

DATA COLLECTION METHODS

The Local Landscape | Fall 2017

Qualitative v. Quantitative data

Qualitative	Quantitative
Complete a detailed description	Classify features, count them, construct models to explain what is observed
Design emerges as the study unfolds	Study is carefully designed before data is collected
Researcher is gathering data	Researcher uses tools (questionnaires or equipment) to collect data
Data is in the form of words, pictures, or artifacts	Data is in the form of numbers & statistics
Usually more depth, time consuming, and less able to be generalized	Usually more efficient, able to test hypotheses, but could miss contextual data

Criticisms of Qualitative Research

- Samples tend to be small and not necessarily representative of broader population
- Findings lack rigor
- It is difficult to determine how the findings are biased by the researcher

Strengths of Qualitative Research

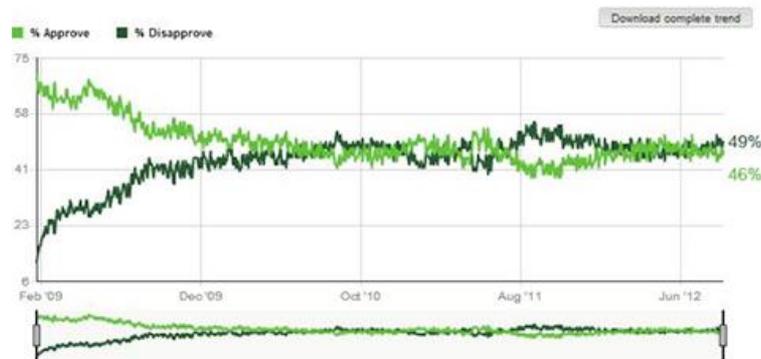


- Allows for complex textual descriptions of how people experience a given issue
- Identifies intangible factors
- Allows us to interpret and better understand a complex reality of a given situation

Criticisms of Quantitative Research

- Lack of detail and ability to follow up make it difficult to interpret data effectively. For example:

Gallup Daily: Obama Job Approval
Each result is based on a three-day rolling average



- Rigid & fixed nature of research design can result in relevant info being missed

Strengths of Quantitative

- Can use statistics to derive important facts from data, including trends
- Descriptive data (statistics) allows the capture of a snapshot of a phenomenon
- Can usually reach a larger sample of the population since methods for data collection are less time intensive (still need to determine statistical significance)

	Quantitative	Qualitative
General Framework	<p>Seek to confirm hypotheses about phenomena</p> <p>Instruments use more rigid style of eliciting and categorizing responses to questions</p> <p>Use highly structured methods such as questionnaires, surveys, and structured observation</p>	<p>Seek to explore phenomena</p> <p>Instruments use more flexible, iterative style of eliciting and categorizing responses to questions</p> <p>Use semi-structured methods such as in-depth interviews, focus groups, and participant observation</p>

	Quantitative	Qualitative
Analytical Objectives	<p>To quantify variation</p> <p>To predict causal relationships</p> <p>To describe characteristics of a population</p>	<p>To describe variation</p> <p>To describe and explain relationships</p> <p>To describe individual experiences</p> <p>To describe group norms</p>
Question Format	Close-ended	Open-ended
Data Format	Numerical (obtained by assigning numerical values to responses)	Textual (obtained from field notes, audio tapes, etc.)

	Quantitative	Qualitative
Flexibility in study design	<p>Study design is stable from beginning to end</p> <p>Participant responses do not influence or determine how and which questions researchers ask next</p> <p>Study design is subject to statistical assumptions and conditions</p>	<p>Some aspects of the study are flexible (the addition, exclusion, or wording of a particular interview question – for example)</p> <p>Participant responses affect how and which questions researchers ask next</p> <p>Study design is iterative, that is, data collection and research questions are adjusted according to what is learned</p>



Data Collection Methods

Observation

Observation

- Any sensory perception not only visual, of external cues which help us understand phenomena
- In geography, this typically means travelling to study area for observing phenomena

Observing inanimate objects

- Estimating building value by observation
 - Size
 - Materials
 - Features
 - Condition
 - What else?





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Observing humans – unobtrusive

- Measuring attributes without any information being directly provided by the subjects
 - An example: bike commuters – you might sit on a corner and count the number of bike commuters on a given morning and take field notes of the general characteristics such as age, gender, type of bicycle, transporting kids or pets, etc.
 - Direct measures behavior rather than relying on self-reporting

Observing humans – participant

- When the researcher interacts with the subjects within their normal social environment
 - ▣ Quasi – socially interacts but remains an outsider
 - ▣ Fully – becomes a functioning member of the group and role as researcher is generally unknown to group
- An attempt to become part of the group or situation to gain a more internal viewpoint
- Gain an understanding by actually experiencing with the group



Observing humans – controlled

- Altering environment in the field or lab to control variables in a complex situation
 - ▣ An example: trying to understand how traffic patterns would shift if changes were made to routes or speed limits, one could close streets and force drivers onto new routes and collect data about behavior



Data Collection Methods

Asking Questions

Asking questions



- Gathering data expressed by people about themselves, their views, or about phenomena

Asking questions – the need

- Data may exist, but
 - ▣ without location data
 - ▣ Too broad a scale or undesirable areal unit
- Data does not already exist

Interview

- Collecting data on in-depth and individual topics like perspectives, experiences, and beliefs through purposeful conversation conducted in a structured format
- A conversation with a purpose to gather information



Types of interviews

- Unstructured
 - ▣ Most closely resembles a normal conversation. Meant to maintain natural communication and conversation may wander even though the interviewer has a set of data goals planned.
- Free stories
 - ▣ Requesting information on a specific topic and allowing the subject to talk in lengths about various aspects of that topic
- Structured
 - ▣ Highly controlled conversation through a set of specific questions or visual aids (maps, pictures, models, etc)

APPENDIX A

FORMAL INTERVIEW QUESTIONNAIRE

ID Number: _____ Date: _____ Location: _____

Sex: M / F Age: _____ Married: Y / N

1. Que ethnicity es? Y su esposo/a?
2. Donde nacio? Y su esposo/a?
3. Tienen hijos? Cuantos y cuantos años tienen?
4. Tienen otra casa? Donde? Cuanto tiempo pasa allá cada año? Porque tienen otra casa, Que haces allá?
5. Hace cuanto tiempo que vives aqui? Donde vivio antes? Por que salio de allí? Por que vino aqui?
6. Tienen solare o lote de agricultura?
Que sembras? Que cultivos y que arboles de fruta?

Survey / Questionnaire

- A set of questions designed to gather information from subjects with a set of choices of responses, either in verbal or written form
 - ▣ Ability to reach a large sample through written questionnaires
 - ▣ Responses are limiting and developing ‘good’ questions can be difficult

APPENDIX H - MARKET BASKET SURVEY INSTRUMENT

FOOD ITEM	Item Weight/ Unit (DESIRED)	Item Weight/ Unit (ACTUAL)	Price (Lowest Cost)
Fruit—fresh			
Apples, any variety (bagged or loose)	Per lb		
Bananas	Per lb		
Grapes (green or red)	Per lb		
Melon (cantaloupe, honeydew, or watermelon)	Per lb		
Oranges, any variety (bagged or loose)	Per lb		
Plantains	Per lb		
Papaya	Per lb		
Guava	Per lb		
Pineapple	each		
Avocados	each		
Cactus Leaves	Per lb		
Cherimoya	Per lb		
Coconut	each		
mangos	each		
<i>Is there a wide variety of other selections in this category?</i>	yes	somewhat	no
<i>Does this store appear to be making an effort to stock and promote locally-produced goods in this category?</i>	yes	somewhat	no
Vegetables—fresh			
Carrots, unpeeled (bagged or loose)	Per lb		
Celery, bunch	Per lb		
Green pepper	Per lb		

Lettuce, leaf (green or red)	Per lb		
Onions, yellow (bagged or loose)	Per lb		
Tomatoes (any variety)	Per lb		
Potatoes, any variety	5-lb bag		
Tomatillos	Per lb		
Jicama	Per lb		
Zucchini	Per lb		
Sweet Potato	Per lb		
Chayote	Per lb		
Corn	Per lb		
Chilles (spicy)	Per lb		
Casava/Yuca	Per lb		
Bok Choy	Per lb		
Chinese Broccoli	Per lb		
Cabbage	Per lb		
Mushrooms, exotic	Per lb		
Bean Sprouts	1-lb bag		
<i>Is there a wide variety of other selections in this category?</i>	yes	somewhat	no
<i>Does this store appear to be making an effort to stock and promote locally-produced goods in this category?</i>	yes	somewhat	no
Fruit, canned			
Oranges, mandarin (juice or light syrup)	15-oz can		
Peaches, any variety (light syrup)	29-oz can		
<i>Is there a wide variety of other selections in this category?</i>	yes	somewhat	no
<i>Does this store appear to be making an effort to stock and promote locally-produced goods in this category?</i>	yes	somewhat	no

Focus Group



- Collecting data on cultural norms of a group and understanding broad overviews of issues found within a cultural group



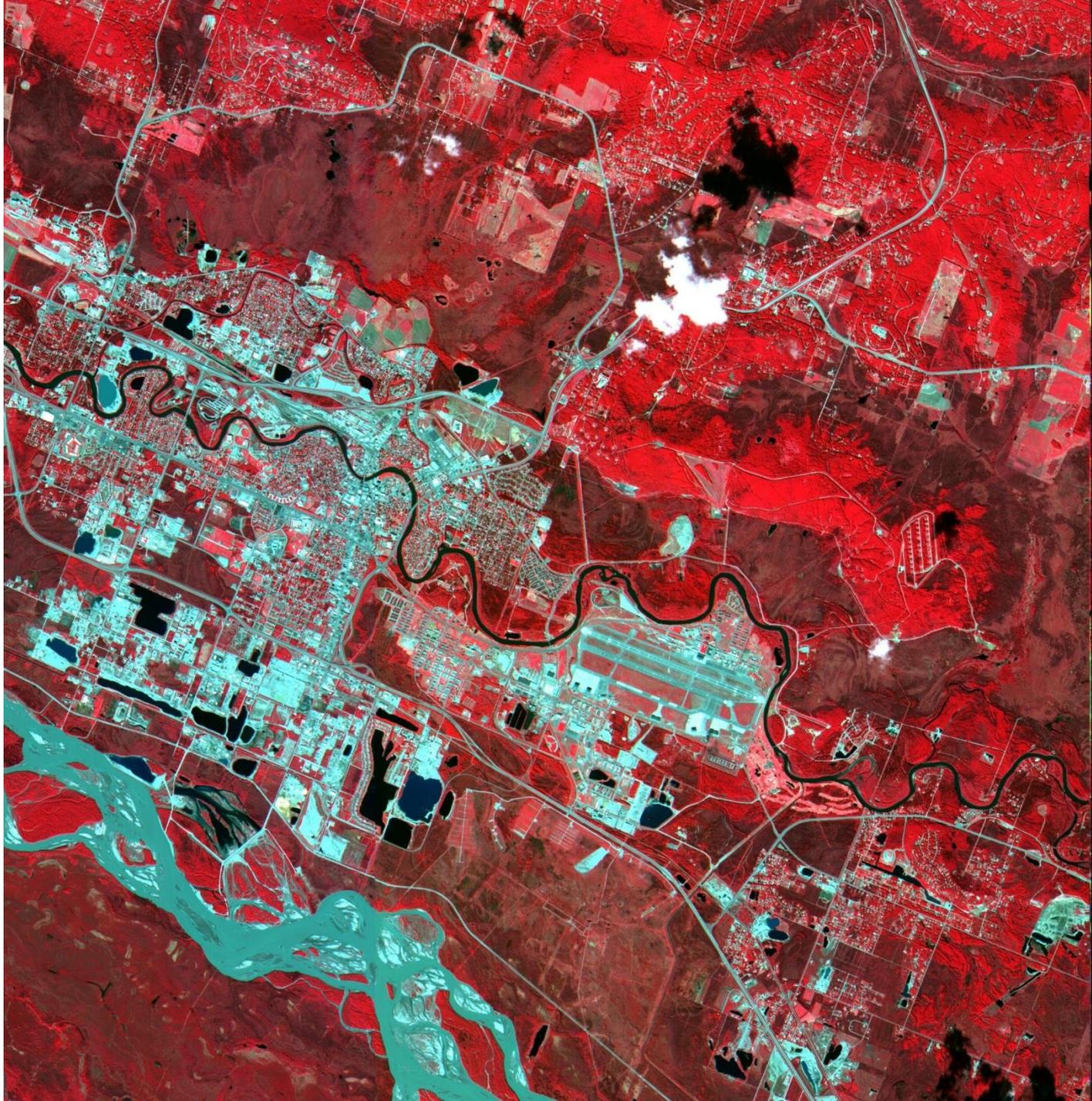
Data Collection Methods

Remotely Sensed Data

Remote Instruments

- Collecting data by remote objects (satellites or planes) that can produce visual images of the earth
- Location information is included and therefore spatial relationships become more apparent
- Ability to 'see' things that are not on the visible electromagnetic spectrum
- Cost effective if research area is large





Ground Truthing

- Establish a method for assessing the accuracy of remotely sensed data by going into the field and measuring the same data



Data Collection Methods

Stored or Existing Data

Stored Data

- Data that was collected in the past by a variety of sources and can be used for the purposes of your own research
 - ▣ Can new data be extracted from old maps, photographs, or written materials?
 - ▣ Can stored data be used as historical context to research how a phenomena has changed over time?

Background Research



- Stored data can be used to get an understanding of the previous work that has been done in a given geographic area or on a specific topic

Sources of Stored Data

- Census
- Historical Societies
- Published journals / articles
- Newspapers
- Organizations (i.e. Metro or Oregon Fish & Wildlife)



Recording Field Data

Recording Data

- Recording data in the field to communicate a series of information at a point in time to be interpreted later

Recording data



Data sheets. enter data into a pre-determined survey/form based on observations in the field

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Recording data

Field notes/sketches. this includes observations not recorded on a data sheet; sketches, weather, date, questions, hypotheses, and any other information that may be relevant to research question and/or fieldwork

MY ENTIRE FOCUS WAS ON THE WHITE AT THE TRAILING EDGE OF THE WING AT THE TIME OF BEST VIEW. DID NOT SEE ANY EGO. DO NOT HAVE A FIRM IMPRESSION OF BILL SHAPE OR ITS COVER.

BLACK AREAS ARE
JET BLACK



WHITE IS
DAZZLING BROWN
WHITE IN THE
SHADOW

TIM GALLAGHER

A

Against a brilliant black - black of upper body & leading edge of wing and most primaries. It was captivated by the amount of white on the wings as its Brilliance set against such



a brilliant black. Because my eyes were drawn to the contrast of black & white I have no recollection of head or tail feathers.

B



- plants & organisms taking over modern objects

Towards Rational Design

3 phases of modern design
1. Early 20th century "isms"
- Suprematism, futurism, constructivism, de stijl
- fused the notion that avant-garde was synonymous w/ formal innovation.

Constructivist belief in universal language of form
Tendent class & social differences

Abstracted logos of 60s and 70s - bridged cultural divide of transitional corporatism

2. End war focus on design's meaning making potential (symbolic value) semantics - injects content into form

3. There were begun in mid-1960s - explores design's effects on users, pragmatic restraints, rhetorical impact, ability to facilitate social interaction - tightly linked to digital technologies

1. Form - 1980s desktop publishing expanded the role of designer as "author" & "publisher"

2. Content - Social logic holds sway in rational design eclipses cultural and symbolic logic of content based design and the aesthetic & formal logic of modernism's initial phase.

3. Context - Rational design is obsessed w/ processes and systems to quantify design - does not follow linear, cybernetic logic of yesterday.

- Adobe Garamond for final layout.

FIELD NOTES

48 Page Memo Book
Graph Paper / Durable Materials

Kriag House?
Feature 18/19

3.6m/2.4m x 5.5m x 0.9m deep
- main room (probably original F19)

3.6m x 3.2m/2.10m x 0.9m deep
- larger side room w/ door to access entry transition to main room
- probably original F18

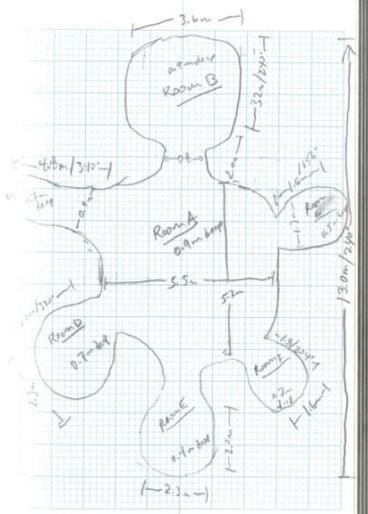
4.8m/3.90m x 0.9m x 0.7m deep
- possible entrance

3.2m/3.20m x 2.3m x 0.7m deep

2.0m/2.40m x 2.3m x 0.4m deep

F 1.8m/2.04m x 1.6m x 0.7m deep
fairly distinct p.f. on up slope side

S 1.6m/1.58m x 1.3m x 0.5m deep
fairly indistinct p.f. on up slope side



Recording Data

Maps. Field maps are created by documenting what is observed in the field. It can be sketched or information can be recorded on top of a base map. It is an efficient way to record facts about locations using symbols.

Recording Data

Photographs/Videos. This includes any photos or videos taken to document observations in the field

