EMPIRICAL RESEARCH IN INFORMATION SYSTEMS: THE PRACTICE OF RELEVANCE

- R. Zmud
- Izak Benbasat
- MISQ 23 (1999) 3

- From academic business environments
- IS positivist research practice
- Actual (1999)
  - Rigor vs. Relevance issue
  - Academic vs. Practice (Industry) issues
  - Empirical based evidence of non relevance of IS research to IS practioners
Relevance of IS research: a multidimensional issue

Eduardo Beira
DSI, 19 May 2003
A clean, linear, regular (positivist) and orthodox research paper

**Target**
- IS academics committed to both applying rigorously the methodology best suited to their research goals and better accommodating practical relevance within their research endeavours

**Definitions**
- **RIGOUR**
  - Correct use of methods and analysis appropriate to the task-at-hand
- **RELEVANCE (TO PRACTICE)**
  - Research read and thought to be useful by practitioners
  - Contents and style
• When is IS research relevant? **Relevance dimensions**
  
  **CONTENTS of the research**
  
  • Interesting
    - enduring / current organizational problems, challenges and dilemmas
    - Timely business issues
  
  • Applicable
    - Implementable topic
    - Synthesis review
    - Stimulate critical thinking
  
  • Current
    - Identify trends, structural change, paradigms
  
  **STYLE**
  
  • Shorter
  • More exhibits
  • Everyday language
  • Less literature based
  • Less methods discussion
  • More contextual
  • More prescriptions
WHY?

• Price paid for an historical emphasis on rigor over relevance in order to gain respect of more established academic disciplines and appropriate promotion and tenure criteria

• Lack of a cumulative research tradition with strong theoretical models
  – Multiplicity of theoretical frames for IS phenomena
  – Reluctance to value the existence of a well defined collection of research constructs
  – Proliferation of IS journals

• High rate of change of IT and IS
  – More complexity
  – Chasing after practice vs. leading practice
  – Publishing time lags in academic journals

• Limited exposure to relevant contexts
  – Academic busy life
  – Recruitment and consulting emphasis vs. managerial issues
  – Laggards about current and future technology environments

• Institutional and political factors (tenure and career)
Nine recommendations

- **TOPIC SELECTION**
  - Focus on future interests of key stakeholders
  - Identify topics from IS practice
  - Identify, as an academic community, the core research issues that can influence practice in the future

- **ARTICLE PURPOSE**
  - Focus on the likely outcome (that can influence practice: tools, techniques, practices) rather than on inputs (academic and intellectual challenges) when choosing a research topic
  - Develop cumulative, theory-based, context rich bodies of research to be able to make prescriptions and be proactive
  - Develop frames of reference to organize phenomena and provide contingency approaches to managerial action
  - Portray research output in ways practitioners can utilise to justify and rationalize IT related decisions

- **ARTICLE READABILITY**
  - Use clear, simple, and concise style in the write up

- **EDITORIAL PROCESS**
  - Set the goal of publishing manuscript as being both rigorous and relevant
• Is relevance relevant?
• Is the paper relevant?
The RvsR issue is not only an IS problem
- Large previous discussion in “professional sciences”
- A lot of previous IS literature pre-99 is available
- The reluctance (and / or ignorance?) question
- The issue seems to be systemic in the model for university organization

Is the rigorous?
- Methodology?
- The colinearity of suggested relevance dimensions
- The non uniqueness of fast change
- The limited exposure / political issues
  - Fails to recognize them as THE key problem
  - They are correlated
- What about a scholarship of practice?
• **What about the recommendations?**
  - Not anything new
  - Obvious
  - Do not address the key problem: no recommendations about them

• **Relevance**
  - It is time dependent
  - But relevance to WHOM?
    • Who are the stakeholders?
    • They are not all equally important
  - Practical relevance vs. Academic relevance
### EPISTEMOLOGICAL LEVEL

<table>
<thead>
<tr>
<th>Interpretivist</th>
<th>Positivist</th>
</tr>
</thead>
<tbody>
<tr>
<td>No universal truth. Understand &amp; interpret from researcher’s own frame of reference. Uncommitted neutrality impossible. Realism of context important.</td>
<td>Belief that world conforms to fixed laws of causation. Complexity can be tackled by reductionism. Emphasis on objectivity, measurement and repeatability.</td>
</tr>
<tr>
<td><strong>Subjectivist</strong></td>
<td><strong>Objectivist</strong></td>
</tr>
<tr>
<td>Distinction between the researcher and research situation is collapsed. Research findings emerge from the interaction between researcher and research situation, and the values and beliefs of the researcher are central mediators.</td>
<td>Both possible and essential that the researcher remain detached from the research situation. Neutral observation of reality must take place in the absence of any contaminating values or biases on the part of the researcher.</td>
</tr>
<tr>
<td><strong>Emic/Insider/Subjective</strong></td>
<td><strong>Etic/Outsider/Objective</strong></td>
</tr>
<tr>
<td>Origins in anthropology. Research orientation centred on native/insider’s view, with the latter viewed as an appropriate judge of adequacy of research.</td>
<td>Origins in anthropology. Research orientation of outside researcher who is seen as objective and the appropriate analyst of research.</td>
</tr>
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### METHODOLOGICAL LEVEL

<table>
<thead>
<tr>
<th>Qualitative</th>
<th>Quantitative</th>
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<tbody>
<tr>
<td>Determining what things exist rather than how many there are. Thick description. Less structured &amp; more responsive to needs &amp; nature of research situation</td>
<td>Use of mathematical &amp; statistical techniques to identify facts and causal relationships. Samples can be larger &amp; more representative. Results can be generalised to larger populations within known limits of error</td>
</tr>
<tr>
<td><strong>Explanatory</strong></td>
<td><strong>Confirmatory</strong></td>
</tr>
<tr>
<td>Concerned with discovering patterns in research data, &amp; to explain/understand them. Lays basic descriptive foundation. May lead to generation of hypotheses</td>
<td>Concerned with hypothesis testing &amp; theory verification. Tends to follow positivist, quantitative modes of research</td>
</tr>
<tr>
<td><strong>Induction</strong></td>
<td><strong>Deduction</strong></td>
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<td>Begins with specific instances which are used to arrive at overall generalisations which can be expected on the balance of probability. New evidence may cause conclusions to be revised. Criticised by many philosophers of science, but plays an important role in theory/hypothesis conception.</td>
<td>Uses general results to ascribe properties to specific instances. An argument is valid if it is impossible for the conclusions to be false if the premises are true. Associated with theory verification/falsification &amp; hypothesis testing</td>
</tr>
<tr>
<td><strong>Field</strong></td>
<td><strong>Laboratory</strong></td>
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<td>Emphasis on realism of context in natural situation, but precision in control of variables &amp; behaviour measurement cannot be achieved</td>
<td>Precise measurement &amp; control of variables, but at expense of naturalness of situation, since real-world intensity &amp; variation may not be achievable</td>
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<tr>
<td><strong>Idiographic</strong></td>
<td><strong>Nomothetic</strong></td>
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<tr>
<td>Individual-centred perspective which uses naturalistic contexts &amp; qualitative methods to recognise unique experience of the subject</td>
<td>Group-centred perspective using controlled environments &amp; quantitative methods to establish general laws</td>
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### AXIODOLOGICAL LEVEL

<table>
<thead>
<tr>
<th>Relevance</th>
<th>Rigour</th>
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<tr>
<td>External validity of actual research question &amp; its relevance to practice is emphasised, rather than constraining the focus to that researchable by ‘rigorous’ methods</td>
<td>Research characterised by hypothetico-deductive testing according to the positivist paradigm, with emphasis on internal validity through tight experimental control and quantitative techniques</td>
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(Fitzgerald, 1998)
RIGOUR  RELEVANCE

THEORY  PRATICAL

PURE  APPLICATIONS
Non rigorous but relevant research

Speculative Papers
New tentative insights

Innovation quadrant
RIGOUR  +  Orthodox research  First rate + research  -  Burocratic research  -  PRATICAL RELEVANCE  +  ACADEMIC RELEVANCE  -  +
RIGOUR

ACADEMIC RELEVANCE

PRATICAL RELEVANCE
Possible?

<table>
<thead>
<tr>
<th>RIGOUR</th>
<th>ACAD RLV</th>
<th>PRATIC RLV</th>
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The issue of relevance is ultimately linked to our identity

IS is not one of the cultural foundations of world civilization, or even western civilization. People do not come to us to discover the meaning of life or the nature of being. Students come to us because we can provide skills that will help them get good jobs, pay off their student fees and make meaningful contributions to the organizations that hire them


- Scholarship of practice
  - One of the four types of scholarship (possibly) considered in tenure decisions

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Instructions for Accessing Articles

What's New:
May 13, 2003

CAIS ANNOUNCES 8 NEW ARTICLES AND A NEW SERIES ON THE GLOBALIZATION OF THE INTERNET

Volume 6 (Special Research Relevance Volume)

What Does It All Mean? A Meta-Inquiry
Volume 6 Article 27 March, 2001
Nik Dalal

Dare To Be Relevant
Volume 6 Article 26 March, 2001
Ralph Wootfall

Relevance of MIS Research to the Business Community
Volume 6 Article 25 March, 2001

http://cais.aisnet.org/contents.asp?show=6
IS research relevance

- Subtle accomplishment?
- Unfulfilled promise?
- Serial hypocrisy?

- Kock et al, CAIS, 8 (2002) 330-346
- http://ecrc.cc.lehigh.edu/kock_t/ICIS01/Panelists/

- See also Lyytinen, ICIS 1999 (panel 6)
Gadsby Syndrome
(Fitzgerald, http://afis.ucc.ie./bfitzgerald/gadsby)

- Debate has also featured in other disciplines, specially management / organisational behaviour
- Rigour and relevance are almost never elaborated
- Relevance to whom?
  - Publishing in a “rigorous” journal with a readership of hundreds is probably a significant safety factor for researchers
    - Than putting your ideas in front of 100 thousand IT professionals in a popular trade magazine (Williams, 2000)
  - Acceptance criteria for research publications are biased against practitioner papers
    - Reviewers are academic, audience is academic, citation tactics are academic at the publishing game
    - Academic language is not neutral
  - There is no reward system / incentives to encourage researchers to become intimately associated with IS practice, specially at job prospects for tenure and promotion level
  - The academic community with its often undocumented norms and taboos becomes a closed system in which relatively pointless research can be pursued and published ad infinitum
- Rigour: Certain phenomena are omitted from research because they do not lend themselves to experimental control
- It is obviously more difficult to identify and conduct coherent research in an applied field, if one does not understand what practice actually entails.
  - Practical experience is not well regarded in academia
• Would rather be precisely wrong than approximately right
  - The practitioner expects both relevance and rigour not differently than a business executive expects both insightful strategy with executable tactics. **But there is a diminishing point of rigour return**
  - R Hoving (2002)

• About serial hypocrisy
  - I could not agree more strongly, but
  - Every untenured faculty member needs to know what the real rules of gaining tenure are and should not listen to the siren of “relevance”, especially if he is on the faculty of one of the top schools.
  - Developing new theory or extending old in major ways is what is rewarded ... no matter what is stated. There may be places where this is not true, but I have not found them.
    - J Rockart (2002)
<table>
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<tr>
<th>Which is most important for your</th>
<th>R&amp;W</th>
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<td>Teaching</td>
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<td>Executive forum by consulting (Giga, Forrester)</td>
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Source: Larry Press, IS World (2001); Gray, P., CAIS 6 (2001) 1
IS field model?

- The corporative fortress view
- The multidisciplinary arena
  - Importance of diversity in the generation of emergent knowledge by complex non linear interactions
  - IS field has nothing unique in terms of either topics, theory and methodology, since these have been contributed by researchers in others fields (Keen, 1991)

- University / academia as a melting pot of multidisciplinary communities of practice
Formal mechanisms for Industry-Science Relationships: the tip of an iceberg

Government policy
- Framework conditions
  - Specific regulations (e.g., IP rights)
  - Education policy
  - Labour market policy
  - Public procurement
  - Financial policies
  - Regional and urban planning policies
  - Composition policy
- Support schemes
  - Financial incentives to co-operative research (e.g., Framework Programme in the EU)
  - Co-operative Research Centres (e.g., CRCs in Australia)
  - Public good capital funds (e.g., I-Sources in France)
  - Publicly funded intermediaries (e.g., Fraunhofer in Germany)
  - Thematic research networks (e.g., RNR in France)
  - Promotion of researchers’ mobility (e.g., TGS in the United Kingdom)

Joint labs
Spin-offs
Licensing
Research contracts
Mobility of researchers
Co-publications
Conferences, expos & specialised media
Informal contacts within professional networks
Flow of graduates to industry

Malkin (OECD, 2001)
• Research publications and presentations are byproducts of a journey of discovery and learning
Recently our metaphors of business schools have become indistinguishable from metaphors of markets.

But it fails to capture the fundamental nature of the educational soul.

A University is only incidentally a market. It is more essentially a temple – a temple dedicated to knowledge and a human spirit of inquiry. It is a place where learning and scholarship are revered, not primarily for what they contribute to personal or social well being but for the vision of humanity that they symbolize, sustain and pass on.

- James March (1996)
Additional material
• **RIGOUR**
  - Has been mistakenly confused with positivistic, quantitative research
  - Hypothesis being tested have often been trivial, resulting in sterile research
  - It is futile to amass a great methodological arsenal to test what are often trivial hypothesis
  - Constrains research to focus only on what is researchable by “rigorous” methods

  - **Polarisation**
    - Supremacism (imperialist) / isolationism / integrationism / pluralism (ecumenism)
    - Vs. **Polarity** of competing dichotomies
    - At the ontology / epistemology / methodology / axiology levels
Even when respect and trust are established among academics and managers, it is important to remember that scholars and managers tend to focus on different questions and problems, and rely on different forms of evidence to substantiate their claims. Academics tend to focus on explaining variations among things and seek generalizable knowledge. Managers tend to focus on process events questions in particular circumstances. As a result, we often get frustrated in interactions between managers and academics because abstract and general knowledge often does not connect with concrete and particular situations. But we must continue talking, and learn from our differences.
The Pendulum of Scholarship in Business Management Schools

Social System of Practice
- Practitioners
- Managers
- Businesses
- Trade Associations
- Management Societies

Management Consulting

Professional Learning Community

Social System Of Science
- Scientists
- Graduate Schools
- Research Institutes
- Scholarly Societies

Disciplinary Science

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Running the Bases of Diamond Model

Describe Problem/Issue
- visit & study it
- map & diagnose it
Formulate the Question
- from who's perspective?
- identify users of study
Criterion - Relevance

Answers & Arguments
- crucial proposition
- plausible alternatives
- clarify context
- identify key variations
- cross levels of abstraction
Criterion - Validity

Application & Implementation
- knowledge for what? who?
- apply findings to problem
- develop implementation plan
- for science & profession
Criterion - Impact

Obtain the Evidence
- case/field/experimental study
- unit selection & sampling
- measurement & observation
- data analysis
Criterion - Truth

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<table>
<thead>
<tr>
<th>Question</th>
<th>Number</th>
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<td>10.3%</td>
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<tr>
<td>An executive forum run by a consulting company like Giga or Forrester Research</td>
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<td>An academic conference like AMCIS or ICIS</td>
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Scholarship of practice
- One of the four types of scholarship (possibly) considered in tenure decisions

(Westfall (1999) )
• World is best characterised by an interpretivist view
  – Reality is socially constructed
  – Multiple realities exist
  – What constitutes “scientific research” is both time and context dependent

• But research papers are inherently positivist

• The interpretivist tragedy is to fail to recognise that research communication, in the traditional form, is inevitably positivist
• The positivist tragedy is the endeavour to operate on the assumption that the world actually obeys the positivist view

• The essence of the problem is that researchers, rather than choosing a research approach appropriate to the research question being asked, actually tend to inherit unquestioningly their research methods from those dominant in the institution or region

(Fitzgerald, 1998)
- IS field has nothing unique in terms of either topics, theory and methodology, since these have been contributed by researchers in others fields (Keen, 1991)

- Indeed there is a very real risk that, in the absence of an intellectual core of research questions, protocols and standards in the IS field, other disciplines may capture “traditional” IS teaching and research issues and traditional funding opportunities by imposing the perception that they are better equipped and more efficient in the search for solutions to problems that we regard as IS issues (Fitzgerald, 2000)

- There exist some real problems in the field that will potentially reduce its importance (of IS field) in the very unstable and political arena of social sciences (Fitzgerald, 2000)
• About serial hypocrisy
  – I could not agree more strongly, but
  – Every untenured faculty member needs to know what the real rules of
gaining tenure are and should not listen to the siren of “relevance”,
especially if he is on the faculty of one of the top schools.
  – Developing new theory or extending old in major ways is what is rewarded
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