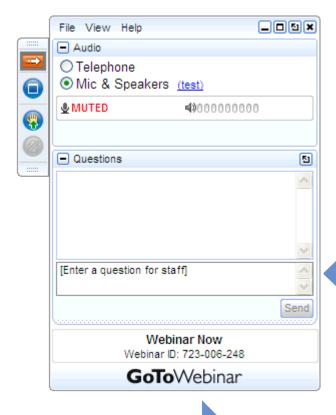




GoToWebinar Control Panel



Submit questions here

Click arrow to restore full control panel





Presentation Slide Deck on www.senturus.com





Agenda

- Introduction
- Why Dashboards
- Challenges, Opportunities & Human factors
- What is a Dashboard Really
- 13 Tips & Recommendations
- Special Offers
- Additional Resources
- Q&A



Introduction: Today's Presenter



John Peterson
CEO & Co-Founder
Senturus



JP's Bookshelf
Misc. Resources
Senturus





SENTURUS INTRODUCTION

WHO WE ARE

Senturus: Business Architects for Business Analytics

Technology Depth



Business Acumen



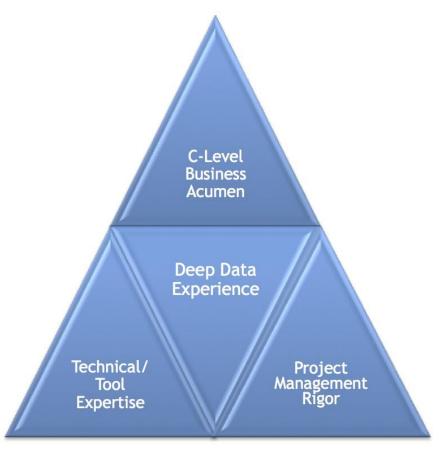
Business Intelligence



Enterprise Planning



Predictive Analytics



*Platform independent



A Few of Our Team Members (former roles)

Deep & Pragmatic Experience

- Former Head of BI/ Lead Architect VISA
- Former Enterprise Architect Boeing
- Former Financial Systems BI Architect/Manager Kaiser Permanente
- Former Head of BI Dole
- Former Chief Bl Architect Cisco
- Former Bl Architect Jamba Juice
- Former Lead BI Architect Central Garden and Pet
- Former Head of BI Experian
- Former Head of BI Robert Half International
- Former Head of Training (IBM Cognos, Southern California)
- Former Controller The GAP
- Two former CFO's
- Several former Vice Presidents of Marketing
- Several former COO's
- Several former CIO's
- Former Partner PWC (\$50million+ projects)
- Average experience = over 20 years



900+ Clients, 1700+ Projects, 15 Years



SEPHORA









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Connect with Innovation

























BIO-RAD











Preface: Common Questions

HOT TOPICS

Most Common Questions

- 1. We want to implement Self-Service BI, how...?
- 2. We need to develop a Dashboard, what should...?
- 3. Do we really need a Data Warehouse?
- 4. What's the Right tool for the job?





POLL: YOUR PERSPECTIVE

DO YOU PROVIDE DASHBOARDS TO FOLKS?

DO YOU USE A DASHBOARD YOURSELF?



RESOURCES

IN ADVANCE

A Few Resources to Start Things Off

- Edward Tufte
- Stephen Few (Perceptual Edge)
- Nathan Yau (Flowing Data)
- Andy Kirk (Visualisingdata.com)
- New York Times Infographics
 - http://www.nytimes.com/interactive/2014/12/29/us/year-in-interactive-storytelling.html
- Kaplan & Norton (Balanced Scorecard)

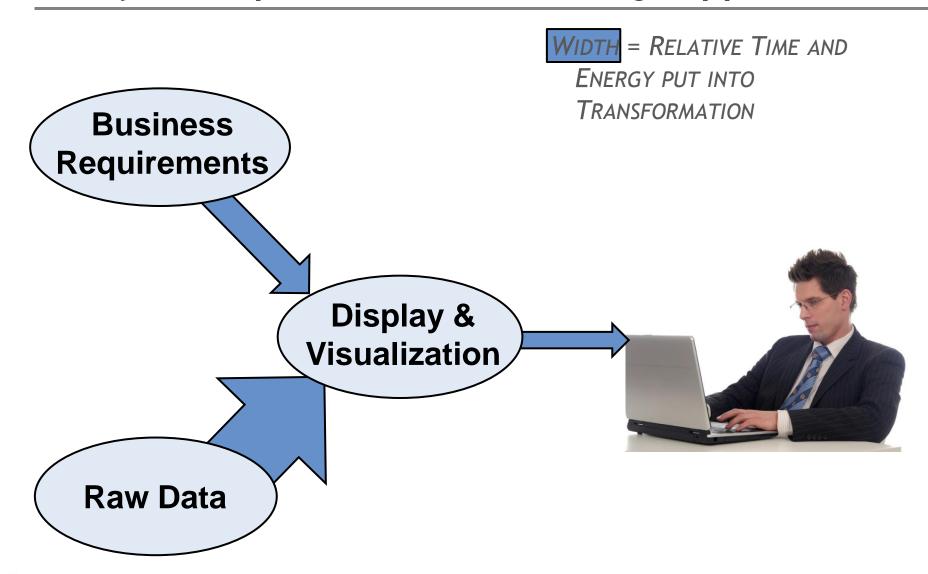




THE PROBLEM

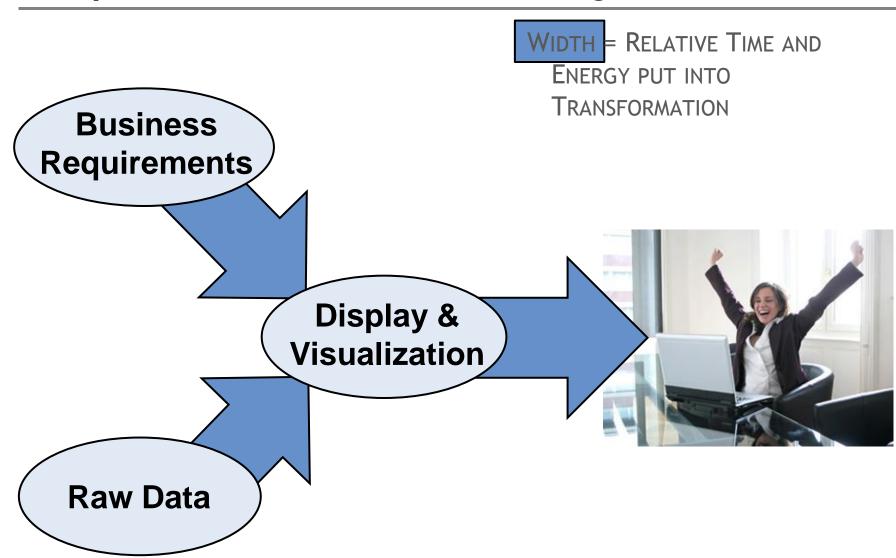
CHALLENGES, OPPORTUNITIES & HUMAN FACTORS

Today's Recipe for Decision Making Support





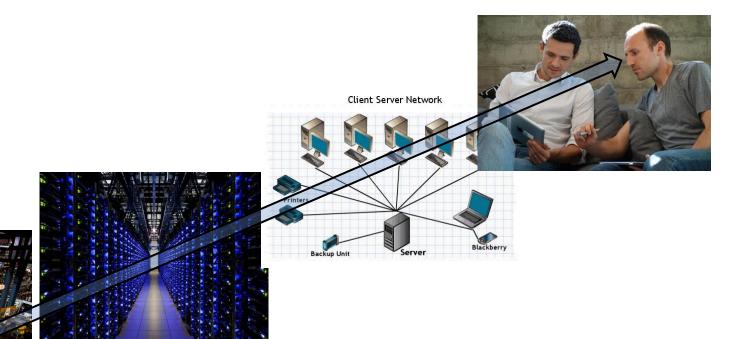
Recipe for Better Decision Making





Consider This

• In the journey of the data from the sources to the information "consumer/user," how much time & energy have you really focused on the final 24 inches?





The Vision Thing

- When our eyes are open, our vision accounts for two-thirds of the electrical activity of the brain a full 2 billion of the 3 billion firings per second, and
- 50% of our neural tissue is directly or indirectly related to vision
 - (Source: Neuroanatomist R.S. Fixot, 1957)
- More of our neurons are dedicated to vision than the other four senses combined, and
- olfactory cortex is losing ground to the visual cortex about 60 percent of our smell-related genes have been permanently damaged in this neural arbitrage
 - (Source: John Medina, Brain Rules, 2015)



Example 1: Preattentive Processing

- The unconscious accumulation of information from the environment
- Prior to conscious perception
- ...Yet very powerful

24813481187116715541388198443771347915641531845305848641 23475789411484122238814691613548048407890877078678751211 86584234044377134791564153184530584864123475789411484122 23881469161354804840789087707867875121186584234018874276

24813481187116715541388198443771347915641531845305848641 23475789411484122238814691613548048407890877078678751211 86584234044377134791564153184530584864123475789411484122 23881469161354804840789087707867875121186584234018874276

Example:

https://www.youtube.com/watch?v=oWrD2r5bCtw



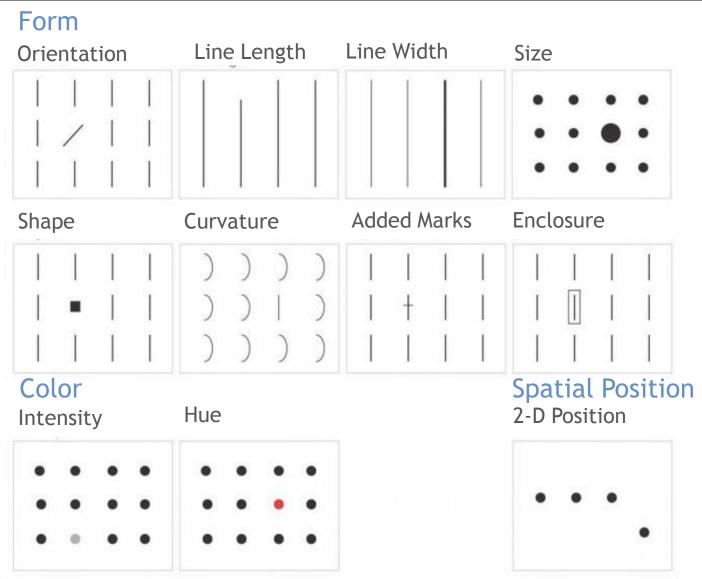
Example 1: Preattentive Processing (cont.)

Example:

https://www.youtube.com/watch?v=DWqTbJvR2Bg



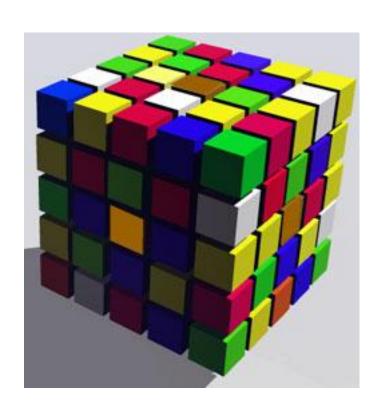
Example 1: Preattentive Attributes

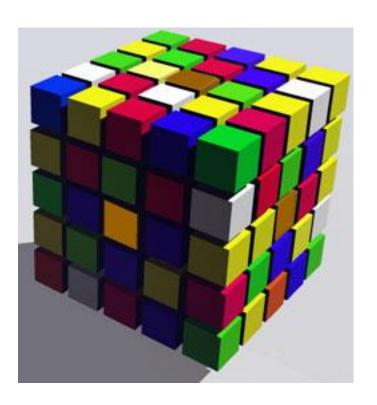




Example 2: Color Perception

The effect of contrast

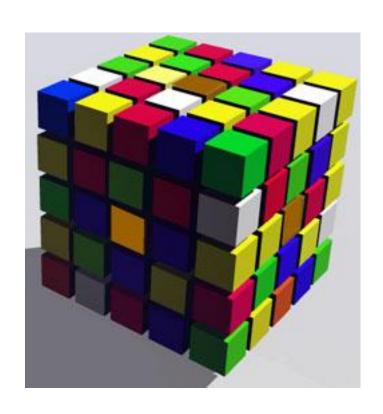






Example 2: Color Perception

The effect of contrast









Example 3: Memory Types

- Sensory Memory: < 1 second
 - Ultra-short-term memory and decays or degrades very quickly, typically in the region of 200 - 500 milliseconds (1/5 - 1/2 second) after the perception of an item
- Short-Term (Working) Memory: < 1 minute
 - Holds a small amount of information (typically around 7 items or even less) in mind in an active, readily-available state for a short period of time (typically from 10 to 15 seconds, or sometimes up to a minute).
- Long-Term Memory: life-time
 - Decays very little, but requires more "effort" to store & retrieve



Implications

- Information display methods matter A LOT
 - Color
 - Shape
 - Layout
 - Page size
 - Contrast & Context
 - Etc.
- Tapping into your brain's innate capabilities will enhance information delivery efficacy



And What Gets Measured...

- What gets measured gets managed.
 - (Source: Peter Drucker, 1954)



- "If you can not measure it, you can not improve it."
 - (Source: Lord Kelvin, 1883)
- "I chalked a big "6" on the floor, and then passed along without another word. When the night shift came in they saw the "6" and asked about it."
 - (Source: Charles Schwab, US Steel, 1917)
- "Metrics don't just report results, they drive strategy."
 - (Source: Kaplan & Norton, 1992)

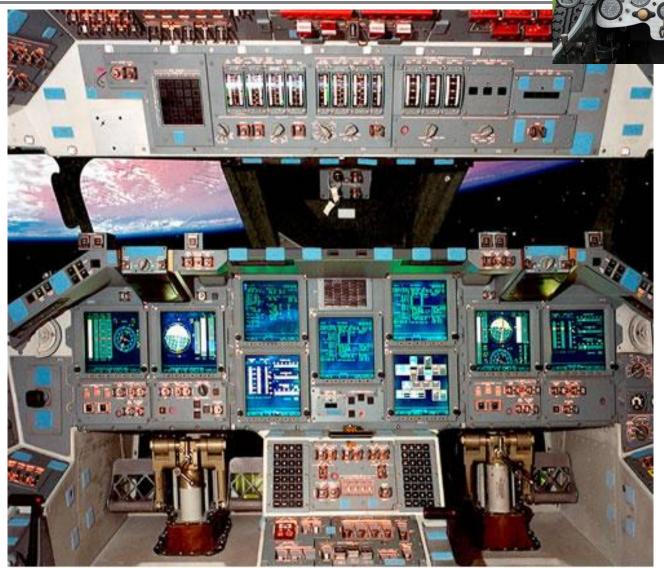




So WHAT?

WHAT DOES THAT HAVE TO DO WITH DASHBOARDS?

So... What is a Dashboard?





OK... What is an Information Dashboard?



Definition

- Stephen Few (revised 2015)
 - -A dashboard is an information display that people use to rapidly monitor current conditions that potentially require a immediate response to fulfill a specific role.





Dashboards Display Information That...



- ... matters
- ... is updated frequently
- ... requires a timely response



Other Display Types*



- Lookup Report, for lookup
- Explanatory Report, for narrative
- Infographic, for narrative
- Live Presentation, for *narrative*
- Dashboard, for monitoring
- Analytical Application, for guided data analysis
- EDA Tool, for exploratory data analysis
- Predictive Model, for *predictive analysis*



More Implications

- A person's role REALLY matters
 - One size fits all dashboards are suboptimal
 - Business requirements drive design/layout
- Layout matters
 - Particularly if it exceeds one page
 - Efficient use of space is critical
- Filtering, interactivity state changes actually reduce dashboard effectiveness
- Choice of what to display is crucial
- But so is how you display it!





PUTTING IT ALL TOGETHER

Do's AND DON'TS

Summary of Tips



- Consider "role-specific" dashboards
- Don't waste space stick to one screen
- Simple and clean is best
- Be very careful with color
- Avoid gratuitous graph types
- Focus on Leading (vs. Lagging) indicators
- Integrate Context
- Add ratios and trends
- 9. Provide drill-to-detail interactivity
- 10. Consider your delivery platform(s) e.g. mobile...
- 11. Beware of mockups, but...
- 12. Prototype early and often
- 13. Beware of the "levels of management" rework problem
- 14. Good news & Go forth and visualize



Different Strokes for Different Folks

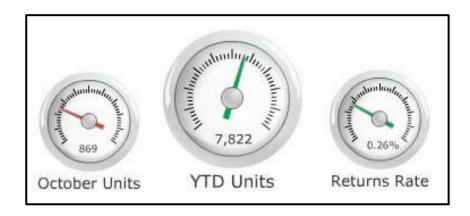
Consider "role-specific" dashboards

- Example: Store Dashboard vs. District Dashboard
- Who exactly is the audience?
- What specific decisions do managers need to make with the data?
- "One size fits all" rarely fits anyone well
- Filtering (especially when not persistent and obvious) destroys "situation awareness"
- Consider modular approach, but beware of lack of
 - Maintainability, consistency, company priority

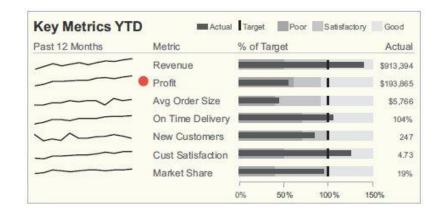


Don't Waste Space

Use appropriate graph types and layout



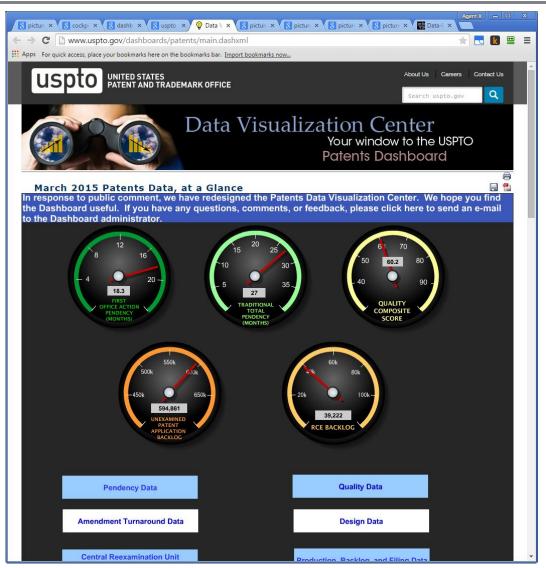
versus





*Source: Stephen Few, 2007

Don't Waste Space (Cont.)



Real-life example from US Patent & Trademark Office

versus...



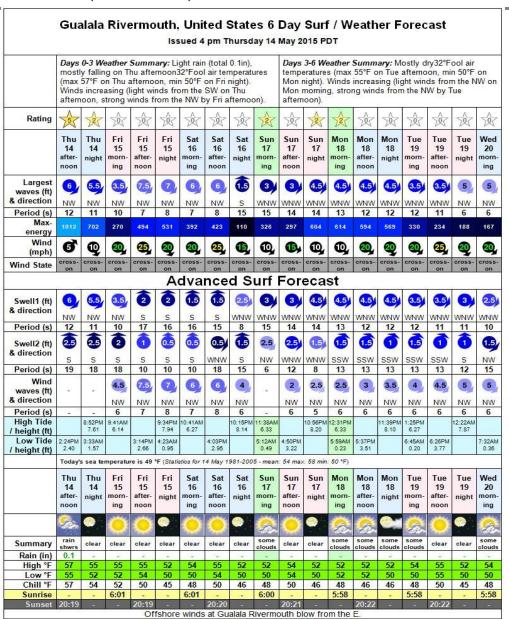
Don't Waste Space (cont.)

• AWARD WINNING DASHBOARD (PERCEPTUAL EDGE, 2012)



Don't Waste Space (cont.)

PERSONALIZED
 SURF REPORT





Clean and Simple

• WATCH YOUR DATA-INK (OR DATA-PIXEL) RATIO

Region	Units	Bookings	Bookings %
Americas	3,888	229,392	43%
Europe	2,838	167,442	31%
Asia	1,788	105,492	20%
Other	509	30,031	6%
Total	\$9,023	\$532,357	100%

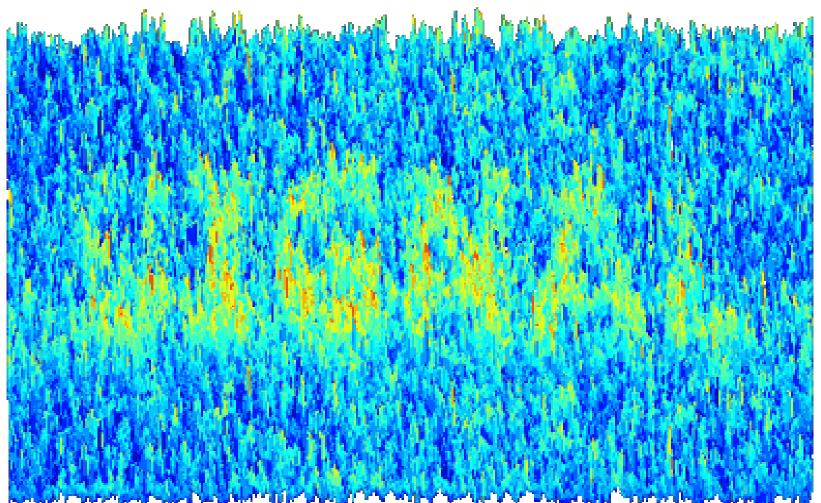
versus

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Other	509	30,031	6%
Total	\$9,023	\$532,357	100%



Clean and Simple - The Metrics Themselves

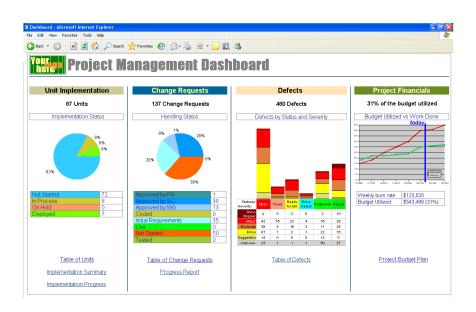
If Everything Is A Priority, Then Nothing Is A Priority



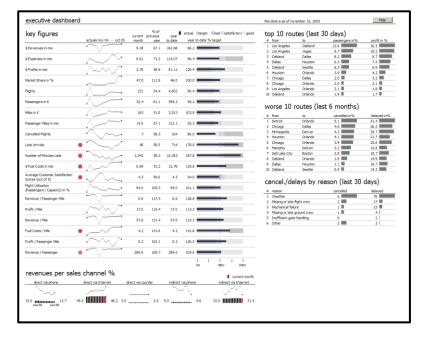


Be Very Careful with Color

Powerful but dangerous



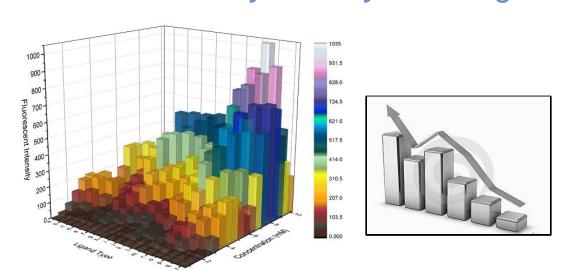


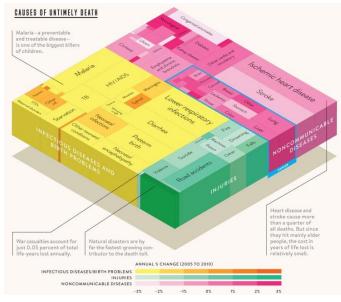


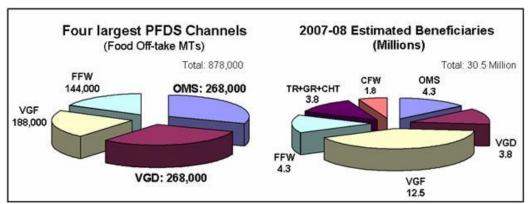


Avoid Gratuitous Graph Types

Nice eye-candy but not good information







Beware of vendor provided templates



Stress Leading Indicators, Not Lagging

Don't drive via the rear view mirror

- Unique visitors vs. past financials
- Emails opened
- New customers signed up
- Events attended
- Samples requested
- Contracts in process
- Etc.







Integrate Context

Relative to what?

Metrics

Vs. Last Year

Vs. Plan

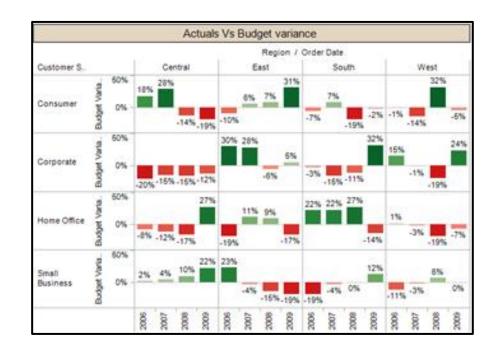
Vs. Forecast

Vs. Rolling average

Vs. Competition

Vs. Industry averages/standards

Etc.



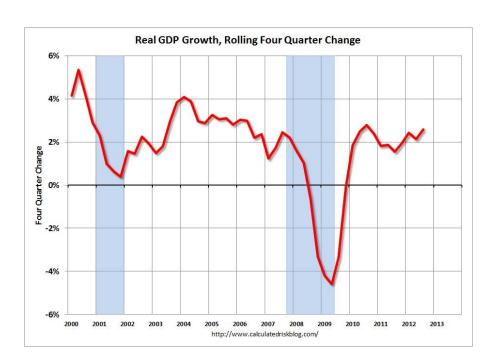


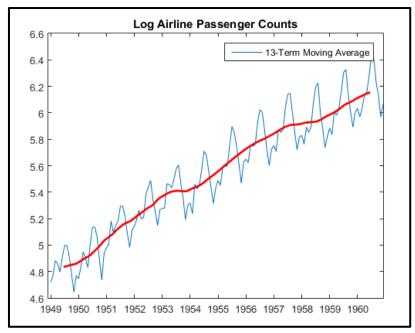
Use Ratios, Variances, Moving Avgs and Trends

Help identify the issues

Revenue: \$641,879

versus







Provide Drill-to-Detail

And conditional formatting

Pro Forma Cash Flow		Cab			
Net Profit	\$6,850	(\$24,952)	\$8,339	\$36,752	\$43,097
Plus:	\$0,000	(## 1,152)	40,007	*****	\$10,071
Depreciation	\$1,000	\$1,010	\$1,020	\$1,030	\$1,040
Change in Accounts Payable	(\$22,692)		\$58,509	\$109,308	\$122,353
Current Borrowing (repayment)	\$0	\$100,000	\$30,333	(\$50,000)	
Increase (decrease) Other Liabilities	\$0	\$0	\$0	\$0	\$0
Long-term Borrowing (repayment)	(\$2,942)	(\$2,962)	\$97,017	(\$3,005)	(\$3,026)
Capital Input	\$0	\$25,000	\$0	\$0	\$300,000
Subtotal	(\$17,784)	\$191,527	\$195,218	\$94,085	\$508,464
Less:	Jan	Feb	Mar	Apr	-
Change in Accounts Receivable	(\$163,917)	\$35,549	\$91,638	\$89,729	\$115,438
Change in Inventory	\$7,391	\$60,936	\$109,654	\$138,607	\$154,543
Change in Other Short-term Assets	\$0	\$0	\$0	\$0	\$0
Capital Expenditure	\$25,000	\$0	\$15,000	\$0	\$50,000
Dividends	\$0	\$0	\$0	\$0	\$0
Subtotal	(\$131,526)	\$96,485	\$216,292	\$228,336	\$319,981
Net Cash Flow	\$113,742	\$95,042	(\$21,074)	(\$134,251)	\$188,483
		THE RESERVE AND ADDRESS OF THE PARTY OF THE	\$242,809		

Try NOT to click on the negative variance cells!



Consider Your Delivery Platform(s)



Pixels matter!

- Write once, publish many is a Myth
- Screen real estate differs dramatically
- And so do usage patterns









Beware of Mockups

Requirements tend to "harden"

- Watch out for amateurs acting like pros
- Focus on core requirements instead
 - Metrics and measures
 - Dimensionality







Prototype Early and Often



Clay vs. steel



- Explore the data
- Unearth requirements
- Test preferences
- Test tools
- Sell the concept

All before major development





JP's Management Level Rework Theorem

Beware of copious, often contradictory, feedback

Number of rework iterations = Number of levels of management in the review loop

Corollary:

Cost and duration of project is directly proportional to levels of management involved





The Good News

Parting Thoughts

- The tools are better than ever:
 - More powerful
 - More flexible
 - More built-in (best practices)
 - More modular
- The need for good information is more pressing than ever
- There are now some (but not lots of) good examples in use

Go Forth and Visualize!





REFLECTIONS

Would you change the way you Provide Dashboards to Folks?

How would you create your own Dashboard?



SPECIAL OFFERS

Free Dashboard Appraisal

Complimentary Dashboard Appraisal

- Senturus senior architect will evaluate one of your dashboards* against best practices and provide recommendations to improve
- FREE** to the first ten organizations who email us today at info@senturus.com

*Note 1: We typically find these to be a blend of complex Excel spreadsheets and PowerPoint presentations.

**Note 2: Typically this is sold as part of our larger assessment offerings.



BI Assessment

BI Assessment

- Comprehensive Review of BI Stack Components: Server and Application Layer, Data & Transformation Layer, and BI Tools Layer
- Deliverables include Grading and Roadmap for each of the Stack Components
- Cost Starting at \$9,995

Contact info@senturus.com or 888.601.6010, ext. 85





ADDITIONAL RESOURCES

Additional Resources

Books:

- Information Dashboard Design (2nd edition) by Stephen Few
- The Visual Display of Quantitative Information by Edward Tufte
- Visualize This by Nathan Yau
- The Balanced Scorecard by Robert Kaplan & David Norton
- JP's Library (just call me)

Other:

- Graph Selection Matrix (Perceptual Edge)
 - http://www.perceptualedge.com/articles/misc/Graph_Selection_Matrix.pdf
- New York Times Infographics
 - http://www.nytimes.com/interactive/2014/12/29/us/year-in-interactivestorytelling.html



Resources on www.senturus.com





Upcoming Events

www.senturus.com/events



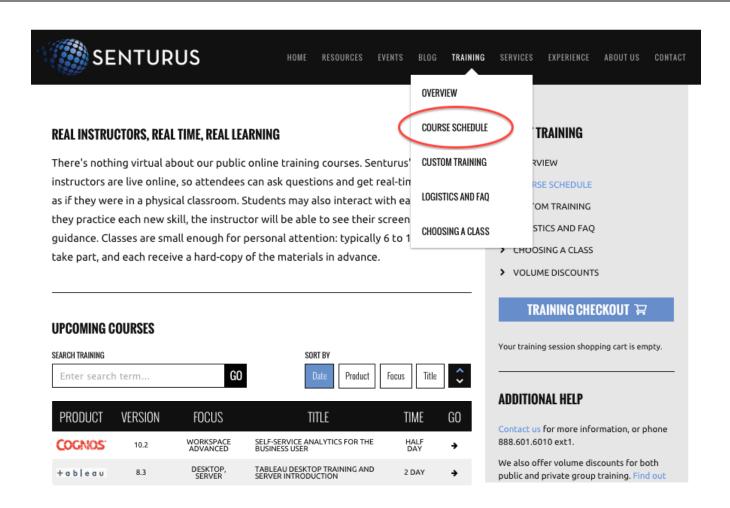
COGNOS 10.2.2 PERFORMANCE TUNING BEST PRACTICES FOR OPTIMIZING YOUR INVESTMENT Thursday, June 18, 2015 - 11am PT/ 2pm ET - 60 minutes DETAILS



DASHBOARD DESIGN WITH TABLEAU DESKTOP Thursday, June 25 - 11am PT/ 2pm ET - 60 minutes DETAILS



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