Data Dashboards

The Nuts and Bolts of Data Dashboard Development
Introduction

Andy Houriet
Founder and President
August Development Corporation

- Over 30 years of software design and development
- Custom software and technology implementation
- Extensive experience with foundation and non-profit applications
Workshop Objectives

- What is a dashboard?
- Why do I want a dashboard, what can I do with it?
- What should I put on my dashboard?
- How do I use my dashboard?
- Current dashboards exercise
- Designing a dashboard?
- Dashboard design exercise
- Building a dashboard
- Discussion and questions
Dashboards in Detail

Part 1 of 673.
What is a Dashboard?

- Easy to read view of data, usually graphical
- Shows current and historic trends
- Simplified view of key performance indicators
Examples

- Good dashboards - information and design come together
- Bad dashboards - lack one or both attributes
### The President’s 2020 College Attainment Goal

<table>
<thead>
<tr>
<th>Measure</th>
<th>Latest percent</th>
<th>Change from previous period</th>
</tr>
</thead>
<tbody>
<tr>
<td>25- to 34-year-olds who completed an associate’s or higher degree: 2000 and 2010 (CPS data)</td>
<td>38.8</td>
<td>↑</td>
</tr>
</tbody>
</table>

### Early Learning through High School

<table>
<thead>
<tr>
<th>Measure</th>
<th>Latest percent</th>
<th>Change from previous period</th>
</tr>
</thead>
<tbody>
<tr>
<td>3- and 4-year-olds enrolled in preschool: 2005-07 and 2007-09</td>
<td>48.2</td>
<td>↑</td>
</tr>
<tr>
<td>4th graders Proficient on the National Assessment of Educational Progress (NAEP) in reading: 2007 and 2009</td>
<td>32</td>
<td>↔</td>
</tr>
<tr>
<td>4th graders Proficient on the NAEP in mathematics: 2007 and 2009</td>
<td>38</td>
<td>↔</td>
</tr>
<tr>
<td>8th graders Proficient on the NAEP in reading: 2007 and 2009</td>
<td>30</td>
<td>↑</td>
</tr>
<tr>
<td>8th graders Proficient on the NAEP in mathematics: 2007 and 2009</td>
<td>33</td>
<td>↑</td>
</tr>
<tr>
<td>Freshmen graduating from high school within 4 years: 2006-07 and 2007-08</td>
<td>74.9</td>
<td>↑</td>
</tr>
<tr>
<td>Public school graduates who took at least one Advanced Placement test in high school: 2007-08 and 2008-09</td>
<td>26.5</td>
<td>↑</td>
</tr>
</tbody>
</table>
## 1. Finance

<table>
<thead>
<tr>
<th></th>
<th>Target</th>
<th>6 months ago</th>
<th>Now</th>
</tr>
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<tbody>
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## 2. Program and Impact

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<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of first-time clients enrolled</td>
<td>360 this year</td>
<td>160</td>
<td>205</td>
</tr>
<tr>
<td>GED certificates obtained</td>
<td>90%</td>
<td>70%</td>
<td>82%</td>
</tr>
<tr>
<td>E-petition signatures</td>
<td>5,000</td>
<td>Not started yet</td>
<td>6,400</td>
</tr>
<tr>
<td>Paid seats per theatre performance</td>
<td>90% of performance space</td>
<td>85%</td>
<td>75%</td>
</tr>
<tr>
<td>Presentations to churches, companies, neighborhood groups</td>
<td>15 for year</td>
<td>7 YTD</td>
<td>7 YTD</td>
</tr>
</tbody>
</table>
## DASHBOARD - SOFTWARE SALES

### Period February/08

<table>
<thead>
<tr>
<th>Profit &amp; Loss</th>
<th>Actual</th>
<th>Budget</th>
<th>Variance</th>
<th>Actual</th>
<th>Budget</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>75,000</td>
<td>-</td>
<td>450,000</td>
<td>450,000</td>
<td>-</td>
<td>450,000</td>
</tr>
<tr>
<td>Cost of Sales</td>
<td>20,000</td>
<td>-</td>
<td>(20,000)</td>
<td>200,000</td>
<td>-</td>
<td>(200,000)</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>55,000</td>
<td>-</td>
<td>250,000</td>
<td>250,000</td>
<td>-</td>
<td>250,000</td>
</tr>
<tr>
<td>Expenses</td>
<td>30,000</td>
<td>-</td>
<td>(30,000)</td>
<td>175,000</td>
<td>11,117</td>
<td>(163,883)</td>
</tr>
<tr>
<td>Other Income</td>
<td>1,500</td>
<td>-</td>
<td>5,436</td>
<td>5,436</td>
<td>-</td>
<td>5,436</td>
</tr>
<tr>
<td>Net Income before tax</td>
<td>24,500</td>
<td>-</td>
<td>80,484</td>
<td>(11,117)</td>
<td>91,560</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Top 5 Expenses</th>
<th>Actual</th>
<th>Budget</th>
<th>Variance</th>
<th>Actual</th>
<th>Budget</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel &amp; Accommodation</td>
<td>12,000</td>
<td>-</td>
<td>(12,000)</td>
<td>75,000</td>
<td>-</td>
<td>(75,000)</td>
</tr>
<tr>
<td>Fit/Lazarus &amp; foreign exchange</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Legal Fee</td>
<td>3,500</td>
<td>-</td>
<td>(3,500)</td>
<td>15,000</td>
<td>-</td>
<td>(15,000)</td>
</tr>
<tr>
<td>Accounting Fee</td>
<td>4,500</td>
<td>-</td>
<td>(4,500)</td>
<td>32,000</td>
<td>-</td>
<td>(32,000)</td>
</tr>
<tr>
<td>Staff Training</td>
<td>10,000</td>
<td>-</td>
<td>(10,000)</td>
<td>50,000</td>
<td>-</td>
<td>(50,000)</td>
</tr>
<tr>
<td>Other</td>
<td>30,000</td>
<td>-</td>
<td>(30,000)</td>
<td>175,000</td>
<td>-</td>
<td>(175,000)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Top 5 Customers</th>
<th>TID</th>
<th></th>
<th>Customer Category</th>
<th>GP</th>
<th>GP %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &amp; G Consults</td>
<td>6,040</td>
<td>59.4%</td>
<td>End-User</td>
<td>5,040</td>
<td>100.0%</td>
</tr>
<tr>
<td>Ackerman &amp; Co.</td>
<td>4,104</td>
<td>38.6%</td>
<td>(blank)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Albert Limited</td>
<td>570</td>
<td>5.0%</td>
<td>(blank)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>15,154</td>
<td>100.0%</td>
<td>-</td>
<td>5,040</td>
<td>100.0%</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Top 5 Items</th>
<th>TID</th>
<th>%</th>
<th>Item Category</th>
<th>Quantity</th>
<th>Avg Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Part Pre-printed Invoice</td>
<td>7,524</td>
<td>68.5%</td>
<td>Inventory</td>
<td>7</td>
<td>1,031</td>
</tr>
<tr>
<td>250 Gig Hard Drive</td>
<td>2,220</td>
<td>19.3%</td>
<td>(blank)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Accounting Software</td>
<td>1,710</td>
<td>14.9%</td>
<td>(blank)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other Item</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>15,154</td>
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<table>
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<th>Bottom 5 Items</th>
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<th>%</th>
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<th>Avg Price</th>
</tr>
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<tr>
<td>(blank)</td>
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Multiple Dashboards

Different dashboards for different business areas:

- Finance
- Program(s)
- Development
- HR
Why not Reports?

- Reports are useful for details, potentially time consuming for summary data
- An effective alternative to reports

<table>
<thead>
<tr>
<th>M394 KPR</th>
<th>Departed</th>
<th>Arrived</th>
<th>Duration (h:m)</th>
<th>Distance (miles)</th>
<th>Staying (h:m)</th>
<th>Description</th>
<th>Travel charge</th>
<th>Time charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>15th January 2009</td>
<td>8:30 Home</td>
<td>8:47 Newco Ltd</td>
<td>0:17</td>
<td>9.2</td>
<td>0:03</td>
<td>Non-chargeable, Planned maintenance</td>
<td>£0.74</td>
<td></td>
</tr>
<tr>
<td>8:51 Newco Ltd</td>
<td>9:00 Aldi car park</td>
<td>0:06</td>
<td>3.9</td>
<td>0:30</td>
<td></td>
<td>Non-chargeable, Domestic</td>
<td>£0.32</td>
<td></td>
</tr>
<tr>
<td>0:30 Aldi car park</td>
<td>0:51 Home</td>
<td>0:21</td>
<td>11.1</td>
<td>4:35</td>
<td></td>
<td>Non-chargeable, At home</td>
<td>£0.88</td>
<td></td>
</tr>
<tr>
<td>14:26 Home</td>
<td>14:46 Shute End Road, Alderbury, SP5 3</td>
<td>0:20</td>
<td>6.1</td>
<td>0:03</td>
<td></td>
<td>Non-chargeable, Break outside work time</td>
<td>£0.74</td>
<td></td>
</tr>
<tr>
<td>14:50 Shute End Road, Alderbury, SP5 3</td>
<td>14:58 B and Q</td>
<td>0:08</td>
<td>2.3</td>
<td>0:09</td>
<td></td>
<td>Non-chargeable, Domestic</td>
<td>£0.28</td>
<td></td>
</tr>
<tr>
<td>15:08 B and Q</td>
<td>10:07 Home</td>
<td>0:59</td>
<td>20.1</td>
<td>5:21</td>
<td></td>
<td>Non-chargeable</td>
<td>£2.42</td>
<td></td>
</tr>
<tr>
<td>Totals on 15th January 2009</td>
<td></td>
<td>2:16</td>
<td>52.9</td>
<td>5:21</td>
<td></td>
<td></td>
<td>£5.36</td>
<td>£0.00</td>
</tr>
</tbody>
</table>

Number of journey legs:  6   Number of journey stops:  5
Do you have any dashboards?

- SalesForce
- Raiser’s Edge
- Convio
- Google Analytics
- Others?
Why do I want a dashboard?
Why do I want a dashboard?

- Reliable, accurate view of your strengths and weaknesses
- Quickly identify trouble areas
- Share information between departments
- Makes it easy to see other department strategic goals and progress
- Help align your metrics with your strategic goals
Why do I want a dashboard?

Strategic goals:
- Do you have written strategic goals?
- Do you have metrics that support those goals?
Why do I want a dashboard?

- Dashboards are a very effective tool that helps drive the management decision making process
- Traditional approach is meetings, reviewing reports, asking questions
Why do I want a dashboard?

The design process can drive critical improvements in process and how you measure process:

- Detailed review of common departmental functions
- Implementing ways to measure, leading to metrics
What do I put on a dashboard?
What do I put on a dashboard?

- Anything that helps you view metrics in support of your strategic plans
- Generally speaking, 7 charts/graphs, plus or minus 2
  - Too little--don’t get full nuanced perspective on different elements of the work
  - Too much--loses readability and usability
What do I put on a dashboard?

Program performance:
- Constituents served
- Staff workloads
- Follow-up tracking
- New and existing cases
- Impact
What do I put on a dashboard?

Development performance:
- New donors
- Existing donors
- Individuals/organizations
- Donation thresholds
What do I put on a dashboard?

Membership:
- New members
- Renewals
What do I put on a dashboard?

Human resources:

- Staff training
- Staff program performance
What do I put on a dashboard?

Marketing/Communications:

- Website views
- Newsletter click-throughs
- Donation conversions
- Document downloads
- Conversions to donations
What do I put on a dashboard?

Volunteers:
- Recruiting performance
- Volunteer participation
- Retention
What do I put on a dashboard?

Financials:
- Revenue
- Expenses
- Burn rate
- Operating reserves
- Current ratio
What do I put on a dashboard?

High-level to low-level drill down:

- Start with an overall summary of key items from each area - a big-picture view
- Drill down into more detailed metrics in each area
What do I put on a dashboard?

Other data:
- It doesn’t all have to all be for decision-making, there can be informational sections
How do I use my dashboard?
How do I use my dashboard?

- Make the dashboard review a regular component of the work process
- Consider automated alerting for review
- Consider automated alerting when specific metrics are outside of range
How do I use my dashboard?

Possible options:

- Daily, weekly, monthly review
- Monthly levels check
- Executive management meetings
- Department management meetings
- Board/governance meetings/presentations
- Public website versions
How do I use my dashboard?

- Use it to make decisions that drive change
- Dashboards can drive change in practical use
- What can be measured can be monitored, what can be monitored can be changed
PAI Dashboard Walkthrough
- A little bit about Philadelphia Academies, Inc.
- National Career Academy Coalition’s 10 National Standards of Practice
- To the Dashboard...
PAI Dashboard Walkthrough

- Use:
  - Using in monthly All-Staff meetings to call out areas of need and collaboration, as well as inform other departments of work in the field
  - Will be using to show and explain progress toward goals to school-based partners (principals, Academy Coordinators, etc.)--focuses them on tangible goals empowers them to act on what is needed
  - Will share dashboard components with our Board
Worksheet - Current Dashboards

Section VII.
Worksheet - Current Dashboards

1) Do you have any existing dashboards that you use? (please list them)
2) What is on your dashboard(s)? (in general; what is the focus)
3) How did you decide what to put on your dashboard(s)?
Worksheet - Current Dashboards

4) Where does the data come from (manually entered, spreadsheets, databases, accounting system, etc.)? Who collects and/or synthesizes the data from the sources?

5) Who uses the dashboard(s)?
Worksheet - Current Dashboards

6) How is it used? (decision making, daily management review, general reference, etc.)
7) How often is it used? (daily, weekly, monthly, board, etc.)
Worksheet - Current Dashboards

8) Is your dashboard sufficient? If not, what is missing?

9) If not helpful or effective, do you have any ideas on how they might be improved?
Worksheet - Current Dashboards

Worksheet Review
Designing Your Dashboard

Unit 43.
Designing Your Dashboard

General guidelines for a dashboard:
- Metrics that reflect performance towards organizational objectives
- Keep it as simple as possible
Designing Your Dashboard

Build from reliable data sources:
● Ideally sources that are part of normal business operation
● Data entered into management systems - done as part of business operation
Designing Your Dashboard

Manually entered/collected data:

- Spreadsheets and other manually entered data commonly has little validation
- Proceed with caution
Designing Your Dashboard

Balanced Scorecard:

- Method for designing and developing objectives and outcomes
- Prepare a plan for all aspects of the organization (balance)
- Executive management plans, with input from the organizational areas
Designing Your Dashboard

Destination Statement:

● A description of the organization in the future, typically three to five years away

● Include perspectives for:
  ○ Financial
  ○ Constituents
  ○ Processes
  ○ Learning and growth
Designing Your Dashboard

Strategy Map:
- 12 to 24 objectives as activities and outcomes
- Definitions of the objectives
- Measures for each objective with targets
- All in support of the destination
Designing Your Dashboard

Other approaches:

● What information are you frequently asking for?
● What information is in your current reports and tools?
Designing Your Dashboard

Source the data:

- What do we have now that fits the measures?
- What don't we have?
- How do we maintain it and be assured of accuracy?
Designing Your Dashboard

Source the data:

- What do we need to do to get the data we don't have yet?
- Is it really practical to get it, what is the effort?
- Is there enough return for the effort?
Designing Your Dashboard

WARNING - it’s very easy to want to include too much data, which can make things cluttered and hard to follow.
Designing Your Dashboard

Access:

● Who will have access to the dashboard?
● Do all users see the same data, or variations for different roles?
● Executive management - sees all
● Department management - views of their area
Designing Your Dashboard

WARNING - it’s very easy to make a misleading dashboard, be very careful to review with your team and make sure you are evaluating and interpreting correctly.
Designing Your Dashboard

Layout and Representation:

- Reports and statistics are much harder to tease out the information, stick with graphics when possible
Designing Your Dashboard

Which is easier to interpret?
Designing Your Dashboard

Layout and Representation:

- Above all else, show the data, the fewer the pixels the better
- High data to pixel ratios
Designing Your Dashboard

Simple beats complicated every time!
Designing Your Dashboard

Layout and Representation:

- Which charts go with which kinds of data?
Designing Your Dashboard

Line charts - best for time series

Reported tetanus cases in France by year, 1945-2003
Designing Your Dashboard

Bar charts - best for comparing categories

![Bar Chart: Students' Favorite After-School Activities]
Designing Your Dashboard

Pie charts - avoid when possible
Designing Your Dashboard

Indicator table - great for quick review

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</table>
Designing Your Dashboard

Many other options, some have an application.
Designing Your Dashboard

Additional guidelines:
- Stay away from bright colors
- Avoid many shades of color, too hard to distinguish
- Minimal annotations, everything doesn’t need a label
Designing Your Dashboard

Additional guidelines:

- Test different options and get feedback
- Good data visualization takes practice
Break!

Back at 10:45...

"Sorry for calling them 'graphics', Mr Burke. I meant the 'coloured pictures'."
PAI Dashboard Design

1. What information do we include? How do we define (and measure) success?
2. How do we visualize what we want on the dashboard?
3. How will we collect and enter data?
PAI Dashboard Design

1. What information do we include? How do we define (and measure) success?
   a. Received guidelines from President (audience in mind: Board of Directors)
   b. Received guidelines from Fund Development (audience in mind: funders)
   c. Brainstormed with staff (audiences in mind: ourselves and school officials)
PAI Dashboard Design

Brainstorming with staff

- Staff thought through the “why” of using a dashboard, and when/how they would utilize it
- Pre-work: We decided 5 main areas that we were seeking success in and asked staff to think of how they would measure success in these areas.

- The 5 areas:
  - “Purity”
  - Recruitment
  - Common Planning Time
  - Business Engagement
  - Data Wall Usage
2. How do we visualize what we want on the dashboard?
   a. Synthesize and eliminate
      i. Which pieces will be most telling? Avoid any duplications and also data that will be difficult to collect.
   b. Came up with charts/visualizations for each data point
   c. Defined all terms
   d. Collected them into broad categories/sections to be grouped together
PAI Dashboard Design

Original design:

**Academy Student Enrollment**
(Target Range=250-400)

- 300, 25%
- 400, 33%
- 300, 25%
- 200, 17%

**CPT Quality**
(Target=3)

- Jefferson
- Liberty
PAI Dashboard Design

Final design:

### Enrollment/Purity
**March 2014**

<table>
<thead>
<tr>
<th></th>
<th>Academy of Earth Science</th>
<th>Academy of the Applied Arts</th>
<th>Freshman Academy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Enrolment</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Common Planning Time
**November 2014**

<table>
<thead>
<tr>
<th></th>
<th>Academy of Earth Science</th>
<th>Academy of the Applied Arts</th>
<th>Freshman Academy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting Took Place</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Agenda For Meeting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Clear Goals For Meeting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Clear Facilitator</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Follow-up From Previous Meeting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Minutes Taken and Distributed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Average Teacher Attendance</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>High-quality Content/Conversation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
PAI Dashboard Design

- First draft, reviewed with staff, final draft

- *If you haven’t noticed:* this is a hugely collaborative process! It can be painfully slow, but also gets everyone on board and invested.

<table>
<thead>
<tr>
<th>Enrollment/Purity</th>
<th>Category 1</th>
<th>Category 2</th>
<th>Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Enrollment</strong></td>
<td>250-400 students enrolled in the academy</td>
<td>200-249, or 401-500 students enrolled</td>
<td>Less than 200, more than 500 students enrolled</td>
</tr>
<tr>
<td><strong>Student Cohort Purity</strong></td>
<td>≥80% of students are taking at least half of their classes within their academy</td>
<td>Between 50% and 79% of students are taking at least half of their classes within their academy</td>
<td>Less than 50% of students are taking at least half of their classes within their academy</td>
</tr>
<tr>
<td><strong>Academy Teacher Purity</strong></td>
<td>≥80% of teachers are teaching at least half of their classes within their academy</td>
<td>Between 50% and 79% of teachers are teaching at least half of their classes within their academy</td>
<td>Less than 50% of teachers are teaching at least half of their classes within their academy</td>
</tr>
</tbody>
</table>
PAI Dashboard Design

3. How will we collect and enter data?
   a. Decide division of roles and responsibilities
   b. Design reporting forms
      i. Some may be optional while others are required
   c. Ask those who are collecting the best way to do it
   d. Train staff
      i. Recommendations if data entry is new for staff:
         1. Have folks practice the data entry together in a group
         2. Meet regularly to ensure or develop standardized processes and iron out inconsistencies and difficulties
Worksheet - Dashboard Design

Phase Alpha.

"Think this is bad? You should see the inside of my head."
Worksheet - Dashboard Design

1) Destination/Mission Statement

What does success for your organization look like from these lenses?

○ Financial
○ Constituents
○ Operational
○ Learning and Growth
Worksheet - Dashboard Design

Destination statement examples:

- Donor revenue is grown by 25%
- Training system is implemented for staff
- Donor management is upgraded with CRM system
- Improve volunteer retention 15%
Worksheet - Dashboard Design

2) Dashboard Elements
With your Destination/Mission statement in mind, list possible dashboard elements that would give appropriate measurements or metrics to manage those items. Don’t hold back--this is the brainstorming phase where you want to create more possibilities for the dashboard than what you eventually want in your final version.
2) Dashboard Elements

- Do this in multiple passes, make the list of elements and descriptions first
- Fill in the Target, Chart Type and Data Source in a later pass
3) Information Systems Resources

- List your current information systems (accounting/financial software, development/donor management, Excel spreadsheets, databases, line of business applications, SalesForce, etc.)
Worksheet - Dashboard Design

4) Audience
- List the roles/people that need access to the dashboards
Worksheet - Dashboard Design

5) Usage:
- What will the process for use be? (How often are they reviewed, at what meetings, etc.)
Worksheet - Dashboard Design

Review, questions.
Building Your Dashboard

Part last.

"That better be an arm twitch."
Building Your Dashboard

Existing applications:
- Accounting - QuickBooks, PeachTree, Sage
- Operations applications (SalesForce, CRM, Raiser’s Edge)
Building Your Dashboard

Dashboard applications:
● Excel
● Google Sheets
● Tableau (multiple editions)
● QlickView
● COGNOS
● Many, many more
Building Your Dashboard

Custom dashboards:
- Stand-alone applications
- Integrated existing applications
- Seamless workflow
Building Your Dashboard

Dashboard demo:
- Excel
- Tableau Public
Building Your Dashboard

Excel

- Enter data manually
- Import data from various tools, many options
- Add-ons for pivot tables, etc.
Building Your Dashboard

Excel

- Sample data
Building Your Dashboard

Tableau Public

● Import Excel, Access and Text data
● Import data from various tools with upgraded versions ($)
● Great variety of visualizations
Building Your Dashboard

Tableau Public

- Same sample data
Thank You

Feel free to contact me with questions about any of the process after the workshop.

Andy Houriet
August Development Corporation
andyh@augdev.com
215-343-3200 x110
Data Dashboards

Fin.

Bob doesn't quite get the concept of executive director coaching.