Timo Elliott, Innovation Evangelist, SAP

BI Culture Eats Technology For Breakfast

timoelliott.com/blog/docs/bobj_culture.zip
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Timo Elliott, May, 2013
BI Culture Eats Technology For Breakfast
@timoelliott, September, 2013
Abstract

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Monday, September 09, 2013 10:00 AM - 11:00 AM, Trends & Strategy/Roadmaps & Product Direction

The best BI technology in the world is useless faced with strongly-held organizational beliefs about the role of data. A strategic approach to BI means working on what's most important to get real business value from data - and that means working on the "BI culture" of your organization. This session will start with a review of the insights generated by a recent in-depth study of dozens of real-life "casual BI users". We'll then turn those insights into concrete steps for improvement with an interactive, mini-workshop-style approach, including a framework for modeling and measuring BI culture:

- Learn the key problems that stop people from getting benefits from data
- Find out what BI culture is and why you should care more than you might think
- A model framework and concrete tips for assessing and improving BI culture in your organization
Introduction
# Top Business and Technology Priorities 2013

## Top 10 Business Priorities
1. Increasing enterprise growth
2. Delivering operational results
3. Reducing enterprise costs
4. Attracting and retaining new customers
5. Improving IT applications and infrastructure
6. Creating new products and services
7. Improving efficiency
8. Attracting and retaining the workforce
9. Implementing analytics and big data
10. Expanding into new markets and geos

## Top 10 Technology Priorities
1. Analytics and business intelligence
2. Mobile technologies
3. Cloud computing (SaaS, IaaS, PaaS)
4. Collaboration technologies
5. Legacy modernization
6. IT management
7. CRM
8. Virtualization
9. Security
10. ERP Applications

Source: Gartner 2013
What is “World Class Analytics”? 

It’s where you change the Information CULTURE of the organization
It’s Not About The Technology

Between 70% to 80% of corporate business intelligence projects fail, according to research by analyst firm Gartner.

“Organizations tend to throw technology at BI problems. You could have the right tool, but it could be doomed to failure because of political and cultural issues, an absence of executive support so the message doesn’t get out, and poor communication and training.”
Biggest Barriers to Analytic Adoption

<table>
<thead>
<tr>
<th>Issue</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of understanding of how to use analytics to improve the business</td>
<td>40%</td>
</tr>
<tr>
<td>Lack of management bandwidth due to competing priorities</td>
<td>35%</td>
</tr>
<tr>
<td>Lack of skills internally in the line of business</td>
<td>30%</td>
</tr>
<tr>
<td>Ability to get the data</td>
<td>25%</td>
</tr>
<tr>
<td>Existing culture does not encourage sharing information</td>
<td>20%</td>
</tr>
<tr>
<td>Ownership of data is unclear or governance is ineffective</td>
<td>20%</td>
</tr>
<tr>
<td>Lack of executive sponsorship</td>
<td>15%</td>
</tr>
<tr>
<td>Concerns with the data</td>
<td>10%</td>
</tr>
<tr>
<td>Perceived costs outweigh projected benefits</td>
<td>10%</td>
</tr>
<tr>
<td>No case for change</td>
<td>5%</td>
</tr>
<tr>
<td>Don’t know where to start</td>
<td>5%</td>
</tr>
</tbody>
</table>

Respondents were asked to select three obstacles to the widespread adoption of analytics in their organization.

Source: MIT Sloan Management Review 2010
Competing Forces are Making BI Both Harder & Easier

**Downward Forces**
- Data Volume
- Data Velocity
- Data Variety
- Data Silos
- Immature IM Discipline(s)
- Speed of Business
- Regulatory Mandates
- Resistance/Inertia
- Data Distrust
- Data Underutilization
- Data Mishandling/Misuse
- Data Existence Risks
- Isolated Decisioning
- Data Hoarding
- Capacity

**Upward Forces**
- Database and Advanced Analytics
- Embedded Analytics, CEP/Automation
- Data Integration, Quality, Predictive Analytics
- Semantic Search Across Data Sources
- 'Proper' Enterprise Information Management
- Data Accessibility, In-Memory Analytics
- Compliance Monitoring and Reporting
- Change Management
- Data Quality Meta/Master Data Management
- Enterprise Information Architecture
- Data Governance, Info. Security, Training
- Storage Avoidance, Deletion, Value Gen.
- Collaboration, "Spreadmart" Discouragement
- Consumerization, Monetization
- Cloud, Archiving
Some Key Trends Affecting BI Culture

Consumerization of IT
Internal vs. External Data
Internal vs. External Systems
Agile BI and Data Discovery
“Big Data” and Data Scientists
Real-Time Data Platforms
Talent and Performance Management
Budgets Moving to the Business
Information as an Asset

You are no longer in charge
(Or rather, even less so than before)
Information As An Asset

Product

Solution

Customer Experience

IT ownership

Culture disruption

Business ownership
People are THE Key BI “Technology”

BI Culture is about optimizing the use of this “technology”

It’s as important to plan the cultural changes as it is to plan the rest of BI deployments
“The stone age was marked by man's clever use of crude tools; the information age, to date, has been marked by man's crude use of clever tools.”
How To Change Information Culture

Skills
Incentives
Communication
Organization
Skills
SAP Information User Study
Findings: Five Main Problems

1. Motivation
2. Information skills
3. What the data doesn’t say
4. Rules of thumb
5. Organizational barriers
## Information Skills

<table>
<thead>
<tr>
<th>SKU</th>
<th>Product</th>
<th>Average items sold prior 3 weeks</th>
<th>Items sold during special promotion</th>
<th>% increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>120595</td>
<td>Kams Mint Toothpaste 8 oz</td>
<td>72</td>
<td>112</td>
<td>56%</td>
</tr>
<tr>
<td>593300</td>
<td>Peepers Size 5 Diapers 32 pack</td>
<td>134</td>
<td>170</td>
<td>27%</td>
</tr>
<tr>
<td>309454</td>
<td>Pata Negra Ham Sandwich</td>
<td>35</td>
<td>43</td>
<td>23%</td>
</tr>
<tr>
<td>139913</td>
<td>Closers Breath Mints</td>
<td>40</td>
<td>112</td>
<td>180%</td>
</tr>
<tr>
<td>149292</td>
<td>Bboy Barbecue Charcoal 2lbs</td>
<td>17</td>
<td>98</td>
<td>476%</td>
</tr>
<tr>
<td>249200</td>
<td>Lindas Cookie Ice cream kids treats</td>
<td>26</td>
<td>65</td>
<td>150%</td>
</tr>
<tr>
<td>202184</td>
<td>Giant Corn Chowder Soup 12 oz car</td>
<td>43</td>
<td>84</td>
<td>95%</td>
</tr>
<tr>
<td>233120</td>
<td>Silly String Cheese, Lunch pack</td>
<td>12</td>
<td>55</td>
<td>358%</td>
</tr>
<tr>
<td>210653</td>
<td>Green Label 6-pack beer</td>
<td>120</td>
<td>115</td>
<td>-4%</td>
</tr>
</tbody>
</table>

**Average of % Increase**

**Better:** Ratio of total items sold provides different % increase
Information Skills

**E.g., Becky, Call Center Manager, Market Research Firm**
- Sales people preparing bids ask how busy she expects to be in next few weeks.
- She answers based on feeling for how busy they are now, work she knows is already committed, and memory of how many people she has already offered availability to.
- Does not consider total amount of work out on bid X the historical probability of winning.
- Risks being swamped because of too many implied promises of availability.
- Taking into account expected win rate, average lead time before projects launch, average lead time for adding temp staff would enable more proactive staffing plans that balanced the risks of over vs. under staffing.

**E.g., Dee, Facilities Manager, Software Company**
- To identify performance problems with janitorial crew shifts, tallies number of repeat service requests for day and night crew, without adjusting for different sizes of the shifts, or different numbers of service requests (i.e., using totals rather than percentages).

**E.g., Alice, Merchandising manager, Online Grocery**
- Evaluates sales promotions with average % increase over baseline sales per item, rather than % increase in the average sales per item (i.e., fails to weight her average by the hugely differing volume of sales across items).

**E.g., Nancy, Planner Executive, Global Cosmetics Company**
- Does not recognize how her replenishment exception process could be made more efficient by categorizing stores more richly, as opposed to making exception decisions based on anecdote.
Rules of Thumb (Unvalidated Quantitative Assumptions)
Rules of Thumb

“I just go ahead and approve all proposals where the departmental contribution to cover overhead is 30% of the project budget or less [despite the fact that that projects differ greatly in size, that winning the bid is hard to predict so the number can vary up or down, that projects have different priorities, and that the budget is finite].”

--Paul, Finance Manager, European University

“Don’t worry too much about deviations from the project budget until the last 3 months because before that point there is usually enough time for over and under spending to balance out naturally”

--Debby, Project Manager, Custom Research Firm

“If I want to know the incremental support cost for the 6th version of a product, I’ll just ask the engineers their opinion. I don’t need to see any evidence or analysis. They’re the experts.”

--Larry-, Product Manager, Software Company

“I know that a particular type of project is harder, so I may increase the bids by 15%. It would be too hard to confirm if that covers the extra costs on average. Bidding is as much art as science.”

--Brian, Account Executive, Market Research Company
The Opportunity

Huge opportunity to make business people more productive and efficient, increase their satisfaction, save money for the company, and drive more revenue.
Make it Easy

Mooers’ Law

“An information retrieval system will tend not to be used whenever it is more painful and troublesome for a customer to have information than for him to not have it.”

Calvin Mooers, 1960
Give Some Simple Data to EVERYONE

ACCESS

ENGAGEMENT

Virtuous Cycle
One Step at A Time

DSS Driving Decisions...

If you want to see more details, click the

Still getting your figures the old way?

Try DSS; it's fast, clear, and easy.
Keep The Wheel Spinning!

Training for IT
Training on data
Continued training
Best practice training

“Even if an application is intuitive enough to be usable without instruction, any related process or culture changes should be driven home with at least a quick tutorial.”

“What dooms IT projects”
Encourage Greater BI Sophistication (1)

Better problem diagnosis and trade-off analysis to evaluate alternative actions

These are typically happening on a qualitative basis, often with little quantitative input except for highest level strategic decisions (e.g., due diligence on a major acquisition or expansion)

Pro-active re-evaluation and fine tuning of rules of thumb

These tend to persist in organizations with much inertia (“memes”), reconsidered only AFTER an accumulation of problems is experienced

Make visible tacit contextual information that makes numbers interpretable

This is often contained in the heads of single individuals, creating risks of misinterpretation and errors when people move on
Encourage Greater BI Sophistication (2)

Improve assessments of when an exception is part of a pattern

This could potentially reduce the adversarial nature of these decisions

Establish continuous feedback loops to test iterative improvement efforts

…as opposed to one-off attempts to evaluate major process changes

Improve estimation and forecasting

Systematic improvement of estimation systems by checking against what really happened
Incentives
Lack of Incentives: Individual

“I could do more analysis, but that would only raise more questions calling for more analysis. It would never stop.”

“I often think I could look at exactly the same data and just as reasonably come to the opposite conclusion.”

--Larry, Product Manager, Software Company

“It does not matter whether I price the books well. It just matters that I sell books.”

--Jennifer, Sales Representative, Healthcare company

“The numbers just tell me the ‘locus’—where there may be a problem or bottleneck, but then I don’t need to do more analysis. I just go and spend time in the production area and watch the process.”

--Grace, Analyst, Online grocery

“Our projects are too unique for historical data to be of much use.”

--Debby, Project Manager, Custom Research Company
Lack of Incentives: Organizational

“No one measures how well I balance the risk of over-stocking some stores and under-stocking others. I’m just evaluated by how often account executives complain that I shorted their stores.”

--Michelle, Dir. of Forecasting and Sales Operations, Global Cosmetics Company

“I told my boss that the number of visitors to our social networking site was driven up artificially. She should look at the average time per visit. She said it didn’t matter, because number of visits was all her boss was asking for.”

--Nick, Alumni Relations Program Manager, Healthcare Company

“I did an analysis to see if we are benefitting from being in a network of market research facilities that share business and give each other discounts. I have to give him the numbers without expressing any opinion.”

--Isaac, CFO, Market Research Company

“We succeeded in cutting expenses last year, so now they are demanding another X% cut. I can’t get anyone to look at the fact that we did it partly by deferring maintenance, so costs may actually have to go up this year.”

--Dee, Facilities Site Manager, Software Company

“I just think about the science. I don’t have to worry about managing the research project budget. If I do something that creates a problem, my finance person will deal with it.”

--Prof V., Professor, European University
Little Drive for Deeper Analytical Thinking

Little incentive for most people to do more:

- No “stick” – Limited consequences for casual users’ suboptimal ways of drawing inferences and interpretations from numbers
- No “carrots” – We saw little evidence of organizational feedback loops where individual efforts are rewarded for contributing to refined/shared rules of thumb, sharing new analytical approaches, etc.

“Not my Job”

- Efforts to work smarter or to think more systemically or analytically can be perceived as conflicting with organizational needs, standardization & controls and create concerns about people “stepping on toes”
- Designated analyst roles can be seen as offloading business data responsibility from professionals, “creative people,” and managerial supervisory staff who should stay closely involved
KPIs Are Powerful – But Dangerous!
“Beyond Budgeting”

Theory X vs Theory Y

Target vs Forecast vs Resource Allocation

Traffic Lights vs Roundabouts
Making Sure People Use Information

Top down works

Minimize data quality excuses – fix at source
Communications
Congratulations! You’re In Marketing!

Evangelize
Promote early, promote often
Name the system
Internal seminars
Newsletters
Paint The Office Walls With Data

Bring data to life!
Paint the office walls with it!
Your business cannot know what it cannot see.
Grab Your Audience’s Attention

Data Vizualization?

BLING IT ON
Tell Stories
Share Time and Office Space
Example of a Success Story

A concrete example from one of the departments on the previous page (ideally the largest and most important), told in “story” format, using a named person in the business

The business person’s need was to...
E.g. increase customer satisfaction, lower product defects, etc. — the more specific the better

Before BI, she had to...
E.g. send out paper reports, download information to Excel, wait two months for end-of-month close data, etc.

Now, she’s able to...
E.g. get more information, get information faster, do more analysis — the more specific the better

And the benefit to the business is (numbers)
E.g. percentage increase in quality, decreased number of defects, etc. — equivalent to X dollars of savings/new revenue, with an ROI of equal to X% or X% change in budget or profits, .0X cents per share
Horror Stories Can Be Very Effective, Too…
Bonus Stories

Take on “rules of thumb” and “accepted wisdom”

How better data has impacted your company’s CUSTOMERS, not just employees
Prize for Best Information Use

Excuse to find out how business is using information, for what value

Collect several “submissions,” invite senior executives to review/choose the best project

*Symbolic* prize leads to fewer problems – e.g. flashy but inexpensive trophy

Communicate widely (employee magazine, external PR, etc.)
Get Others to Market For You

Help people get promoted
Leverage executive sponsors (and have backups)
Encourage internal “user groups”
Use internal collaboration sites
Apply for a BI Excellence Award Yourself

It’s good practice
Selling The Need for Better BI

Techniques for understanding executive needs

Providing answers to problems, not technology infrastructures

Getting your projects to “top of mind”
Take Advantage of BI Strategy Resources

Do a BI strategy assessment: https://sap-bi-strategy-assessment.com/

Successful BI needs a good strategy: SAP helps you build one

Business intelligence (BI) continues to be the top investment priority for CIOs. An effective BI approach can benefit your IT and line of business (LOB) teams alike. A good strategy includes aligning business partners, formalizing business needs, and delivering a comprehensive, strategic BI solution that identifies a shared set of goals and delivers planned results. How can your BI strategy benefit your lines of business?

Departmental spend goes further, and contributes to enterprise-wide benefits
Departmental BI needs often require data from other groups
A unified approach allows everyone to “speak the same language”

Start identifying your business challenges:
Organization
BICC Skills

- Link to business strategy
- Define priorities
- Lead organizational/process change
- Define BI vision
- Control funding
- Manage programs
- Establish standards
- Build technology blueprint
- Organize methodology leadership
- Have adaptable infrastructure
- Lead organizational/process change
- Control funding
- Manage programs
- Establish standards
- Build technology blueprint
- Organize methodology leadership
- Have adaptable infrastructure

Source: Gartner
Functional Areas of the BICC

Business Intelligence Program

- Executive sponsor
- Vendor Management
- Data Acquisition
- Data Stewardship
- BI Delivery
- Advanced Analytics
- Training
- Support

Business Intelligence Competency Center
## Goals: BI Culture and Self Enablement

<table>
<thead>
<tr>
<th>Corporate Governance</th>
<th>Uncontrolled BI Behaviors</th>
<th>BI Standard Proclaimed</th>
<th>BI Standard Enforced</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Culture of Best Practice</strong></td>
<td>Enhanced formal BICC</td>
<td></td>
</tr>
<tr>
<td>Knowledge</td>
<td>Knowledge Silos</td>
<td>Gathering/Grouping</td>
<td>Shared and Leveraged</td>
</tr>
<tr>
<td>BI Programs/Projects</td>
<td>Random Projects</td>
<td>Project Registration</td>
<td>Project Prioritization</td>
</tr>
</tbody>
</table>

**Develop a culture within** of best practices, community and Self Reliance.
First Law of BI

“Business people will ALWAYS be dissatisfied with their information systems”
Take Credit: People Have Short Memories
Don’t Only Talk to Power Users

“Information is power. But like all power, there are those that want to keep it for themselves”

Aaron Swartz (RSS, Creative Commons, Reddit…)

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What Goes Wrong With BICCs
γνῶθι σεαυτόν
Know Thyself
What Are YOUR Incentives?

Do you provide infrastructure? Or solve a business problem?

How are you rewarded? Can you change that?
Conclusion
“Computers are useless. They can only give you answers.”

- Pablo Picasso
Intelligence = Information + PEOPLE
Thanks!

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Analytics Blog: timoelliott.com

timoelliott.com/blog/docs/bi_culture.zip
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