Conceptualization & Measurement

how would you measure

mobile device use?

quality of Wikipedia?

who is on which side of the digital divide?

success of a controlled vocabulary?

success of a course?

participation in an online community?

conceptualization and operationalization

Abstract
Theoretical

Empirical
Measurable

conceptualization

there's a difference between *what goes on in the universe* and *what we call or name it*

concept is an abstract idea, mental image

conceptual definition tries to convey the essence of that concept, generally, not unlike a dictionary definition

how would you define?

What is the average time for completion of MLIS degrees for students from the Pacific Northwest?

What are important aspects of the information behavior of non-library users when solving a new problem?

What sources do readers for pleasure use to get reading recommendations?

What percentage of web searching is done by users of mobile devices?

operationalization

defining in empirical terms, specifying a procedure for measuring in concrete terms

blueprint for measurement, tied to a measurement instrument or technique

replicable, detailed, specific, precise

variable

a property associated with the concept that can vary

success

(can you measure everything you conceptualize?)

indicators

measure of the present or absence of the concept, or particular attributes of a variable

direct observables

indirect observables

constructs

Ex. Internet usage, marital status, educational level

indicators

how many to use?

exhaustive, enough to fully cover concept of interest

how to develop?

previous studies, observation, interviews, experts, informants

dimensions

aspects or facts of concept of interest

Ex. satisfaction with online community

satisfaction with people, software, interface, outcomes, etc.

measure

weight of textbook

# of pages of textbook

best hotel in Seattle

length of a wall light switch cover place

surface area of table @ front

height of wall outside door

circumference of pointy thing in balcony grill

errors in measurement

all measurement has error; try to find it, eliminate, minimize, or explain it

2 kinds

bias

systematic distortion of findings in one direction

several possible sources:

- researcher
- subjects
- research plan

noise

random, unpredictable, unpreventable error

limitless potential sources

always there, can be controlled, reduced, but never eliminated

which is preferable: noise, or unknown bias?

units of analysis

people

groups *and the ecological fallacy*

organizations

social artifacts/interactions

reductionism

focus on

characteristics, which are *inherent*

orientations, which are *tendencies or inclinations*

actions

levels of measurement

nominal

ordinal

interval

ratio

interval/ordinal?

reliability

are you measuring correctly?

repeatability, stability; if measure again, get the same thing

threats: mistakes, fatigue, ambiguity, mechanical problems

test-re-test reliability

- will the same person answer questions the same way the second time around

inter-observer/inter-coder reliability

- do all researchers record actions or objects the same way

validity

are you measuring what you think you're measuring? do the indicators measure the concept that we think they are measuring?

example: is educational level a valid indicator of social status?

face validity – common sense/judgment

content validity – scope, full range of concept

criterion validity – predicts well

construct validity – relationships with other logically related variables