly defining how these terms are being used to avoid confusion.

do. Over time, this process will also refine our understanding of the IE and improve our ability to shape the information effects of our activities.

What do we Need to Move Forward?

Given the existing constraints, what does the Joint Force—and the USG as a whole—need to create the necessary conditions for developing and implementing MOE(IE)s? Across the three workshop sessions, there was a high level of consensus around what was required.[5]

Problem Ownership

Without advocacy and command emphasis,[6] there will be no incentive to improve assessment, and without the necessary authorities, funding, and expertise, those tasked with assessment will be hamstrung. This dilemma is observable both within the DOD and across the interagency. Within the Joint Force, there is no doctrinal prescription regarding where information integration or the monitoring and assessment of such efforts lives. Some see it as a J2 (Intelligence) function, and at EUCOM the J7 has been responsible for assessment. At the same time, however, the J5 (Planning and Strategy) is often seen as "owning assessment,"[7] despite the JP 5-0 (Joint Planning) offering commanders several places for assessment to reside, including Special Staff Section, Separate J-code, Integrated into a staff section (JP 5-0, Dec 2020 p VI-11).

Integration of information needs to start at the planning stage (discussed below), and be adaptable and agile, which, session 2 participants suggest, means it needs to be under the control of the commands. However, they also caution that it is unwise to organize so that planners or IO operators are responsible for assessing their own plans and operations, as the assessment function needs to be dispassionate and independent. Balancing these competing needs—integration of information in the planning stage and impartiality in the assessment phase—can be achieved by the creation of a dedicated and independent cell that performs the measurement and assessment function exclusively.

AFRICOM's success in linking its IO and J5 personnel provides one approach to the challenge of balancing integration and impartiality. However, success of this nature is dependent on the command having adequate capacity and expertise within its IO elements, and many currently do not. The problem is not one of location so much as resourcing—in many instances the Operations Research personnel may not have the full DOTMLPF[8] infrastructure to provide the joint commander with trained personnel, funding for the tools necessary for MOE(IE) development, and assessment.

---

[5] In this report, discussion of each of these factors is restricted to their influence on MOE(IE). For more detailed discussion of the role each factor plays in information integration overall, see Bragg & Polansky (2021).

[6] As one participant noted: "If you can make measuring and assessment a 'commander's program' and issue, then it might get more traction. This has been done successfully by making issues like safety and Sexual Harassment Assault Reporting and Prevention (SHARP) commander's issues."

[7] One participant also commented that despite J5's assessment role, it is not currently set up to assess informational effects.

[8] Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities

At the interagency level, the DOS's Global Engagement Center (GEC) is often pointed to as a potential hub for US information activities, including assessment. However, in addition to significant resource constraints, coordination with the DOD is hampered by the common misperception that the GEC's mission[9] is to counter adversarial dis- and misinformation, however the GEC does not engage in direct messaging. The GEC's mission directs it to coordinate and lead the US government in recognizing, understanding, exposing, and countering foreign state and non-state propaganda and disinformation (2019 National Defense Authorization Act, HR 5515).

Although not the most pressing issue for measuring the effects of its programming, when it comes to MOE(IE), session 3 participants explained, the GEC is further limited by the nature of its authorities. With a global mandate, the GEC is tasked to measure the effectiveness of counter disinformation efforts on every continent. As the majority of its efforts are short-term and scattered across the world, measuring the effectiveness is challenging and requires significant resources. Moreover, the GEC works with regional bureaus and implementing partners to expose and counter adversarial propaganda and disinformation. Once it assigns funds to a regional bureau, it can require that programs be evaluated, but it cannot specify how. The quality of the assessment process is dependent on the resources, expertise, and commitment of the post and implementing partner. As discussed above for the commands, DOS posts and implementing partners frequently have limited capacity for data collection and evaluation, and can only collect data during their performance period, thus restricting much of their data collection to output indicators.

Commitment

The influence and effects of information activities tend to evolve over time. In some cases, the measurable effects are nearly instantaneous, and, in others, the measurements may unfold over a far greater time horizon. Furthermore, changes in attitudes and behavior cannot be measured in isolation, but only in relation to a baseline. In other words, if you are not monitoring and assessing the IE prior to an action—informational or kinetic—there is no way of measuring the informational effect of that action. Consequently, even tactical level MOE(IE)s require long-term engagement.

Building rigorous MOE(IE)s will take many more people within the DOD and across the interagency dedicated to the long-term study of the IE. The USG also needs to get better at documenting and passing on that knowledge. An essential part of this will be the creation of centralized "living libraries" of consistent, detailed, and up-to-date country, provincial, and population data. As one participant noted:

> *DOS has scores of little Balkanized knowledge repositories, some at INR, our intelligence outfit, but then a lot of other stuff in our regional bureaus, Bunche library. And that's just DOS—*

[9] GEC Core Mission: To direct, lead, synchronize, integrate, and coordinate efforts of the Federal Government to recognize, understand, expose, and counter foreign state and non-state propaganda and disinformation efforts aimed at undermining or influencing the policies, security, or stability of the United States, its allies, and partner nations.

> *interagency is exponentially more fragmented. We very much need a single, one-stop living library. One hundred percent.*

This can in part be assembled from existing data sources such as repositories of past project Needs Assessments and Target Audience Analyses.

Understanding how USG activities do or do not shape the IE also requires ongoing assessment using consistent and comparable MOE(IE)s. For this to happen, there needs to be continuity of effort. For example, the ability to lock in a multi-year funding cycle up front allows for the development of long-term monitoring, with the ability to show in the shorter-term what the value-add is, thereby maintaining leadership support while building the program. Furthermore, organizations that have a specific mandate to implement MOE(IE)s, such as the GEC, need to be able to plan ahead if they are to work efficiently and in coordination with others. For this they need to be able to anticipate funding levels well in advance.

Training and Education

Throughout the IIJO effort, there has been a consistent emphasis on the need for more education and training. Workshop discussions around this issue reflected the general conversation, with a couple of observations that were specific to MOE(IE)s.

Within the DOD, there is no standard or training requirement to prepare personnel assigned to the IE monitoring and assessment mission. Furthermore, the DOD lacks rigorous, formal training for assessors, much less a standard and certification. While training for Foreign Service Officers within DOS includes strategic planning and performance measurement, this training is not required and availability is limited. When it comes to training the whole force, consistent with findings from earlier IIJO research (Bragg & Polansky, 2021; Kuznar, 2021), participants in Session 2 noted that information is rarely the focus of training exercises and, even if it is incorporated, their duration (4 – 90 hours) is not long enough to observe, let alone measure all the potential information effects triggered in the exercise scenarios.

As we have heard consistently through the IIJO effort, when it comes to effectively integrating information into joint operations, there is a need to "educate all." When it comes to MOE(IE)s, there is an additional need to socialize the nature and intent of this type of assessment. Participants in all sessions noted that there is a tendency to confuse or conflate MOEs with measures of performance (MOPs). This often creates resistance to measurement and assessment of activities within organizations, as individuals mistakenly assume their job performance is the focus of interest, rather than the effectiveness, when measured against stated outcomes, of the programs and activities they have been charged with implementing.

Collaboration

Collaboration between assessors, and planners and decision makers, also helps each group understand the constraints faced by the other. Workshop contributors noted that part of conducting assessment is managing expectations. This is accomplished in part by working with planners and senior leaders to articulate "what success looks like" and guide the process toward something that is both achievable, and which can actually be operationalized and measured given our existing theory, data, and resources. Senior leaders and decision makers also face constraints

when it comes to assessment. Not only are there competing demands for their limited resources, but, in many cases, they need to demonstrate the short-term effectiveness of their programs or efforts. When constraints are recognized and understood by all parties, it is easier to minimize the effect they have on assessment processes and outcomes.

Currently, however, this type of collaboration is hampered by the division of labor that exists within agency and command structures. This institutional separation benefits none of these groups and takes power from all. Assessors are not able to leverage the experience of planners and decision makers to improve the practicality and utility of their MOE(IE)s, and decision makers and planners lose an important opportunity to build their understanding of information and the IE, or develop a sense of ownership in the assessment process.

Integrated Planning

Collaboration between assessors and planners improves not only MOE(IE)s, but also the integration of information effects into the planning process itself. As the participants in all sessions emphasized, developing MOE(IE)s requires systematic consideration at the operational level of how a specific action fits into joint operational planning—that is, how it links to a commander's intent and mission objectives. This in turn ideally connects with the strategic goals and influences tactical considerations (e.g., what information an action creates and what aspects of it are observable by which audiences). If you do not have a clear and concrete idea of what you are trying to do—what success looks like—you cannot design a measure to capture it.

The participants' emphasis on the need to integrating MOE(IE) development into planning, and how MOE(IE)s provide valuable feedback to improve information integration, can be understood as part of the broader Observe, Orient, Decide, Act (OODA) loop. Boyd describes the OODA loop as "an ongoing many-sided implicit cross-referencing process of projection, empathy, correlation, and rejection." The iterative nature of the OODA loop (Figure 3 below) explicitly incorporates feedback at multiple points, including after an action.

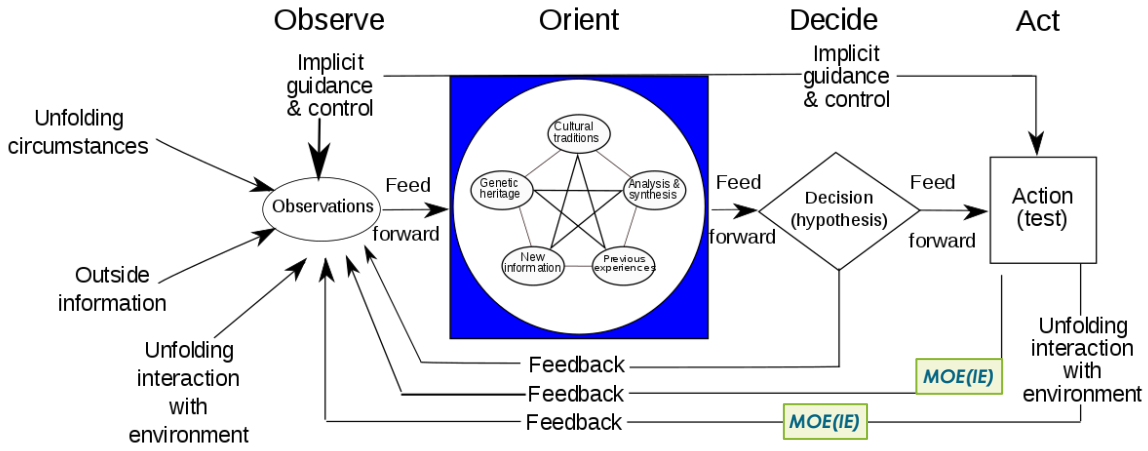

Figure 3: Full OODA diagram as drawn by John Boyd for his briefings Source: Wikimedia Commons

Boyd indicates that this feedback is a result of unfolding interaction with the environment. In the context of the IE, this feedback could take the form of MOE(IE)s that would inform the orient

phase (previous experience) of any subsequent iterations of the OODA loop. In this way, MOE(IE)s could help refine planning for informational effects and inform adjustments in execution. Conversely, the planning process within the OODA—in particular, the orient phase—creates space for developing and refining MOE(IE)s to better capture decision makers' goals and objectives.

The participants in each session emphasized the importance of encouraging decision makers to articulate what Frank Hoffman describes as a Theory of Success during the planning process. By encouraging maneuver commanders to think about intention in the planning stage—that is, what behaviors they want to see from the relevant audiences—assessors can help ensure there is a logical connection between the planned action and the desired effect. They can then ensure that the operational end states and goals are translated into operationalizable measures.

In the IE, the end state you are seeking is usually not finite. Rather, you are looking for "higher ground" relative to an adversary—a "position of continuing advantage." While there are specific pieces within this that may have a finite end state, the IE is fluid, and the effects of any individual action can be either fleeting or enduring; evolving as they move through the IE both in time and space. MOE(IE)s need to take this into account and ideally provide inputs (feedback) to guide planning modifications. The better we become at this iterative process, the faster we can cycle through the OODA loop. If we can cycle faster than our competitors, then they will be responding to out-of-date information, which makes their next action more likely to be a misstep.

Communication

Though collaboration between assessors, senior leaders, and planners is likely, over time, to increase how well each understands the other, assessors and information specialists still need to think carefully about their audience and how to present their findings. Dense, detailed, qualitative studies paired with diverse quantitative measures are best for establishing baselines and building the understanding of a population necessary for those actually involved in MOE(IE) design and implementation. Commanders, however, do not have the time to process that volume and complexity of information and apply it to their planning process.[10] Furthermore, they have been trained to plan by incorporating quantitative information into effects-based models.

Just as we do in designing out information activities, we need to tailor out internal communication to our specific audience. Without some level of "translation" into quantitative metrics and aggregate visualizations that can be clearly linked to commanders' objectives, there is no easy way to incorporate information or MOE(IE)s into the planning process, and

> *…unless we can demonstrate to them, "Look, I can show you that I moved this needle" in a mathematical way, we are going to be really hard pressed to make progress…we will lose, and America will continue to fail to invest in information.*

[10] For more detailed discussion of this point, see Bragg & Polansky (2021).

What's the Sticking Point?

MOE(IE)s highlight the fundamental tension between our drive to quantify and standardize and the complex and context-dependent nature of individual and group behavior.

Over the course of the IIJO effort, we have spoken to many people with diverse experience and expertise in information and communication. Despite the broad and amorphous nature of the topic, however, very clear and consistent narratives have emerged. These have, in turn, generated a shared perception of what needs to be done to improve how the USG understands and shapes the IE. This workshop, however, highlighted a tension—implicit in some of the earlier work—between the way the DOD has traditionally approached problems and the nature of the IE. Consequently, a tension exists between what the DOD considers ideal and what is practical in the context of the IE.

Throughout most of its history, the US military has been given tasks to achieve in the physical world (e.g., take and hold that territory; destroy that bridge, dam, etc.). Planning for and assessing the effects of physical actions such as dropping a bomb is well suited to a mechanistic, effects-based approach to monitoring and assessment. This traditional approach to "bomb damage assessment" has led the US military to develop quantitative and generalizable guidelines, supported by resources such as the Weapons Systems Handbook, for planning and assessing physical actions. The advent of stabilization and counter-terror missions, and the more recent rise in the use of gray zone and IO by US adversaries, however, has moved the military away from physical effects and directly into the social world or so-called human terrain. Though attitudes and behaviors in the social world can also be assessed, the complex nature of human psychology and interaction makes such assessment an inherently more difficult task.

As the Session 2 participants discussed, what the DOD wants is to be able to monitor the influence of the United States relative to its adversaries, globally and in real time, and provide planners and operators with consistent and quantitative measures. Ideally, MOE(IE)s would be based in a detailed understanding of the relevant audiences, the nature of communication, and the IE itself.

However, social factors and human behavior are embedded in complex systems that are poorly suited to this type of hierarchical or linear modelling. Attempting to force MOE(IE)s into such a structure, the Session 1 participants warned, will result in overly cumbersome and complex "tools" that—while restricted to existing instruments and metrics—will be impossible to implement and will provide a false sense of rigor and precision.

How do we Break the Impasse?

If you build it…

At some level, we just need to start, developing skills as we go, beginning to socialize the concept of MOE(IE)s, and demonstrating their utility in order to build support for further investment and prioritization.

Source: IMDb

Figure 4: Field of Dreams. (1989)

Our ideal—a real-time global monitor of US influence relative to our adversaries—is not going to spring forth fully formed.[11] There are many extremely dedicated and knowledgeable individuals working in this area across the USG, but they are too few, and too under-resourced to meet the scope of the challenge facing us. Furthermore, complex concepts like MOE(IE)s take time to operationalize and apply in the real world. An incremental approach is thus not only the most realistic, it is likely to be the most effective in the long run.

The participants in Session 1, considering MOE(IE)s at the conceptual level, identified the United States' lack of a clear, compelling narrative and its dependence on effects-based analysis to be the most immediate barriers to progress. The DOD operators in Session 2 acknowledged both these barriers but pointed out that "we know what we need to do" and suggested starting with a small pilot study and moving on from there. Session 3 contributors, adding an interagency perspective to these positions, also advocated the "just start doing" approach with an experimentation mindset. They noted, however, that there are considerable resources already out there in the form of both data and potential collaborators—and suggested exploring these prior to setting up a pilot survey. Considered together, an approach to a set of basic guidelines for MOE(IE)s and their data requirements—the original goal of this workshop—emerges.

Suggested Process for MOE(IE) Development

Drawing on the discussions from all three workshop sessions, a comprehensive way ahead emerges, as illustrated in Figure 5 (over). The process as outlined, incrementally builds a shared body of knowledge that provides more detailed picture of the IE and, when brought to bear at the planning stage, can increase the speed and accuracy with which we integrate information. It can also be applied to almost any level of effort: from a small shop looking to assess the effects of a specific information campaign to an agency-wide program. The basic principles remain constant; work collaboratively, have a clear idea of what you want to measure and why, start small, share your findings, and connect them to mission objectives.

[11] The Department of State's Bureau of Intelligence and Research does run a survey of popular perceptions of great powers, including the United States, across many countries. Despite the quality of the survey itself, the actionability of the data it provides is limited by both across the interagency and the infrequency of sampling: in some cases, 4-5 years between updates.

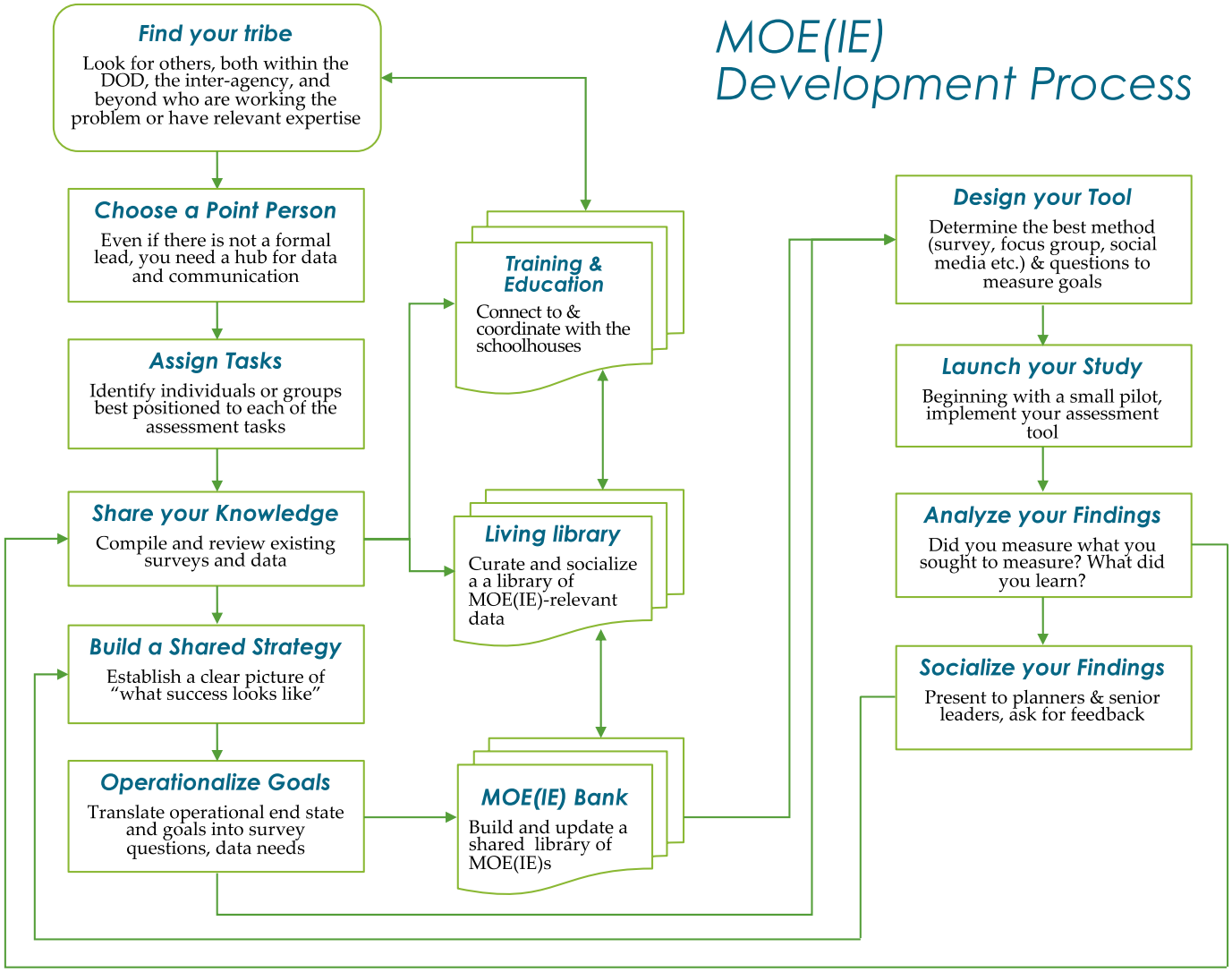

Figure 5: MOE(IE) Development Process

While the process diagram is fairly self-explanatory, the participants did discuss some additional details for the process components that require further elaboration.

Find your Tribe

Participants in all sessions recognized that MOE(IE)s, like information and influence activities themselves, need to be a whole of government, if not whole of society effort. Collaborating within and across agencies builds skills, improves the generalizability of the work done, and increases buy-in. At the moment, identifying others who are working this topic—even within a single agency—can be challenging, but participants discussed specific examples of effective collaboration that could be used as models. In particular, within the DOD, participants noted that AFRICOM has been successful in linking their IO cell with the J5.

Choose a Point Person

The question of who should lead USG information efforts is complex and as yet unresolved, and given the multiple overlapping authorities and responsibilities involved, the situation is likely to remain the same in the near future. Permanent solutions aside, collaborative action of this type needs to be coordinated. The GEC is perhaps best positioned to fulfill the point person role, and has a mission mandate to conduct whole of government monitoring and assessment of strategic effectiveness in the information domain.

Assign Tasks

As participants in all sessions noted, assessment requires a diverse set of skills and expertise, even more so when focusing on information. Different agencies within the USG also have different capabilities. For example, DOS and USAID are better positioned for, and experienced with, assessment but lack the resourcing to implement wide-scale projects. There are also examples of successful assessment efforts by various commands that can be leveraged. Identifying the skill sets available and needed both to design and to implement MOE(IE)s early will increase the effectiveness of information efforts.

Share Your Knowledge

Both within and beyond the USG there is a wealth of data that can be brought to bear on the development of MOE(IE)s. Additionally, there is a wealth of existing research and theory to be drawn on. Systematically reviewing this body of work, determining what data and survey questions already exist, and which of these have been demonstrated to be most reliable and effective, will not only save time, but will jumpstart the task of operationalization. Once collected, however, these data need to be curated. That is, the data need to be organized, regularly updated, and made widely known and available. Although this is a critical step, and one that could create huge efficiencies of effort, one participant views it as the "least realistic" noting:

> *I have a hard enough time getting my hands on country profiles prepared by DOS offices where I previously worked and maintain contact with...to say nothing of the rest of DOS, or the interagency...*

Training and Education

Developing and monitoring MOE(IE) will be a long-term, iterative, whole of government process. This will require not only transferring knowledge within and between agencies, but minimizing information loss due to personnel turnover without losing that knowledge. The schoolhouses will play a pivotal role here. By looping them into the MOE process, they can help build a cadre of professionals with a shared understanding of and approach to both information and measurement and assessment. Greater access to such training, designed to integrate and respond to our evolving understanding of the IE, will enable more widespread implementation of MOE(IE), creating another positive feedback loop in the MOE(IE) development process.

Build a Shared Strategy

Influence is not just a function of DOD activities in a region. As such, there is a need for interagency coordination. We need to identify where individual agency missions or activities overlap—and even more so where they conflict, potentially resulting in information fratricide. Once this is done, a clear vision of what is to be accomplish—what success looks like—can be built.

Operationalize Goals

The translation of operational end states and goals into MOE(IE)s can be challenging. The validity of any MOE is determined by how closely it reflects the concept to be measured. Existing theory and research can be extremely helpful here. Also, as Figure 6 shows, MOE(IE) development is an evolutionary process. Thus, the results of one study will feed into the next in an iterative learning process.

Design Your Tools

Once MOE(IE)s have been designed, the choice of tool (survey, focus group, media analytics, etc.) remains. Consideration needs to be given both to methodology and practical constraints. In some instances, the target audience may be a factor. For example, social media-based measures are unlikely to be reliable for audiences where internet penetration is low. At the early stages of development, qualitative measures may be both more realistic and more accurate.

Launch Your Study

Rather than attempting a global effort, starting with a small pilot study has significant advantages. Not only does it require less coordination and resourcing, it also offers the opportunity to iterate quickly and change or refine focus as needed. Participants in Session 2 proposed Africa as a good site for a pilot. Influence lines in the region are less entrenched, making it a good setting for experimentation. Furthermore, it is a lower-profile area, which decreases the potential publicity and resulting reputational costs of any missteps.

Analyze Your Findings

MOE(IE) development is a learning process. By carefully analyzing the results of each study, we can refine our measures and further build our knowledge. As our MOE(IE)s improve, so will our understanding of the IE, and our ability to shape it.

Socialize Your Findings

While knowledge for knowledge sake is admirable, in this instance, it is not enough. MOE(IE)s need to be socialized among the wider community and with senior leaders. The resulting feedback is another important source of information for further refinement of measures. Furthermore, the more the wider community—especially senior leaders—become familiar with and see the utility of MOE(IE)s, the more likely they are to support the expansion of, and long-term commitment to, such efforts.

So, What's the Bottom Line?

We need understand the development and implementation of MOE(IE)s as an evolutionary process. The workshop participants have shown that we have a way forward; we know what we need to do. We cannot yet test and perfect MOE(IE) in a simulator; human behavior is too complex, and too contingent on context, to be accurately captured in this way. We can, however, adapt and learn—"test in the wild," assessing the causes of any mistakes or unexpected consequences, and modifying our actions accordingly.

Our initial success will be contingent on generating both cultural buy-in among senior leaders across the USG and a change in our attitude to risk and uncertainty. Without cultural buy-in—acceptance of the role of information in the global system and a conviction that mastering the use of information matters for US interests—there will be no incentive to prioritize and resource these efforts. Without modifying our attitude toward risk and uncertainty—allowing our people to learn through failing as well as succeeding—neither our information and influence activities, or the measures we have to assess them, will evolve. In the longer terms, how well our efforts translate into greater understanding of the IE and how US actions move through and effect it, will depend in large part on how well we integrate efforts both within and across agencies. USG entities do not need to all be moving in lock step, but this is a whole of government problem. If we do not coordinate our efforts, we risk undermining the US ability to control its own narrative and shape the IE.

Glossary

Information: A particular arrangement or sequence of things conveys specific information. Information is stimuli that have meaning in some context for its receiver (JCOIE). This definition implies communication and the interpretation of meaning by decoding of the stimuli through the receiver's worldview, and in a particular social and political context.

Information Environment: The aggregate of individuals, organizations, and systems that collect, process, disseminate, or act on information (JP3-13). The IE is comprised of and aggregates numerous social, cultural, cognitive, technical, and physical attributes that act upon and impact knowledge, understanding, beliefs, world views, and, ultimately, actions of an individual, group, system, community, or organization. The IE also includes technical systems and their use of data. The IE directly affects and transcends all operational environments (JCOIE).

Information Effects: In the context of this report, this refers to the effects any action (see integrating information above) has on the perceptions, attitudes, and behavior of individuals and groups and how these effects propagate through and shape the broader IE.

Integrating Information: The JCOIE defines integration of physical and informational power as "The deliberate leveraging of information and the inherent informational aspects of military activities to direct or influence the behaviors of relevant actors and the course of events." For the purposes of this report, we use the term integrating information to refer to two broad categories of activity undertaken by both the Department of Defense and the Department of State: 1) general efforts to integrate information into planning across all horizons (current and future operations), targeting, analysis, assessment, and execution and 2) more specific information and engagement activities, such as psychological operations (PSYOP), public diplomacy (PD), public affairs (PA), and information operations (IO), including civil affairs (CA). Where appropriate, we use more specific terminology.

Informational Power: The ability to leverage information to shape the perceptions, attitudes, and other elements that drive desired behaviors and the course of events. This includes the ability to use information to affect the observations, perceptions, decisions, and behaviors of relevant actors; ability to protect and ensure the observations, perceptions, decisions, and behaviors of the Joint Force; and the ability to acquire, process, distribute, and employ data (information) (JCOIE).

MOE(IE): A measurable indicator of the informational effect of an action or series of actions, that can be used to assess the informational power of that action.

Strategic Multilayer Assessment

Joint Staff, Deputy Director of Global Operations (DDGO)

Established in 2000, Strategic Multilayer Assessment (SMA) provides planning and decision support to combatant commands and other US government (USG) departments and agencies.

SMA's mission is to enable decision makers to develop more cogent and effective strategy and doctrine, bridging the gap between the academic research community and operators and planners.

SMA addresses complex operational or technical challenges that transcend typical department boundaries and lie outside the core competencies or expertise of a single command or agency. SMA executes projects that require mixed method, multidisciplinary approaches and creates teams combining expertise from across the USG, academia, international partners, and the private sector. SMA is agnostic to outcome, emphasizing scientific rigor and thorough examination and analysis. SMA does not write policy, plans, or doctrine and does not perform intelligence analysis.

SMA mission areas include, but are not limited to: information operations, counterproliferation, fragile state dynamics, countering violent extremism, gray zone, strategic and great power competition, warfighter technology gaps, and 21st century deterrence.

SMA Outreach & Events

SMA built and sustains a community of interest comprising over 5,000 individuals and has ties to 175 US universities, 20 foreign universities, 14 major think tanks, and eight foreign military organizations. To join the SMA email listserv and receive notifications regarding SMA reports and upcoming events, please send your name, email address, and organization to Ms. Mariah Yager (mariah.c.yager.ctr@mail.mil).

SMA holds weekly speaker series events featuring leading experts discussing emerging national security challenges facing the combatant commands, the Joint Force, US allies, and the world. Access the event archives, which include audio or video recordings when available, written summaries of presentations, and speaker bios and briefing materials, at https://nsiteam.com/sma-speaker-series/

SMA Publications

Available on the open Internet: https://nsiteam.com/sma-publications/
Available on NIPR (IntelDocs) requiring CAC/PIV certificate: https://go.intelink.gov/QzR772f
For any questions, please contact Ms. Mariah Yager, J39, SMA (mariah.c.yager.ctr@mail.mil).