

SAVANNA

WHITE PAPER

Analyzing Geopolitical Risks with Savanna

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EXECUTIVE OVERVIEW

Each day, news broadcasts show stories of Boko Haram and ISIS committing acts of terror, destroying towns, kidnapping civilians and displacing thousands of people. Recently, Boko Haram pledged allegiance to ISIS, raising numerous questions and causing governments to take notice of a current convergence of symbolism and ideology.

As Boko Haram and ISIS continue to share such things as flags and propaganda, the question is: do shared ideologies lead to similar operating techniques, and what does that mean for the future of Boko Haram and ISIS? There are several key themes, such as recent land grabbing and advanced military techniques, indicating similar operations for Boko Haram and ISIS as an eventual outcome.

Employing models to extend the utility of qualitative information, and working within a single shareable, secure platform, analysts can further operationalize tacit knowledge and contextualize information, providing decision-makers with the insight needed to prepare for the unknown.

This ever-changing crisis requires quick analysis and dissemination. Savanna's dynamic all-source analysis environment provides the ability to investigate each point of interest and discover connections and evidence to implement strategies for countermeasures. Savanna's collaborative workspace and unique, model-based approach are ideal for analyzing complex, ever-changing threats like Boko Haram and ISIS.

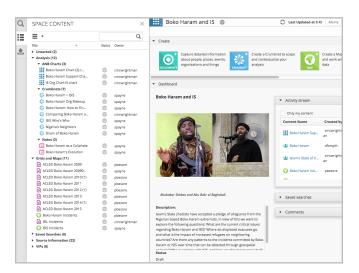


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ANTICIPATING OUTCOMES WITH SAVANNA

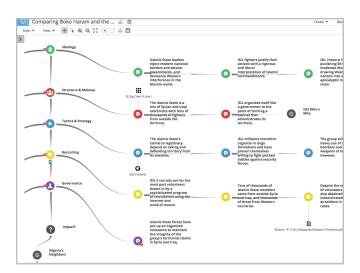
Complex political and economic situations yield few guarantees. However, with the appropriate tools and expertise, stakeholders can anticipate potential outcomes and prepare accordingly.

Savanna, Thetus Corporation's flagship browser-based analysis platform, enables analysts to model geopolitical threats. By identifying key information and visualizing relationships between structured and unstructured data, Savanna users construct holistic narratives that convey known risks as well as information gaps.



Access data via Savanna's web interface for easy file sharing Savanna is browser-based, meaning that any authorized user

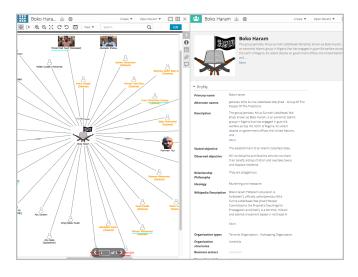
with an Internet connection can access the Savanna platform and all public content created by other users on the network.



Contextualize and synthesize information with Crumbnet

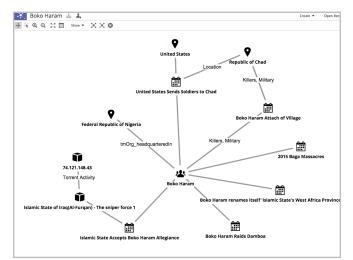
Savanna Crumbnets serve as white boards for free-form analysis. Crumbnets allow analysts to capture questions, hypotheses, and assumptions to create an analysis narrative and place relevant data in context (e.g., Analyst's Notebook Charts, documents, images, other Crumbnets, videos, and much more). Analysts use Crumbnets to collaboratively ask and answer questions, pose hypotheses, note assumptions and state relevant facts to contextualize data. Crumbnets also serve as a navigation tool to guide audiences through the analysis.





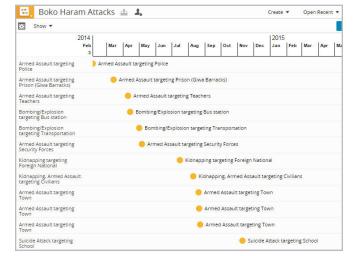
Build interconnected information networks with Occurrences

Occurrences are the problem-specific building blocks of an information network that any Savanna user can access and quickly add new discoveries and pull on existing data to connect information. With Occurrence templates, analysts can set requirements, define important fields and identify information gaps. These templates capture problem-specific information in a uniform way, eliminating redundancy and creating a common analytical framework that analysts can build on. Occurrences are fully sourced and linked between related profiles, allowing users to easily navigate between connected information.



Visualize connections and relationships with Linknet

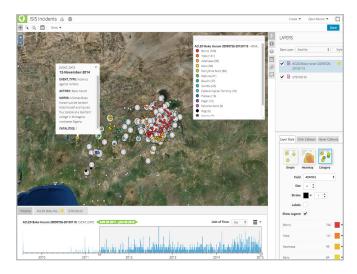
Analysts can add multiple Occurrences from the information network to a Linknet to view interconnected people, places, organizations, events and things by simply dragging and dropping. Occurrences in the Linknet are fully sourced, allowing analysts to easily access information about individual entities on the Linknet.



Temporally visualize information with Timeline

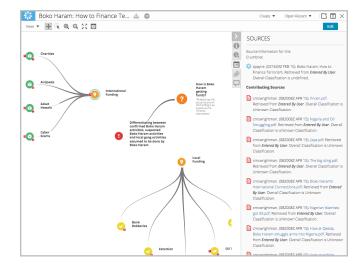
With Timeline, analysts can temporally visualize Occurrences (people, organizations, places, events and things) and their associated events by simply dragging Occurrences onto the Timeline. With Timeline, users can interact with Occurrence events by zooming, panning, drilling down for more specific information, and filtering with a temporal filter.





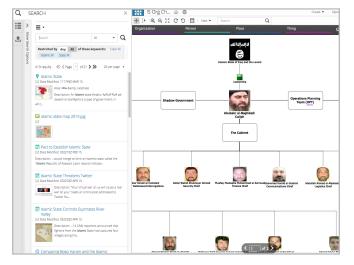
Visualize geographic data in Savanna's enterprise-level mapping tool

Using geographic data or a CSV file containing geographic coordinates, analysts can create and stylize maps to complement their analysis. Automated mapping of data sets facilitates visualization of large quantities of geographic information while customization tools allow the user to modify colors, base layers, and data visibility.



Support analysis conclusions with evidence created in Savanna and from other sources

Analysts collaborate on Crumbnets to support their conclusions with content created in Savanna, such as a screenshot image of a Map and relevant research. Viewers explore evidence in the form of documents, images, videos, maps, notes, quantitative data, and profiles of people, places and organizations.



Discover external data and Savanna model content through keyword search and filtering

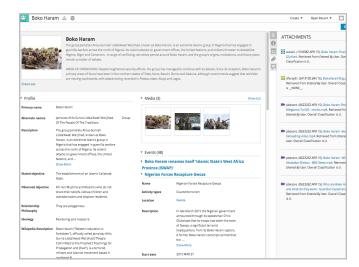
Savanna's search capabilities enable analysts to find relevant data and model content among public material on the shared network. Users can discover Analyst's Notebook Charts and other content or data through searching for keywords and values in chart data. Search results can then be added to the user's Space and incorporated into their analysis.





Visualize structured data as charts

With the Graphic tool, users can visualize structured data inside Savanna as charts (pie, bar, scatter, line) by simply dragging and dropping datasets onto the Graphic background. With Graphic, analysts can pick multiple columns of data to visualize on the chart, and choose custom style settings to visually differentiate the data.



Understand how information changes over time by tracking provenance and lineage

Savanna users have multiple options to describe information, including adding citation details, linking to contributing sources, attaching reference materials, and organizing related information in a Space. Savanna automatically captures details like citations and user activity for content created within Savanna.

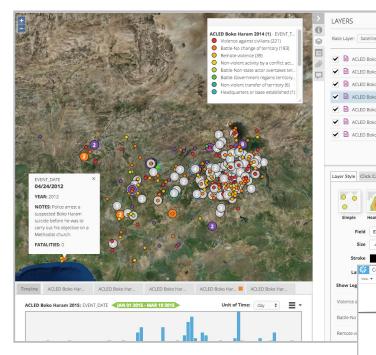
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Manage privacy settings to control access to classified information

Administrative controls enable careful management of user access to information. Users select private or public settings for material they create or upload. They can also mark information according to its classification level, thereby permitting public view of the information only for those users whose accounts are set to the same classification level.



SPOTLIGHT: BOKO HARAM & ISIS



THE CHALLENGE

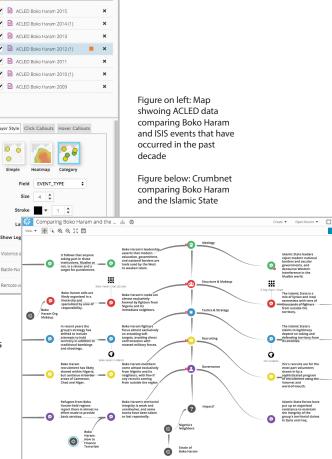
A group of analysts decides to explore the similarities and differences between Boko Haram and ISIS using Savanna.

They begin by framing the problem in a Crumbnet (Savanna's narrative analysis tool) comparing Boko Haram and the Islamic State by outlining the two groups' ideologies, structures, resources and tactics.

With Savanna's dynamic Occurrence dossiers, the analysts collaboratively populate an information network about Boko Haram and the Islamic State. Occurrences are building blocks that capture people, organizations, things, places and events related to a problem area. In this case, the analysts use an Organization Occurrence template that captures information specific to terrorist groups to create a Occurrences for Boko Haram and ISIS.

Next, the analysts can visualize their data in a variety of ways. They create a link chart to visualize multiple Occurrences to visualize connections between Boko Haram and ISIS. Then, with the Map tool, they geospatially visualize Armed Conflict Location and Event (ACLED) data to compare Boko Haram and ISIS events that occurred over the last decade. They then decide to search Event Occurrences related to Boko Haram & ISIS and visualize them temporally on a Timeline. With the Graphic tool, they can quickly view event types, dates, average fatalities, and more.

At this point, they want to know more about the Islamic State's



\$ Style

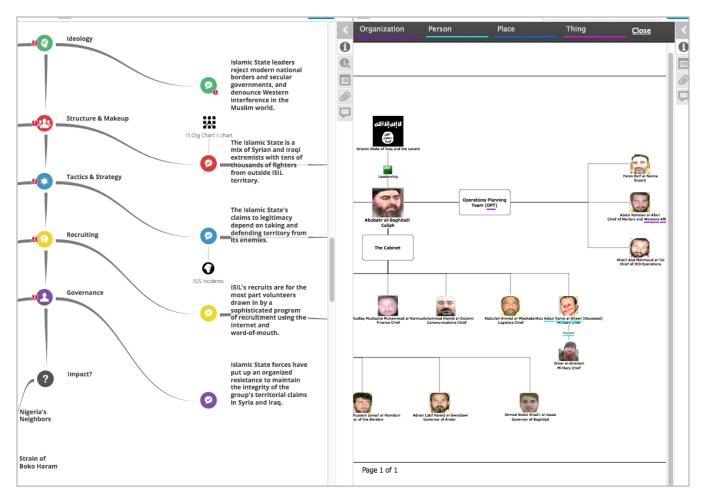
organizational structure, so they'll use Savanna's Search tool to find an Analyst's Notebook Chart outlining the Islamic State's organizational structure. As they build their analysis, the analysts continue to add new evidence and discoveries to their Crumbnet by simply dragging files onto the Crumbnet and connecting them to nodes.

THE RESULT

Now they're ready to compile their findings to build a report in Savanna's Note tool detailing the distinctions between Boko Haram and the Islamic State and any geo-political implications that surfaced during the analysis. They compile findings, such as an image of the Map depicting Boko Haram and ISIS events perpetrated over the last decade. Once complete, the Note is shared directly with team members using Savanna and exported to PDF to send to fellow analysts and decision makers for further action.



BENEFITS



Decision-making insight

Whether reviewing content from a bird's-eye view or focusing on a detailed event profile, decision-makers gain the critical insight they need to determine when to adjust organizational strategy in response to growing risk indicators.

Agility

Using Savanna's dynamic information management capabilities in coordination with Analyst's Notebook's data analysis tools, organizations can maintain current intelligence needed to respond to rapidly evolving situations and perspectives.

Productivity

Savanna eliminates the time required for integrating analytical output and sharing and formatting files, resulting in more time to devote to analysis and review.

Expanded source material

The ease of uploading and manipulating diverse forms of data frees analysts from technological limits to incorporating all relevant information. Should a growing conflict present incomplete or fuzzy data, analysts can utilize such information in Savanna and update it as clarifying details emerge.

Reduced exposure

Savanna minimizes exposure to error resulting from bad information by offering users the ability to annotate all source material and analysis products. Automatic updates documenting user activity further assign ownership while privacy settings maintain protected data.



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Complex problems require multi-part solutions. With the rise of tools to mine large data sets, businesses have reaped greater knowledge from structured data¹. However, challenges involving human variables like culture and politics require a more nuanced understanding of context. Particularly when information is scarce, analysts must give special attention to informal knowledge, which they can use to construct formal models of how their problem space works.

Only by viewing problem spaces through multiple lenses and exposing inconsistencies can organizations identify—and begin to quantify—risks. In doing so, alternatives become clear, imperatives become known, and negative consequences are avoided.

ENDNOTES

1. Furrier, J, "Big Data Is Big Market & Big Business - \$50 Billion Market by 2017," Forbes, last modified February 17, 2012, accessed September 25, 2014, from http://www.forbes.com/sites/siliconangle/2012/02/17/big-data-is-big-market-big-business/.

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Learn more about how Savanna can streamline your analysis process by visting our website at www.thetus.com.

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