Evidence-Based Management: A Cornerstone of Quality

Jerry R. Benson, Ph.D.
Why Smart Executives Fail

• Wrong strategy
• Wrong scorecard
• Continuing to use yesterday’s answer
• Failure to see and act on vital information
Why Smart Executives Fail

In other words . . .

What we “know” is false, outdated, irrelevant to context, misinformed.
Is Our Knowledge Relevant?

Managerial Wisdom Over Time

Years
What’s Your Source of Knowledge

• School
• Mentors
• Experience

- or -

• Experience plus reflection plus feedback (evidence)
How Has Transit Changed?

- Finances
- Demographics
- Politics
- Processes, equipment, technology
Table Discussion

What are some truths I have learned that are no longer true?
Evidence-Based Management

Evidence-based management is about making decisions through the conscientious, explicit, and judicious use of information.
How Good is Your Evidence?

- Anecdote, Correlation
- Before and After Comparison
- Longitudinal Cohort Analysis
- Comparison Group Analysis
- Randomized Controlled Experiment
Evidence and “Best Practices”

• Cool ideas
• Story from colleague
• Published research findings
• Contextualized analysis of factors producing of top level performance (benchmarking)
From Evidence to Actionable Information

- Objective Evidence
- Specific Context
- Stakeholder Preferences
- Practitioner Experience

Decision
Evidence About What?

- **Strategy**
  - Agency goals
  - Community outcomes

- **Programs & Projects**
  - Project, program outcomes
  - Cost/benefit, customer input

- **Process**
  - Standard work
  - Process outcomes
Treat Your Strategy and Major Programs as Hypotheses

Executing strategy X will produce outcome Y.

Improving on-time reliability will increase ridership at no additional cost.

Implementing program/project A will produce outcome B.

Implementing Commuter Rail Line will increase ridership and facilitate transit-oriented development.
Scientific Method

• Define question or problem.
• Gather information.
• Form an explanatory hypothesis.
• Test the hypothesis in a manner that rules out plausible rival hypotheses.
• Analyze the data.
• Interpret data and draw conclusions.
Building an Evidence-Based Organization

• Understand and isolate cause and effect in complex systems
• Create a culture of research and evidence-based decision making
• Use information-sharing communities to reduce overuse, underuse and misuse of specific practices
• Build decision supports to institutionalize validated practices
Incorporate Published Research

• TRB/TCRP
• Academic Research
• Partner with local universities
Quality Tools Support Evidence-Based Management

• ISO 9001 — “Principle 7: factual approach to decision making.”

• Lean — “embrace scientific thinking.”

• APTA Quality Service Handbook — “research customer requirements . . . measure, analyze & improve.”

• Benchmarking Groups — “standardized KPI’s point to best practices.”
Evidence in UTA Quality Management System

- **Strategy**
  - Evidence about customer values and requirements.

- **Programs & Projects**
  - Equipment technology.
  - Net promoter score.

- **Process**
  - Visual workplace.
Evidence About Strategy: Market Segmentation

All Travelers

Sensitivity to Time
- Low Sensitivity of Time
  - Flexible Schedule
  - Fixed Schedule

Need for Fixed Schedule
- Flexible Schedule
  - No Transit
  - Transit
- Fixed Schedule
  - No Transit
  - Transit

Willingness to Use Transit
- No Transit
- Transit

Market Segments
- Anxious Amblers
- Flexible Riders
- Productive 9 to 5-ers
- Routine Riders
- Cautious Flyers
- Flexible Flyers
- Cautious 9 to 5-ers
- Routine Flyers

Attitudinal Focus
- None of These Factors
- Transit
- Fixed Schedule
- Fixed Schedule and Transit
- Time
- Time and Transit
- Time and Fixed Schedule
- Time, Fixed Schedule and Transit
Routine Riders

- Most have one car per household
- Employed full-time or part-time
- Lower income
- Half are married
- Two-thirds are male
- Your typical college student is representative of this group
Customer View of Reliability

Based on Psychographic Research, Focus Groups and Literature Research in Behavioral Science
Evidence About Programs & Projects

UTA Net Promoter Score by Service Type

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<thead>
<tr>
<th>Service Type</th>
<th>2008</th>
<th>2011</th>
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<tr>
<td>FrontRunner</td>
<td>61.1</td>
<td>66.6</td>
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<td>Trax</td>
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<td>Fast/Express</td>
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<td>71.1</td>
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<tr>
<td>35M</td>
<td>66.6</td>
<td>47.7</td>
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</table>
Evidence About Programs & Projects

CNG vs Diesel vs Hybrid

Graph showing performance comparison of different bus models with different fan configurations.
Evidence About Processes

TransDat V Mobile Data Computer

16:30:34

Wednesday Nov 15, 2006

16:24 SLCC RD... REDWOOD RD @ 4439 S 5:54
***SALT LAKE COMMUNITY COL...

16:33 MEDW BR... 3900 S @ 188 W 2.29
***MEADOWBROOK TRAX STATI...

16:52 MEDW BR... 3900 S @ 188 W
17:01 SLCC BRUN BRUIN BLVD @ 1750 W
17:08 VALY FAIR CONSTITUTION BLVD @ ...
Continuous Improvement Cycle

- **Plan**: Say what you’ll do
- **Do**: Do what you said
- **Check**: Measure your effectiveness
- **Act**: Learn & improve
References

