Data Analytics?
Agenda

Data Analytics and Cultural Connections
Effecting Cultural Change
Cultural Success/Failure
Practical Application
### “Big” and “Little” Data

<table>
<thead>
<tr>
<th><strong>Data</strong></th>
<th>Information in raw or unorganized form (such as numbers or symbols) to represent an idea</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Big Data</strong></td>
<td>Datasets whose size is beyond the ability of typical database software tools to manage and analyze the information</td>
</tr>
<tr>
<td><strong>Little Data</strong></td>
<td>Anything that is not big data</td>
</tr>
</tbody>
</table>
Characteristics of Big Data

- Volume
- Data Complexity
- Velocity
- Variety
What is Analytics?

Scientific process of transforming data into insights for making better decisions

In order to

Discover | Explore | Visualize | Communicate

patterns or trends in data
Components of Data Analytics

- Technology
- Mathematics
- Methodology
- People
- Business

Source: Bergman, S.M. (2016, December). *Applied data analytics: It is not all about the numbers.* Presentation made to the Appalachian State University Walker College of Business, Boone, NC.
Components of Data Analytics

...But it's the people who drive results
LET’S TALK THEORY

Organizational & Individual Level
Approaching Change from 4 Perspectives

People are inherently capable of change, but need enabling structure/strategies.

Adapt approach to consider emotional state of change implementers.

What are the desired behaviors?

To achieve alignment, there must be a link between organizational and individual goals.
The Organizational Level

Lewin (1947, 1948)

Unfreeze → Change → Refreeze

Change Model

Force-Field Theory

Resistance to Change

Forces for Change

Current State

Desired Future State

The Organizational Level
Schein (1980) – An elaboration on Lewin’s Change Model

- Unfreeze
  - Create the motivation to change

- Change
  - Learn new concepts and new meanings for old concepts

- Refreeze
  - Internalize new concepts and meanings

The Individual Level

Unfreeze

- Learning Anxiety
- Survival Anxiety

Resistance to Change

Forces for Change

Desired Future State


Components of Data Analytics

Technology
Mathematics
Methodology
People
Business

Source: Bergman, S. M. (2016, December). Applied data analytics: It is not all about the numbers. Presentation made to the Appalachian State University Walker College of Business, Boone, NC.
Components of Data Analytics

People

Source: Bergman, S.M. (2016, December). *Applied data analytics: It is not all about the numbers.* Presentation made to the Appalachian State University Walker College of Business, Boone, NC.
People Determine Culture

Depth

Breadth

Value

https://www.oreilly.com/ideas/being-data-driven-is-all-about-the-culture
People Determine Culture

Depth

How far-reaching are data-gathering processes?

https://www.oreilly.com/ideas/being-data-driven-is-all-about-the-culture
People Determine Culture

Breadth

*How is data used and viewed across the organization?*

https://www.oreilly.com/ideas/being-data-driven-is-all-about-the-culture
People Determine Culture

**Depth**

*How far-reaching are data-driven processes and practices?*

**Breadth**

*How is data used and viewed across the organization?*

**Value**

*What resources and training are invested in leveraging data as a strategic asset?*

https://www.oreilly.com/ideas/being-data-driven-is-all-about-the-culture
Real World ROI

316 Decision-Makers | Organizations with Revenues ~$500 million

RESULTS:

<table>
<thead>
<tr>
<th>Revenues</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3%</td>
<td>1-3%</td>
</tr>
</tbody>
</table>

How Significant is 1-3%?

3% x 500 million = $15 million
Wholesale Distributors Inc.

Gamification Project

**Goal:**
- Production Up
- Safety Incidents Down
- “Miss Picks” Down

**Solution:**
- Competition with Prominently Displayed Results
- Education around Business Value
- Employee Involvement and Input

**Result:**
- Employee Engagement Up
- Productivity Up
- Safety Incidents Down
- Miss Picks Down

**Production Goals**
- $95\%$ to $100\%$
- $+40\%$
40% Of Data Initiatives Fail Why?

Cultural Roadblocks

Reluctance to practice data-driven decision making

Data deployed in isolation

Absence of a clear business-case

Frontline employees not on board

Lack of communication
Meds-R-Us

Disconnect Between Corporate Culture & Site Culture

- Perceived Utility
- Accountability
- Improvement
Practical Application

Unfreeze

Current State/Future Vision

Change Leaders

Communication

Refreeze
Practical Application

Unfreeze

Communication, Communication, Communication

Change

Training and Employee Development

Refreeze

Employee Involvement & Empowerment

Practical Application

Unfreeze

Align HR processes to support new “current state”

Change

Remove obstacles to new standard

Refreeze

 Remain flexible and aware of need for future change
Questions?

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“What if we don’t change at all ... and something magical just happens?”
References

- Retrieved from [http://ac.els-cdn.com/S0268401214000127/1-s2.0-S0268401214000127-main.pdf?_tid=24104570-9669-11e7-9db9-00000ac3b35d&acdnat=1505076578_42b44e055030e6baa7f3bb8ba9d050](http://ac.els-cdn.com/S0268401214000127/1-s2.0-S0268401214000127-main.pdf?_tid=24104570-9669-11e7-9db9-00000ac3b35d&acdnat=1505076578_42b44e055030e6baa7f3bb8ba9d050)
- [https://www.slideshare.net/RIZWANKHURRAM/llec-2-part-2](https://www.slideshare.net/RIZWANKHURRAM/llec-2-part-2)
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