

# The Fundamentals of the Research Process

Steps, Presuppositions, Skills



# The Context of Research



# Why Research?

- ★ Social and Academic Relevance
  - A contribution to existing knowledge
- ★ Research is about finding out a pattern, relationship or regularity in the world out there that it is not well understood or even known
  - Often research implies reframing and re-positing old questions in ways that admit novel answers



# Some Examples

- ★ What is the pattern of growth of the Internet? Which websites dominate and why?
- ★ How can “social production” (open source, wikipedia) be described, accounted for and ultimately explained?
- ★ How is the friction between generic/standardized packages and local/specific skills resolved?
- ★ What role do human attitudes play in the successful implementation of IS system in an organization?
- ★ In which ways does (or can) IT contribute to development and economic prosperity?



# What? How?

- ★ How can one find a relevant research area and a research question worthy to pursue?
  - Social life and practice as a source of inspiration and problem identification
  - Prior work in the field
    - ★ Literature, theories, documentation
  - Research as social practice
    - ★ Networks of colleagues, institutions, conferences, debates



# The Significance of the Research Question





# Defining the Scope of Research

- ★ Description of the Problem Area
  - What the research is about
  - Existing knowledge in the field
- ★ Problem Statement and Research Questions
  - Precision
  - Delimitation



# The Research Question as Direction

- ★ The Research Process as an Attempt to Answer a Set of Pre-specified Questions
  - Questions and tentative answers
    - ★ The working hypothesis
    - ★ Direction
    - ★ Claim specificity
    - ★ Contribution
  - Alice in the Wonderland





# The Process of Delimitation

- ★ Problem Area and Problem delimitation
  - Successive closure of the problem area
    - ★ Literature review-Prior work in the problem area reviewed and approached in a critical fashion
    - ★ Conceptual development and clarification
      - Theoretical ideas and theoretical framework
    - ★ Choice of empirical object
    - ★ Data collection methods



# Templates of Research

- ★ Problem Area
- ★ Literature Review
- ★ Research Questions
- ★ **Conceptual Framework**
- ★ Empirical Investigation
- ★ Analysis and Interpretation
- ★ Conclusions

- ★ Problem Area
- ★ Literature Review
- ★ Research Questions
- ★ **Empirical Investigation**
- ★ Analysis and Interpretation
- ★ Towards Theory Construction
- ★ Conclusions



# The Foundations Ontology and Epistemology



# Why?

- ★ Why does research encounter ontology and epistemology?
- ★ Why not avoiding these complications and proceed directly to find or construct an answer to the research questions?



# What Answer?

- ★ **The Observer, the Others and the Complexity of the World**
  - Agreement?
- ★ **One Reality or Many Realities**
  - The question of the subject-independent status of the world
  - John Searle (1995), *The Construction of Social Reality*
    - ★ Brute, Social and Institutional facts



What does data and  
observations stand for,  
represent?





# Some Basic Stances

- ★ Reality is **what is Observable**. All else is speculation and imagining
- ★ Observable reality is only **One Aspect of the Real**
- ★ Reality is real but **Constructed** through human practices and social institutions
- ★ Reality is inaccessible. It can only be described and **accounted for through human conceptual artefacts** (i.e. language)



# Ontological Presuppositions

- ★ The Inevitability of Ontology
  - Questions of Being (What Is, On)
    - ★ The ontological status of the world
    - ★ What is the “is”
- ★ The Ontological Status of the Object under Consideration
  - ★ Information systems
  - ★ Organizations and organizational processes
- ★ The Ontological Status of Empirical Data
  - ★ Attitudes versus facts
  - ★ Data as fabrications
    - Cognitive biases, power differentials, institutions



# The Significance of Ontology

- ★ A Fundamental Way of
  - Relating to the World
  - The status of Being
  - The elusive boundary separating the social from the natural world
- ★ Ontology is reflected on, shapes and to some degree defines the Research Process
  - Problem delimitation, epistemology and ontology



# Epistemology

- ★ How is Reality Known
  - The pattern (logic ) of science (episteme)
  - “The logic of scientific discovery”
  - The logic of knowing, how is knowledge acquired, preserved and cumulated over time
- ★ What is knowledge?



# Ways of knowing

- ★ Description and depiction
  - Verbal, alphanumerical and pictorial media
  - Other specialized systems of notation
  - Prediction as a specific case of future projected description
- ★ Imagination and inference
- ★ Language and metaphor
- ★ Myth and religion





# Epistemological Processes

- ★ Induction
  - From the specific to the general
    - ★ Singular observations, regularities and laws
    - ★ The empirical world is privileged
- ★ Deduction
  - From the universal to particular
    - ★ Explanation: subsuming singular facts under general laws
    - ★ Theory is privileged
- ★ Imagination
- ★ Institutionalized models of doing research (e.g. Khun)





# Epistemology and Methodology

- ★ Epistemology shapes and/or defines
  - Methodology
    - ★ Population versus case studies
    - ★ Institutional facts and relations
    - ★ Discourse analysis
  - Data Collection
    - ★ Statistical data, surveys and questionnaires, observations, interviews, study of archives and documents, statements and discourse analysis, experiments
  - Data Interpretation
    - ★ The most interesting and least codified research step



# Data Analysis and Interpretation

- ★ Data Reduction
  - Coefficients, indexes, ratios, tabulations
  - Causal explanations
- ★ Qualitative Interpretations
  - Successive readings and reorganization of the data,
    - ★ Reduction and condensed description
    - ★ Themes and issues (within and cross-case analysis)
    - ★ Narrative studies
  - Understanding



# Paradigms

- ★ The Interdependent Character of Ontology, Epistemology and Methodology
- ★ Major Traditions
  - Versions of Positivism
  - Versions of Realism
  - Versions of Constructivism
  - Versions of Phenomenology and Hermeneutics
  - Critical theory
  - Postmodern relativism

