PSB PARIS SCHOOL OF BUSINESS

WRITING ACADEMIC PAPERS ALIGNED WITH INDUCTIVE vs. ABDUCTIVE RESEARCH PROTOCOLS

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chair **newPIC**
new Practices for Innovation and Creativity

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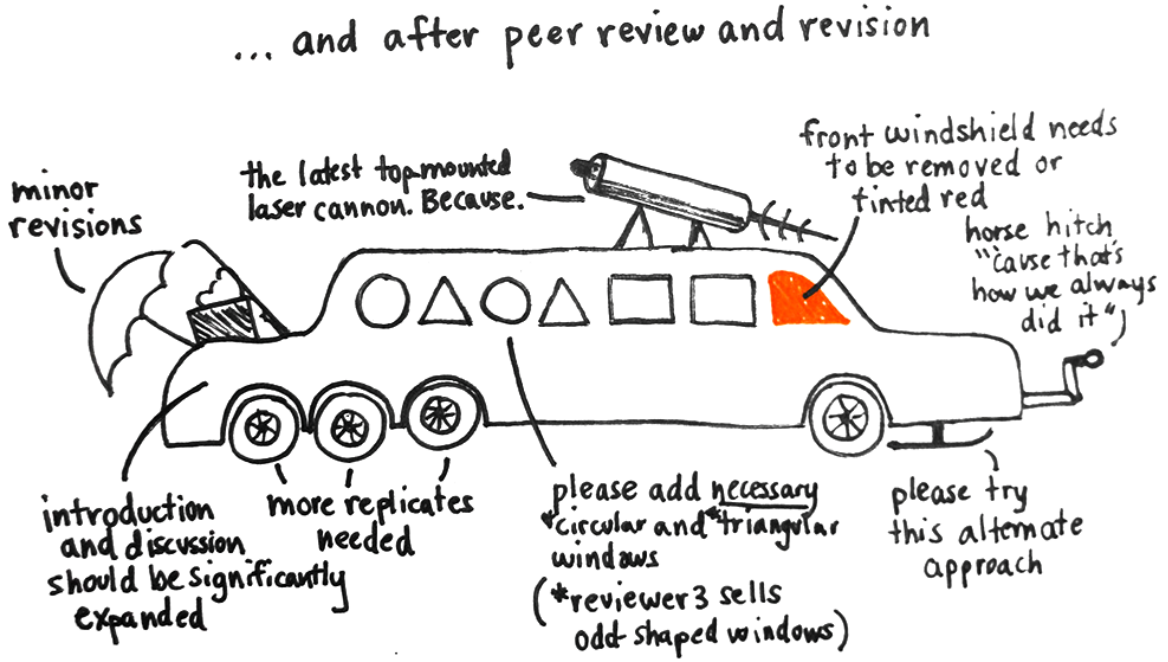
Our papers: before and after the review process



Objectives of the seminar

- The seminar does not discuss any methodological debate
- Today = COOKBOOK
  - Main important steps to be documented in submissions to academic journals,
  - elements to be delivered to reviewers.

- *"Higher ranked" journals require also high internal consistency and some reflexive thinking about methodology*

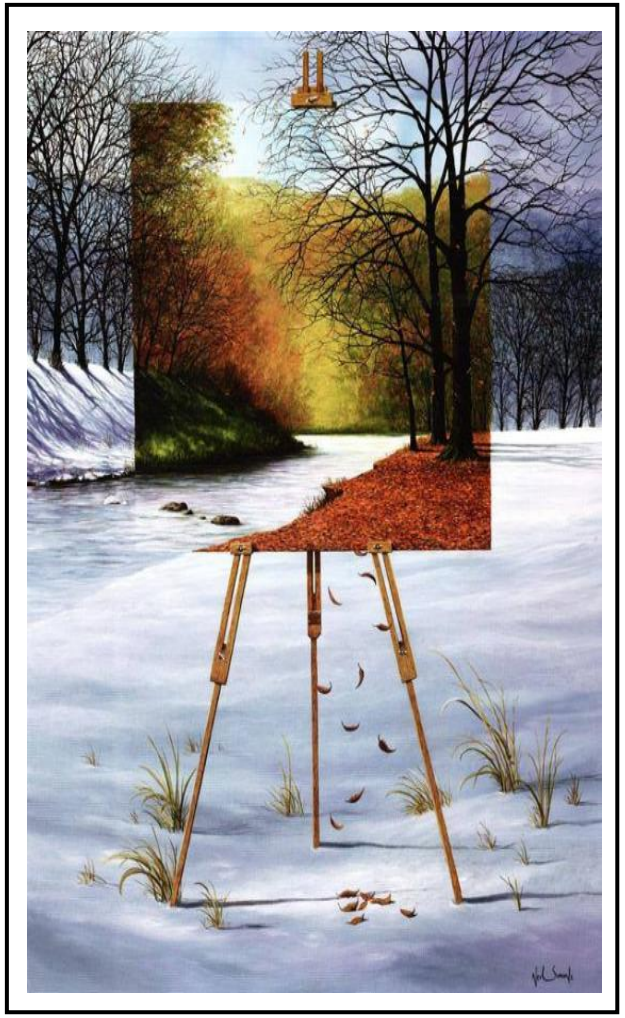
Agenda for the seminar

- **Background concepts and references**
  General expectations in academic articles
- **Definitions: ABDUCTION vs. INDUCTION**
- **The ABDUCTIVE vs. INDUDCTIVE cookbooks**

BACKGROUND CONCEPTS AND REFERENCES

Expectations

- Reliability (credibility)
- Validity of conclusions
- “Objectivity” of the analysis
- Ability to replicate the analysis, or to obtain the same conclusions with different scholars
- Analysis of transferability of conclusions



Main objectives in your articles

- **Generate TRUST**
- **Explain the "ambition" of your conclusions**

  - ***How do you handle the data?***
  - ***Can you be trusted with the OBSERVATION of data?***
  - ***How is it possible to verify the CODIFICATION of your data with other scholars?***
  - ***Can you be trusted with the ANALYSIS of data?***

What does it mean to “explain” something?

- People often assign the status of causal explanation to random events, because they focus on ad hoc explanations, they believe something is systematic, ordered or real just because they relate to limited direct experience, or to statistical regularities. Never forget to get an access to the data and facts existing behind what “you see”…

- “Facts” are already the product of many levels of interpretations.

Main issues with research protocols

- **The separation between**
  - **data *collection*,**
  - **data *codification*,**
  - **data *reduction*,**
  - **data *analysis*, and**
  - ***discussion***

  makes it possible to generate TRUST

Data

vs.

Information

vs.

Knowledge

vs.

Beliefs

Qualitative causal analysis

- ***Some scholars consider that qualitative studies are only good for exploratory investigations. In their view, only quantitative analysis would lead to some sort of generalization and to theories.***
  This view mistakenly assimilates theory-building and statistical recurrences.

- **Theory-building is not a matter of qualitative or quantitative method.**
  It's a matter of logic, and of sound development from premises to conclusions.

- **In theory-building,**
  "we emphasize the importance of taking both
  a "variable-oriented", conceptual approach, and
  a "process-oriented", story-like approach". (M&H, 1994, p 170).

Mandatory template for publications in management…

Scientific publications in management science today have to follow a mandatory agenda directly inherited from Miles and Huberman

The protocol has to adapt to the very nature of the research protocol, and more specifically:

- *theoretical vs. empirical papers;*
- *inductive vs. abductive vs. N/D vs. deductive papers*

Triangulation

- **Data triangulation:** involves time, space and persons
- **Investigator triangulation:** involves multiple researchers in the study
- **Theory triangulation:** involves more than one theoretical scheme for the interpretation of phenomena/data
- **Methodological triangulation:** involves several methods in data collection

- **Your projects SHALL elaborate *both* on METHODOLOGICAL and DATA triangulations**

- **"Unit of analysis" and "Unit of data collection" SHOULD NOT be affected by methodological and data triangulations**

Data collection in qualitative analysis

PRIMARY DATA (collected by the researcher)

- **OBSERVATION**
  - Participant
  - Non Participant
- **(AUTO-) ETHNOGRAPHY**
- **PHENOMENOLOGY**
- **INTERVIEWS**
  - Individual vs. Group
  - Structured
  - Semi-structured
  - Unstructured

TRIANGULATION OF DATA COLLECTION METHODS

QUALITY TRUST

SECONDARY DATA (*NOT* collected by the researcher)

Data published by other researchers

- Published articles, books under peer review process
- Un-published monographs
- Publications without peer review process

Documentation

- Internal (MoM, technical documentations, reports, quality manag, etc)
- External (press)

Triangulation of data sources

- **Triangulation is a technique that facilitates the validation of data collection and of data analysis from two or more sources.**
  It refers to the application and combination of several research methods in the study of the same phenomenon / case / decision making process.
- **It both impacts data collection and of data analysis**
- **Triangulation provides with a more detailed and balanced picture of the situation**
- **Triangulation represents one of the main criteria for reliability and validity in social sciences,**
  overcoming the basic intrinsic bias of the researcher's deficient "objectivity"

DEFINITIONS
INDUCTION VS. ABDUCTION

Methodological references

Main references shaping the analysis

- Deduction
- Nomological-deductive model (or hypothetico-deductive model)
- Abduction
- Induction

Field research strategies

- Grounded Theory
- Ethnography
- Social constructionism
- Critical realism
- Interpretitivism
- Micro-foundations approach

NOT DISCUSSED TODAY

Overview of the definitions

- **Deduction**
  - I know the (universal) “law” and I apply it to check
    - either its global relevance,
    - or its applicability

- **Induction**
  - I don’t know much/anything, and I look for tentative theories and/or tentative concepts

- **Hypothetico-deductive model**
  - I know “laws” with their “if-then-else” causal links and I check their validity with the experimental method

- **Abduction**
  - I point out a gap in the literature, and I generate tentative theories to fill that precise gap

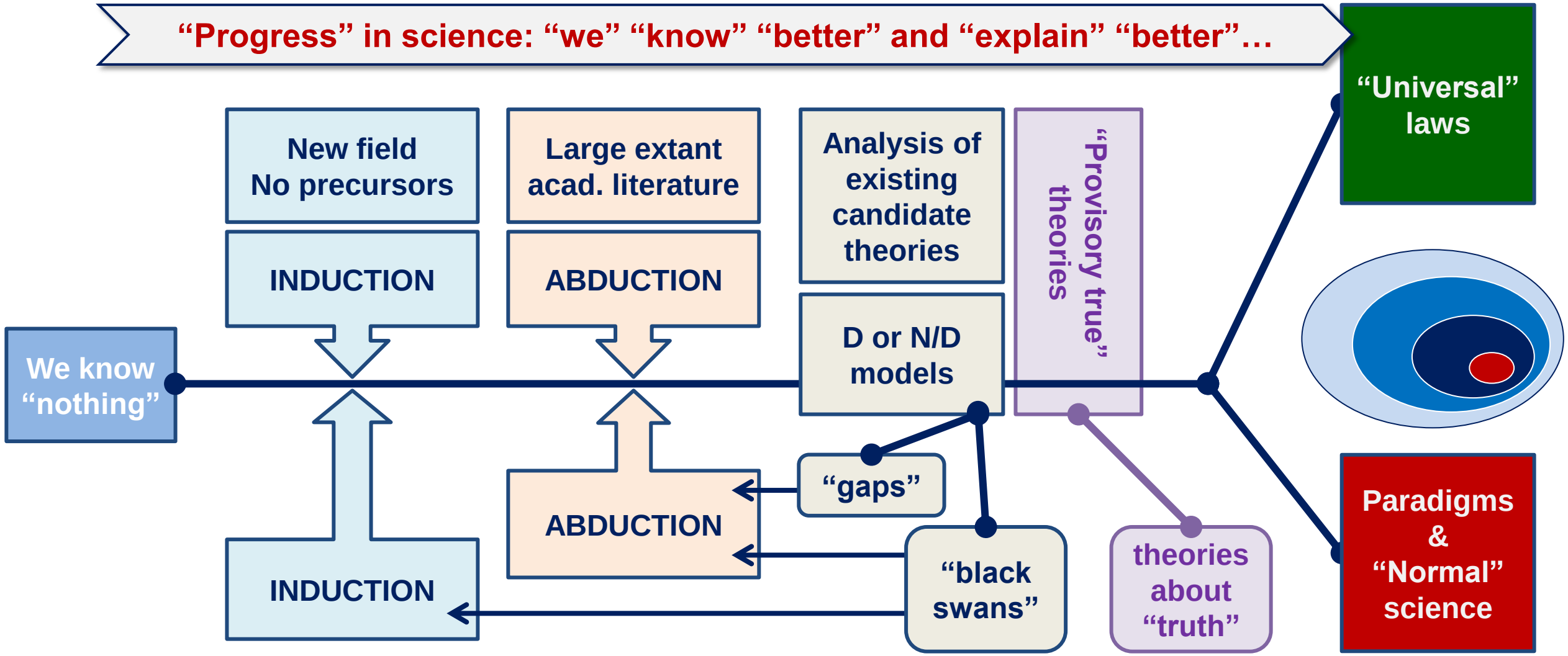
Overview of the main purposes of each model

- **Deduction**
  - The D model applies the general rules of propositional calculus to assess the validity (and “universality”) of laws
  - The D model can hardly identify its own hypotheses
- **Hypothetico-deductive model**
  - The N/D model implements “if-then-else” demonstrations based on the experimental method
  - The N/D model has difficulties with the identification of hypotheses or “laws”
- **Induction**
  - Inductive analysis serves the identification of new potential areas for explanation (concepts, theories), and suggest potential (or probable, as in “probability”) relations between facts and “causes”
- **Abduction**
  - The abductive analysis generates relevant propositions to complement and improve an existing body of academic literature; it elaborates on the identification of “gaps”

Potential outcomes for each model

- **Deduction**
  - Provisory valid “laws”
  - Eventual falsification of the “laws” thanks to the identification of “black swans” (field research)
  - Analysis of “universality”
- **Hypothetico-deductive model**
  - Test of “if-then-else” causal links with the experimental method
  - Provisory valid “laws”
  - Eventual falsification with “black swans” (field research)
- **Induction**
  - Definition of candidate fields and theoretical bodies for explanation
  - Definition of probable causal links between phenomena and “causes”
  - NO GENERALIZATION POSSIBLE
- **Abduction**
  - Definition of candidates tests for the D/N model and the experimental method
  - Rejection of irrelevant propositions
  - NO GENERALIZATION POSSIBLE (except for “counterfactuals”)

Research strategies



COMPARISON BETWEEN THE COOKBOOKS FOR THE INDUCTIVE VS. ABDUCTIVE APPROACHES

Field research

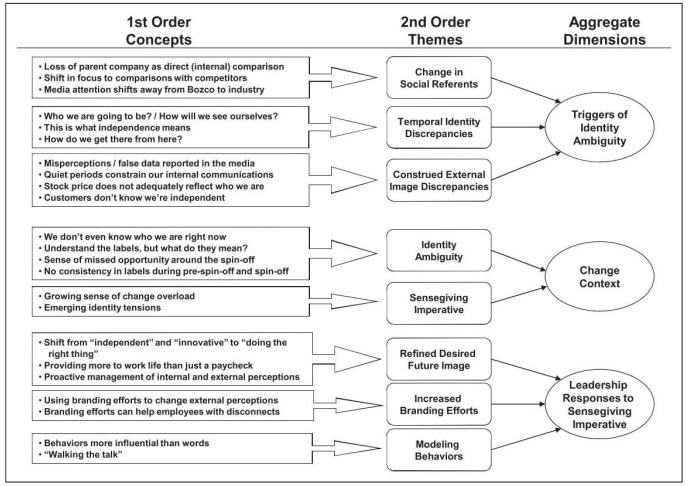
- **Both the inductive and abductive protocols relate to qualitative research**
- **No major difference does exist at the level of field research activities between the inductive and abductive approaches:**
  most expectations relate to the rationales installed
  with the ethnographic method and interview-based protocols,
  most notably with observation and/or semi-structured interviews

- **The differences exist in the preparation of field research,**
  and in the processes leading to data analysis and discussion:
  data reduction and data codification do not compare in the inductive vs. abductive protocols, and lead to very different ways of drafting the papers

Zooming out on respective expectations

QUALI.	INDUCTION	ABDUCTION
Literature review	Neither extensive nor exhaustive	Concludes with “propositions”
Field research	Aligned with the precepts of grounded theory or ethnographic method	
Data collection strategy	“Dynamic relationships” and data-to-theory connections to generate more groundness	Reduce data as soon as possible and generate more groundness
Data codification	1st order codes emerge from field research (open coding); 2nd order codes = link w/ theory (axial coding)	Codes emerge from the literature review (“open coding” + “axial coding”)
Data display	Extensive descriptions with context, stakeholders, “zoom-in”	
	VERBATIMS justify the data structure	Verbatims illustrate axial coding and gaps
	“Informative story” (VERBATIM)	Structured presentation (literature review)
Data reduction Data “structure”	“No data structure, know nothing” Open discussion on interpretations	Cross validation of data coding with required levels of convergence between coders
Data analysis	Data and existing theory are considered in tandem (“zoom out”)	
Discussion	Focus on nascent concepts	Focus on filling the gaps
Transferability	LIMITED to the status of the case(s) / Concepts	LIMITED

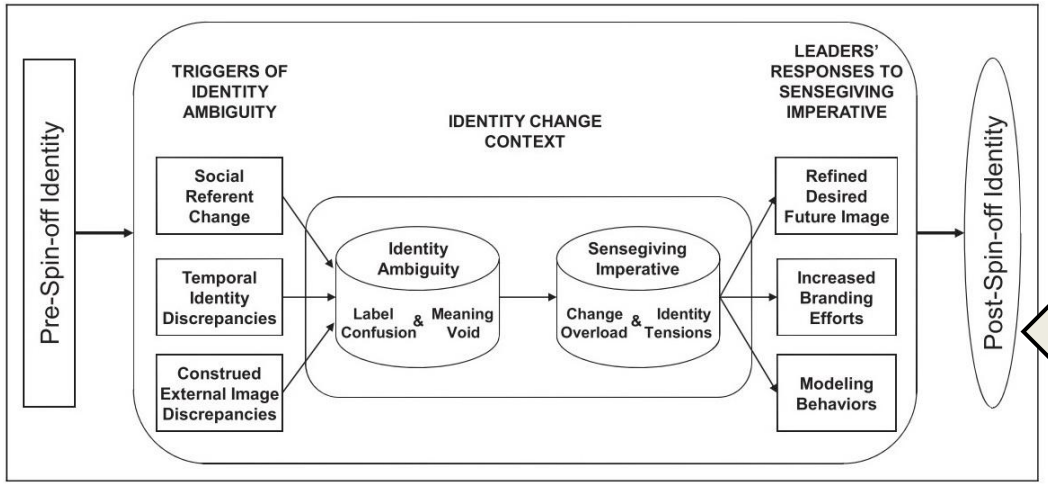
Main differences in the presentation



Data reduction vs. codification

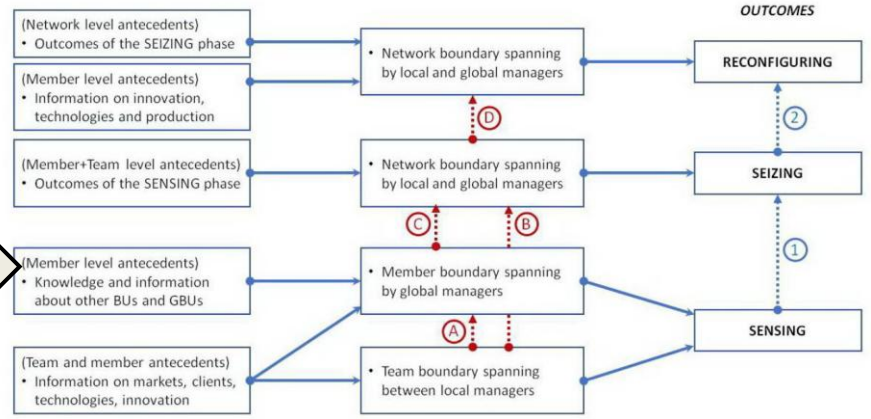
Table 1 – Codification rationales for the data reduction process

Coding process	Sensing / Shaping	Seizing	Reconfiguring
Items for the codification of the orchestration of resources	• Alertness about market 'noises' • Instances of market 'noises' • Interactions with the ecosystem	• Appraisal of value capture opportunities (intra- and inter-BU) • Competences, processes and routines linked to decision-making on resources, and on investments	• Strategic adaptation • Maintenance of "evolutionary fitness" • Management of complexity • Evolution of actual R&D and production processes
Items for the codification of "boundary spanning"	• Identification of data making sense for the other areas of the organization (anticipation on data and information relevant for action or decision making); • Transfer of data, information and knowledge to the other components of the organization and to the other (local and global) managers (Reid and Brentani, 2004); • Transformation of data and information to make them available in other areas of the organization (diffusion and anticipation on appropriation); • Articulation of data/information and sensemaking in different environments (cf Levina and Vaast, 2005) • Big picture and collective sensemaking: Elaboration of a shared understanding over the market (clients, contendents) and the technologies (short and long run perspectives)		



Contrib.

Figure 2 – Marrone (2010) multi-level model of boundary spanning revisited



EXPECTATIONS IN ARTICLES FOLLOWING INDUCTIVE PROTOCOLS GIOIA'S COOKBOOK / TEMPLATE

Key “reference” to develop inductive protocols: Dennis A. GIOIA

- **Dennis A. Gioia, Kevin G. Corley, and Aimee L. Hamilton, (2012), “Seeking qualitative rigor in inductive research: notes on the Gioia methodology”, *Organizational research methods*, 16(1) 15-31**

Penn State Univ.
(Robert and Judith Klein Prof of Manag - Chair of the Dept of Manag and Org)
Formerly an engineer for Boeing Aerospace at Cape Canaveral on the build and launch of Apollo 11-12-13 missions and corporate recall coordinator for Ford Motor Company (1970s)

Research focus:
organizational identity, image, learning, K in sensemaking, sensegiving and organizational change

Data reduction

- **“CODING IS ANALYSIS”**
  (Miles & Huberman, 1994, p56)

- **Codes are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study. Codes usually are attached to “chunks” of various sizes (words, phrases, sentences, whole paragraphs, etc).**
- **They can take the form of a category label, or a more complex code (eg a metaphor).**

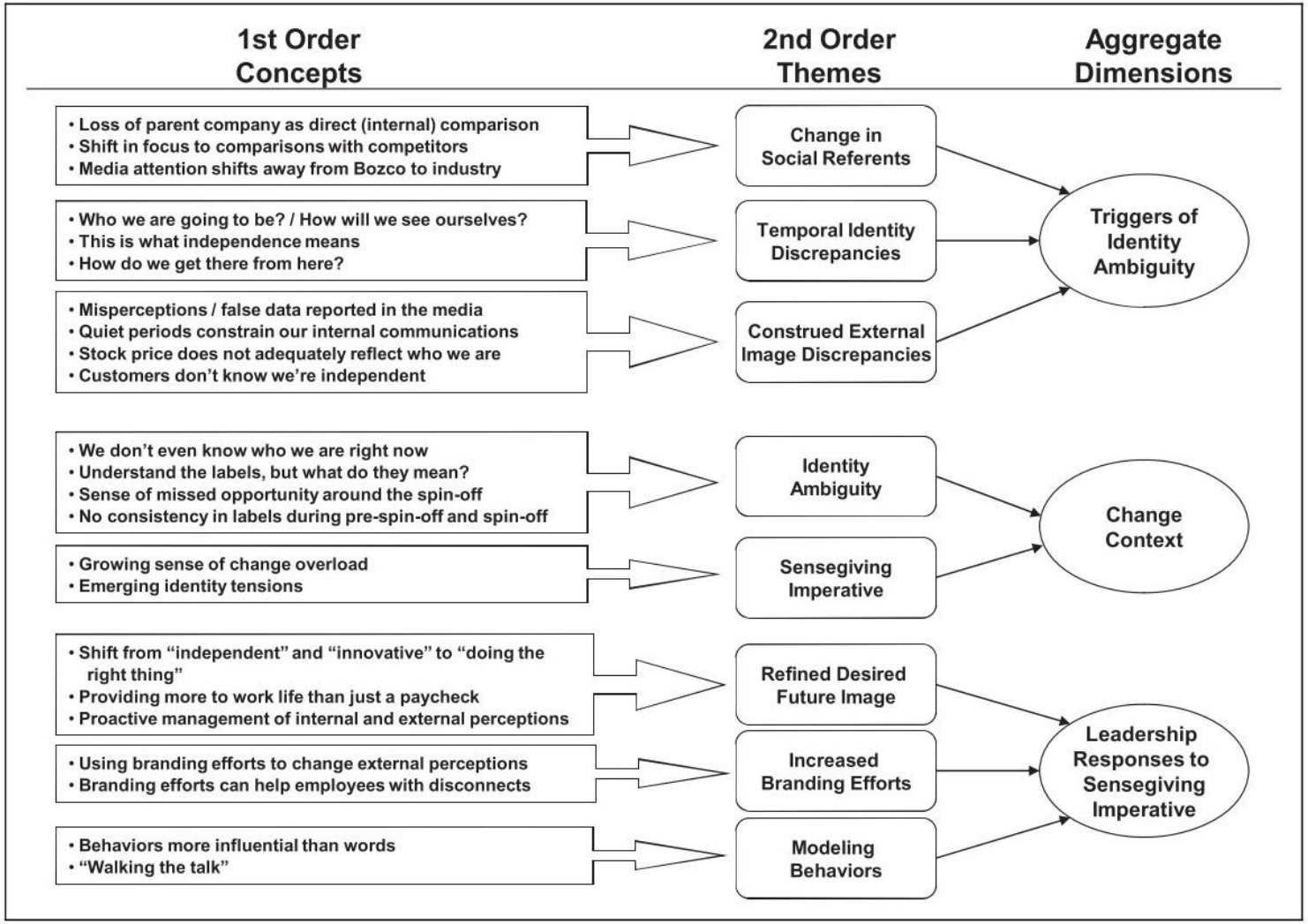
- **“It is not the words themselves but their meaning that matters”**
  (Miles and Huberman, 1994, p 56).
- **A word or a phrase does not “contain” its meaning as a bucket “contains” water. Its use is made by choice about its significance in a given context; the choice excludes other choices; it is embedded in a particular logic or a conceptual lens.**
- **Codification has to be documented along the tools used in linguistics.**

2 steps in data codification and data analysis

- **1st order analysis:**
  systematic presentation using
  “informant-centric terms and codes”

- **2nd order analysis:**
  systematic presentation using
  “researcher-centric concepts, themes and dimensions”

Data structure, as in Corley and Gioia (2004)



« Get in there and get your hands dirty »

"This style of research is also '*get in there and get your hands dirty*' – madly making notes on what the informants are telling us, conscientiously trying to use their terms, not ours, to help us understand their lived experience."

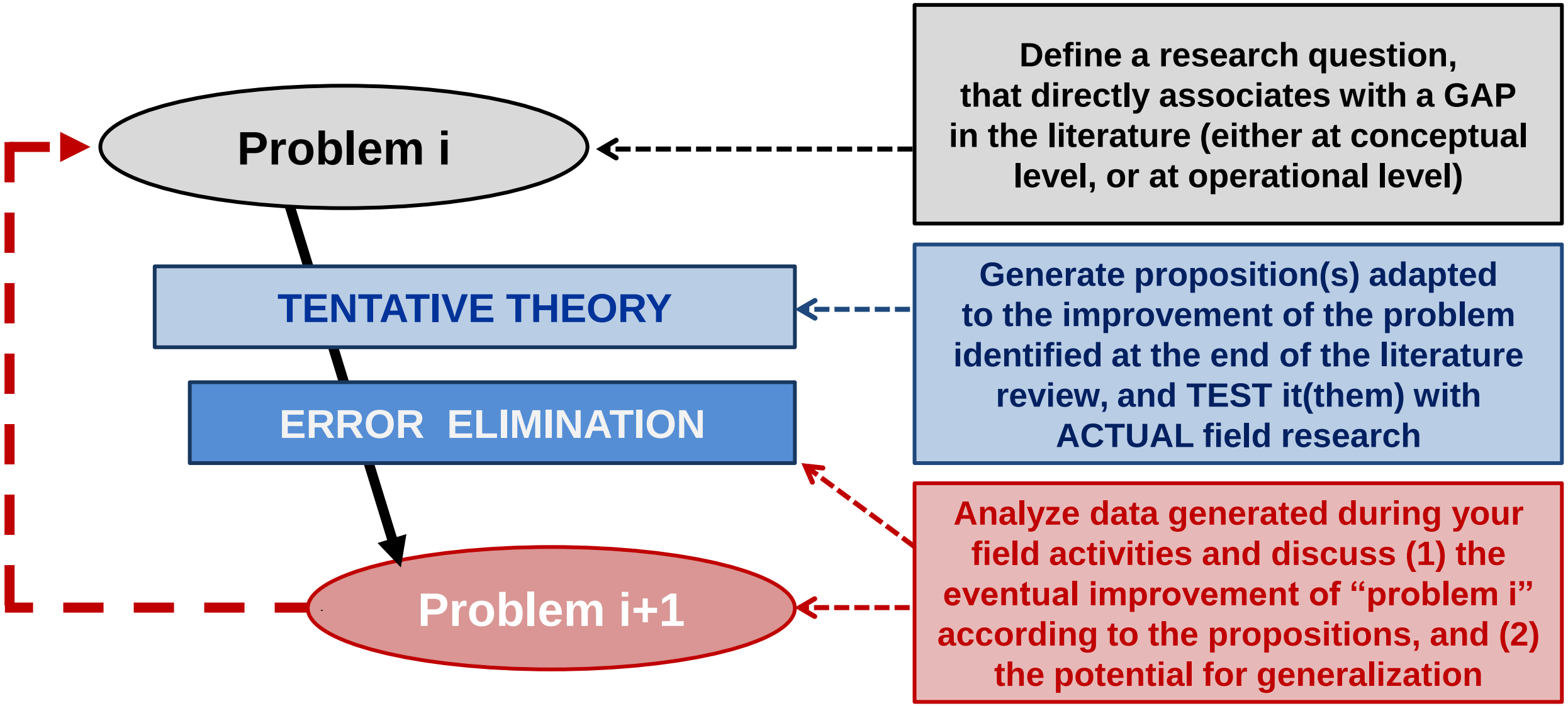
Gioia et al., 2004: 19.

2 major issues:

- **"Going narrative", i.e. being too close and essentially adopting the interviewee's view, thus losing high level perspective required for theorizing**
  (mitigation with one interviewer adopting an outsider perspective)
- **Elaboration of the interview protocol with focus on the research question (why we should ask) and no questions self-containing answers**

EXPECTATIONS IN ARTICLES FOLLOWING ABDUCTIVE PROTOCOLS

Expected contributions



The literature review leads to answering 2 questions, and identify the subsequent method

Identify a method relevant for your project, that is adapted to drive a relationship between your research question, your assumption(s), and field research.

You need to assess
<u>from the early beginning</u>
how you travel to conclusions.

The appropriate field research method makes it possible to introduce a difference between stating the obvious with trivial and/or local conclusions, and actual contributions.

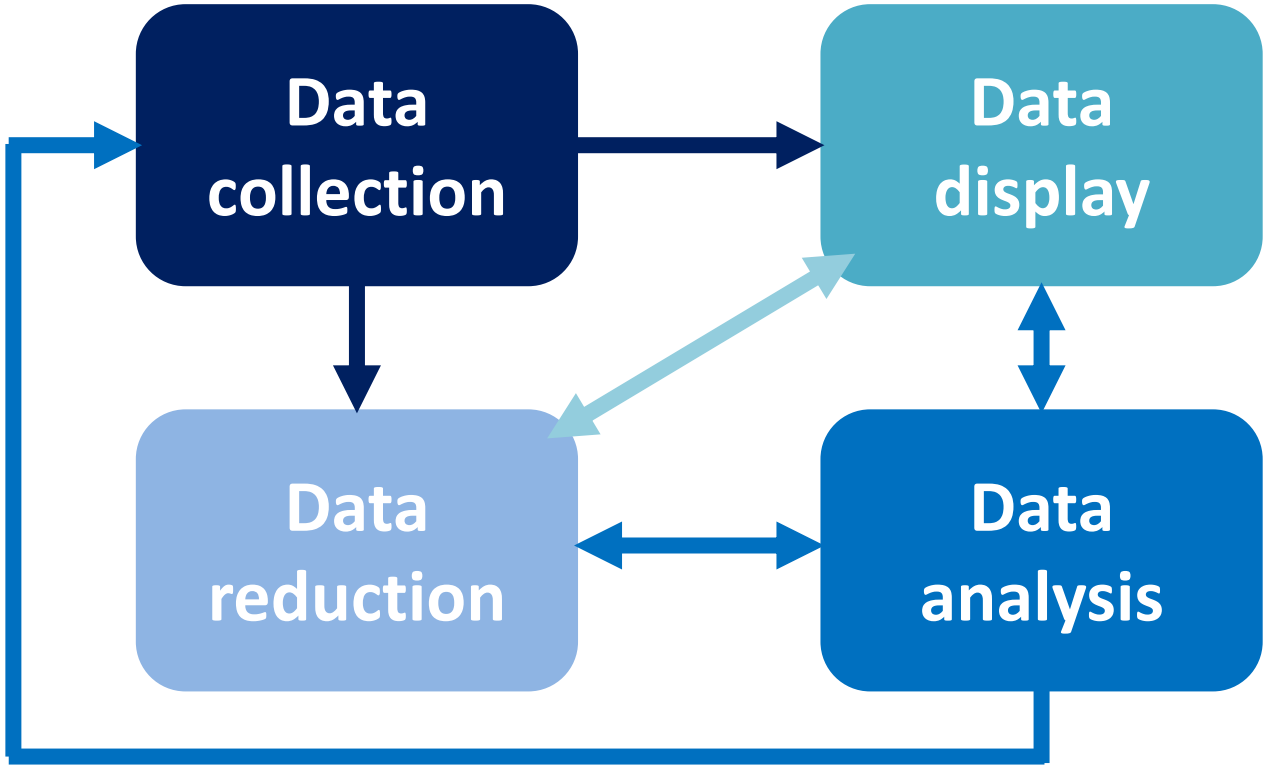
- **Discover smart and effective assumptions**
  (hypotheses building)

- **Develop a consistent and reliable logical argumentation**
  (internal consistency)

Interacting with data…

The interaction with data does not follow a sequence of independent steps.

Data collection, display, reduction and analysis all interact with each other; they depend on explicit interdependencies, and require iterations.



Adapted from Miles and Huberman, 1994, p. 12

Data reduction
Analysis of reliability with check-coding

- **The reliability of the coding process may be calculated via check-coding, when several researchers code the same data set and discuss their initial difficulties.**
- **Disagreements show that definitions for codes have to be expanded or amended**
- **Reliability = nb of agreements / total nb of items (agreements + disagreements)**
- ***Reliability levels should be in the range of 90+% (depending on the size of sample).***

- ***<u>Recommendations</u> (M&H, 1994, pp 65-6)***
  - ***Make sure that codes fit into a structure***
  - ***Have all codes on a single sheet of paper***
  - ***Do not use numbers as codes, use explicit and self-explanatory words***
  - ***Define codes operationnally***
  - ***Do not casually add, remove or reconfigure codes***
  - ***Never assume consensus, always enforce the unambiguous meaning of codes***