

SAS® GLOBALFORUM 2015

The Journey Is Yours

SAS® Visual Analytics: Supercharging Data Reporting and Analytics

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“Can we get our answer before we forget why we asked the question in the first place?”
(Hillary Mason - Data scientist and hacker, 2012)

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**WELLS
FARGO**

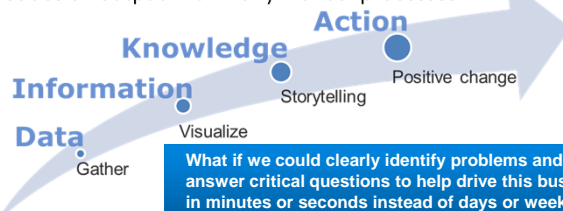


Abstract

Data visualization is a GPS directing us to where in the sea of data we should spend our analytical efforts. Wells Fargo CEO John Stumpf challenges us with the following: “**We all work for the customer. Our customers say to us, ‘Know me, understand me, appreciate me and reward me.’ Everything we need to know about a customer must be available easily, accurately, and securely, as fast as the best Internet search engine.**” Our Credit Risk group is dedicated to measure, analyze, and provide proactive recommendations to support and direct credit policy and strategic business changes, and we were challenged by a high volume of information coming from disparate data sources. This session focuses on how we evaluated potential solutions and created a new go-forward vision using a world-class visual analytics platform with strong data governance to replace manually intensive processes. As a result of this work, our group is on its way to proactively anticipating problems and delivering more dynamic reports.

Problem / Challenge

1. Immediately and accurately answer questions posed by both internal and external clients
2. Measure, analyze and provide proactive recommendations
3. Produce (optimize and reduce) **thousands** of pages of **static** charts across hundreds of strategic segments – currently **1-2 week** lead time to produce all output with many manual processes



Data analysis vision

1. Even with data growing at an exponential rate, we will create actionable insights
2. Create easy to use, interactive key performance indicator dashboard
3. World class visual analytics platform with strong data governance to replace our manually intensive processes
4. Respond reactively with standard reports and trends, but more importantly, proactively anticipate problems
5. Utilize advanced analytical methods to forecast trends and identify credit problems
6. Ability to run scenarios in-memory using millions, potentially billions, of records with hundreds of attributes instantaneously
7. Integrates well with our current environments
8. Flexible enough to integrate new structured and unstructured data sources fast

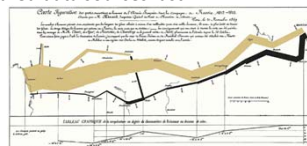


Fig1.

Methods - Two month proof of concept

1. Identify executive sponsor with **passion** for the topic
2. Team up with key vendors and **strong** business partners to create a **comprehensive needs assessment** and **tool comparison** between world class leading products in Data Visualization and Big Data Analytics
3. Collaborate and host demonstrations with **thought leaders** across organization to identify additional opportunities
4. Compare SAS Visual Analytics and three leading competitors using **comprehensive needs assessment and playbook** to vet tools against objectives

Fig2.



Conclusions

1. There is no panacea or cure-all, but we must enable our team to use the right **tool(s)** for the right job
2. Need executive sponsor with passion, clear vision, strong team with tenacity and comprehensive needs assessment to show the facts and make a data-driven decision
3. SAS VA was selected as the best choice for our specific use case
 - a. Easily extend existing SAS work with little to no data preparation
 - b. Take advantage of **in-memory high speed performance**
 - c. Re-create all standard reports and make them interactive – **1-2 weeks down to almost an instant!**
 - d. Lower learning curve, intuitive with advanced analytics
 - e. Opportunities to scale with other lines of business

References

Fig1. Charles Joseph Minard, Napoleon's 1812 March to Moscow - <http://bit.ly/1br6XEo>

Fig2. SAS Visual Analytics demo - <http://www.sas.com/tryva>

Fig3. The Matrix Movie - Warner Bros. Entertainment Inc.

Fig4. GPS - http://commons.wikimedia.org/wiki/File:NDrive_GPS.jpg

Fig5. Gartner Magic Quadrant for BI and Analytics - <http://gtmr.it/1br5NsD>

Appendix

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Needs assessment / 'playbook' for data driven decisions

1. Data Access
2. Data preparation
3. Ease of use and interactive
4. Look and feel of the reports and dashboards
5. Functionality provided with reports and dashboards
6. Ease of deployment
7. Architecture and scalability (back-end and front-end)
8. Security controls
9. Performance of real-time analytics and visualization
10. Return on investment - Net present value

Gartner Magic Quadrant for BI and Analytics

Figure 1. Magic Quadrant for Business Intelligence and Analytics Platforms



One of the many great resources to help choose tools to evaluate

<http://gtnr.it/1br5NsD>

Fig5.

Proactive analytical methods needed

Advanced statistical analysis	Geospatial analysis
Bubble plot animation	Heat maps
Correlations	Link analysis
Data exploration	Optimization
Decision trees	Predictive modeling
Forecasting	Tree maps

Fig2.



Why data visualization?

1. Data visualization can be like a GPS directing us in the sea of data to where we should spend our analytical efforts

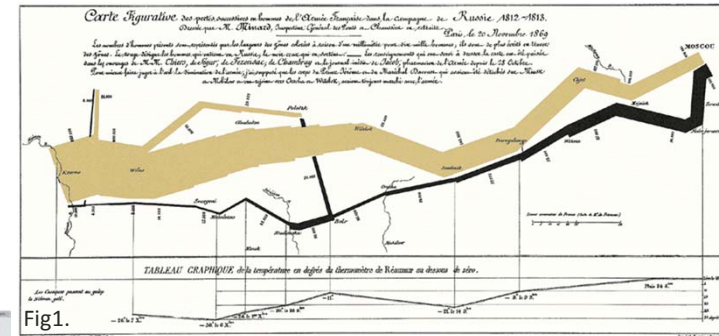
Fig3.



Fig4.

2. Quickly and accurately distill insights and solutions from ever-expanding information streams
 - a) Velocity (speed of data, Radio Frequency IDs, Internet of Things)
 - b) Variety (structured vs. unstructured, #SASGF2015)
 - c) Volume (petabytes, exabytes and zettabytes, oh my)

Storytelling



Charles Joseph Minard – Napoleon's 1812 March to Moscow

<http://bit.ly/1br6XEo>

1. Dimensions include army size at a time and location, temperature, geography, historical context, annotation into one single graphic!
2. Data visualization allows our eyes and brain to sift through billions of records of data in seconds to see a story

Our vision and values

John Stumpf, Chairman and CEO of Wells Fargo, challenges us with the following:

1. We all work for the customer.
2. Our customers say to us, "Know me, understand me, appreciate me and reward me."
3. Everything we need to know about a customer must be available easily, accurately and securely, as fast as the best internet search engine.

https://www08.wellsfargomedia.com/pdf/invest_relations/VisionandValues04.pdf



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