



S A V A N N A

## WHITE PAPER

Analyzing and Anticipating Risks with Savanna

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## EXECUTIVE OVERVIEW

In the world of analysis tools, the approach is often data-centric. This approach works well when there is an abundance of data and the problem is easily quantifiable. However, when information is fragmented and varied in form – visual, text, geographic – analysts need tools that can integrate diverse data to form a cohesive narrative. Savanna is unique in that it allows analysts to start by framing the problem first, instead of looking at the data. Savanna offers an analysis solution with capabilities for integrating and contextualizing data. Designed for anticipatory risk analysis, Savanna helps identify events “left of the boom,” incidents that precede and suggest potential outcomes.

Savanna’s unique, model-based approach is ideal for analyzing these kinds of threats. Models enable analysts to identify emerging signatures of a risk or threat before the threat materializes. Savanna’s modeling tools provide a foundation for capturing changing tactics, techniques and procedures (TTPs), terms used by intelligence analysts to describe the modus operandi of event participants. By nature, TTPs are not easily defined, and involve multiple, ever-changing systems presenting sparse, inconsistent data. Models in Savanna are flexible, allowing analysts to define new TTPs, update information to reflect evolving situations, and view problems from different angles.

Organizations must make decisions based upon their present understanding of risks, regardless of how imperfect the available information. Anecdotal knowledge provides spotty insights, media is too broad, and quantitative data requires appropriate context. Yet by synthesizing these and other forms of data into a comprehensive narrative, analysts can anticipate risks with accuracy and efficiency.

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.

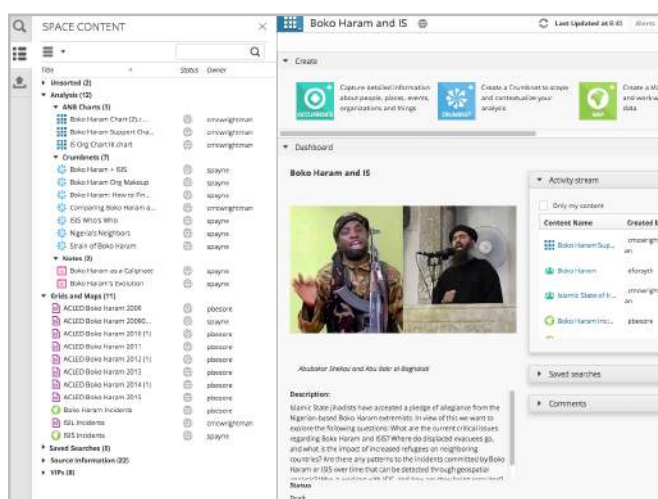
Using Savanna, analysts can assemble and schematize disparate data, weaving a narrative that begins with key questions, hypotheses and concepts, then grows into a comprehensive knowledge base that delivers vital insights for strategic decision-making.



## ANTICIPATING OUTCOMES WITH SAVANNA

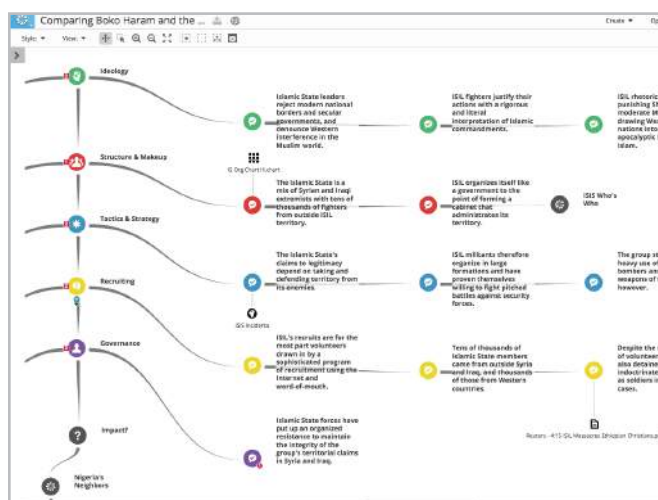
Complex political and economic situations yield few guarantees. However, with the appropriate tools and expertise, stakeholders can anticipate potential outcomes and prepare accordingly.

Savanna, Thetus Corporation's flagship browser-based analysis platform, enables analysts to model regional assets and 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.



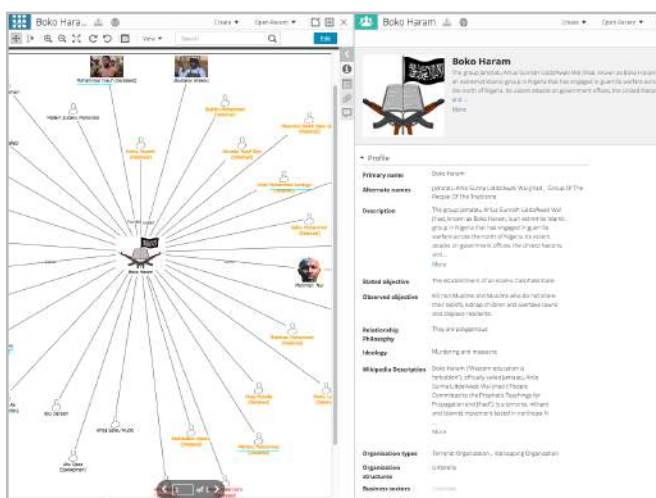
### Access data via Savanna's web interface for easy file sharing

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.



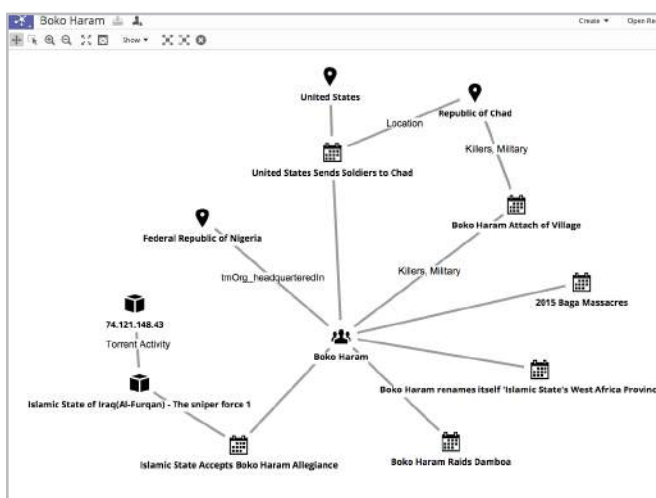
### Contextualize and synthesize information with Crumbnet

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.



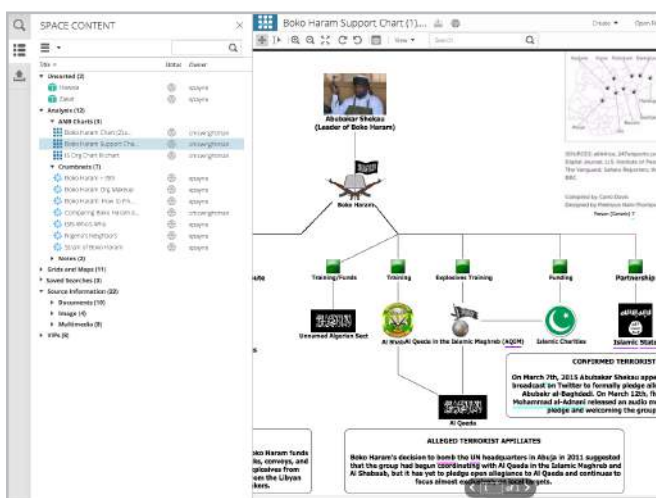
## Build interconnected information networks with Occurrences

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.



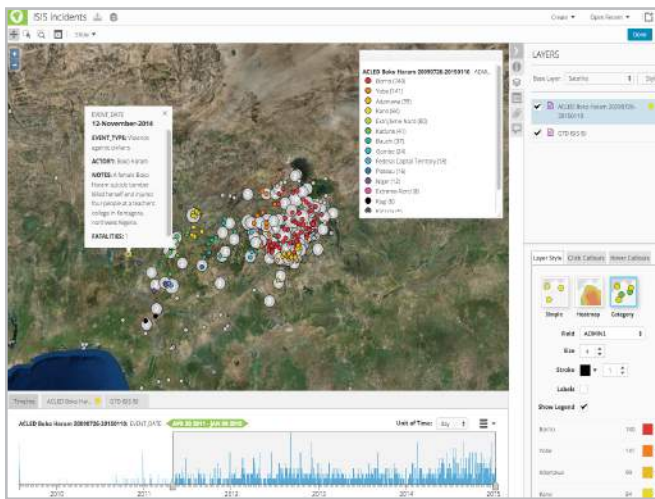
## Visualize connections and relationships with Linknet

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.



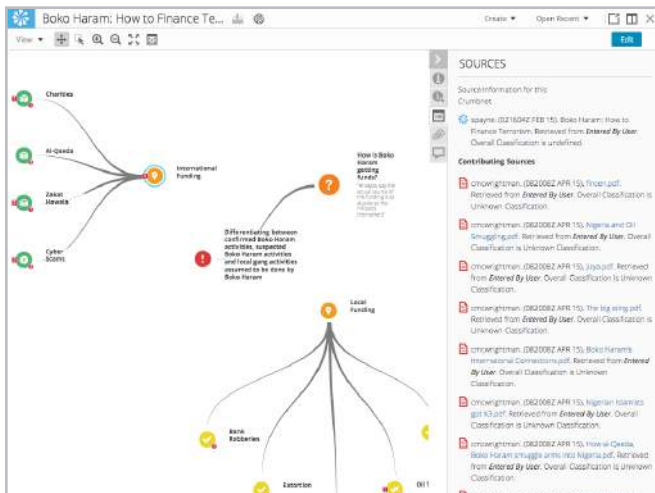
## Integrate existing tools such as IBM's Analyst's Notebook

The Savanna Space dashboard serves as a portal for analysts to select their tools. Savanna can integrate existing analytical tools into a shared environment, uniting diverse applications in one open standards, cloud ready platform. For instance, link analysis data from IBM's Analyst's Notebook can be exported into Savanna to be added to the underlying model.



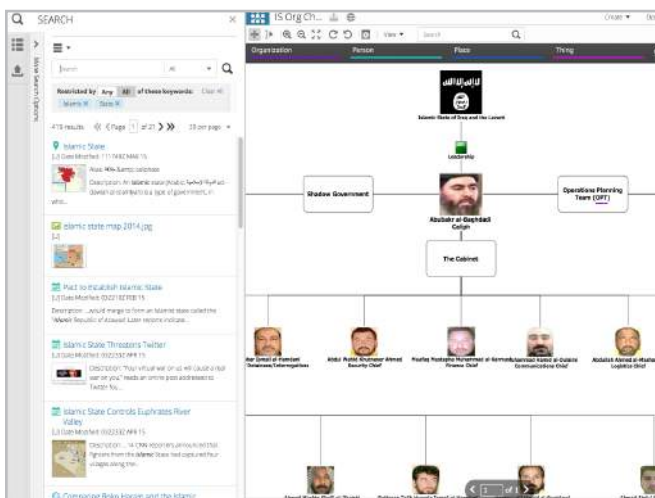
### Visualize geographic data in Savanna's enterprise-level mapping tool

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

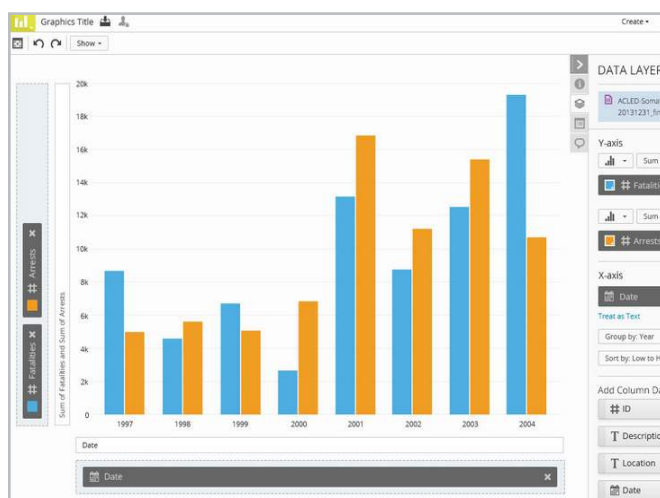
Analysts collaborate on Crumbnets to support their conclusions with content created in Savanna, such as a screenshot image of a Map and relevant research. Viewers explore evidence in the form of documents, images, videos, maps, notes, quantitative data, and profiles of people, places and organizations.



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

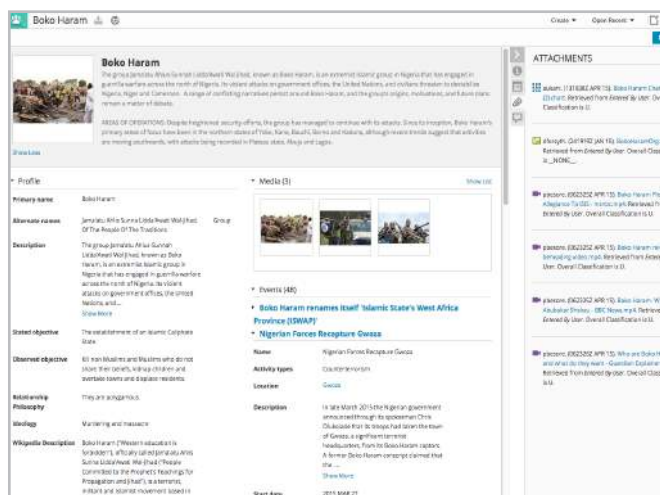
Savanna's search capabilities enable analysts to find relevant data and model content among public material on the shared network. Users can discover Analyst's Notebook Charts and other content or data through searching for keywords and values in chart data. Search results can then be added to the user's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

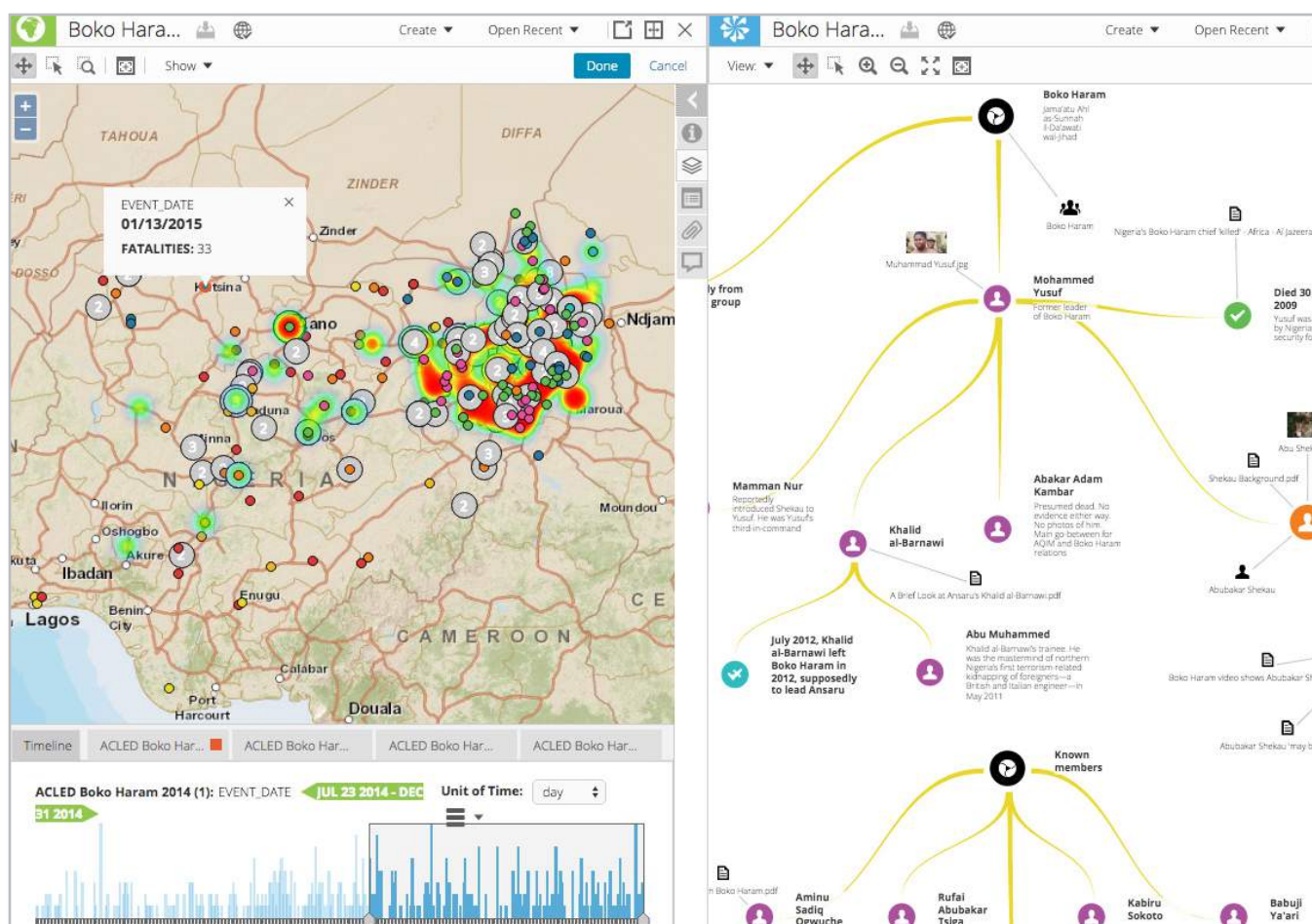
## Manage privacy settings to control access to classified information

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.





## 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.

## CONCLUSION

Complex problems require multi-part solutions. With the rise of tools to mine large data sets, businesses have reaped greater knowledge from structured data<sup>1</sup>. 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 companies 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/>.

### FIND OUT MORE

Learn more about how Savanna can streamline your analysis process by visiting our website at [www.thetus.com](http://www.thetus.com).

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