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Information Foraging Theory: An Introduction for Intelligence Analysts

Slide deck and notes

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Annex A of this report, is the PowerPoint™ presentation that was completed under the Joint Intelligence Collection and Capability (JICAC) project (JFD 4.1), sponsored by the Chief of Defence Intelligence (CDI).

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Abstract

Under the Joint Intelligence Collection and Analysis Capability (JICAC) project, a presentation entitled “Information Foraging Theory (IFT): An Introduction for Intelligence Analysts” was created. This presentation contains slides describing Information Foraging Theory at an introductory level. The presentation was written for intelligence analysts, with particular attention to issues relevant to that community. The presentation contains slide notes that explain the content of each presentation slide in detail to aid a reader or presenter better comprehend the content.

Significance to Defence and Security

The presentation entitled “Information Foraging Theory: An Introduction for Intelligence Analysts” provides a concise introduction to Information Foraging Theory as it applies to the topic of intelligence analysis. Those engaged in military intelligence analysis, or working in fields intended to provide support to military intelligence analysis, could benefit from learning about Information Foraging Theory and its applications. The presentation notes enhance the value of the presentation.

Résumé

Dans le cadre du projet sur la capacité interarmées de recherche et d'analyse du renseignement (JICAC), on a préparé une présentation intitulée « *Information Foraging Theory: An Introduction for Intelligence Analysts* » (Théorie du butinage des renseignements : Introduction pour les analystes du renseignement). Cette présentation consiste en un diaporama d'initiation à la théorie du butinage des renseignements. Elle a été préparée à l'intention des analystes du renseignement et porte sur des questions qui s'adressent surtout à cette communauté. Le diaporama est accompagné de notes explicatives détaillées qui aideront le lecteur ou le présentateur à mieux en appréhender le contenu.

Importance pour la défense et la sécurité

La présentation intitulée « *Information Foraging Theory: An Introduction for Intelligence Analysts* » constitue une brève introduction à la théorie du butinage des renseignements appliquée au domaine de l'analyse du renseignement. Les personnes qui se consacrent à l'analyse du renseignement militaire ou qui lui apportent leur soutien peuvent tirer avantage de l'apprentissage de la théorie du butinage des renseignements et de ses applications. Les notes qui accompagnent la présentation en augmentent l'utilité.

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Introduction

Background

Under the Joint Intelligence Collection and Analysis Capability (JICAC) project, research has been undertaken to explore the application of Information Foraging Theory (IFT) to the military intelligence domain. This research has been motivated by the issue of information overload faced by military intelligence analysts. Due to the rapid rate at which information technologies have evolved, analysts have access to ever-increasing amounts of information but limited time in which to find and process pertinent information for sensemaking activities. IFT, as a theory of optimal search in the information space, offers useful insights into support for analysts.

As part of this effort, the author has developed several lectures and other presentations on the topic. Together, these presentations described the basic concepts of IFT as well as ways in which the theory can support intelligence analysis. To maximize the value of these previous presentations and create a record for future research, the author has combined and edited previous material to create a comprehensive presentation, titled “Information Foraging Theory: An Introduction for Intelligence Analysts.” This presentation, available in Annex A, is in the form of a PowerPoint™ presentation comprised of 70 slides with notes attached to individual slides.

Presentation and Notes

The presentation contains slides discussing all aspects of IFT at an introductory level but is framed in the context of military intelligence analysis. Overall, the purpose of the presentation is to provide an overview and suggest ways in which the application of IFT to intelligence analysis might be further pursued. Although comprehensive, the presentation need not be taken in its entirety. The intent is that a user could select from it any subset of slides to craft a lecture on a specific topic of interest.

To aid in the use of the presentation, slide notes have been prepared. These notes provide detail on the content of a slide, intended to expand a user’s understanding of the material presented. The slide notes also contain, in many instances, sections quoted from reports drafted as part of the research on IFT under the JICAC project. These quoted passages, in particular, provide greater detail on the content of the slide. To make the presentation notes as self-contained as possible and provide the user handy access to important documentation, references cited in these quoted sections are listed directly below the quoted section. However, a bibliography of all references cited in the slide notes is presented as Annex B of this document.

Conclusion

The presentation “Information Foraging Theory: An Introduction for Intelligence Analysts” serves both documentary and educational purposes. It documents fundamental concepts of IFT in a way that is accessible to people unfamiliar with the topic. It also serves as a basis for training suitable for members of the intelligence community.

Annex A PowerPoint™ presentation

The PowerPoint™ presentation, titled “Information Foraging Theory: An Introduction for Intelligence Analysts” is available as an annex to this document. The presentation is comprised of 70 slides with notes attached to individual slides.

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The following references are cited in the PowerPoint™ presentation (Annex A) notes:

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List of Symbols/Abbreviations/Acronyms/Initialisms

CAF	Canadian Armed Forces
CF	Canadian Forces
Fixed-N	Fixed-Number
Fixed-T	Fixed-Time
GEOINT	Geospatial Intelligence
GLSA	Generalized Latent Semantic Analysis
HUMINT	Human Intelligence
IFT	Information Foraging Theory
INFOCAT	INformation FOraging Cognitive Analysis Tool
JICAC	Joint Intelligence Collection and Analysis Capability
LSA	Latent Semantic Similarity
MVT	Marginal Value Theorem
OFT	Optimal Foraging Theory
OSINT	Open-Source Intelligence
PMI	Pointwise Manual Information
SA	Situation Awareness
SIGINT	Signal Intelligence
USS	United States Ship
WWW	World Wide Web

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Information Foraging Theory; intelligence analysis