Analytics in the real world
I do mean the “real” world

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What is Analytics?

Analytics allows you to ASK the next question.

Analytics allows you to ANSWER the next question.
The Cycle of DOOM
Traditional Reporting Cycle

Ask IT
The next question

IT gets complete requirements, estimates work and prioritizes

Answer yielded NEXT ______
To answer the question they asked LAST ______

IT begins report, hits roadblocks due to business rules that are crazy but they push through

Never ending cycle
The 3 P’s of why so many are stuck?

- People
- Process
- Platform

Cause we are still here 30 years later
People are not risk takers

“Just give me the answer”
“I’m too busy to tell you how it should work”
(Somebody told somebody the rules last time … use those"
“I expected you to test the results”

“Who needs bricks? Just throw anything together.”
People are Political

“I’m tired of them telling us they are busy”
“I’m tired of them not approving our FTE requests”
“I’m tired of them telling us their requirements changed”
“I’m tired of them changing the tools we use”

“Why stack the bricks when we can just throw them at each other?”
“IT needs a process that makes them look busy”
“Business needs a process that makes them look busy”
“Both need a process where they can’t be blamed”

“We are busier counting the bricks than the size of the walls”
Platforms are purchased by people to support Process

“Wait! What?”
“How’s that actually going to work?”

If it were easy to break, it wouldn’t be “The Cycle of Doom”
So what needs to change first to break the cycle?

This isn’t a rhetorical question
My vote is for People

When companies are “broken” they restructure
What we are doing isn’t working
Results have to replace work

We need an Analytics Team
My vote is for Process

We need an ANALYTICS PROCESS

ITERATIVE is the “standard work”
You don’t build Cathedrals on SAND
You don’t build Cathedrals out of straw
Of course the FIRST thing to fix
Is the PLATFORM

Maybe your first question should be “HOW CAN YOUR PLATFORM HELP ME Break out of the REPORTING CYCLE OF DOOM?”
The Data Literacy Skills Gap

Photo credit: Foter.com
The flood of data

The rise of connected things and machines by 2020:

- 50B Devices
- 212B Sensors
- 47% Connections will be machine to machine

Generating tremendous amounts of data every day in 2020:

- 1.5 GB Internet users per day
- 4,000 GB Self-driving cars per day
- 40,000 GB Connected planes per day
- 1 Million GB Connected factory per day

Source: Intel (August 2016 webinar)
“Data literacy” includes the ability to read, work with, analyze and argue with data.”

*MIT & Emerson University  **Harvard Business Review
Building Block 1: Culture

“Organizations with neglected learning cultures experience high talent turnover, struggle to keep customers, and ultimately fall behind competitors.” *

*Britt Andreatta, PhD – Creating a Culture of Learning in 6 Steps
A Culture of Data Literacy

Characteristics of a Data Literate Culture

- **Data Fluency**: Utilize the language, vocabulary, and conversational skills that go along with data literacy.
- **Analytical Skills**: Utilize and develop analytical thinking skills, utilizing proper problem solving techniques.
- **Statistical Methodologies**: Data literacy culture utilizes and embraces statistics within the organization.
- **Data Visualizations**: Data visualizations help simplify data, enabling various skill-sets to absorb and utilize data.
- **Learning**: Establish a consistent learning cadence, studying and learning different areas of data and analytics.
- **Mentoring**: Mentoring allows those who have more data literacy skills to pass those skills on to other employees within the organization.
Can users answer questions?

While it may seem counter intuitive, is it possible that the "numbers" actually get in the way of our ability to see the "busyness"?

| DOW      | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Sunday   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Monday   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Tuesday  |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Wednesday|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Thursday |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Friday   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Saturday |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
Context is KING

Averge LOS in days by Specialty

<table>
<thead>
<tr>
<th>Specialty</th>
<th>LOS (Avg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>340 - RESPIRATORY MEDICINE</td>
<td>7.76</td>
</tr>
<tr>
<td>320 - CARDIOLOGY</td>
<td>5.14</td>
</tr>
<tr>
<td>110 - TRAUMA &amp; ORTHOPAEDICS</td>
<td>4.64</td>
</tr>
<tr>
<td>501 - OBSTETRICS</td>
<td>1.98</td>
</tr>
</tbody>
</table>

Does a numerical difference from the CMS GMLOS tell the whole story? Or is % better?

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Visits</th>
<th>AVG LOS</th>
<th>AVG LOS Admission YM</th>
<th>Med Diff Days From CMS GMLOS</th>
<th>Med Diff Days Admission YM</th>
<th>Med Diff % From CMS GMLOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>501 - OBSTETRICS</td>
<td>14,528</td>
<td>3.53</td>
<td>-9.10</td>
<td>-0.11</td>
<td>-0.00</td>
<td>-9.72%</td>
</tr>
<tr>
<td>340 - RESPIRATORY MEDICINE</td>
<td>719</td>
<td>1.96</td>
<td>0.11</td>
<td>0.00</td>
<td>-4.26%</td>
<td></td>
</tr>
<tr>
<td>320 - CARDIOLOGY</td>
<td>1,427</td>
<td>5.14</td>
<td>-0.62</td>
<td>-0.37</td>
<td>-17.42%</td>
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</tr>
<tr>
<td>110 - TRAUMA &amp; ORTHOPAEDICS</td>
<td>5,243</td>
<td>4.64</td>
<td>-0.37</td>
<td>-34.00%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

... and Queen
Variation Always exists

Does it matter or not?
Comparisons?

Have I mentioned that Context is KING
What do #’s really tell us?

Add value to the numbers.
Should we be worried?

Question is really what is going on with nursing staff but without displaying the data properly we would completely miss it.

Some important Vital # for a patient shown in a better context

Some vital number

Data can tell a story if you let it
What in the world?

Data Literacy
Is Self Service a good idea?
Data is everywhere
I mean EVERYWHERE
Almost mind blowing isn’t it?
Un-Governed Self-Service
no guardrails

- Duplicated efforts
- Complicated maintenance
- Multiple sources of truth
Actionable Intelligence?

“It is not intelligent to take action on data that you do not trust” @QlikDork
GOVERNANCE

GOVERNANCE

GOVERNANCE

GOVERNANCE
Governed Self-Service
with Sense guardrails

<table>
<thead>
<tr>
<th>Monitoring Dashboard</th>
<th>Custom Security Rules</th>
<th>Section Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Roles</td>
<td>Secured Streams</td>
<td>Secured Connections</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Governed Metrics</th>
<th>Secured QVDs</th>
<th>QMC Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom Properties</td>
<td>Master Items</td>
<td>Best Practices</td>
</tr>
</tbody>
</table>

- Qlik® Best Practices
- Secured Single Source of Truth
- Managed by Groups
- Easy to Administer
Data Fluency – Zach Gemignani

Storytelling with data – Knaflic

Winning with Data – Tunguz and Bien
Thank You Demo?

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