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in Business & Management



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Topic : Fit of Data in Scientific Inquiry



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03 November 2023

So, what is “Theory” and “Theorising”?

= a rational thinking about a specific phenomenon

= a well-confirmed type of explanation of the world we live in, that is made in a way consistent with the scientific method (=scientific theory)

- ❖ “the abstract structure of theories and the relationships between theories and evidence” (Godfrey-Smith, 2003:6)
- ❖ “not only to better understand examined phenomena but also to predict, produce or control future events inherent in the phenomena” (Kuhn, 1962; Hempel, 1970; Nagel, 1979)

So, what is the Art of Theorising ?

= scientific thinking & paradigm → development of theory as well as methods collecting and analysing data to understand theory (Kuhn, 1962; Godfrey-Smith, 2003)

- ❖ to develop *credible* explanations about examined phenomena embedded in the social world
- ❖ to ensure such explanations are context sensitive & follow rigorous methodology

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Methodological Fit: The Paradigmatic Framework for Theory Building

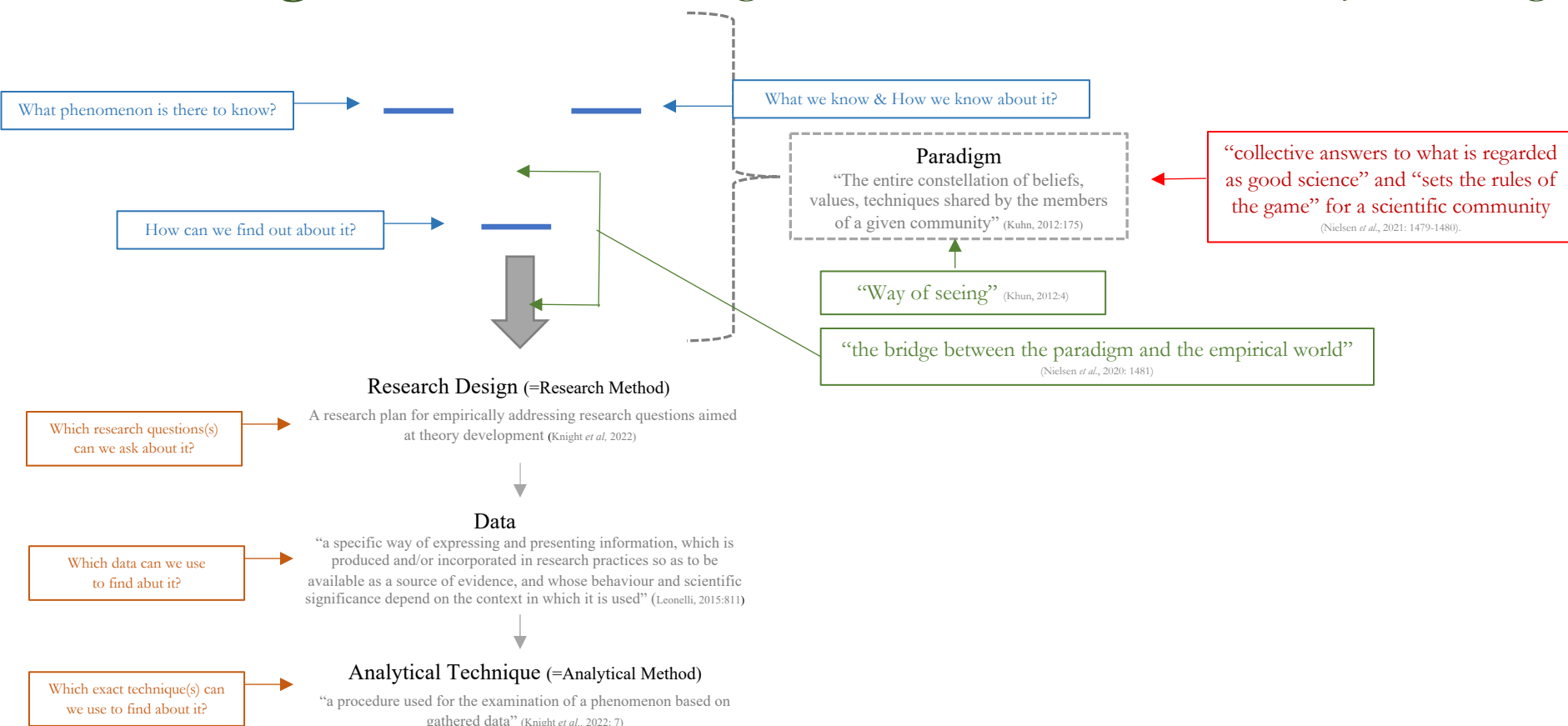


Figure 1: Linking Paradigm & Methodology: The Paradigmatic Framework for Theory Building

Source: Based on Burrell & Morgan (1979), Grix (2002), Knight *et al.* (2022) & Arguzzoli *et al.*, (2022 – in progress)



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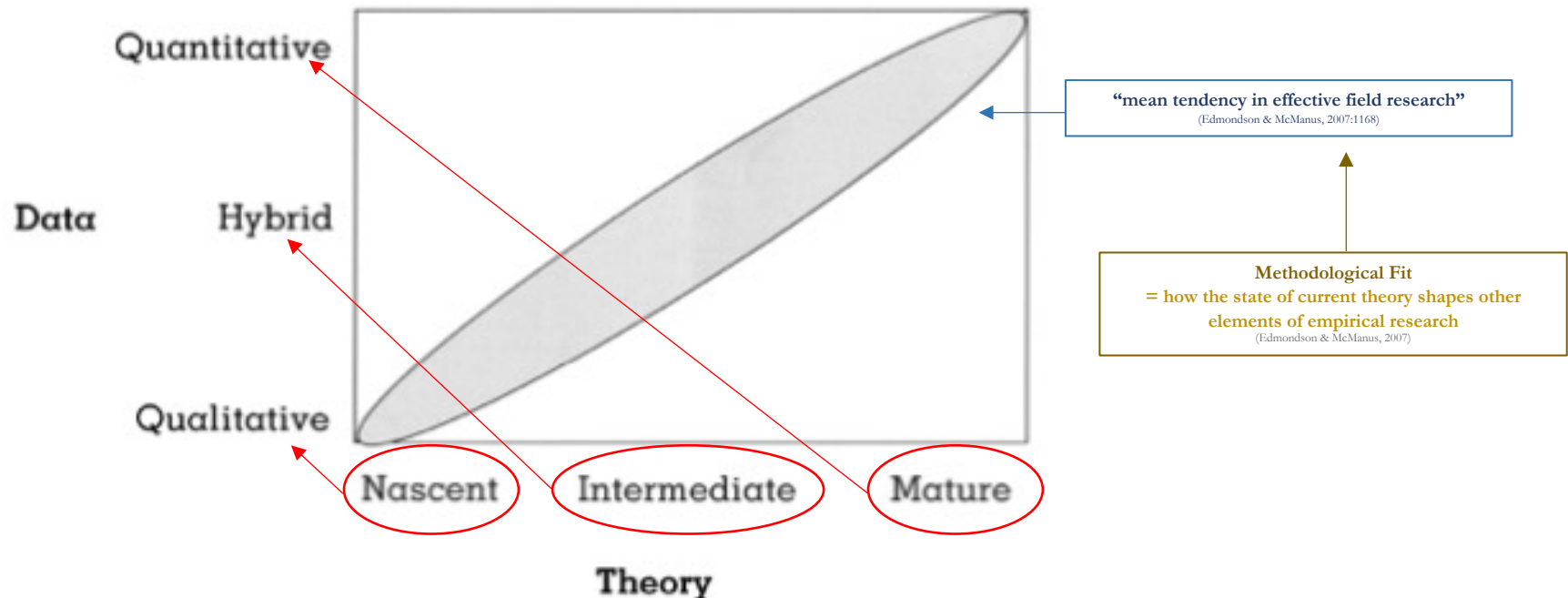
Relevance: The Paradigmatic Framework for Theory Building

- ❖ Paradigmatic preference & methodological choices leading to bias (Webb *et al.*, 2000, Khun, 1962, 2012)
 - Prevalence of positivism influenced methodological diversity & innovation (Nielsen *et al.*, 2020)
- ❖ Lack of paradigmatic diversification dismisses methodological discussions
(taken for granted approach, use of templates)
 - Lack of methodological fit in terms of consistency of methods and techniques used (Edmondson & McManus, 2007)
 - Lack of paradigmatic fit (Khun, 1962, 2012; Godfrey-Smith, 2003)
- ❖ Standardized methodology = uncritical & naïve with the lack of understanding of a field's complexity (Alvesson & Gabriel, 2013; Poulis & Poulis, 2018)
- ❖ Incremental theorising while preventing understanding of hierarchical levels (Toyne & Nigh, 1998; Sullivan & Daniels, 2008).
- ❖ Lack of methodological innovation and creativity

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Relevance: The Paradigmatic Framework & Methodological Fit for Theory Building – Example!

FIGURE 1
Methodological Fit As a Mean Tendency



Source: Edmondson & McManus (2007)



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TABLE 6
Problems Encountered When Methodological Fit Is Low

Prior Work on Research Question	Data Collection and Analysis	Problems Encountered	Outcome
Mature: Extensive literature, complete with constructs and previously tested measures	Qualitative only	Reinventing the wheel: Study findings risk being obvious or well-known	Research fails to build effectively on prior work to advance knowledge about the topic
	Hybrid	Uneven status of evidence: Paper is lengthened but not strengthened by using qualitative data as evidence	
Intermediate: One or more streams of relevant research, offering some but not all constructs and measures needed	Quantitative only	Uneven status of empirical measures: New constructs and measures lack reliability and external validity and suffer in comparison to existing measures	Results are less convincing, reducing potential contribution to the literature and influence on others' understanding of the topic
	Qualitative only	Lost opportunity: Insufficient provisional support for a new theory lessens paper's contribution	
Nascent: Little or no prior work on the constructs and processes under investigation	Qualitative only	Fishing expeditions: Results vulnerable to finding significant associations among novel constructs and measures by chance	Research falls too far outside guidelines for statistical inference to convince others of its merits
	Hybrid	Quantitative measures with uncertain relationship to phenomena: Emergent constructs may suggest new measures for subsequent research, but statistical tests using same data that suggested the constructs are problematic	

Source: Edmondson & McManus (2007)



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Methodological Fit: Contingency Framework

COMMENTARY

Methodological fit for empirical research in international business: A contingency framework

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Abstract

We seek to complement and extend the article by Welch, Piekkari, Plakoyiannaki, and Paavolaiva-Mäntymäki (J Int Bus Stud 42:740–762, 2011), winner of the 2021 JIBS Decade Award, which advanced knowledge on case-based theory development in international business (IB). Similarly, we examine dimensions of scholarly inquiry across qualitative and quantitative research, using inductive and deductive approaches. Recent years have



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Relevance: Methodological Fit for Theory Building → Contingency Framework

❖ Why?

- IB scholarship is challenging → credible, reliable & valid findings for empirical research
- Aim: a pluralistic research perspective which emphasizes the *interplay* of appropriate theory, data & method.
 - ✓ The *interplay* = erroneous results → findings that hold little or no value in scientific inquiry

❖ Why?

- IB scholarship point out to challenges related to:
 - ✓ research design (e.g., Bouter *et al.*, 2016)
 - ✓ data appropriateness, data challenges, validity of data analysis (e.g., Nielsen *et al.*, 2020, Cerar *et al.*, 2021 Hennart & Sutherland 2021)
 - ✓ data collection (e.g., Chidlow *et al.*, 2014; Chidlow *et al.*, 2015; Miller *et al.*, 2021)



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Methodological Fit: Qualitative and Quantitative Research in IB

- ❖ Scholarly research = development of new theory, the falsification of existing theory and/or expansion of theory to include new phenomena
- ❖ “Sound theory” gives explanations of a specific phenomenon that are empirically testable
- ❖ *When* “explanations” are not sufficiently developed = theoretical perspective /perspective/view/explanations
- ❖ **Qualitative Research** = *inductive/exploratory* theory building (e.g using case study)
 - ✓ Theory building = propositions based on patterns found in the data transformed into hypotheses to be tested in confirmatory empirical research
- ❖ **Quantitative Research** = *deductive* theory building (e.g using archival data)
 - ✓ Theory building = begins with an existing theory, devises inferred hypotheses from theory and then collecting and applying appropriate data



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Methodological Fit: Qualitative and Quantitative Research in IB

- ❖ Edmondson & McManus (2007) argued that qualitative data should be used when studying phenomena that are not well understood and theory is still at a nascent stage.
- ❖ Theory matures → key causal relations become established, and quantitative data are used to confirm and refine a body of interrelated theoretical models
- ❖ “Mature theory spawns precise, quantitative research designs, maturing or intermediate theory benefits from a mix of quantitative and qualitative data to accomplish its dual aims, and nascent theory involves exploring phenomena through qualitative data” (Edmondson & McManus, 2007: 1167).
- ❖ Edmondson & McManus (2007) methodological fit = methodological landscape of IB

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Methodological Fit: Qualitative and Quantitative Research in IB

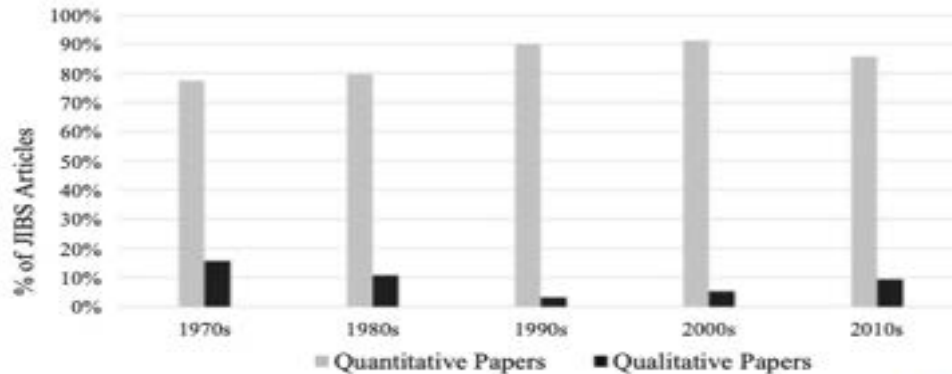


Figure 1 Percentage of papers published in JIBS by methods and decade. Source: Based on Nielsen et al. (2020b).

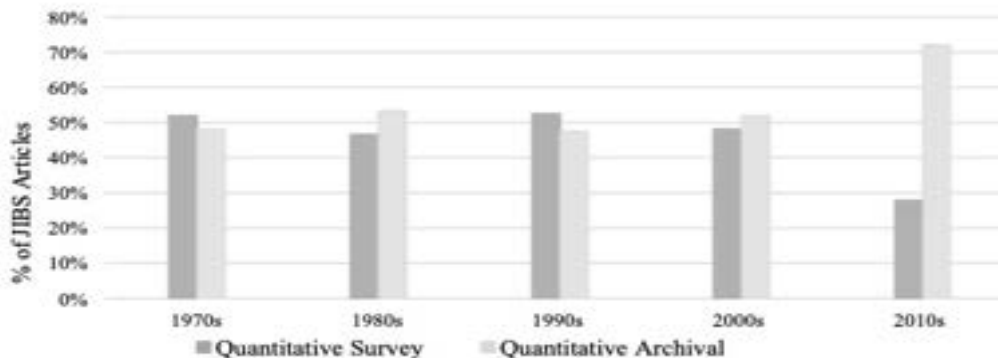


Figure 2 Percentage of quantitative papers published in JIBS by decade. Source: Based on Nielsen et al. (2020b).

Source: Knight et al (2022)

Fifty years of methodological trends in JIBS: Why future IB research needs more triangulation

Abstract
This article examines methodological trends in empirical research in JIBS from 1970 to 2019. Our results point to the prevalence of the following patterns: there has been an increase in the use of (1) large scale longitudinal, institutional datasets, (2) complex statistical techniques, including the incorporation of multiple statistical techniques within the same study, but (3) a decline in the diversity of methods in use. We note three trends in the underlying social, technical and communication conventions in the journal during the 50-year period. The observed patterns are consistent with theory that predicts scientific fields undergo a dominant paradigm over time, resulting in a restricted set of methodological options being selected. Such restrictions jeopardize the quality of research because the study of the phenomena requires the use of multiple methodological approaches to avoid the common biases, errors, omissions, and limitations introduced by any single system. Therefore, we propose the use of triangulation as a strategy for building methodological alternatives into research designs. Institutionalization of the principle in the field of International Business has the potential to enhance both the rigor and scope of future inquiry.

Keywords: International Business, JIBS, 50th Anniversary, Methodological Trends, Triangulation

Mature theory & Quantitative research
→ Methodological Fit
= Positivism & Empiricism



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Methodological Fit: Qualitative and Quantitative Research in IB

- ❖ Digitalization = rise to vast quantities of information about firms in diverse contexts
- ❖ “Big data” reflect “a world measured in terabytes and petabytes or even yottabytes (a trillion terabytes) – as well as the ubiquity of data in every aspect of modern existence” (Aronova *et al.*, 2017: 1).
- ❖ “Big data” – “the new oil” or “a new asset class” (Aronova *et al.*, 2017: 2). to increase sophisticated analysis that reflect a process of “black-box”, data mining potentially involving relatively lower levels of priori theorisation and primarily exploratory research (Knight *et al.*, 2021).
- ❖ “Big data” – emergent technique give rise to novel opportunities for exploratory research especially in the early stages of theory development as part of methodological fit.

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Methodological Fit: Qualitative and Quantitative Research in IB

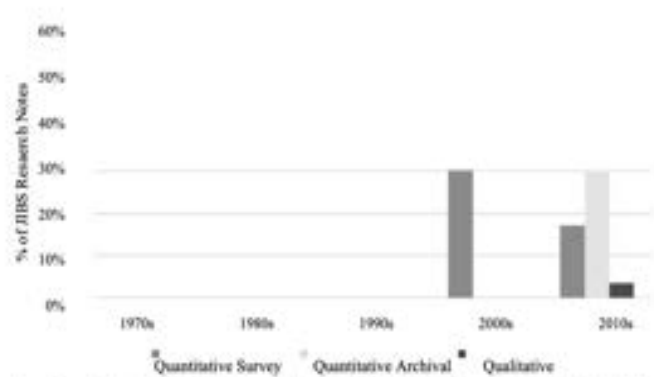


Figure 3 Percentage of quantitative and qualitative research notes published in JBS by methods and decade. Source: The authors.

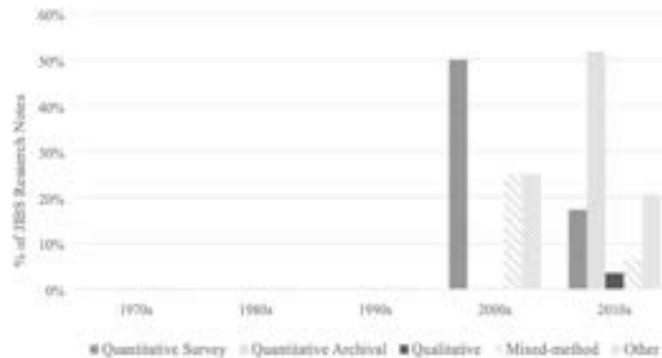


Figure 4 Percentage of all research notes published in JBS by methods and decade. Source: The authors.

Source: Knight *et al* (2021)

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Methodological Fit: Contingency Framework

Table 2 Contingency framework for empirical research in IB

Methodological Fit Alternative	Theory Stage of theory development	Research Design Nature of the study and philosophical orientation	Data Typical data sources	Analytical Technique Typical analytical techniques
A. Exploratory, qualitative	Nascent	Inductivism, Interpretivism (<i>constructionist</i>) (<i>Inductive theory-building and interpretive sense-making, as described in Welch et al., 2011</i>)	Interviews, observations, documents	Data-driven techniques (e.g., inductive content analysis, discourse analysis) Data guide the analysis
B. Exploratory, quantitative	Nascent	Inductivism, Interpretivism (<i>constructionist</i>)	Big data (high-volume, high-velocity and high-variety information assets)	Data mining, machine-learning, algorithms
C. Confirmatory, qualitative	Intermediary	Deductivism, Positivism, and Critical Realism (<i>falsificationist & realist</i>) (<i>Natural experiment and contextualized explanation, as described in Welch et al., 2011</i>)	Interviews, observations, documents, surveys	Theory-driven techniques (e.g., deductive content analysis, deductive thematic analysis) Research questions guide the analysis
D. Confirmatory, quantitative	Mature	Deductivism, Positivism (<i>empiricist</i>)	Archival, surveys	Standard statistical methods (e.g., <i>t</i> test, regressions, structural equation modeling, factor analysis)

Source: Knight *et al* (2021)



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Research Transparency: What is it?

I. Research Transparency (Lupia & Elman, 2014; Moravcsik, 2019)

- = “an ethical obligation to disclose evidence-based knowledge to facilitate replicability of their work”
- = “cornerstone of social science in scientific inquiry (= methodological revolution)”

- Data access = providing access to data
- Production transparency = a full disclosure of procedures to collect evidence/data
- Analytical transparency = a full disclosure of analytical measures

What does that mean?

= credibility & reliability of research



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❖ Analytical Transparency → Call Examples (Meyer *et al.*, 2017; Chidlow *et al.*, 2020)



- ❖ To reflect on best practices with respect to conducting, reporting and discussing the results of quantitative hypothesis-testing research in order to derive a set of concrete and actionable guidelines
- ❖ To call for more transparency regarding the process of empirical research and more accurate reporting and comprehensive interpretation of empirical results
- ❖ Hot debate: Triggered in other disciplines (e.g. medicine, psychology) highlighting the need for scholarly community to continuously improve its research practices
- ❖ HARKing and p -hacking (Search for asterisks)



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❖ Analytical Transparency → Call Examples (Meyer *et al.*, 2017; Chidlow *et al.*, 2020)



→ Editorial in *Journal of International Business Studies* = *Commentary* (Chidlow *et al.*, 2020)



- ❖ the classical statistical theory does not provide a set of rules for searching the levels of .01, .05, and .001 due to the different nature and type of the research problems under investigations as well as the fact that the selection of a significance level is a complex process.
- ❖ encourage scholars to think and reflect on the arbitrary nature of the conventionally accepted levels of significance because different classes of research may require different levels of alpha to report the actual levels obtained and to have an opinion if the obtained levels support (or not) tested hypothesis (Skipper *et al.*, 1967; Stanford, 1968))
- ❖ Ethical issues & scholarly research



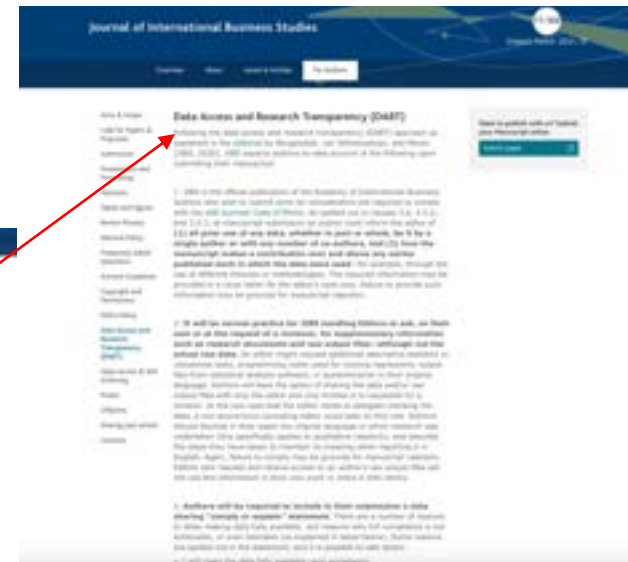
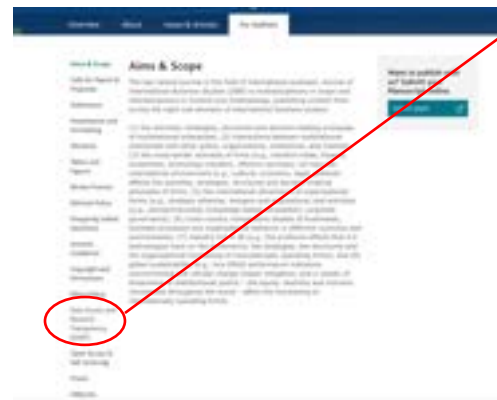
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Research Transparency: The context – endorsing & intervention!

I. The Scientific Community = Academy of International Business = *Scientific work & Data Access & Research Transparency Policy (DART)*







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Responsible Research: Defined

Scientific work that produces **credible knowledge** with either direct or indirect **usefulness** for addressing problems important to both business and society.



Responsible research produces **both** credible & useful knowledge that contributes to **both** science & society.



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Forms of Responsibility

• To Science

- Produce reliable and repeatable discoveries and findings
- Observe norms of transparency and integrity
- Assess the risk of wrongful conclusions



• To Society

- Pursue science to improve the lives of humanity
- Generate knowledge for solving business and societal problems
- Use research resources responsibly

Science



Society





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One Solution : Example

“a positive conspiracy”



The Responsible Research in Business & Management (RRBM) Global Movement

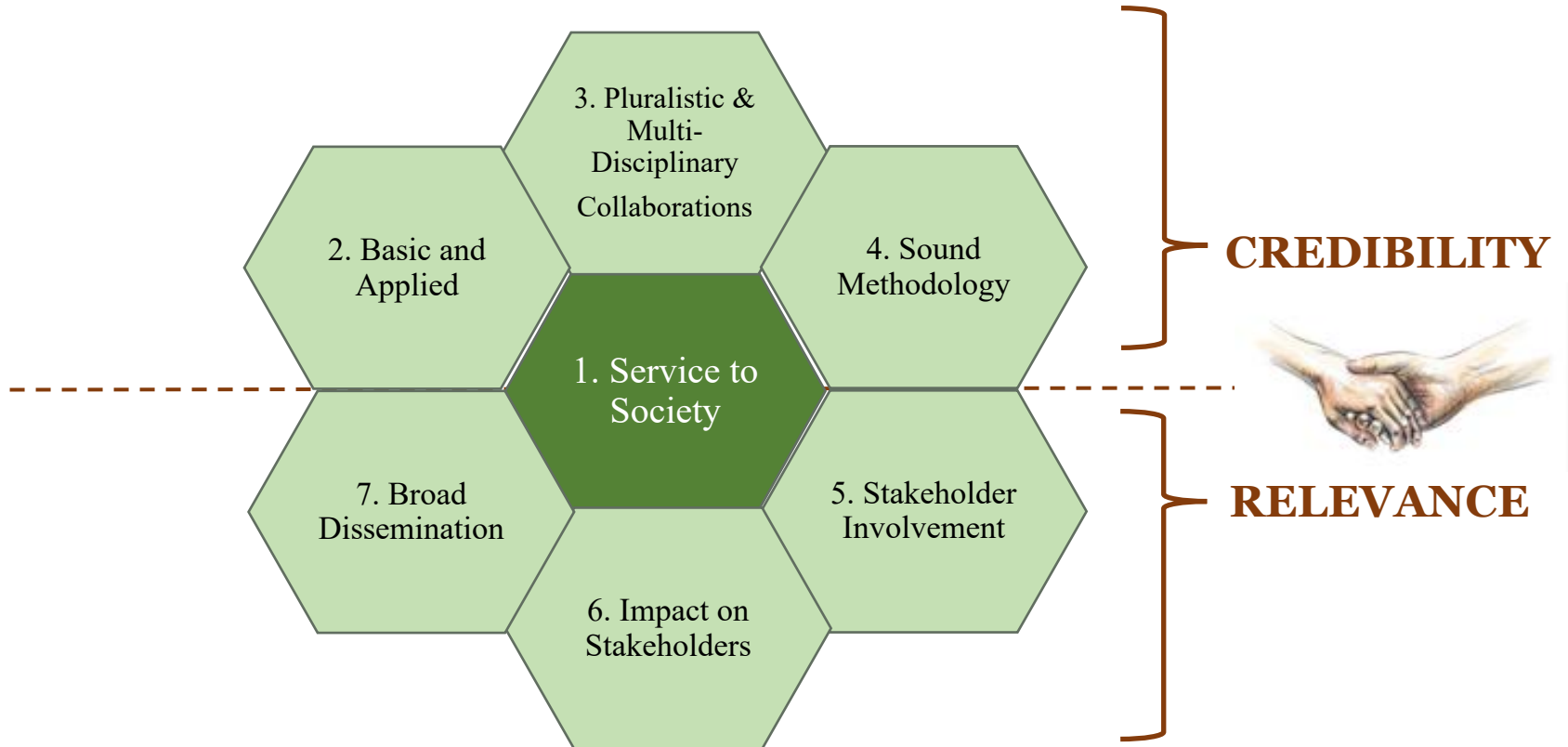


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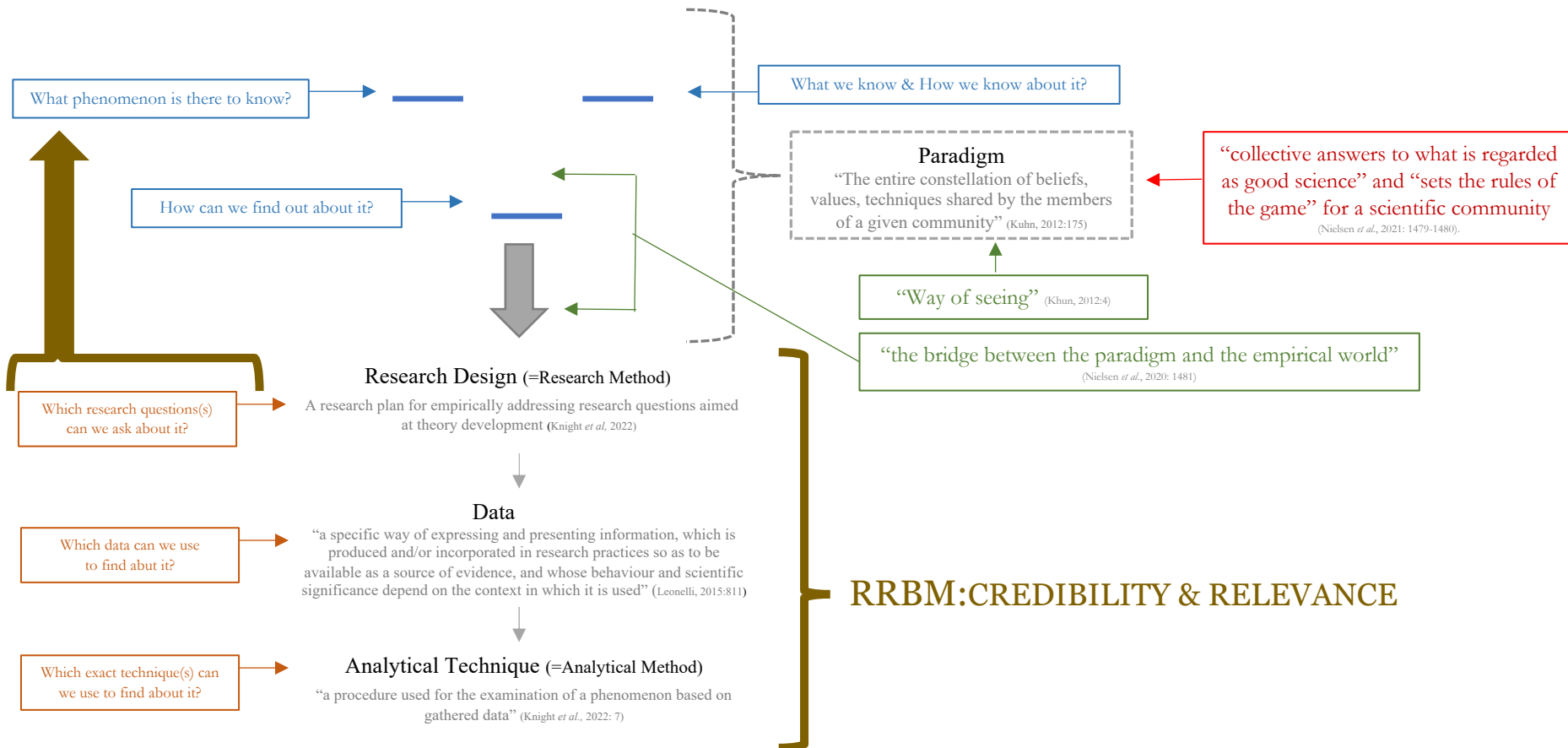
Responsible Research → RRBM: Seven Principles



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Q2: For what is one responsible

→ Why is this significant = a research process ?





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What have we learned so far?

- Research takes place in a connected ecosystem with many reinforcing parts – change is a system design problem
- Changing an ecosystem requires a “positive conspiracy”
(journal editors, association leaders, deans, P&T committees, senior scholars, accreditors)
- External stakeholders need to get involved
(business, NGOs, government, publishers, media)
- You can’t solve every problem at once
(e.g., replication crisis, focus on the big goal/grand challenges)
- Small wins add up if you are persistent

Scientific Work = Publish to Flourish *not* Perish



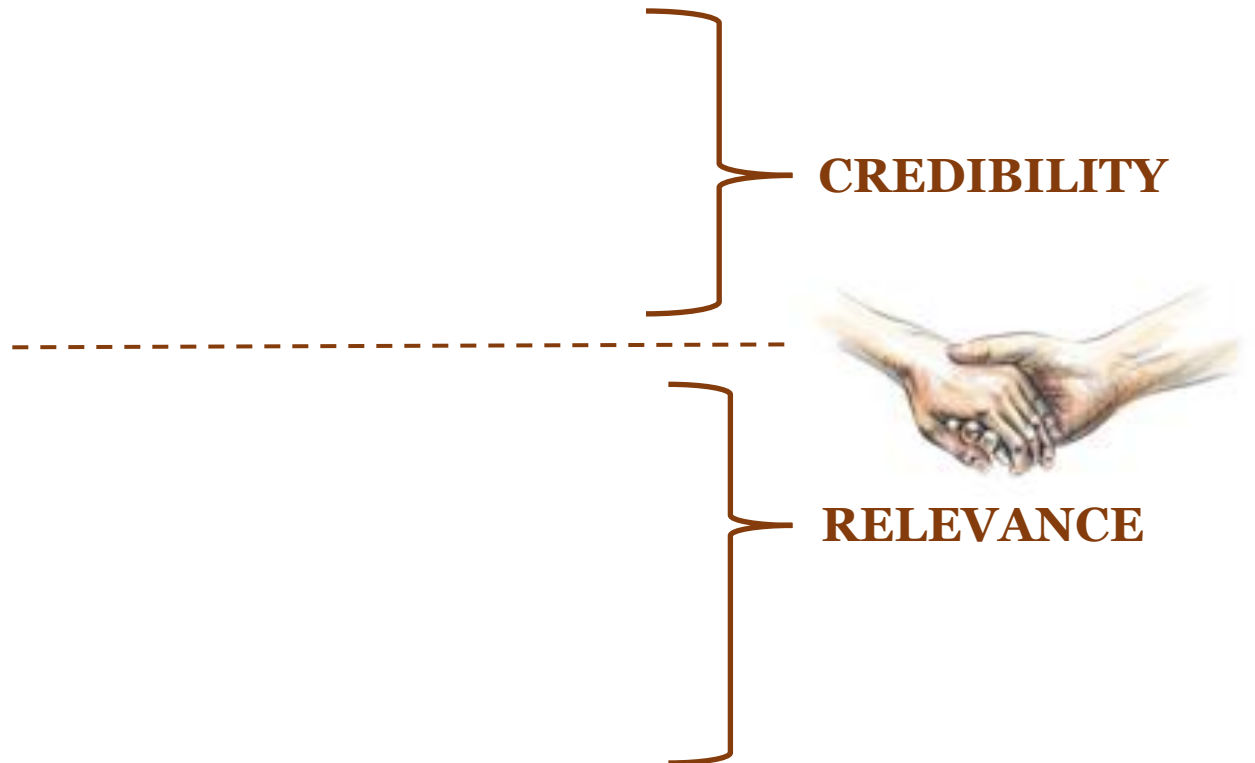
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External Stakeholder's Intervention: Example!

III. Other Agencies: UNPRIME





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Topic :

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Based on the following references:

1. Aguzzoli, R., Lenger, J., Miller, S.R., & Chidlow, A., (2023) Paradigms in Qualitative IB Research: Trends, Analysis and Recommendations. (*in progress*).
2. Beugelsdijk, S., van Witteloostuijn, A., & Mayer, K. E., (2020) A new approach to data access and research transparency (DART). *Journal of International Business Studies*, 51: 887-905.
3. Chidlow, A., & Welch, C. (2020) Improving the Transparency of Your Research: *What It Means and Why Should We Care?* AIB-UK&I Blog: www.aib-uki.org/blog.
4. Chidlow, A., Tietze, S., & Arguzzoli, R. (2026) Research Methods in Business Studies: Cross-Language Perspective. Cambridge University Press (*forthcoming*).
5. Chidlow, A., Ghauri, P., Yenyurt, S., & Cavusgil, S.T. (2015) Establishing Rigor in Mail Survey Procedures in International Business Research, *Journal of World Business*, 50(1): 26-36.
6. Chidlow, A., Greene, W. H., & Miller, S. (2020) Star chasing: A commentary on “What’s in a p? Reassessing best practices for conducting and reporting hypothesis-testing research” In Eden, L., Nielsen, B., & Verbeke, A. (Eds) *Research Methods in International Business: Challenges and Advances*, Palgrave: Springer JIBS Special Collection: <https://link.springer.com/book/10.1007/978-3-030-22113-3>.
7. Douglas, H. (2009) Science, Policy and the Value –free Ideal. Pittsburgh, PA. University of Pittsburgh, PA.
8. Greene, W.H, Chidlow, A., & Strange, R. (2022) The Use of Multinomial Choice Analysis in International Business Research. *International Business Review*, 31(4): 1-15.
9. Knight, G., Chidlow, A., & Minbaeva, D. (2022) Methodological Fit for Empirical Research in International Business: A Contingency Framework. *Journal of International Business Studies*, 53(1): 39-52.
10. Miller, S. R, Welch, C., Chidlow, A., Nielsen, B.B., Pegoraro, D., & Karafyllia, M. (2021) The Adoption Challenge: An Analysis of Research Methods in JIBS. *AIB Insights*, 21(2): 1-10.
11. Nielsen, B.B., Welch, C., Chidlow, A., Miller, S.R., Aguzzoli, R., Gardner, E., Karafyllia, M., & Pegoraro, D. (2020) Fifty years of methodological trends in JIBS: Why future IB research needs more triangulation? *Journal of International Business Studies*. 51(9):1478-1499.
12. Smaldino, P., E., & McElreath, R. (2016) The natural selection of bad science” *Royal Society Open Science*, 3: 160384.
13. Tsui, A., & McKiernan, P. (2022) Understanding Scientific Freedom & Scientific Responsibility in Business & Management Research, *Journal of Management Studies*, 59(6):1604-1627.