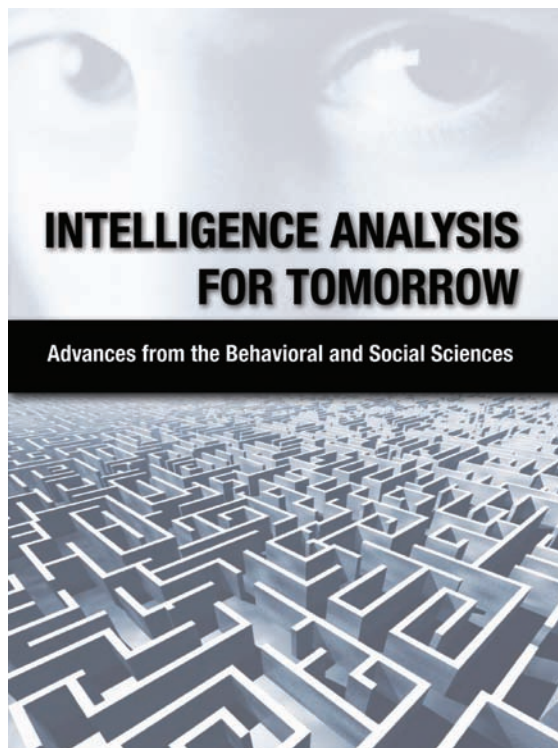REPORT BRIEF • MARCH 2011

INTELLIGENCE ANALYSIS FOR TOMORROW: ADVANCES FROM THE BEHAVIORAL AND SOCIAL SCIENCES

The nation's intelligence community (IC) must be smarter and more agile than its adversaries. Decision makers rely on IC analyses and predictions to reduce uncertainty and to provide warnings about everything from international diplomatic relations to overseas conflicts. In today's complex and rapidly changing world, it is more important than ever that analytic products be accurate and timely. Recognizing that need, the IC has been actively seeking ways to improve its performance and expand its capabilities.

In a new report, *Intelligence Analysis for Tomorrow: Advances from the Behavioral and Social Sciences*, the National Research Council offers the Director of National Intelligence (DNI) recommendations to address many of the IC's challenges. Targeted approaches, based on extensive research by behavioral and social scientists, are ready for immediate implementation within the IC. With modest material investment and strong leadership, the IC can derive significant benefit from exploiting what is already known and can design new programs of basic research to address its unique needs.

Traditionally, the IC has relied on a practice-based approach to analysis, essentially, learning from experience. This approach should now be complemented with an evidence-based approach. In particular, the IC should evaluate its current analytic methods and procedures for their compatibility with scientific knowledge about how people think and work. The IC

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should also carry out systematic empirical studies of current and proposed procedures under actual working conditions in order to validate laboratory findings.

A BEHAVIORAL AND SOCIAL SCIENCE FOUNDATION

The DNI should "ensure that the intelligence community applies the principles, evidentiary standards, and findings of the behavioral and social sciences" to four specific areas: analytic methods, workforce development, collaboration, and communication.

One immediate action to implement this recommendation is to emphasize the exchange of expertise between the IC and academic research environments. Another important action is to create and widely disseminate an *Analytical Methods Resource Guide*, with information on key analytic methods and their experts both inside and outside the IC.

ANALYTIC METHODS

One of the keys to improving performance in any field is providing unambiguous feedback with properly aligned incentives. If IC analysts are to learn which analytic methods are most useful in various situations, they will need some way of judging the assessments and predictions made by those methods in light of subsequent events.

A straightforward way to make such judgments is to attach numeric probabilities to explicitly defined events. Once such probabilities are routinely assigned to assessments and predictions, it will be possible to statistically analyze large numbers of analytic products to determine how different factors–such as the analysts' background and the analytic method used–affect the quality of the analyses.

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The IC is encouraged to take immediate action to require that every analysis includes numerical values for the probability and uncertainty of the situations assessed or events forecast. Then, this information should be used to align incentives to encourage learning, not to determine culpability.

WORKFORCE DEVELOPMENT

"The quality of the human resource pool places greater constraints on an organization's human capital than any other single factor." Analysts need deep substantive knowledge of countries, cultures, and transnational relations and familiarity with a range of analytic models. They also need intellectual capacity for synthetic thinking, because analysts need to be able to work with experts from many fields and to integrate knowledge across many domains.

In its recruitment and selection process for hiring new analysts, the IC should emphasize stable individual attributes, such as cognitive ability, personality, and values. Malleable individual attributes, such as subject-matter expertise and job-specific skills, should be emphasized in the IC's training, motivation, and performance feedback programs.

Recently, the Office of the Director of National Intelligence (ODNI) has begun to assess competencies needed by successful analysts, but it has focused on attributes that are intuitively appealing rather than evidence based. To begin an evidence-based approach to workforce development, all current recruitment, selection, motivation, and retention practices should be reviewed in light of scientifically determined abilities related to analytic performance. In addition, job-specific skills and on-the-job training programs should cultivate con-

tinuous learning, especially about the full range of scientifically supported analytic methods.

COLLABORATION

Analysis is an inherently complex process, and the knowledge and skills needed to analyze a given situation are often dispersed across multiple offices, departments, or agencies.

To make collaboration more effective, the IC has instituted joint duty positions and devised a number of collaboration tools, such as A-Space, Intellipedia, and the *Analytical Resources Catalogue*. Although these innovations allow analysts to create self-organizing groups adapted to specific tasks, they can be time consuming, and they often provide information from unfamiliar sources and with uncertain quality.

To ensure that the most effective and efficient collaborative approaches are used in the IC, all existing and proposed collaborative procedures should be systematically tested. A good beginning to this approach would be a field evaluation of at least two collaborative methods, assessing their uses, users and impacts as well as what they do well and poorly. In addition, the possibility of enhancing current methods, like A-Space, should be evaluated.

COMMUNICATION

An accurate analytic product that is neither understood nor believed is of little or no benefit to decision makers. An accurate and responsive analytic product needs to convey the analysts' conclusions and confidence levels so that they are understood by the customer. To do this, analysts have to first understand their customers' questions and needs, which may be particularly challenging, when

analysts may have little or no direct contact with their customers. Also, care must be taken so that the IC's review process does not obscure the original analysts' intended meanings.

Clear communication begins with a shared understanding of terms. As analysts become more explicit about their terminology, predictions, and degree of uncertainty, their communications should become more transparent. The next step should be to develop standardized ways for analysts to convey their findings to their customers and for customers to make their needs clear to analysts. For this communication, the ODNI would benefit from the development of standardized, evidence-based protocols. Such protocols should address effective communication of confidence levels, examine processes for customers to convey needs to analysts, and evaluate the effects of internal review processes on original analytic judgments.

THE POTENTIAL FOR GREAT BENEFIT

Pressure on the IC to predict and accurately assess continually emerging threats demands institutional and intellectual agility, continuous learning, and sustainable improvement. It will take strong leadership to implement lessons learned from the behavioral and social sciences, but they offer a solid foundation of research conducted over decades that can be relied upon for making targeted changes to current practices.

NOTE: All quotes are from *Intelligence Analysis for Tomorrow: Advances from the Behavioral and Social Sciences.*

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COMMITTEE ON BEHAVIORAL AND SOCIAL SCIENCE RESEARCH TO IMPROVE INTELLIGENCE ANALYSIS FOR NATIONAL SECURITY

Baruch Fischhoff (*Chair*), Department of Social and Decision Sciences and Department of Engineering and Public Policy, Carnegie Mellon University

Hal R. Arkes, Department of Psychology, Ohio State University

Bruce Bueno de Mesquita, Department of Politics, New York University and Hoover Institution, Stanford University

Thomas Fingar, Freeman Spogli Institute for International Studies, Stanford University

Reid Hastie, Chicago Booth Business School, University of Chicago

Edward H. Kaplan, School of Management, School of Public Health, and School of Engineering and Applied Science, Yale University

Steven W.J. Kozlowski, Department of Psychology, Michigan State University

Gary H. McClelland, Department of Psychology, University of Colorado

Kiron K. Skinner, Department of Social and Decision Sciences, Carnegie Mellon University and Hoover Institution, Stanford University

Barbara A. Spellman, Department of Psychology and School of Law, University of Virginia

Philip E. Tetlock, Department of Psychology and Wharton School of Business, University of Pennsylvania

Catherine H. Tinsley, McDonough School of Business, Georgetown University

Amy Zegart, School of Public Affairs, University of California, Los Angeles, and Hoover Institution, Stanford University

NATIONAL RESEARCH COUNCIL STAFF

Cherie Chauvin, *Study Director*

Barbara A. Wanchisen, *Director,* Board on Behavioral, Cognitive, and Sensory Sciences

Mary Ellen O'Connell, *Deputy Director*, Board on Behavioral, Cognitive, and Sensory Sciences

Robert Pool, *Consultant*

Matthew McDonough, *Senior Program Assistant* (through April 2010)

Gary Fischer, *Senior Program Assistant* (from April 2010)

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