

Expanding Record-Keeping Study Methodology to Assess Structure and Availability of Data in Business Records

Melissa A. Cidade

Diane K. Willimack

Kristin Stettler

Demetria V. Hanna

Sixth International Conference on Establishment Surveys (ICES VI)
Thursday, June 17, 2021

Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.

The U.S. Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied. (Approval

ID: CBDRB-FY21-ESMD001-016)

Shape
your future
START HERE >

United States[®]
Census
2020

In-Scope Economic Surveys

Manufacturing

- Annual Survey of Manufactures (ASM)
- Manufacturers' Unfilled Orders Survey (M3UFO)
- Management and Organizational Practices Survey (MOPS)

Trade

- Annual Retail Trade Survey (ARTS)
- Annual Wholesale Trade Survey (AWTS)

Services

- Service Annual Survey (SAS)

Multisector

- Annual Capital Expenditures Survey (ACES)
- Information and Communication Technology Survey (ICTS)

Demographic

- Annual Survey of Entrepreneurs (ASE)
- Survey of Business Owners (SBO)

Business Register (Sampling Frame)

- Business and Professional Classification Survey (SQ-CLASS)
- Company Organizational Survey (COS)

Research Questions:

- 1. Definitions: how do businesses define themselves relative to the Census Bureau definitions?**
- 2. Accessibility: how accessible are key data points at varying business units?**
- 3. Burden: how resource intensive is gathering data at these varying business units?**

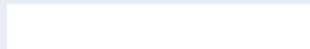
In-Scope Businesses and Respondents

Eligibility Criteria:

- **Sampled in at least two in-scope surveys**
- **In at least two industrial sectors**
- **More than one establishment**

	Phase 1	Phase 2
<i>Number of Industries*</i>		
Three or fewer	16	25
Four or more	5	5
<i>Number of establishments*</i>		
30 or fewer	9	19
31 or more	12	11
<i>*Numbers may not sum to total interviews because of missing data.</i>		

Phase 1 Interviewing



Phase 1: The Chart of Accounts

CHART OF ACCOUNTS As of 12/31/20XX					
ASSETS			EXPENSES		
100	Checking - Operating Account		500	Gross Payroll	
101	Checkinf - Other		501	Rent	
102	Retainer Checking Account		502	Interest	
103	Trust Checking Account		505	Taxes - FICA Expense	
105	Reserve Account		506	Taxes - DC DOES	
115	Petty Cash		507	Taxes - FUTA Unemployment	
116	Postage		508	Taxes - DC Personal Property	
122	Assets		509	Taxes - DC Professional	
130	Cost Advanced		510	Taxes - Other	
			515	Repairs	
	TOTAL ASSETS		516	Employee Benefits	
			517	Employee ABRA	
LIABILITIES			518	Office Move	
200	Accounts Payable		519	Professional Services	
202	Retainers on Deposits: Contra - a/c		520	Library & Subscriptions	
203	Trust A/C		521	Equipment Rental	
220	US & FICA Taxes Withheld		525	Telephone Expense	
221	MD/DC Taxes Withheld		526	Supplies	
			527	CLE	
			528	Food	
			530	Entertainment	
INCOME			531	Xerox	
301	Fees		532	Dues	
305	Interest Income		533	Marketing	
306	Dividend Income		534	Parking Expense	
310	Other Income		535	Liability & Cas. Insurance	
			536	Travel	
	TOTAL INCOME		537	Postage Expense	
			538	LEXIS Expense	
EQUITY			540	Miscellaneous	
	Partners Equity		541	Costs Advanced - Uncollectible	
			542	Depreciation Expense	
420	Capital		549	Charitable Contributions	
			550	Other Non-Deductible Expenses	
				TOTAL EXPENSES:	
				TOTAL LIABILITIES & STOCKHOLDERS EQUITY	

Phase 1 Findings



Census
at
Company

- Application
NAICS

Unit
Terminology

- Many different
business units

Response
Process

- Dispersed
internal
process
- Decisions on
data
manipulation

Phase 2 Interviewing

Definitions and Equivalencies

Company

- Highest level
- Easily understood

Establishment

- Location
- Region
- Not applicable

Line of Business

- Revenue stream
- Kind of Activity
- Not applicable

General and Specific Industry

NAICS works well....

“These [NAICS codes] are a good fit. Most of what we do would fall under the first one.”

“[I] agree with the [given] NAICS.”

“Specific industry: that's a perfect fit.
General industry: that works as well, too.”

...until it doesn't.

“Yes, I am familiar, but I hate them. They have me in warehousing, and say ‘You operate the warehouse’ but we do not. Not what we do.”

“Somewhat familiar with. Do both at many locations. So one NAICS wouldn't apply to one location. We did not have specific NAICS looked up in advance. Mix within locations.”

“All other codes are coming from a long time ago, when was non-profit. All other entities dissolved. Focused entirely on [one industry] now. Dissolved these businesses

Card Sort



Sort into the four categories below how accessible or inaccessible the answer to this question is at each of these business units for your business. You will drag each of the six business units into one of the four categories.

- **GREEN:** Easily accessible
- **YELLOW:** Accessible with minor effort
- **ORANGE:** Accessible with major effort
- **RED:** Inaccessible

Question: What were the TOTAL sales, revenue, and other operating receipts for this [business unit] in 2019?

Business Unit	Green - Easily Accessible
Your company	
Establishment	
Line of business	
Specific industry	
General industry	
State	
	Yellow - Accessible with minor effort
	Orange - Accessible with major effort
	Red: Inaccessible

Defining Accessibility

Green:

“Green means go. Green means info is available.”

“Can run a report and get information.”

“Green is anything I pull directly off of a financial statement that I'm already producing.”

Yellow:

“I'd probably have to reach out for help.”

“I would run a new report for, but not have to do a lot of analysis and digging to find [the data], or I can modify an existing report.”

Orange:

“No one has any idea what we are looking for so they need to dig. If we don't know who to ask for it or know where to get it, but are pretty sure the data exist.”

“Orange would take more effort - involving other people or creating additional reporting that we don't normally run.”

Red:

“Red is inaccessible; there's no way for me to get that information, and it not tracked or maintained.”

“Red is we just can't pull it.”

	REVENUE						CAPITAL ASSETS						INVENTORIES						OPERATING EXPENSES						PAYROLL					
	Comp	Estab	LOB	State	Sp. Ind.	Gen. Ind.	Comp	Estab	LOB	State	Sp. Ind.	Gen. Ind.	Comp	Estab	LOB	State	Sp. Ind.	Gen. Ind.	Comp	Estab	LOB	State	Sp. Ind.	Gen. Ind.	Comp	Estab	LOB	State	Sp. Ind.	Gen. Ind.
1	Green	Red	Yellow	Yellow			Green	Orange	Red	Green	Red							Green	Red	Green	Red	Green		Green	Orange	Red	Yellow	Red		
2							Green	Orange	Red	Green	Red							Green	Red	Green	Red	Green		Green	Orange	Red	Yellow	Red		
3							Green	Orange	Red	Green	Red							Green	Red	Green	Red	Green		Green	Orange	Red	Yellow	Red		
4		Orange		Orange	Red		Green	Orange	Yellow	Green	Red		Green	Yellow		Yellow	Red	Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
5	Green						Green	Orange	Yellow	Green	Red		Green					Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
6							Green	Orange	Yellow	Green	Red		Green					Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
7							Green	Orange	Yellow	Green	Red		Green					Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
8		Yellow	Yellow	Yellow			Green	Orange	Yellow	Green	Red		Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
9							Green	Orange	Yellow	Green	Red		Green					Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
10			Orange				Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
11			Yellow	Yellow	Orange		Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
12		Yellow		Yellow	Orange		Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
13							Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
14							Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
15							Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
16							Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
17			Yellow	Yellow	Orange		Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
18							Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
19							Green	Orange	Yellow	Green	Red		Green	Orange	Orange	Orange		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
20		Yellow	Orange	Green	Orange		Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
21		Yellow		Orange	Orange		Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
22							Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
23							Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
24		Yellow					Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
25		Orange					Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
26							Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
27		Orange	Yellow		Orange	Yellow	Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
28		Yellow					Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
29							Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		
30			Yellow	Orange	Yellow		Green	Orange	Red	Green	Red	Orange	Green	Yellow	Yellow	Yellow		Green	Red	Green	Red	Green		Green	Orange		Orange	Yellow		

Card Sort: Revenue

Question:

What were the **TOTAL** sales, revenue, and other operating receipts for this [business unit] in 2019?

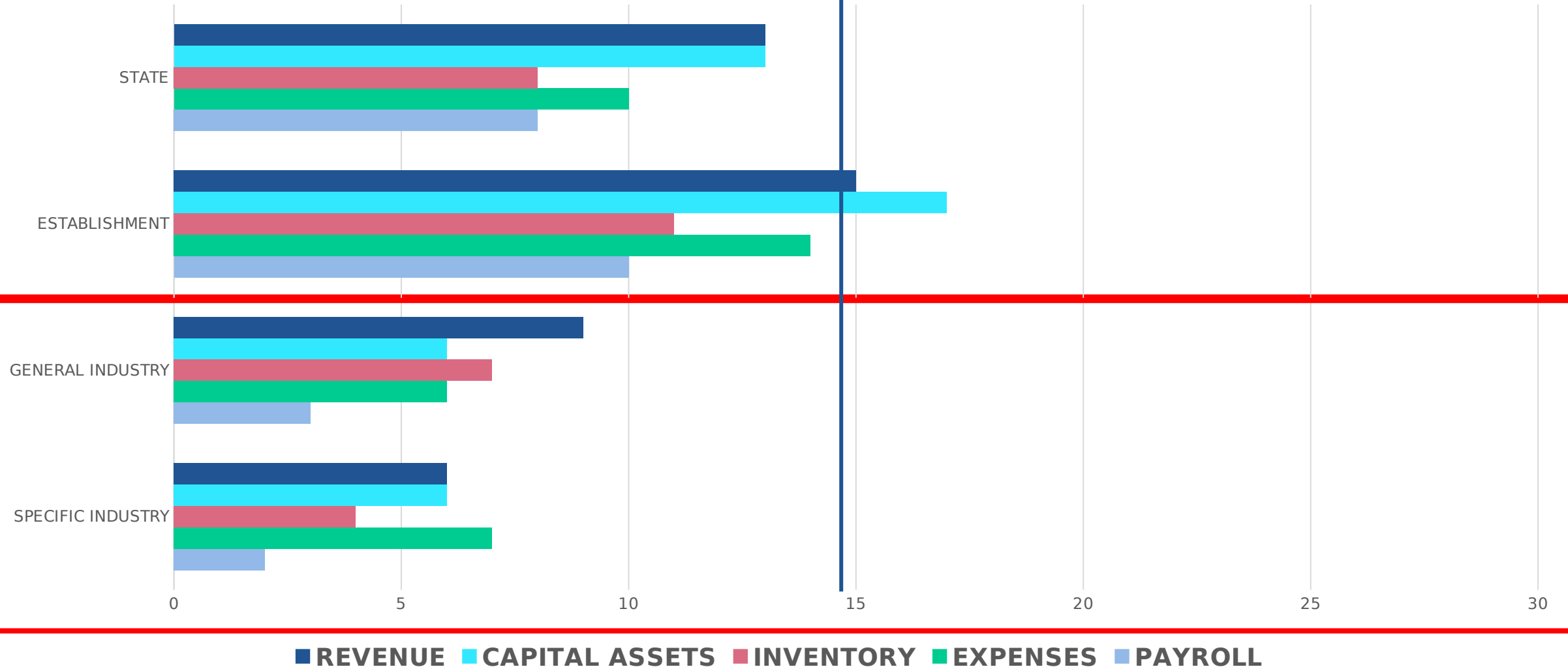
REVENUE	ORANG				X	
	GREEN	YELLOW	E	RED		
COMPANY	29	0	0	0	0	1
ESTABLISHMENT	15	9	3	1	1	2
LINE OF BUSINESS	13	10	2	0	0	5
STATE SPECIFIC INDUSTRY	13	8	7	0	0	2
GENERAL INDUSTRY	6	7	9	2	2	6
INDUSTRY	9	9	4	1	1	7

2020CENSUS.GOV

Pre-decisional -- Disclosure Prohibited — Title 13 U.S.C.



"EASILY ACCESSIBLE" (GREEN) DATA BY UNIT BY TOPIC



■ REVENUE ■ CAPITAL ASSETS ■ INVENTORY ■ EXPENSES ■ PAYROLL

Key Takeaways:

- **Using a generic Chart of Accounts during interviewing helps to center respondents to the task at hand.**
- **Use cognitive methodology to give context to the resultant data.**
- **Card sorts can be a useful tool in establishment surveys.**
- **Visualization of qualitative data can have a powerful impact with stakeholders.**

Thank you!

Diane K. Willimack

diane.k.willimack@census.gov

1+ (301) 763-3538

Melissa A. Cidade

melissa.cidade@census.gov

1+ (301) 763-8325

Demetria V. Hanna

demetria.v.hanna@census.gov

1+ (301) 763-3351

Kristin Stettler

kristin.j.stettler@census.gov

1+ (301) 763-7596