

Evidence-Based Management (Tepper 45-961) – Fall 2008

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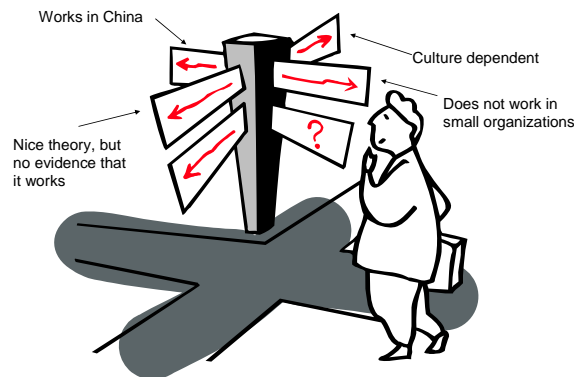
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Class T/TH 10:30-12:20

Meeting Place: Posner 146

Contemporary managers and their decisions are heavily swayed by fads and the promises consultants make. Or, as has been said, Management Advice: Which 90% is Crap? Evidence Based Management (EBMgt) separates effective practices from fads and hype. Managers practicing EBMgt learn how to obtain and use the best available evidence to inform their decisions. EBMgt means making organizational decisions based on scientific and practice-informed facts, in conjunction with managerial judgment and ethics. This mini course provides an understanding of the principles of EBMgt and develops skills in identifying, accessing, and using quality evidence from science and practice in making better business and organizational decisions.



CREDO

Evidence-Based Management (EBMgt) enhances the overall quality of organizational decisions and practices through reflective use of relevant and best available scientific evidence. EBMgt combines conscientious, judicious use of best evidence with individual expertise; ethics; valid, reliable facts; and consideration of impact on stakeholders. Its success is enhanced by quality connections among practitioners, management educators, and scholars.

Topics include:

- What It Means to be an Evidence-Based Manager
- Different Forms of Evidence—and how managers tend to think about them
- Building an Evidence-based Organizational Culture
- Finding Useful Evidence On-line—and avoiding the 90% which is crap
- What to do When There Is No Evidence
- Planning for Your On-going Development as an Evidence-Based Manager

Behavioral Norms

- (1) Individual Participation: You are expected to come prepared to ask questions that add to your understanding of the course materials as well as that of your fellow students. You are requested to complete some assignments that are not graded. If they are completed, you will be one step further along on your personal journey toward enlightenment. What an incentive system!
- (2) "Got Evidence?" Each class will begin with a poll of new business practices, research findings, and other recent innovations relevant to practicing evidence-based management in organizations. These are brief (sound bite) reports pertinent to EBMgt. I expect each class member will make **at least one** contribution to Got Evidence? during the mini.
- (3) Readings: You are expected to read all the materials and in your reading, you should continually ask yourself the following two questions:
 - (a) Do I understand the principles this material describes?
 - (b) So what? What are its implications? How would I **apply** this as a manager or knowledge worker?

You are asked to actively participate by raising these questions as well as others during our class time. Assigned readings should be completed prior to the class for which they are specified. Readings will be briefly reviewed to check for understanding at the beginning of each class. Be prepared to answer questions regarding the readings and more importantly to **ask** them.

- (4) Ethics: All work turned in must be original and your own. All information sources used should be cited (documents, websites, people).

Readings

Case Pack: provided on-line or in class (in case of materials where publisher does not permit e-copies).

Supplementary Resources: For the “Get the Evidence” and “Persuasive Paper” assignments (and your own professional development), I encourage you to become familiar with original sources of evidence on management practices, especially those available electronically through ABIInform, ProQuest, and Web of Science. Relevant management and social science journals include (but of course are not limited to) the *Academy of Management Journal*, *Journal of Applied Behavioral Science*, *Journal of Applied Psychology*, *Journal of Management*, *Journal of Organizational Behavior*, *Management Science*, *Organizational Science*, and *Personnel Psychology*.

Grading

I. Individual Performance

Individual Participation (20 points): contributions in the form of deliverables: attendance, constructive input to class discussions, turning in self-guided field trip learnings (due 9.2), etc. as requested. People learn best when they are active (not passive). Your active participation is essential to this class. Participation is more than just attending class and asking an occasional question. Full participation consists of demonstrating that you are prepared for each class, asking thoughtful questions that help you and your peers learn, responding respectfully to peers, engaging productively in all class exercises, and posting queries and replies on the course discussion board. Note that talking is not the same as participating, since excessive talking without offering useful ideas is disruptive.

That’s Incredible! (10 points **Due 9/16**) Perhaps the most thoroughly researched management practice organizations use is *selection*. Employers recruiting, screening and hiring new employees have 100 years of systematic study to draw upon. Nonetheless the vast majority of employers, even large corporations, use selection practices known to be invalid. (Yes, your recruiting fears are probably well-grounded. Subjectivity lives.) For this assignment, please read Scott Highhouse’s “Stubborn reliance on intuition and subjectivity in employee selection” (posted on course blackboard). Your task is three fold (2-3 pgs total):

- 1) Summarize the gist of the findings from selection research,
- 2) Explain in your own words a) why companies fail to act on these findings and b) what makes the findings difficult to act on;
- 3) Suggest 2-3 ways to overcome the problems of #2 to help companies put the beneficial findings from selection research to use

Persuasive Paper (20 points **Due 9/25**) Using **evidence and business-related facts to persuade somebody else**: Prepare a short (2-3) page persuasive paper in which you attempt to convince your (hypothetical or real) manager to take a particular “evidence-informed” action. Your paper will be related to issues we discuss in class. Sample topics might include: whether to outsource your firm’s HR function, use team-based rewards, or pursue a merger with another firm.

Keep in mind that many bosses, yours included, may have little professional management training and even less knowledge of social science (not having the benefits of a Carnegie Mellon education). Criteria for evaluating your paper will be based on 1) how effectively you marshal the best scientific evidence to make your case, 2) the extent you have made your case in a strong, truthful, and convincing manner, and 3) how well you use facts about the particular organization (again, real or hypothetical) to help you make your case (i.e. use facts about the organization to make your points).

II. Group Performance (n=2-3 people per group)

Get the Evidence I Due 9/9 & II Due 10/9 (25 points x 2) Throughout your career you will face tough, challenging decisions regarding individuals, work groups, or your organization generally. Making important decisions can take time when it is worthwhile to obtain the best evidence in determining the proper course of action to produce a desired result. Your group will choose a question, through discussion with me. (Such a question might be something like When are distributed teams more likely to perform effectively? Would pay-for-performance work in our company? When is investing in workforce training most likely to be financially beneficial?) Your task is to evaluate relevant and best available management and social science research to answer your question (2-3 pp.). Sources used should be annotated in an appendix per example given in class. (N.B. Appendix pages do not count toward assignment page limit.) The criterion for grading this assignment is how effectively you marshal the best evidence from the array of relevant research.

Note that best evidence refers to evidence-based research, including:

- Meta-analyses of research studies (Highest Quality)
- Systematic reviews of research articles
- Well-controlled longitudinal field studies or randomized controlled interventions
- Quasi-experimental studies and cross-sectional studies
- Case or other descriptive (narrative) studies

The following sources are **not** evidence-based 1) Expert opinion (e.g. WSJ) 2) Case studies, and 3) Standard, popular or common practices.

You are expected to cite all sources relied upon to draw your conclusions.

Class Schedule

Week One August 26-28 Overview Syllabus/Goals/What is EBMgt?

Focus on Principles Where Science is Clear

Three forms of evidence: scientific, local facts, expertise (reflective experience)

Developing your competencies as an evidence-informed manager

Specifying Learning Outcomes for this Course

Check out: R. Sutton, Management Advice: Which 90% is Crap? www.changethis.com

Readings: Rousseau, D.M. Is there such a thing as evidence-based management? *Academy of Management Review*, 2006, 31, 256-269. **Read for 8/26**

Case: Evidence-Based Emergency Preparedness: Will your hospital be ready when disaster strikes? **Prepare for August 28.**

1. *What kinds of evidence does the Hospital (New York Presbyterian-Weill Cornell Medical Center) use in making its decisions regarding emergency preparedness*
2. *What question(s) were asked to identify needed evidence?*
3. *How was the quality and utility of the evidence evaluated?*

Self-Guided Field Trip: Go to business section of your favorite bookstore. Look through 4-5 business books that interest you. What is their basis of 'evidence'? What are their typical sources?? Estimate what proportion of sources are:

- 1) personal/ anecdotal,
- 2) best practices of other companies,
- 3) other business books or business publications
- 4) scientific evidence

Honestly, does it matter to you what their sources are if you like a book's ideas? **Turn in 1 page report on September 2nd.**

Developing Your Personal Competencies in EBMgt

1. **Goal setting** for your competency development at Tepper/CMU
 - a. EVIDENCE-BASED PRINCIPLE #1 Two kinds of goals relevant to competency: learning goals and achievement goals. Achievement goals specify an outcome, as in “To maintain or exceed a 3.8 GPA.” Learning goals specify competency and levels of development.
 - b. EVIDENCE-BASED PRINCIPLE #2: Focus of attention: only a limited number of goals can be effectively pursued at a given time (7 plus or minus 2 rule) with 3-5 being an optimal number.
 - c. Take 5 minutes and specify your Learning Goals to be accomplished during your participation in the EBMgt course and our broader program. Keep in mind the Focus of Attention principle and set only Learning Goals for Core Competencies.
 - d. Students share goals with each other and report out.

2. **Novice to Expert Pathway** is a developmental cycle that professional socialization and training helps people advance on.
It states are:
____ Novice: know very basic facts and concepts relevant to competency

____ Between Novice and Intermediate: familiar with basic facts, concepts relevant to competency along with rudimentary understanding of how these might be applied

____ Intermediate: Deeper knowledge of essential facts and concepts, able to apply to competency to common problems

____ Between Intermediate and Expert: Deeper knowledge of facts and concepts relevant to competency domain; able to apply to a variety of problems

____ Expert: Deep understanding of relevant facts and concepts regarding competency domain, able to apply to novel situations, and to adjust application of this competency to demands of novel and exceptional circumstances.

We expect that some of your competencies will develop to Intermediate levels during your time as CMU while others will advance toward Expert.

Week Two: September 2-4 How Managers use Evidence

Got evidence?

Self-Guided Field Trip Report Due 2/2 *We will discuss your learnings in class.*

Model of Knowledge and Learning

Data/Info/Know/Problem solving

Types of Knowledge Declarative/Procedural/Development over time

Key Learning Principles

Mindfulness

Practice/rehearsal

Feedback

Reflection

More practice

Apply to novel or varied conditions

After Action Reviews FILM

Readings:

Groopman: How Doctors Make Decisions ***Read for September 2.***

Rousseau. & McCarthy : Evidence-based Management: Educating managers from an evidence-based perspective. *Academy of Management Learning and Education*, 2007, 6, 94-101. ***Read for September 2.***

Case:

Kent Thierry and DeVita: Leadership Challenges in Growing a Great Company ***Read for September 4.***

FYI Helpful Hint:

As you begin preparing to complete our first Group Assignment Get the Evidence #1, it would be helpful to read: Sara Moody:” Look it Up” on our class blackboard.

Week Three: September 9-11 What research is, says, and why we need to use it

Got evidence?

Overview of principles/features of research:

Why we need EBMgt --Cognitive illusions/ Problem of learning from experience

Threats to validity: Confounding (Unmeasured variables/ Secular trends)

Bias (Recall bias, Lead-time and length bias)

How do you assess causality without conducting a true experiment?

Strength, consistency, and specificity of relationship across studies

Publication and reporting bias

Misrepresentation: Misleading for profit/ Misleading for belief

The hierarchy of evidence

Systematic Reviews-Meta-analyses

"The numbers you need"

Prediction: diagnostic testing and prognosis estimation

1. Representativeness

2. Sensitivity and specificity

3. Positive and negative predictive values, and the importance of prevalence (Pretest probability is incidence or prevalence for your population)

4. Likelihood ratios

Get the Evidence #1 Due September 9th.

Revisit DaVita case on use of facts in business decisions

Readings:

Rundall and Kovner: Evidence-Based Management Reconsidered: 18 months later. ***Read for September 9.***

Criteria for Empirically Supported Treatments

Well-Established Treatments

- I. At least two good between-groups design experiments demonstrating efficacy in one or more of the following ways:
 - A. Superior (statistically significantly so) to pill or psychological placebo or to another treatment.
 - B. Equivalent to an already established treatment in experiments with adequate sample sizes.

or

- II. A large series of single-case design experiments ($N \geq 9$) demonstrating efficacy. These experiments must have:
 - A. Used good experimental designs and
 - B. Compared the intervention with another treatment as in IA above.

Further Criteria for Both I and II:

- III. Experiments must be conducted with treatment manuals.
- IV. Characteristics of the client samples must be clearly specified.
- V. Effects must have been demonstrated by at least two different investigators or investigating teams.

Probably Efficacious Treatments

- I. Two experiments showing the treatment is superior (statistically significantly so) to a waiting list control

Or II. One or more experiments meeting the Well-Established Treatments Criteria IA or IB, III, and IV but not V.

Or III. A small series of single-case design experiments ($N \geq 3$) otherwise meeting well-established treatments.

From "Update on Empirically Validated Therapies II" by D. L. Chambless, M. J. Baker, D. H. Baucom, L. E. Beutler, K. S. Calhoun, A. Daiuto, et al., 1998, *Clinical Psychologist*, 51, p. 4.

Week Four: September 16-18 Thinking with Evidence

Got evidence?

What Makes Evidence Hard to Use?

Need for actionable alternatives

Cultural barriers

Cognitive Bias, Limits

Need for cognition

Developing deeper expertise

That's Incredible! Assignment Due September 16

Readings

Read for September 16

Smith: Straight-line Thinking. Putting the Relational back in Relationships

Rundall, Martelli et al. Using Research Evidence When Making Decisions

1. How do the managers surveyed think about evidence?
2. What factors are likely to be influential in determining which evidence they use

Read for September 18

Prietula and Simon: The Experts in Your Midst HBR 1989

Fine & Garrison: EBMgt as a Transformational Level at St. Luke's. Please answer questions 1 and 2 above for this reading too.

1. How do the managers surveyed think about evidence?
2. What factors are likely to be influential in determining which evidence they use?

Week Five: September 23-25 Overcoming Barriers to Using Evidence

Got evidence?

Politics/Accountability

Selling with Evidence

Complexify yourself!

Assignment: Persuasive Paper Due *September 25*

Readings:

Prepare for September 23

Atwater, Kannan & Stephens Cultivating systematic thinking in the next generation of business leaders. *Academy of Management Learning and Education*. 2008,7(1), 9-25.

Goodman, P.S. & Rousseau, D.M., Organizational change that produces results: The linkage approach. *Academy of Management Executive*, 2004, 18 (October), 7-21

Case:

Prepare for September 25

Sears

Week Six: September 30- October 2. **From Evidence to Management Tools**

Got evidence?

Decision Supports and Tools: Institutionalizing Evidence-Based Practices

Procedures/Protocols/Tools/Artifacts

Lessons from Consulting

Homo Faber Tepperus: Becoming a tool maker

Cases:

Naik: A hospital races to learn lessons of Ferrari pit stop WSJ 2006. *Read for September 30.*

Harrah's Entertainment Inc. *Read for October 2.*

Week Seven: October 7- 9 Developing Expertise over one's Career...

Got evidence?

Charting Your Route Along the Novice-to-Expert Pathway
Testimony from Evidence-Based Managers

Creating an EBMgt culture

Evaluation of Learning Outcomes
Celebration

Get the Evidence #2 Due October 9.