COMPREHENSIVE ASSESSMENT OF DEPARTMENT OF DEFENSE HUMAN FACTORS ANALYSIS METHODOLOGIES

Statement of work

1. Project Background: Fiscal Year 2004 Defense Planning Guidance (DPG) directed that Information Operations (IO) become a core military competency. In support of this goal the Deputy Undersecretary of Defense for Intelligence and Warfighting Support determined that DoD must improve intelligence support to IO. In particular, the Department of Defense (DoD) needed to strengthen IO Human Factors Analysis (HFA), methodologies, and products to ensure actionable information for planners and operators.

Director of Central Intelligence Directive (DCID) 7/3 defines HFA as, "The psychological, cultural, behavioral, and other human attributes that influence decision-making, the flow of information, and the interpretation of information by individuals and groups at any level in any state or organization."

In general, IO HFA capabilities have developed independently driven by policymaker and operational needs. They utilize a variety of methodologies based on organizational mission, tasked requirements, and available resources. Consequently, DoD as a whole has the analytic breadth to meet a wide variety of needs and its capabilities continue to evolve rapidly. However, the DoD must move from an entrepreneurial to a more structured approach in order to enable and properly resource future maturation.

Additionally, the information that supports IO HF analysis can be derived largely from open sources. Open source information exploitation has been identified as severely deficient by various sources, including Commissions on Intelligence Reform, the 2005 Intelligence Reform Act, and the Defense Open Source Council. Development of a repeatable exploitation model in support of IO activities using open source can have immediate and far-reaching positive implications both to IO and other areas of Intelligence Community (IC) interest.

2. Project Objective: The objective is to characterize the existing HFA capabilities within the DoD, validate the models, procedures, and processes in use by these organizations, determine the quality and usability of the products generated, assess the efficacy of supplementing analysis by the exploitation of open sources and identify other opportunities to improve DoD HFA efforts in support of Regional Combatant Commanders, the Joint Staff, and other senior Defense leaders.

3. Scope of Work. The contractor shall provide/perform:

3.1. Task 1. Data Collection. Gather background information regarding methodologies, procedures and processes utilized at each of the nine HF analytic user's/producer's capabilities identified by the government as members of the HFA Integrated Process Team. After brief review period, conduct a site visit to each capability to gather additional information. Information that will be relevant will include but not be limited to technical details of models, procedures, and processes employed, system inputs including both customer requirements and raw intelligence, interviews with a cross-section of assigned personnel from analyst to leaders, and sufficient sample products to validate the model, procedure, or process. Upon the completion of this task, the contractor will have gathered all available pertinent information regarding how each HFA capability conducts HFA to be able to understand the model, procedure, or process.

3.2. Task 2. Functional Description. Disassemble each of the applications, models, procedures, or processes used by the HFA capabilities. Outputs may range from technical design views to flow charts depicting manual processes. Account for system inputs (taskings or requirements), connectivity required, information/intelligence data feeds utilized, subprocesses, approval chains, and analytic production systems. Assess if intelligence or information sources presently used are sufficient to support credible analysis.

3.3. Task 3. Application, Model, Procedure, and Process Evaluation. For each of the nine DoD HF analytic user's/producer's capabilities, evaluate their ability to consistently produce quality, timely products relevant to the tasking or requirement. Determine common grounds for comparison and evaluation metrics for the disparate applications, models, procedures, and processes employed by each of the HFA capabilities. Criteria and metrics developed must be repeatable, and should be objective, in lieu of subjective, in order to measure progress at a future point in time. The following questions shall be included in the evaluation (these questions not intended as an all-encompassing list):

3.3.1. Rigor:
3.3.1.1. Who is the actual user of the methodology, what is their experience level?
3.3.1.2. What mechanisms do the model, procedure, or process incorporate to ensure the consideration of alternate hypotheses?
3.3.1.3. Do they draw on multiple methods? If so, what methods?
3.3.1.4. How does the model, procedure, or process control for biases?

3.3.2. Replicability:
3.3.2.1. Has the methodology been applied to various problem sets in a consistent manner?
3.3.2.2. Can it be replicated across different cultures or is it culturally/regionally specific?
3.3.2.3. Can different analysts trained in the same model, procedure, or process apply it to the same problem set and arrive at comparable results?

3.3.3. Validation:
3.3.3.1. In what stage is the application, model, procedure, or process – research and development, operational application, other?
3.3.3.2. Has the methodology been applied to real problem sets?
3.3.3.3. Did subsequent real-world outcomes confirm or deny predictive analytical conclusions, and what method is used to evaluate the efficacy of the product after events?
3.3.3.4. How has the application, model, procedure, or process been validated?

3.3.4. Need Fulfillment:
3.3.4.3. Alignment between purpose and application: Does the final application of the methodology meet its original intended purpose?
3.3.4.4. Can the application, model, procedure, or process be responsive to Deliberate Action Planning, Crisis Action Planning, or both?

3.4. Task 4. Capability Improvement Recommendations. For each of the nine HF analytic entity's capabilities studied, identify organizational, business practice and policy-related, and technical solutions that will improve the quality, relevancy, and timeliness of production and increase the efficiency and effectiveness of models, procedures, and processes. The Government is specifically interested in supplementing current HF competitive analytic processes by the exploitation of open sources. As possible improvements to the nine HF analytic entities's capabilities, the contractor shall also document the use of open sources as inputs to the HF analysis development process and suggest a model for enhancing current

processes by the inclusion of open source Internet exploitation tools, with consideration of such hazards as Internet fratricide, deceptions, and attributed searches. Identify other key areas for open source exploitation, including tools, methodologies, applications, processes, and/or procedures.

4. Application of Results:

4.1. This quantitative evaluation of current HFA capabilities will enable the DoD to prioritize resources to improve HFA support to Regional Combatant Commanders, the Joint Staff, and other users.

4.2. It will provide senior military leaders with a validation of the current HFA capabilities.

4.3. Specific recommendations for the integration of technology and other solutions will focus each HFA capability on ways to improve their applications, models, procedures, and processes.

5. Period of Performance: The period of performance shall be for a period of six months (6 months) beginning on the date of award.

6. Government Furnished Data or Equipment: For work required to take place in government facilities, the government shall supply the space required to accomplish the tasks in this task order. HFA capabilities will provide data to the contractor based on what the contractor requests and additional information identified by the capability as pertinent.

7. Deliverable and Delivery Schedule: All deliverables stated in Para 3.1-3.4 and para 7–7.5 shall be provided. The contractor shall provide:

7.1. Report detailing the inventory of data and materials collected from each of the nine DoD HFA capability providers.

7.2. Presentations demonstrating the detailed functional description of each of the nine HF Analysis capability's applications, models, procedures, and processes. The contractor shall provide four briefings, one at the conclusion of each task for Task 1, Task 2, Task 3, and Task 4.

7.3. Reports detailing the functional description task evaluation of each HF analysis capability.

7.4. Report with recommendations for improving the quality, relevancy, and timeliness of production and increasing the efficiency of applications, models, procedures, and processes for each of the nine DoD HF analysis user/producer locations.

7.5. Monthly progress reports which delineate progress on each of the assigned tasks above, a schedule of achieved and projected tasks to completion, and financial data that expresses expenditure and projections to completion.

8. Security: The contractor shall adhere to all DoD security regulations, requirements, and procedures concerning the handling and storing of classified information. The contractor may be required to store classified information up to TS/SCI at its own facilities. Contractor personnel must possess a current (within five (5) years), favorably adjudicated, Top Secret/Single Scope Background Investigation (TS/SSBI), a TS/SCI security clearance.

9. Other Direct Costs (ODC)/TRAVEL: Contractor personnel shall be required to travel within, as well as outside of their local city or base of assignment commuting vicinity, as required by the Government. The COTR/Task Monitor will establish travel requirements. All travel will be performed on a reimbursable basis. Approximately 12 trips are estimated to support this SOW:

Place	#Trips	#Persons	#Days
JIOC, Global Harvest (San Antonio, TX)	2	3	3
NASIC, Dayton, OH	2	3	3
4 POG, Fayetteville, NC	2	3	3
JWAC, Dahlgren, VA	2	3	3
JAC EUCOM, Molesworth, England	2	3	3
NSA, DIA, 1st IO Command, Washington D.C. area	2	3	6

10. Proposals: Contractor shall include identification of specific social and physical science theories and testing practices to be utilized. Contractor proposals will specify the types of graphic and textual deliverables that will reflect the results of the assessments outlined in paragraph 3, above. Contractor will provide personnel with experience in the fields of behavioral, cognitive, social, and political psychology; social network analysis; cultural anthropology; system dynamics; operational research; and, applied physical sciences.