Collecting and Reporting Valid Labor Market Survey (LMSs) Information

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Objectives

- Define labor market survey (LMS) and labor market research (LMR) within labor market search (LMSea)
- Identify the 12 steps of LMS
- Generate appropriate sampling within LMS methodology using available resources

LMS Case Law in Washington

Year	Case
1992	**ITT Raynoir, Inc. v. Dalman** No. 14262-7-II Court of Appeals of Washington, Division Two
2001	**Chunyk & Conley Co. v. Rivera** No. 26411-1-II Court of Appeals of Washington, Division Two
2013	**Erb, Sr. v. Department of Labor and Industries** No. 30796-4-III Court of Appeals of Washington, Division Three
2014	**Ward v. Colvin/Social Security Administration** Case No. 13-cv-05356 BHS United States District Court, WD Washington, Tacoma
2015	**Searles v. Colvin/Social Security Administration** Case No. 2:15-cv-0617 JRC United States District Court, WD Washington, Tacoma

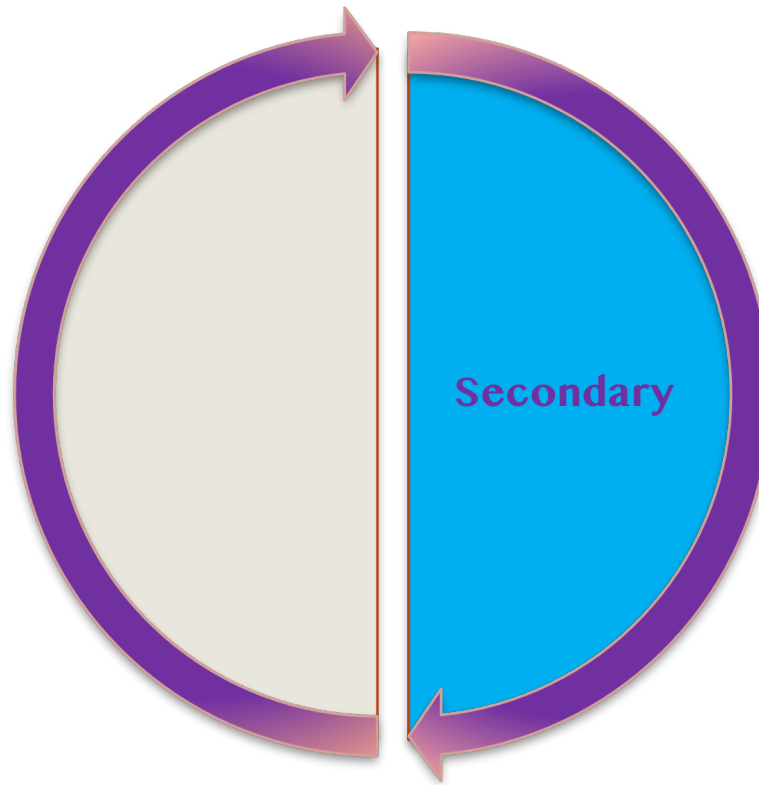# Two domains of evidence SOURCES

(Barros-Bailey)
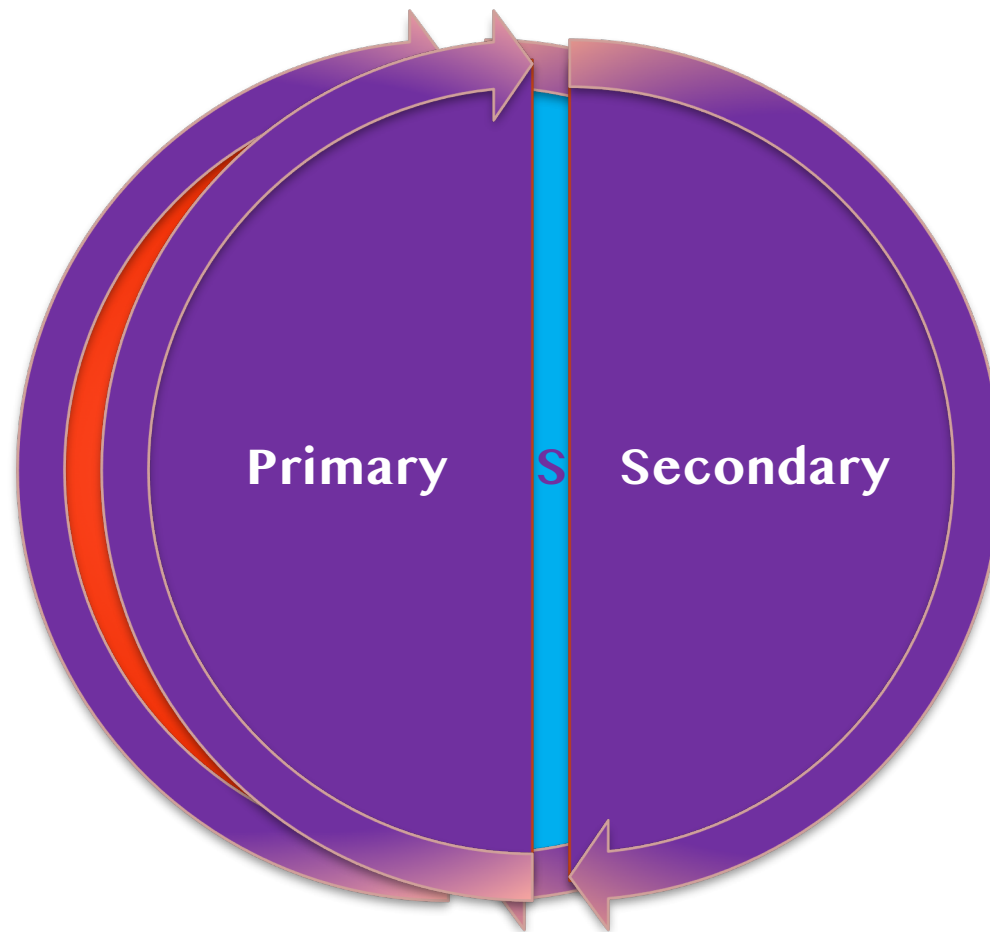
Q: What _is_ primary data?

Primary
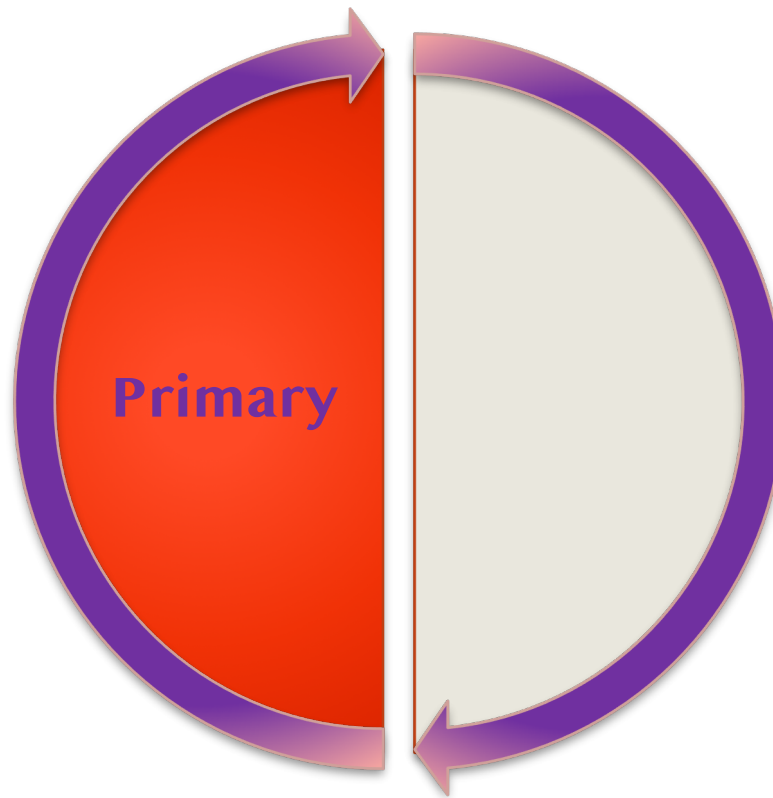
A: The data _you_ collect.

Q: What *is* secondary data?

A: The data *others* collect.

Six sources of all case **evidence**

(Yin, 2012, 2014, 2018)
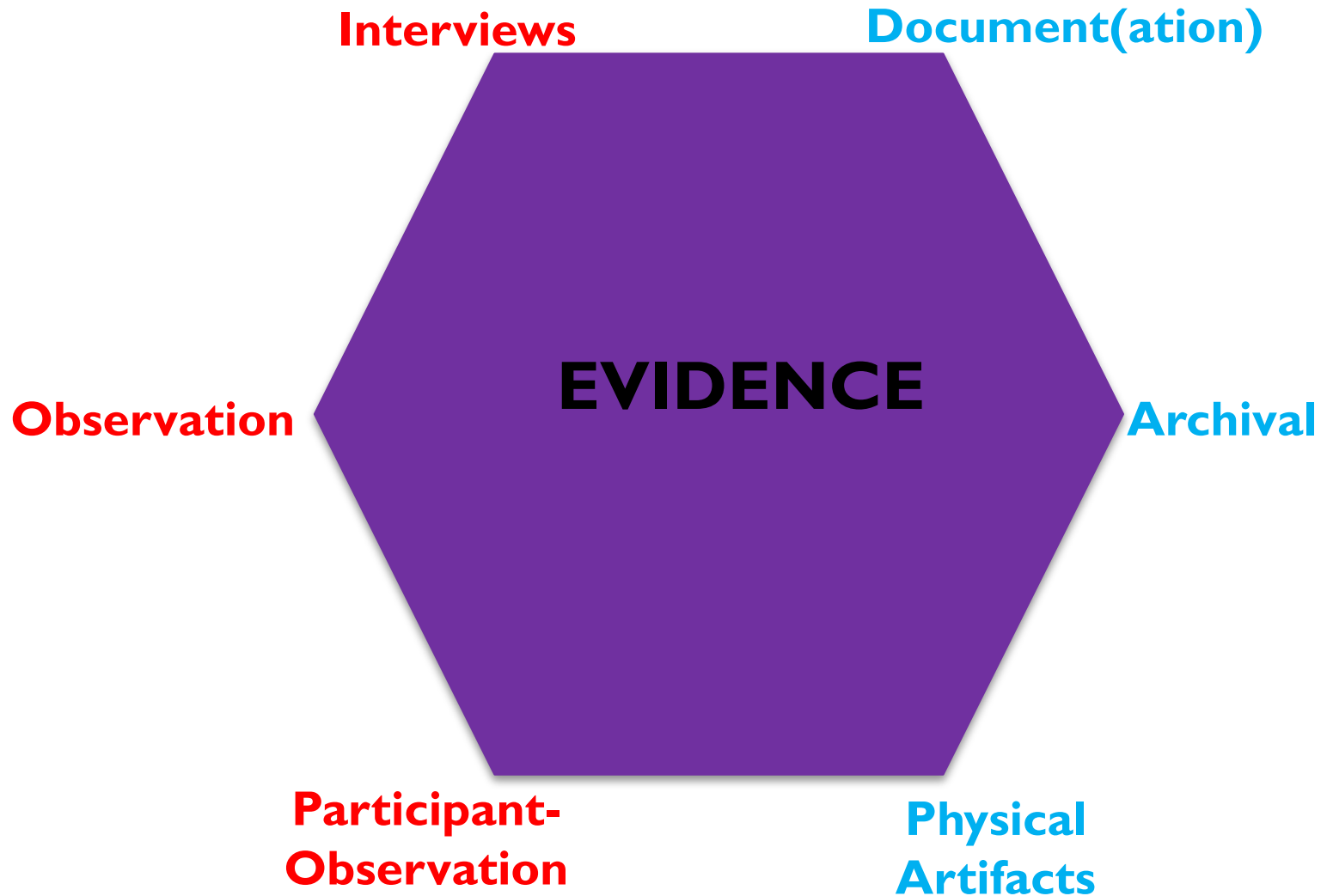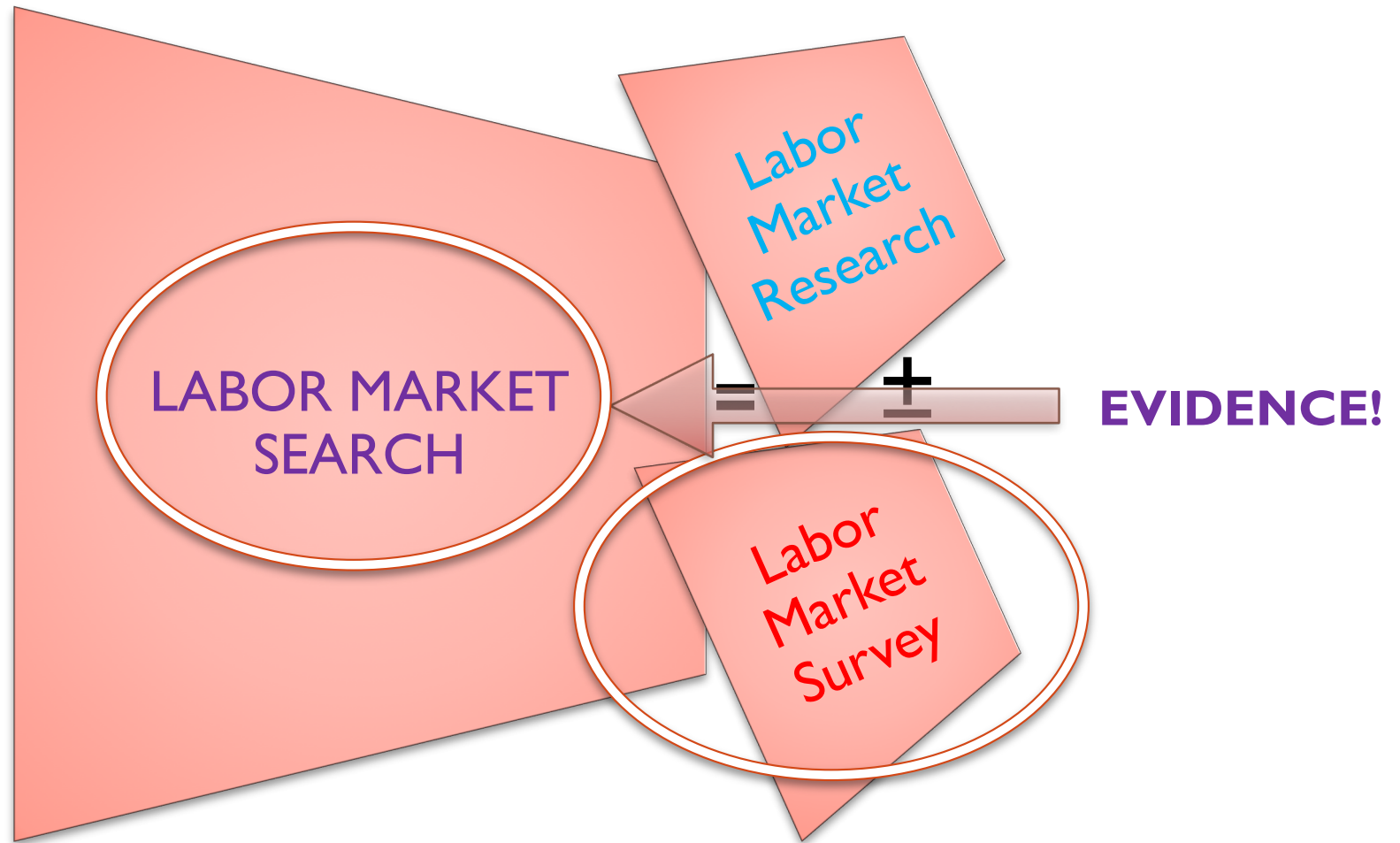
Interviews

Document(ation)

Observation

EVIDENCE

Archival

Participant-Observation

Physical Artifacts

Labor **M**arket **S**earch v. Survey

LABOR MARKET SEARCH

Labor Market Research

Labor Market Survey

= +

EVIDENCE!

Neulicht, A., Gann, C., Berg, J. F., & Taylor, R. H. (2007). Labor market search: Utilization of labor market research and employer sampling by vocational experts. *The Rehabilitation Professional, 15*(4), 29-44.

The Conceptual Model for Labor Market Information

- *Conceptual Framework*: **Labor Market Search** (LMSea)
  - *Secondary Data*: Labor Market Research (LMR)
  - *Primary Data*: Labor Market *Survey* (LMS)

$$LMSea = LMR \ (secondary) \pm LMS \ (primary)$$

Labor **M**arket **S**earch v. Survey

LABOR MARKET SEARCH
(**EVIDENCE**)

Labor Market Research (**Secondary**)

= ±

Labor Market Survey (**Primary**)

Neulicht, A., Gann, C., Berg, J. F., & Taylor, R. H. (2007). Labor market search: Utilization of labor market research and employer sampling by vocational experts. *The Rehabilitation Professional, 15*(4), 29-44.

Q&A

Q: What *is* a labor market survey?

Q&A

A: "… (LMS) is a method of information gathering about particular jobs that are specific to a geographical area for an individual being served."

International Encyclopedia of Rehabilitation

Gloria K. Lee, Ph.D., CRC, Associate Professor

Department of Counseling, School & Educational Psychology, University at Buffalo

Found at: http://cirrie.buffalo.edu/encyclopedia/en/article/128/#s8

Why survey methods?

"Surveys are information-collection methods … A survey can be a self-administered questionnaire that someone fills out alone or with assistance, or a survey can be an interview in person or on the telephone."

(p. 1, Fink, 2009)

COLLECT DATA TO:

1) DRAW CONCLUSION(S)
and

2) MAKE DECISION(S)

Q&A

Q: *Does size matter*?

Q&A

A: **Not necessarily!**

"The quality of a survey is best judged not by its size, scope, or prominence, but by how much attention is given to [preventing, measuring, and] dealing with the many important problems that can arise."

--*"What is a Survey?", American Statistical Association, 1996*

as cited at: http://www.aapor.org/Best_Practices/2845.htm

But, perhaps: Beware of Antitrust

"In August 1996, the US Department of Justice … and the Federal Trade Commission … jointly published 'Statements of Antitrust Enforcement Policy in Health Care.' In these guidelines, it is suggested that salary surveys that meet certain criteria will, under most circumstances, be safe from government antitrust prosecution." (Davis, 2003, p. 2)

More Antitrust

"While this report focuses on salary surveys, the same principles and perspectives apply to the exchange of information in any human resource function, whether salaries (and all forms of compensation and rewards), benefits, policies[,] or practices."
(Davis, 2003, p. 7)

Statements of Antitrust Criteria

- Information provide by survey participants is based on data more than three months old.

- There are at least five providers reporting data upon which each disseminated statistic is based.

- No individual provider's data represents more than 25 percent on a weighted basis of that statistic.

<div align="right">(Davis, 2003, p. 20)</div>

Clearing up confusion

- Sampling occurs in all sorts (and almost all) research, whether quantitative (numeric), qualitative (non-numeric, themes), or both (mixed numeric/non-numeric data)

Confusion: Content Analysis Example

- **Content Analysis**:
  - *Purpose*: The general work activity requirements of indeed.com cashier positions within five miles of Fife over the last three months
  - *Sampling Frame*: List of 831 position announcements
  - *Sampling Strategy*: Text sample/census of archived secondary data
  (probabilistic, non-probabilistic, mixed/multi-phasic)

Confusion: Survey Research Example

- **Survey Research**:
  - *Purpose*: Determine the average number of hours worked by VRCs in Washington State performing L&I work
  - *Sampling Frame*: List of 222 VRCs in the state
  - *Sampling Strategy*: Following same steps as content analysis, except to prepare for primary data collections (probabilistic, non-probabilistic, mixed/multi-phasic)

Clearing up confusion

- Employer sampling *is* a step in *survey research*, <u>not</u> a method separate and apart from it.

Confusion in the profession ...

- The sampling plan (census or sample) is part of doing a labor market survey (step 4), ___not___ something separate and apart from it.

Clearing up confusion

- **Survey research** in the **mode** we use, **surveys** is the **method**, and **employers** is the **unit** of analysis (the ones we call)

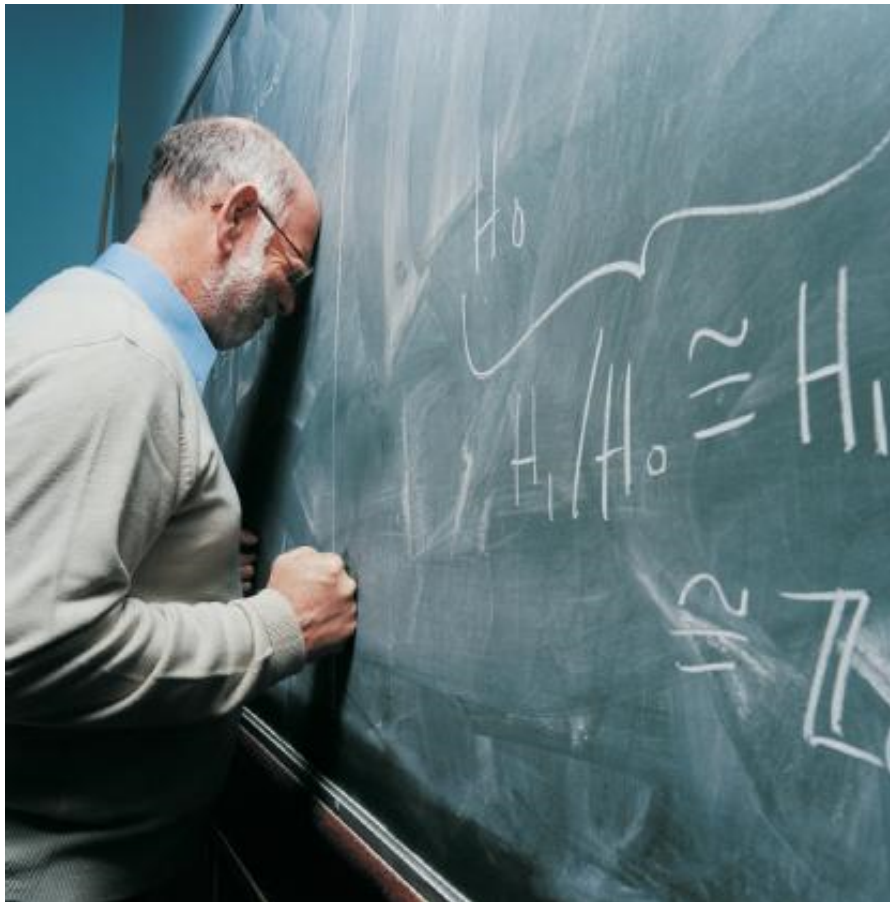# Example

Q: "***How*** did you arrive at these wages for electricians?"

A: "I did research [*mode*] to perform a labor market survey [*method*] of electricians in the Seattle-Tacoma-Bellevue, WA Metropolitan Statistical Area [*unit*]."

Summing up the *REVIEW* …

Barros-Bailey (2011) LMS 12 Steps Adapted From

Best practices: How to produce a quality survey. (2011). Deerfield, IL: American Association of Public Opinion Research.

Fink, A. (2009). *How to conduct surveys: A step-by-step guide* (4th ed.). Thousand Oaks, CA: SAGE Publications.

Fowler, F. J. (2009). *Survey research methods* (4th ed.). Thousand Oaks, CA: SAGE Publications.

12 steps (5 phases) of Surveys

- ***Phase 1: Survey Design***
- ***Phase 2: Data Collection***
- ***Phase 3: Data Analysis and Summary***
- ***Phase 4: Reporting the Survey Results***
- ***Phase 5: Data Integration***

12 steps (5 phases) of Surveys

- ***Phase 1: Survey Design***
  - Step 1: Identifying research questions(s)
  - Step 2: Developing survey questions (items)
  - Step 3: Training the interviewer(s)
  - Step 4: Selecting the population: The sampling frame

12 steps (5 phases) of Surveys

- ***Phase 1: Survey Design***
  - ◦ Step 5: Taking a census v. sample
  - ◦ Step 6: Deciding on probablistic v. nonprobablistic sampling
  - ◦ Step 7: Constructing and testing the instrument

12 steps (5 phases) of Surveys

- ***Phase 2: Data Collection***
  - Step 8: Collecting and preparing the data

- ***Phase 3: Data Analysis and Summary***
  - Step 9: Analyzing qualitative and quantitative data
  - Step 10: Summarizing the data

12 steps (5 phases) of Surveys

- ***Phase 4: Reporting the Survey Results***
  - Step 11: Reporting the data
- ***Phase 5: Data Integration***
  - Step 12: Integrating the survey's data with other data and research in the case

12

Steps Ahead

Phase I:
Survey Design

Step 1

Purpose? The Research Question(s)

- **This step drives everything else**

- Questions to consider:
  - *What do I want to know as a result of this survey?*
  - *To whom is this information going to apply?*

Sample LMS Research Questions

1. **Trucker Drivers**: "What is the labor market for truck drivers in the Seattle-Tacoma-Bellevue, Washington Metro Area?"

2. **GIS**: "What are the entry level wages and placement opportunities for geographical information system technicians in Boston?"

3. **Cashiers**: "In the 83714 zip code, what are the employment opportunities for grocery store cashiers? What are their starting wages?"

Step 2

Open-ended v. Close-ended

- **Q**: How many questions should my survey have?

- **A**: As **_brief_** as you can make it to answer what you need to know.

Survey Questions = "Items"

Survey Questionnaire = "Instrument"

STEP 2: Survey Questions

- Short
- Standard grammar and syntax
- Avoid jargon
- Check for hidden biases
- Caution with personal questions

 : Survey Questions

- Multiple questions (e.g., "Does the work activity require lifting and sitting?")

- Poor wording (e.g., "Do you hire Spanish speakers?") (HINT: Try to keep the questions about the DEMANDS OF WORK, not the ABILITIES OF THE PERSON)

p. 89-95, Fowler

: Survey Questions: Easy

- "Do you hire for x?"
- "Have you hired for GIS technicians in the last six months?"
- "Do you anticipate hiring for grocery store cashiers in the next six months?"
- "When you hire, what top three qualifications do you seek for an entry-level/experienced truck driver position?"

Threats to Response Validity

- Don't understand the question
- Don't have the knowledge to answer the question
- Social desirability of the question

p. 105-109, Fowler

Step 3

Step 5 Interviewers & Interviews

Interviewers are the key to valid and standard telephone surveys. Standardization from call to call is the key to reliability.

"… attitude toward the survey will influence the results. If the interviewer does not expect much and sends this message, the response rate will probably suffer." p. 40, Fink

Step 4

Step 4: Selecting the Population: The Sampling Frame

"The sampling frame is a technical term for the list of all employers or individuals that have a chance to be contacted given the identified target population."

Teaching LMS (Barros-Bailey, 2012a)

Step 2: Selecting the Population

1. Who are you going to call?
2. Why are these the best sources to call?
3. Where are they located?
4. How are you going to find them?

Step 5

Step : *Census* v. Sample

"When the entire population is surveyed, it is called a **census**." p. 332, *How to Design and Evaluate Research in Education*

"In the decennial **census**, statistics are produced about a population by asking people questions. No sampling, though, is involved; data are suppose to be collected about every person in the population." p. 1, Fowler

Step : Census v. *Sample*

A *sample* is a subset of the population

"… to *sample* [is] to select a small subset of a population representative of the whole population." p. 4, Fowler

Step 6

Step 6: Definition of Terms

Sampling Frame =
All those who have a chance to be called ...
your list!

Step 6: Definition of Terms

Random Sampling

"Probability(stic) Sampling"

Nonrandom

"Convenience/availability Sampling"

Step 6: Random Sampling *Tools*

SkillTRAN

Step 7

Step 7: Constructing and Testing the Instrument

- Constructing
  - Background
  - Survey Questions (Items)
  - Comments

Step 7: Constructing and Testing the Instrument

- Testing
  - Review by other trained professionals
  - Refining the questionnaire
  - Testing the questionnaire (called piloting)

Phase II:
Data Collection

Step 8

Step 3: Data Collection & Preparation

- Looking at the data
- Some people don't respond to all the questions: Missing data

Step 9

Step 9: *Qualitative* & *Quantitative* Data Analysis

- *Qualitative*: Narrative answers – summarizing the data by themes

Step 9: *Qualitative* & *Quantitative* Data Analysis

- *Quantitative (numerical)*
  - Descriptive statistics - Let's try it!!!

    XUXU Free Online Descriptive Statistics Calculator

    Grocery Store Cashier Wages (n=10)

    $18.50, $19, $18, $17.25, $17.50, $20, $18, $17.50, $17.25, $19

Phase III: Data Analysis and Summary

Step 10

Step 10: Summarizing the Data

Narrative
Tables
Graphs
Charts

Phase IV: Reporting the Survey Results

Step 11

Step 11: Reporting Ethics, ...

"Surveyors must be concerned with protecting respondents' privacy and assuring confidentiality of responses." p. 35, Fink

The Ethics of it All

- *Title 45 Code of Federal Regulations Part 46 Subpart A:*
  - *Research*: a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.
  - *Human subjects*: a living individual about whom an investigation.

Phase V:
Data Integration

Labor **M**arket **S**earch v. **S**urvey

LABOR MARKET SEARCH
(**EVIDENCE**)

=

±

Labor Market Research (**Secondary**)

Labor Market Survey (**Primary**)

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SkillTRAN

Interests

GOE · RIASEC

Training

Schools · RAPIDS · CIP · Career Pathways · Career Clusters

Transferable Skills Analysis (TSA)

Worker Characteristics · WORK · MPSMS · OGA · DPT · **DOT** n=12,761 · Industry Designation

Military MOC

O*NET n=974

SOC

Industry

Real Job Openings · Employers · SIC · NAICS

LMI:
Wages
Employment Numbers
Outlook

OOH · Census · Employment Projections · County Business Patterns · OES

Inter-Relationships among Occupational, Training, Interest, Industry, and Labor Market Resources

Relevant Data Sources

Occupation

- **DOT**
- **O*NET**
- OOH [National Only]
- Occupational Requirements Survey (ORS)

- Career Guide to Industry - CGI
- Current Population Survey (Census **CPS**)
- **OES** - Occupational Employment Survey
- National Compensation Survey
- Long Term Employment Projections
- State Labor Market Information Depts.

Employment/Industry

- JOLTS
- QCEW (ES-202) Quarterly Census of Employment & Wages
- Current Employment Statistics – CES (National)
- County Business Patterns *US-State-MSA-County-ZIP*
- [Input/Output Matrix] *by DOL Economists*
- Business Listings
- Professional Associations
- Business Assn/Journals
- Manufacturer Guides

Decennial **Census** (2000, 2010)

- Population count of all U.S. Citizens

- Captures wide range of demographics, including occupation

- Two⁺ year reporting delay

- Self-reported information

Current Population Survey - CPS

- Conducted by Bureau of the Census

- Gender; Full-Time; Part-Time; Self-Employed workers

- 60,000 contacts/month among pool of 210,000 households

- Gathered monthly; aggregated and reported annually in January for the prior year

Current Population Survey - CPS

- Published data vs. "unpublished" - Table A26

- Occupation, industry, unemployed reason, hours

- Survey of Households [not employers]

- National Data only – Captures gender data www.bls.gov/cps

OES – Occupational Employment Survey

- 840 SOC (= 841 OES) occupations (F-T & P-T) [820 civilian]

- Responses by 1.2 million non-farm employers

- Does not include self-employed or agricultural industry

- National, State, Metropolitan & Non-Metro (Rural) Regions

- Minimum reporting is 50 in an area (if not all at one firm)

OES – Occupational Employment Survey

- Data collected during a 3-year survey cycle of 450 industries

- Reported using a rolling average of employment & wage ranges

- >70% response rate required for publication

- Released once per year in Spring

www.bls.gov/oes

Industry Classifications

NAICS 2007/2012

11 – Agriculture
21 – Mining, Quarrying, Oil-Gas Extraction
22 – Utilities
23 – Construction
31-33 – Manufacturing
42 – Wholesale Trade
44-45 – Retail Trade
48-49 – Transportation / Warehousing
51 – Information
52 – Finance / Insurance
53 – Real Estate / Rental / Leasing
54 – Professional / Scientific / Technical
55 – Management of Companies
56 – Administrative / Support / Waste Mgmt.
61 – Educational Services
62 – Health Care and Social Assistance
71 – Arts, Entertainment, Recreation
72 – Accommodation / Food Services
81 – Other Services
92 – Public Administration
[Fed/State/Local Govt.]

SIC - 1987

0x – Agriculture
10-14 – Mining
15-17 – Construction
2x-3x – Manufacturing
4x – Transportation, Utilities
50-51 – Wholesale
52-59 – Retail
6x – Finance, Insurance, Real Estate
7x-8x – Services
9x - Public Administration [Govt.]

www.bls.gov/bls/naics.htm

CBP – County Business Patterns

- Data reported by ALL employers on tax returns

- <u>Series that compiles all annual data (therefore a **census** of the universe)</u>

- Includes employment numbers of all full-time and part-time workers in an industry, and payroll size

- National, State, Metropolitan, County, ZIP Code by NAICS

CBP – County Business Patterns

- All tax reporting entities of all sizes (number of employees)

- Data collected annually across many NAICS industries

- Does NOT collect data at the occupational level

- Released annually in Spring – usually 2 year delay

https://www.census.gov/programs-surveys/cbp.html

CES – Current Employment Statistics

- Nonfarm Employment, Hours, Earnings
- National, State, MSA numbers
- Monthly survey of 147,000 businesses drawn from 634,00 worksites
- Current = 1-2 months ago!

CES – Current Employment Statistics

- Historical employment numbers by economic supersector and by NAICS (Some data goes back to 1939! Most is 1990 →)

- Some NAICS are combined with others (usually when NAICS employment < 30,000)

https://www.bls.gov/ces/

OES – Long Term Employment Projections

- Updated every two years

- Shows projections for occupations by industry

- Uses OES Survey data plus Current Employment Statistics (CES) and the CPS

- Cites 300⁺ NAICS industries for 700⁺ OES groups

OES – Long Term Employment Projections

- Data suppressed if < 50 workers in an industry

- 10 year projection model uses labor force, aggregate economy, final demand (GDP), industry output, employment by industry, and employment by occupation

www.bls.gov/emp/home.htm

Input-Output Matrix

- Built using OES, CPS, and CES data
- Constructed for long-term occ. projections
- Covers 300⁺ NAICS industries and 700+ occupations
- Considers: Labor Force, aggregate economy, final demand (GDP), industry output, employment by industry, employment by occupation

www.bls.gov/emp/empind3.htm

Industry/Occupation Matrix

OCCUPATIONS

INDUSTRIES

	Occ1	Occ2	Occ3	Occ4	Occ5	Occ6	Occ7	Occ8	Occ9	Occ10	...	OccN
NAICS1	x	x		x			x		x	x		x
NAICS2		x		x		x				x		
NAICS3		x							x			
NAICS4	x			x	x			x				
NAICS5			x		x							x
NAICS6			x					x				x
NAICS7				x								
NAICS8					x				x			
NAICS9		x						x				
NAICS10					x							
...												x
NAICS N		x		x				x				x

Industry/Occupation Matrix

OCCUPATIONS

	Occ1	Occ2	Occ3	Occ4	Occ5	Occ6	Occ7	Occ8	Occ9	Occ10	...	OccN
NAICS1	x	x		x			x		x	x		x
NAICS2		x		x		x				x		
NAICS3		x							x			
NAICS4	x			x	x			x				
NAICS5			x		x							x
NAICS6			x					x				x
NAICS7				x								
NAICS8					x				x			
NAICS9		x						x				
NAICS10				x								
...												x
NAICS N		x		x				x				x

INDUSTRIES

Data Sources:	SOC Occs. (n=820 civilian)	DOT Occs. (n=12,761 occs.)
OES - NAICS (n=450)	X	182
OES Projections (n=300)	X	
All NAICS (n=1,065)		SkillTRAN

Industry Analyzer – *NEW!!!*

- A faster/simple user interface to: NAICS, County Business Patterns, Historical Employment (CES)
- See/Sort/Compare by: US/State/MSA/County/Zip, Employment, Establishments, National / State Workforce Distribution by Employee Size Range, Staffing Pattern by OES x DOT, Sample Size Calculator for true survey development
- Integrated to Job Browser *Pro*
- Integrated to Transferable Skills Service

https://online.skilltran.com/cbp

State Labor Market Information Sources

- Should be available on web for most states

- Check here for your state: www.bls.gov/bls/ofolist.htm

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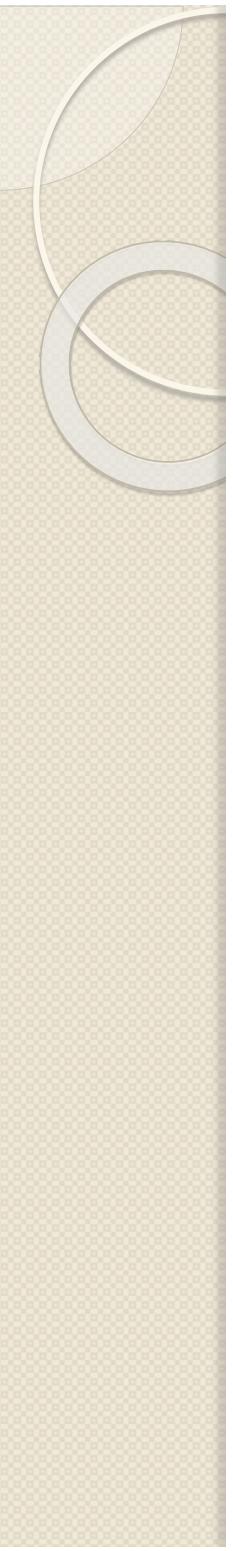
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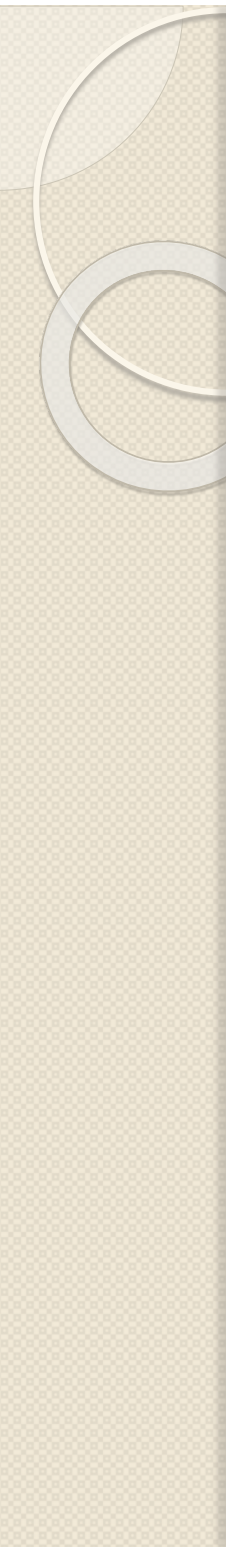
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