Evidence-Based Management:
A New Approach to Teaching the Practice of Management

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Part 1:
Evidence-Based Management
What it is and what it isn’t

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What is Evidence-Based Management?

Some basic assumptions:

- Research produced by management scholars could be useful to organizations
- Drawing on available evidence (including research produced by academics) is likely to improve decisions
- Organizations do not appear to be strongly aware of nor use research findings
- EBMgt is a potentially useful way of thinking about how we summarize research evidence and incorporate it (along with other things) into decision-making
Almost every Academy of Management presidential address for the past 20 years has focused on this issue

- Hambrick - What if the Academy actually mattered?
- Huff - Mode1/2 knowledge production
- Van de Ven - Co-production of knowledge, engaged scholarship
- Bartunek - Collaborative research
- Pearce - What do we know and how do we really know it?
- Rousseau - Evidence-based Management
What is Evidence-Based Management?

- Evidence-based management (EBMgt) draws on but is not the same as evidence-based medicine (more later)
- EB Medicine is “integrating individual clinical expertise with the best available external…evidence from systematic research” in decision-making Not about acting *only* on the basis of good evidence but rather about *combining*:
  - What the practitioner already knows from their previous training, experience and current understanding of the particular context/problem
  - The best available external evidence about the issues they are dealing with
“Evidence-based management is about making decisions through the conscientious, explicit, and judicious use of four sources of information: practitioner expertise and judgment, evidence from the local context, a critical evaluation of the best available research evidence, and the perspectives of those people who might be affected by the decision.”

(Briner, Denyer, Rousseau, 2009)
What is Evidence-Based Management?

The Four Elements of EBMgt

- Evaluated external evidence
- Practitioner experience and judgments
- Stakeholders (e.g., employees, preferences, or values)
- Context, organizational actors, circumstances

Decision
What’s happening with EBMgt?

- Pre 2003 – little activity (but interest in using evidence in practice always there)

Publications
- Systematic reviews in management (Tranfield & Denyer, 2003)
- Book (Pfeffer & Sutton, 2006)
- AoM presidential address (Rousseau, 2006)
- Oxford Handbook of EBMgt (2011)

Other activities
- SIOP 2009 Conference within a conference EBMgt theme
- AoM 2009 PDW on systematic review (this year too)
- AoM 2009 EBMgt caucus (this year too)
What do you do with EBMgt?

- EBMgt is about the practice of management not about research as such
- It is about (amongst other things) *using* the existing body of research to help inform practice
- Through the use of systematic reviews and research syntheses which tell us what is known and not known about any given problem or question
- Not only informs practice but also provides a framework for teaching and training practitioners
- In principle, using EBMgt approaches to both practice and training should improve quality of managerial work
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Part 2:
Lessons to Learn from Evidence-Based Medicine

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Evidence-Based Medicine

- Evidence-based medicine, nursing, surgery, practice, …
- Originated from McMaster University, Hamilton, Canada
- Accountability (for cost-effectiveness) of healthcare workers to:
  - Patients
  - Insurance companies
  - Hospital boards
  - Government
- Bridges the gap between research and practice
- Helps keep up efficiently with professional literature
Five-step method to find, appraise & apply the best available evidence from research literature

1. Formulate problem (PICO)
2. Search literature databases (e.g. PubMed, Cochrane)
3. Critical appraisal (CAT)
4. Assess applicability in your situation
5. Evaluate process
Problem-based learning

- EBM starts with critical attitude towards daily clinical activities
  - Routine procedures used for years might be useless rituals!
  - Judgment of expert or opinion leader is not sacrosanct!
- Evidence-based guidelines are needed if there is:
  - Variation in policy
  - Doubt about effectiveness of an intervention
  - New or additional process / product
  → Mainly a ‘pull’ approach
Evidence-Based Practice

- Considered essential to improve quality of health care
- Focuses on actual clinical problems
- Introduced in medical, nursing, & paramedical curricula
- Principles integrated throughout curricula
Integration into curricula

- Evidence-Based Practice for undergraduates
  - E-learning modules about EBP principles & five-step approach
  - Searching medical literature databases
  - Critical appraisal of recent publications & new drug ads
  - Weighing benefits against harms of medical interventions
  - Transparent medical decision making

Health Canada warns that drugs purchased over the internet from unlicensed sources could pose a risk. (CBC News, July 27, 2010)
Integration into curricula

- Evidence-Based Practice for postgraduates
  - Online E-learning modules for students & trainers
    - European initiative: www.ebm-unity.org
  - Postgraduate courses
    - Incorporated in clinical training programs (for residents and specialists)
    - For surgeons, pediatricians, gynecologists, GPs, public health, etc.
    - For nurses, midwives, physical therapists, dieticians etc.
    - Master EBP
Integration into daily practice

EBP integrated in:
- Ward rounds
- Handovers & other formal meetings
- Journal clubs
- Patient case discussions
- Clinical teaching of trainees

Medicine = dynamic profession → life-long learning
Integration into daily practice

Integration in health care leads to:

- Evidence-based decision making
- Evidence-based protocols
- New questions for further research
- Improved uniformity & quality of health care
Patients expect quality care according to the latest scientific insights and developments.

Their choice becomes easy when dr. B turns out to be dr. EBP!
Integration into management?

- Customer expects quality products that meet the latest scientific insights and developments.
- Manager / Consultant = dynamic profession → life-long learning
- Preconditions:
  - Body of (pre-appraised) systematic research data
    - Evidence-based management theories & models
  - Peer review of each other’s performance
  - Management as uniform profession
Evidence-based practice:

*If doctors can do it, managers can do it!?
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Part 3:
A Post Graduate Course on
Evidence-Based Management

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Starting point

“The most important thing to learn is how to learn on your own”

- Knowledge based ➔ Problem based
- Artificial cases ➔ Real live cases
- Push approach ➔ Pull approach
- In advance ➔ Just in time
The 5 steps of ‘pull’ EBM

1. Formulate an answerable question
2. Search for the best available evidence
3. Critical appraise the evidence
4. Integrate the evidence with your managerial expertise and organisational concerns and apply
5. Evaluate the process
Objectives of the course

1. What
- What is evidence-based management?
- What does it look like in practice?

2. How
- Formulate Answerable Questions
- Search for evidence
- Appraise a study
- Integrate and apply
Target group

Postgraduate students with at least 5 years of working experience as a manager
Lay out of the course

Day one

Plenary: “What is evidence-based management? 1
Group Tutorial: “Asking the right question
Plenary: Finding the best evidence 2
Practicum I: Searching for evidence (hands on)

Day two

Plenary: Hierarchy of evidence and research designs 3
Group Tutorial: Rapid critical appraisal of studies
Plenary: CAT

Day three

Plenary: Turning evidence into practice 4
Group Tutorial: CAT
Practicum II: Searching for evidence
1. Asking the right questions
Asking the right question?

- Does team-building work?
- Does leadership development training work?
- Does management development improve the performance of managers?
- Does employee participation prevent resistance to change
Answerable question: PICO(C)

\[ P = \text{Population or problem} \]

\[ I = \text{Intervention or successfactor} \]

\[ C = \text{Comparison} \]

\[ O = \text{Outcome} \]

\[ (C = \text{Context}) \]
I’m a consultant, my client is an insurance company, there are plans for a merger, I’ve been told that the other company has a different culture, I want to know if this will effect the outcome

\[ \begin{align*}
P &= \text{Organizations with a different corporate culture} \\
I &= \text{Merger} \\
C &= \text{Organizations with a similar corporate culture} \\
O &= \text{Long term profitability} \\
C &= \text{Profit organizations, competitive market}\
\end{align*} \]
Search terms

O = Long term profitability

2. Finding the best available evidence
Practicum
Searching evidence

Where do we search?
Databases

ABI/INFORM, Business Source Premier, PsycINFO, Science Direct, Google Scholar
 Searching evidence

How do we search?

Search Strategy
Search strategy

Two types of search strategies

Snowball method

Building blocks method
Building blocks method

P
Keyword 1
- Synonyms or related terms
  - ...
  - ...
  - ...
  - ...

I
Keyword 2
- Synonyms or related terms
  - ...
  - ...
  - ...
  - ...

C
Keyword 3
- Synonyms or related terms
  - ...
  - ...
  - ...
  - ...

O
Keyword 4
- Synonyms or related terms
  - ...
  - ...
  - ...
  - ...

AND
OR
AND
OR
AND
OR
Building blocks method

**P**

- Corporate culture
  - Organizational behavior
  - Organizational character
  - Corporate identity
  - Core beliefs
  - Shared values
  - ...

**I**

- Merger
  - Fusion
  - Combination
  - Merger
  - Take over
  - Acquisition
  - Unification
  - ...

**C**

- -

**O**

- Profitability
  - Return on investment
  - Return on assets
  - Innovation power
  - Productivity
  - Market share
  - Shareholder value

**ABC**

- OR
- OR
- OR
- AND
- AND
Hands on!

Postgraduate School

ProQuest

Advanced Search

Databases selected: ABI/INFORM Global

Advanced Search

Tools: Search Tips Browse Tools

AND

Citation and abstract

AND

Citation and abstract

Add a row Remove a row

Search Clear

Database: Business - ABI/INFORM Global

Date range: All dates

Limit results to: 

☑ Full text documents only

☑ Scholarly journals, including peer-reviewed

Select multiple databases

select 'advanced'

select 'peer-reviewed'

select 'ABI/INFORM Global'
Do try this at home!

Learning through play!

- Try all buttons
- Make lots of mistakes
- Have fun!
Step 3: Critical appraisal of studies

Making sense of evidence
Research designs

- Systematic review
- Randomised controlled study (experiment)
- Non-randomised controlled study (quasi-experiment)
- Observationeel research
- Before-after study
- Qualitative research
Levels of evidence

Positive proof of global warming.
Levels of Evidence

- Comparative studies
  - Randomised controlled studies
  - Non-randomised controlled studies
  - Observational studies
  - Before-after studies
  - Surveys and case studies
  - Expert opinions

Establish causality

Generate hypotheses

Bias (BIAS)
Levels of Evidence

- randomised controlled studies
  \{ It is shown that \ldots \}
- non-randomised controlled studies
  \{ It is likely that \ldots \}
- observational studies
  \{ there are signs that\ldots \}
- before-after studies
- surveys and case studies
- expert opinions
  \{ experts are of the opinion that \ldots \}
Research designs

Which study for which question?

The “best” evidence depends on the question type!
Methodological pitfalls

- Bias
- Confounding
Standard appraisal questions

1. Did the study address a clearly focused issue?
2. Is the design appropriate to the stated aims?
3. Are the measurements likely to be valid and reliable?
4. Could there be confounding? Or bias?
5. Do the numbers add up?
6. Was the statistical significance assessed?
7. What do the findings mean? Is it relevant?
8. What implications does the study have for your practice?
Step 4: Turning evidence into practice
**Always ask yourself to what extent the evidence is applicable to your situation:**

1. Is your organization / division / population so different from those in the study that its results cannot apply?
2. How relevant is the study to what you are seeking to understand or decide?
3. What are your organization’s potential benefits and harms from the intervention?
4. Is the intervention feasible in your setting?
5. What are your executive’s (or client’s) concerns, preferences and expectations for both the outcome you are trying to achieve and the intervention you are offering?
CAT: Critically Appraised Topic
A critically appraised topic (or CAT) is a structured, short (2 pages max) summary of evidence on a topic of interest, usually focussed around a practical problem or question. A CAT is like a “quick and dirty” version of a systematic review, summarising the best available research evidence on a topic.
CAT: structure

1) Question (PICO)
2) Background / context
3) Search strategy
4) Results / evidence summary
5) Limitations
6) Conclusion
7) Recommendation
Question

What do you like about this course
and what are your concerns?
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Part 4:
Bringing the Evidence to Practice

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Feedback from students

- **Positive**
  - Clear (completely new) approach,
  - Library search useful (much more evidence than expected)
  - Strong arguments in decision making process

- **Difficulties**
  - Access to relevant databases
  - Lack of aggregated evidence
  - Time consuming method
  - Translating conclusions to the own context
Empowerment of (junior/middle) managers

CAT as a tool for junior/middle managers

- searching instead of learning answers
- managers can search for themselves (independency)
- powerful arguments (evidence speaks for itself)
Video: CAT Jeroen Korstanje, ABN-AMRO

- Student at postgraduate course change management at VU University
- Manager at ABN AMRO
- Used his CAT to convince management to empower employees to keep them motivated during a change process
Question

Are there any barriers that might prevent managers to adopt evidence-based practice (and if so: how can they be overcome?)

- Practical (access to databases)
- Cultural (empowerment)
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Part 5:
Experiences in Master of Business Studies

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Anyone can do business......
Why a Master degree?
Experiences in Master of Business Studies

Two courses in Master of Business Studies preparing for Master’s Thesis:

- Professional and Research Orientation
- Master Research Project

Active approach: no textbook, find literature
Experiences in Master of Business Studies

- Since last semester: introduction of five steps in Evidence Based Management

- Emphasis on value of evidence: critical appraisal, especially research designs (first three steps)
Experiences in Master of Business Studies

Some dilemmas:

- Teaching “boring” methods to students without much experience in practice
- Studies found may not be informative on issues in practice
- Students tend to view literature review as “something the university wants us to add”, or talk about “theory versus practice”: integration of evidence based practice into curricula
In which course / training would Evidence Based Practice fit?
PDW café: 50 min.

1. By working evidence-based managers and consultants improve the quality of their work.

2. Evidence-based practice: If doctors can do it, managers can do it !?

3. What do you like about this course and what are your concerns?

4. Are there any barriers that might prevent managers to adopt evidence-based practice (and if so: how can they be overcome?)

5. In which course / training would EB Practice fit?