

***Opinions are Interesting – “Big Data” is Illuminating***

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# Big Data – Why?

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### People Who Trust Their Feelings Are More Likely to Correctly Predict Outcomes of Events, According to Newly Published Research

**Pitt business professor part of “going with your gut feeling” study examining emotions and decision making**

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**PITTSBURGH**—The more people trust their feelings, the more accurately they can predict the outcomes of things that range from the mundane, like the weather, to the significant, like the outcome of elections and future stock market levels, according to new research published in the October 2012 edition of the *Journal of Consumer Research*.

The study—by a team comprising Andrew Stephen, assistant professor in the University of Pittsburgh’s Joseph M. Katz Graduate School of Business and College of Business Administration, and Columbia University Business School faculty members Michel Tuan Pham, Kravis Professor of Business and Marketing, and Leonard Lee, associate professor of marketing—found that people who trusted their emotions more accurately predicted future events than individuals who did not place trust in their feelings, a phenomenon they call the “emotional oracle effect.” Their research article is titled “Feeling the Future: The Emotional Oracle Effect.”

“The results show that your feelings are a valid information source, provided you have some prior knowledge of the decision topic,” said Stephen. “The normal line of thought when making predictions or forecasts is that people should be more rational, that you probably shouldn’t go with your gut feeling. Our research indicates that in some cases relying on your feelings is likely to help you.”

MENU

Harvard  
Business  
Review

DECISION MAKING

## Don’t Trust Your Gut

by Eric Bonabeau

FROM THE MAY 2002 ISSUE

SAVE SHARE COMMENT TEXT SIZE PRINT 50 COPY

**M**aking high-stakes business decisions has always been hard. But in recent decades, as the complexities of global commerce have deepened, it’s become tougher than ever. The choices facing managers and the data requiring analysis have multiplied even as the time for analyzing them has shrunk.

One decision-making tool—human intuition—seems to offer a reliable alternative to painstaking fact gathering and analysis. Encouraged by scientific research on intuition, top managers feel increasingly confident that, when faced with complicated choices, they can just trust their gut. Indeed, a survey that was conducted in May 2002 by executive firm Christian & Timbers reveals that fully 45% of corporate executives now rely more on instinct than on facts in running their businesses. Decision-making consultant Gary Klein, in his book *Intuition at Work*, expresses the c

Some interesting  
predictions!



**1966:** “Remote shopping, while entirely feasible, will flop.” — Time Magazine.

**1981:** “Cellular phones will absolutely not replace local wire systems.” — Marty Cooper, inventor.

**1995:** “I predict the Internet will soon go spectacularly supernova and in 1996 catastrophically collapse.” — Robert Metcalfe, founder of 3Com.

**2005:** “There’s just not that many videos I want to watch.” — Steve Chen, CTO and co-founder of YouTube expressing concerns about his company’s long term viability.

**2006:** “Everyone’s always asking me when Apple will come out with a cell phone. My answer is, ‘Probably never.’” — David Pogue, The New York Times.

**2007:** “There’s no chance that the iPhone is going to get any significant market share.” — Steve Ballmer, Microsoft CEO.

# Big Data Wins If:

- 1) Provides common goal/measure of success
- 2) Standard structure
- 3) Contains both the roll-up (are we winning) and transactional for diagnostics
- 4) Recognized as authoritative
- 5) Accurate
- 6) Current enough
- 7) Encompasses breadth of organization in integrated manner
- 8) Is accessible and easily used at all levels of the organization

# Big Data in the DoD Maintenance World

1) Provides common goal/measure of success:

Achieve target availability for every weapon systems at the lowest cost



Mission capable (MC) – operational units

Operational Availability (Ao) – includes total active inventory

Maintenance cost per day of availability achieved (C/DA)

Maintenance cost per end item (tail, BUNO, serial, etc) – (CPTPY)



# Big Data in the DoD Maintenance World

## 2) Standard Structure

What do tail number, serial number, hull number, BUNO and bumper number have in common?

They identify a readiness reportable end item uniquely.

Standard structure: the data field could be called EndItemUnique

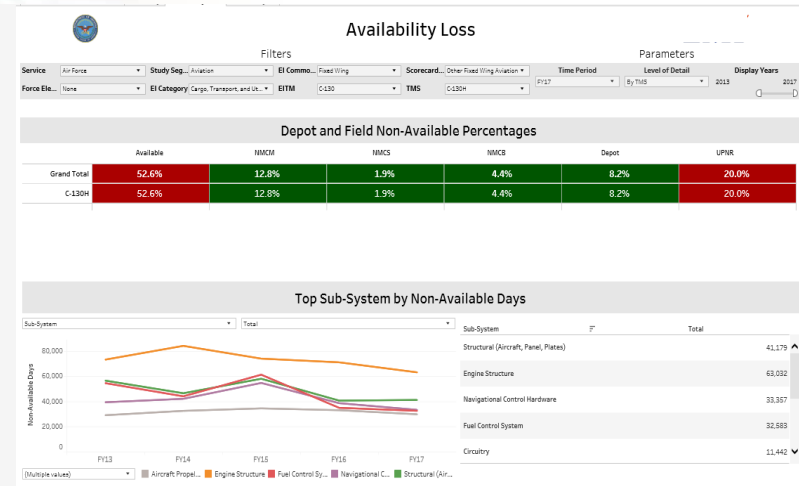
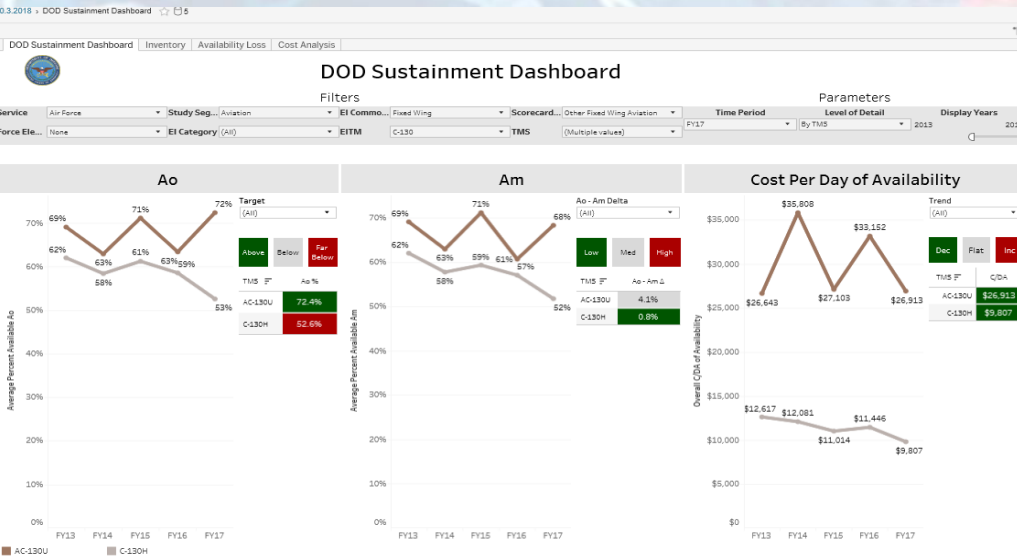


# Big Data in the DoD Maintenance World

3) Contains both the roll-up (are we winning) and transactional for diagnostics.

Winning or losing? – Ao, C/DA

Diagnostic - What is next best thing to do?



# Big Data in the DoD Maintenance World

## 4) Recognizable as authoritative

Start at the top down – build a map.

Maintenance cost reporting examples:

- CAPE 14 cost elements from AFTOC, VAMOSOC by end item/model (TMS)

- 50-50 reports to Congress

- Field Maintenance labor – fully burdened salaries of maintenance personnel

Availability reporting:

- Use Service authoritative systems – EMSR, LIMS-EV, Deckplate, etc

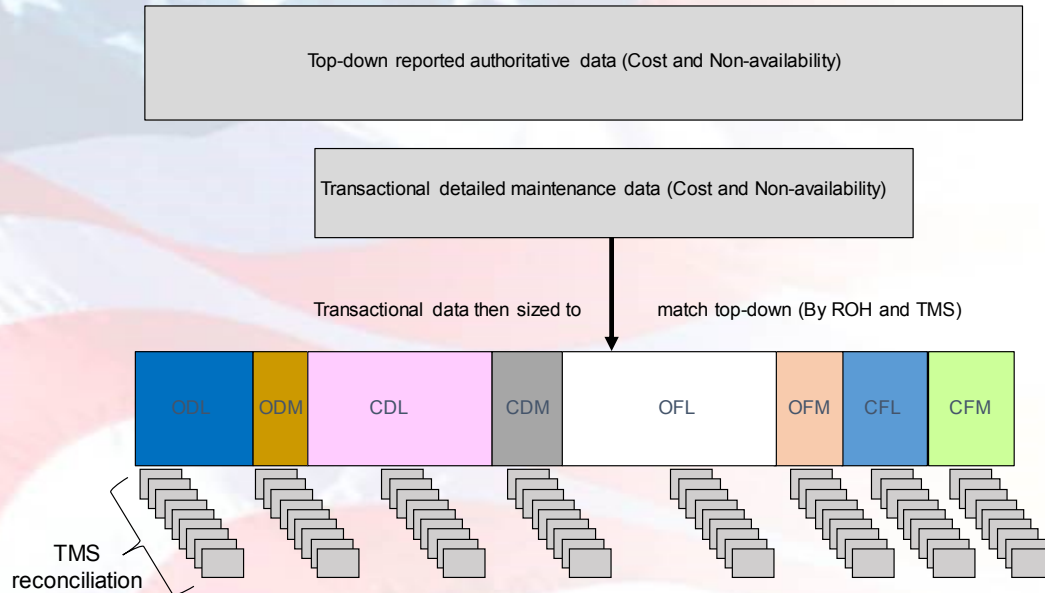


# Big Data in the DoD Maintenance World

## 5) Accurate

All the little pieces (transactions) add to the big pieces

All the big pieces traceable to authoritative totals (cost and availability)



# Big Data in the DoD Maintenance World

## 6) Current enough

Accuracy/Completeness vrs. Speed tradeoffs

Near real-time data is better IF:

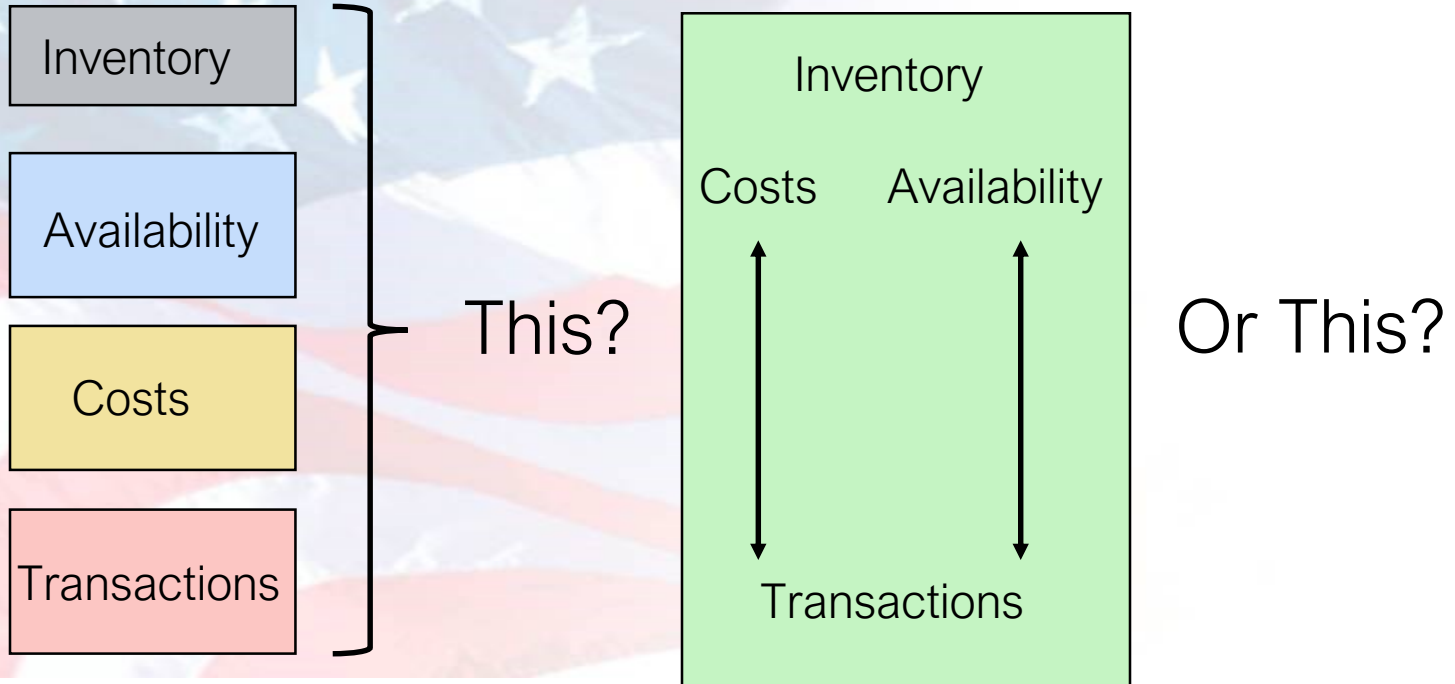
- a) Little or no drop-off in accuracy
- b) View of entire enterprise can still be presented at the same time
- c) Authoritative top-down documentation is also available in near-real time

Otherwise – better to sacrifice speed to gain accuracy

Examples in DoD Maintenance – better to publish the data daily or run cleanup algorithms to catch errors.

# Big Data in the DoD Maintenance World

7) Encompasses breadth of organization in integrated manner



# Big Data in the DoD Maintenance World

7) Encompasses breadth of organization in integrated manner

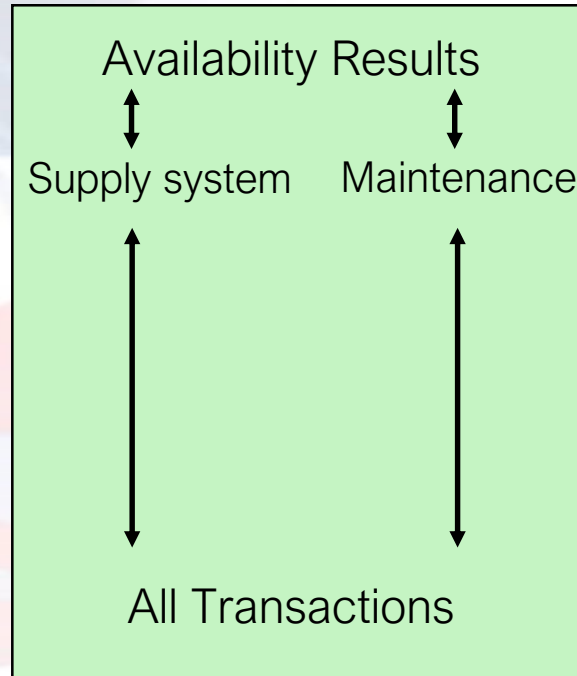
Supply system

Availability results

Field Transactions

Depot Transactions

This?



Or This?

# Big Data in the DoD Maintenance World

8) Is accessible and easily used at all levels of the organization

Maintenance techs to data scientists to MAJCOM leaders to SES within OSD

Flexible governance i.e. Army can only see Army data

Data Security – 2 factor authentication

Different modalities – visualizations vrs data tables vrs query creation

# Big Data in the DoD Maintenance World

Will we get there?

- a) Data consolidation efforts ongoing within the Services (integration)
- b) Services developing capabilities to process data faster.
- c) Efforts ongoing to develop data maps to produce a single version of the truth.

Will we get there at the DoD level?

Efforts ongoing – we may be able to get there sooner rather than later. Stay tuned