

## Review of Research Designs

MGMT 8101, Theory Building & Research Design

Notes by Prof. Andy Van de Ven

### Plan for Class

- Review of basic elements of research design
- Peer reviews of student research designs
- Next week: Start running problem solving baseline
- Today's key message:

***The question & proposition determine the research design***

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## Let Research Problem, Question & Proposition Guide Research Design

1. Statement of the research problem or issue:
  - a. Perspective, focus, level & scope are clearly evident
  - b. Symptoms or elements are clearly described & grounded in reality
  - c. A diagnosis is made that analyzes patterns or relationships among elements.
  - d. Based on the diagnosis, an inference is made about existence of problem/issue.
2. The research question:
  - a. is stated in analytical and researchable terms.
  - b. permits more than one plausible answer.
3. The research proposition:
  - a. clearly states and explains expected relationships among concepts.
  - b. is supported with an argument (i.e., claim, reasons, evidence, reservations, & qualifiers).
  - c. directly addresses the research question and problem.
  - d. compares plausible alternative answers.
  - e. is "interesting," "classic," or makes a contribution

## Variance Research Issues, Decisions, & Suggestions

Issues	Decisions	Suggestions
1. The research question and perspective	<p>What is the causal conditional proposition or question?</p> <p>For whom &amp; for what is the study being conducted?</p>	<p>Variance research is geared to “if-then” causal questions.</p> <p>Involve key stakeholders in research design.</p>
2. Unit of analysis	What individual or collective properties are being studied?	<p>Clarify the unit of analysis and unit of observation.</p> <p>Distinguish analytical, relational &amp; global properties of collectives.</p>
3. Causal model	<p>What is the variance research model?</p> <p>How probe (not prove) causation?</p>	<p>State causal conditional relationships in the variance research model.</p> <p>Select proximate and controllable causes.</p> <p>Causation between variables indicated by covariation, temporal precedence &amp; no spurious factors.</p>
4. Experimental design	Is this a randomized, quasi, or non-experimental design?	<p>Adopt experimental logic to control for extraneous effects</p> <p>Evidence of causation is strongest with randomized experimental design.</p>
5. Sample selection and size	<p>What criteria are used to select units, constructs, observations &amp; settings?</p> <p>How many cases should be included in the sample?</p>	<p>Focus on construct validity in theoretical sampling.</p> <p>In population sampling, be clear about target population before drawing a sample.</p> <p>Select the number of cases that equate statistical and practical significance.</p>

## Process Research Steps, Decisions, & Suggestions

Key Step	Key Decision(s)	Suggestions
1. Meaning of process	Category of concepts or A developmental sequence?	Process models are geared to studying how questions
2. Theories of process	Examine one or more models?	Apply and compare plausible alternative models
3. Frame of reference	Who’s viewpoint is featured?	Observe change process from a Specific participant’s viewpoint
4. Define events/incidents	What activities or incidents are Indicators of what events?	<p>Incidents are observable</p> <p>Events are theoretical constructs</p>
5. Observational method	Real-time or historical observations?	Observe before outcomes are known
6. Source of change	How distinguish between age, cohort & transient sources of change?	Develop parallel, synchronic and diachronic research design
7. Sample diversity	Homogeneous or heterogeneous?	Compare the broadest range possible
8. Sample size	Number of events and cases?	Focus on number of temporal intervals and granularity of events
9. Process research designs	What data analysis methods to use?	Match data analysis methods To number of cases and events

## Measurement Section in Research Proposal

- State definitions and indicators of constructs.
  - Use deductive constitutive definitions of constructs
  - Link operational indicators with theoretical terms
- Clarify frame of reference of each indicator/question
  1. Time perspective of questions.
  2. Behavioral, cognitive, or emotional phenomena
  3. Descriptive or evaluative measures.
  4. Number of intervals or points on answer scale
  5. Anchors or cues on answer scales
  6. Unit of analysis
  7. Respondent or informant role
- Assess measurements and instruments
  1. Intrinsic Validity – how well measure intended constructs
    - Reliability Estimates
    - Convergent & Discriminant Validity
  2. Extrinsic Validity – instrument accomplish purpose?
    - Concurrent & predictive validity

## Cautions from Attribution Theory

- Actors perceive their behavior as a response to situational cues, while observers perceive the behavior to be due to actor's disposition or qualities. Three reasons:
  - At moment of action actor's attention is on situational cues, while the actor's behavior is salient to the observer.
  - Actor knows more of self than does observer
  - Observers assume actors have a disposition to behave in future like in past.
- 'Why do you like him?' How did you solve this problem? Why'd you take that job?
  - We may have no direct access to our mental processes. Our answers to these kinds of questions are based on apriori, implicit causal theories.
    - What's your mother's name? I can give swift answer.
    - How did you come up with that? "I don't know; it just came to me."

## Evaluating a Measurement Instrument

Intrinsic Validity – how well measure intended construct

- Convergent & Discriminant Validity
  - Triangulation to map the breadth or dimensions of construct
  - Multi-trait multi-method matrix
  - Factor analyses of all items from several indices
  - Parallel measures
- Reliability Estimates
  - Depends on breadth of construct being

## Address Threats to Validity and How You Deal With Them

1. *Internal validity*: Is the relationship causal or spurious? Is the narrative plausible?
2. *Statistical validity*: Are the results due to chance?
3. *Construct validity*: Do the findings generalize to the theory on which the study it is based?
4. *External validity*: Do the findings generalize to the larger population from which the sample was chosen?

**Mgmt 8101 Research Design Proposal Evaluation Form (3)**  
**Use as a checklist before submitting report**

AUTHOR: \_\_\_\_\_ EVALUATOR: \_\_\_\_\_

Please evaluate each component of this report by using this five-point scale:

- 1 = not addressed or evident in the report
- 2 = attempt made but some errors occurred in the analysis/answer.
- 3 = attempt made but the result needs more work, elaboration, or refinement.
- 4 = attempt made with good result; issue accomplished; no further work needed.
- 5 = attempt made with excellent result; issue accomplished with distinction.

1. The problem statement is situated, grounded, diagnosed, and draws a clear inference. \_\_\_\_\_
2. The research question is analytical and permits more than one plausible answer. \_\_\_\_\_
3. The proposition is clearly stated, examines alternatives, and is supported with an argument. \_\_\_\_\_
4. Definitions of concepts, constructs, and variables are clear and reflect construct validity. \_\_\_\_\_
5. The hypotheses are consistent operational statements of the proposition (if applicable) \_\_\_\_\_
6. The research design clearly spells out:
  - a. theoretical unit of analysis and unit of observation. \_\_\_\_\_
  - b. case/survey/experimental design for variance or process model. \_\_\_\_\_
  - c. sample or replication logic and sample selection. \_\_\_\_\_
  - d. definitions and measurement procedures for variables or events. \_\_\_\_\_
  - e. threats to internal, statistical, external, & construct validities. \_\_\_\_\_

Comments: \_\_\_\_\_

Total: \_\_\_\_\_

**Next Class: Linking Theory & Practice**  
**Readings Assignment**

- Engaged Scholarship, Chapter 8
- Supplementary Readings:
  - Carlile, Transferring, translating, and transforming: An integrative framework for managing knowledge across boundaries, *Organization Science*, 15, 5 (Sept-Oct. 2004): 555-568.
  - Evered & Louis, Alternative Perspectives in the Org. Sciences,” *AMR*, 1981: 385-395.
  - Tsoukas, Refining common sense: Types of