

# STATISTICAL STUDIES

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# THE 6 STEPS OF A STATISTICAL STUDY



1. TOPIC OF INTEREST



2. RESEARCH QUESTION



3. DATA COLLECTION



4. DATA QUALITY



5. ANALYSIS



6. CONCLUSION

# 1. TOPIC OF INTEREST

- A general idea of an area you want to study.

- Examples:

- Genetic Engineering
    - Climate Change



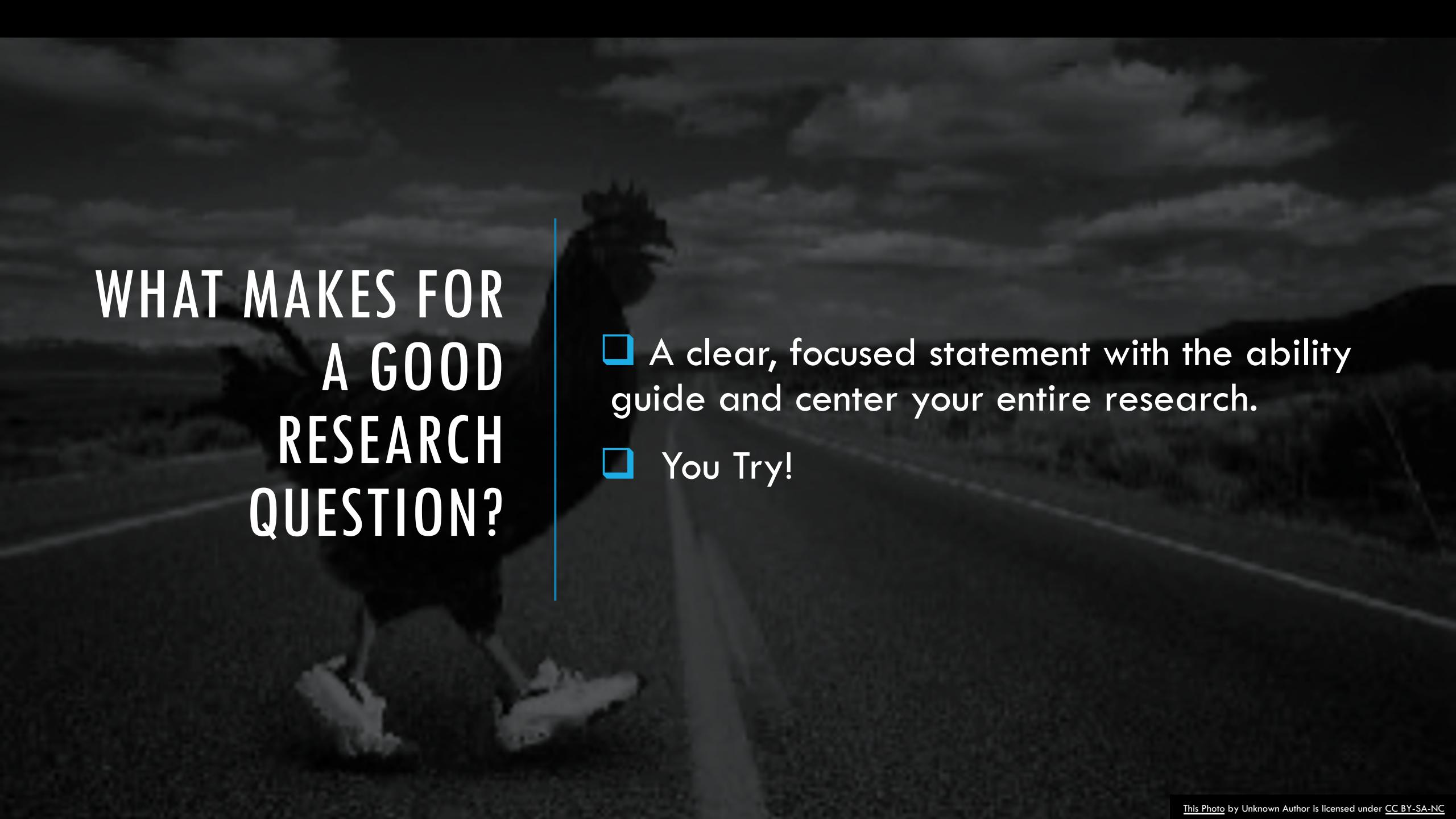
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## 2. RESEARCH QUESTION

- Take your general ideas and translate them into research questions that can be answered with data.
- What Makes For a Good Research Question??
- How Do We Do This??



# WHAT MAKES FOR A GOOD RESEARCH QUESTION?

- A clear, focused statement with the ability guide and center your entire research.
- You Try!

# HOW DO WE FORM A GOOD RESEARCH QUESTION?

## A Checklist To Help:

- Is the question a new spin on an old idea, or does it solve a problem?
- Gather facts about it.
- Match facts and theory.
- Evaluate or compare theories, models, or hypothesis.
- Is it too broad or narrow?
- Will your results be repeatable and comparable to existing models?

# 3. DATA COLLECTION

- You CAN NOT Answer Your Question Without DATA!
- Data will likely come from multiple sources...

Food Inventory Sheet - Microsoft Excel																						
Normal		Page Layout		Formulas		Data		Review		View		Team		Window		Split						
File [F]	Home [H]	Insert [I]	Page Break Preview [P]	Custom Views [M]	Full Screen [L]	Ruler [R]	Formula Bar [A]	Zoom [W]	Zoom [Y]	Zoom to Selection [S]	Zoom to Window [N]	Arrange All [O]	Freeze Panes [F]	Hide [H]	Unhide [U]	Reset Window Position [R]	Synchronous Scrolling [S]	View Side by Side [V]	Save Workspace [W]	Switch Windows [X]	Macros [M]	
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2	492229	TURKEY SLICED .5 OZ	Ben E Keith	2 - FROZEN FOOD	0	0	0.00	\$ -	-	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
3	662371	DRESSING CAESAR CREAMY	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
4	779243	MARGARINE LIQUID OLEO	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
5	815306	LID PLAS SOUFFLE CLEAR	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
6	860055	LID PLAS SLOTTED	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
7	860060	CUP FOAM 16OZ 16J16	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
8	774704	PAPRIKA	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	1.00	\$ 5.79	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
9	664005	Mustard Prepared	Ben E Keith	4 - GROCERY	512	fl oz	0.00	\$ -	-	1.00	\$ 3.75	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
10	750100	CHEESE PARMESAN SHRED	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	0.00	\$ -	1.00	\$ 13.27	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
11	250025	EGG FRESH SHELL MED USDA AA	Ben E Keith	1 - PRODUCE	0	0	0.00	\$ -	-	1.00	\$ 15.89	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
12	686034	VINEGAR APPL CIDER 40GRAIN	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	1.00	\$ 17.77	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
13	29078	LIME 12 CT	Ben E Keith	1 - PRODUCE	12	ct	0.00	\$ -	-	2.00	\$ 8.99	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
14	650547	TOMATO DICED W/GREEN CHILES	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	1.00	\$ 18.88	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
15	286500	Ice Cream Vanilla Cr3 Gal	Ben E Keith	6 - DAIRY	384	fl oz	0.00	\$ -	-	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
16	650474	KETCHUP FANCY 33% SOLIDS	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	1.00	\$ 20.69	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
17	140005	MUSHROOM WHITE SMALL BUTTON	Ben E Keith	1 - PRODUCE	0	0	0.00	\$ -	-	1.00	\$ 20.98	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
18	771131	CRUTON SEASONED HOMESTYLE	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	1.00	\$ 22.30	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
19	660409	SAUCE LOUISIANA RED HOT	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	1.00	\$ 11.24	0.00	\$ -	1.00	\$ 11.24	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
20	150015	Onion Green Iceless W/Root	Ben E Keith	1 - PRODUCE	32	oz	0.00	\$ -	-	1.00	\$ 8.29	1.00	\$ 8.29	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00
21	780009	SUGAR BROWN LIGHT IN BAGS	Ben E Keith	4 - GROCERY	0	0	0.00	\$ -	-	0.00	\$ -	1.00	\$ 27.69	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00

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# 4. DATA QUALITY

- Assess if data is in a format to answer your question.
- Let's Look At An Example!

	A	B	C	D	E	F
1	Lname	Fname	Gender	Age	Phone	DOB
2	Williams	Joe	Male	80	(544)2319889	1/13/42
3	Hall	Jane	F	45	6009005409	4181977
4	Oporto	Edward	male	890	342-433-2897	7/28/33
5	Hieronymi	Charles	A	54	210-289-1256	5/3/68
6	Hamblin	Elizabeth	female	23	(455)9086523	12/16/22
7	Carter	John	m	27	(455)203-8765	8/18/95
8	Collins	Jennifer	T	350	3248765098	3/30/87
9	Hollind	Tom	Male	46	1236759074	6/20/82

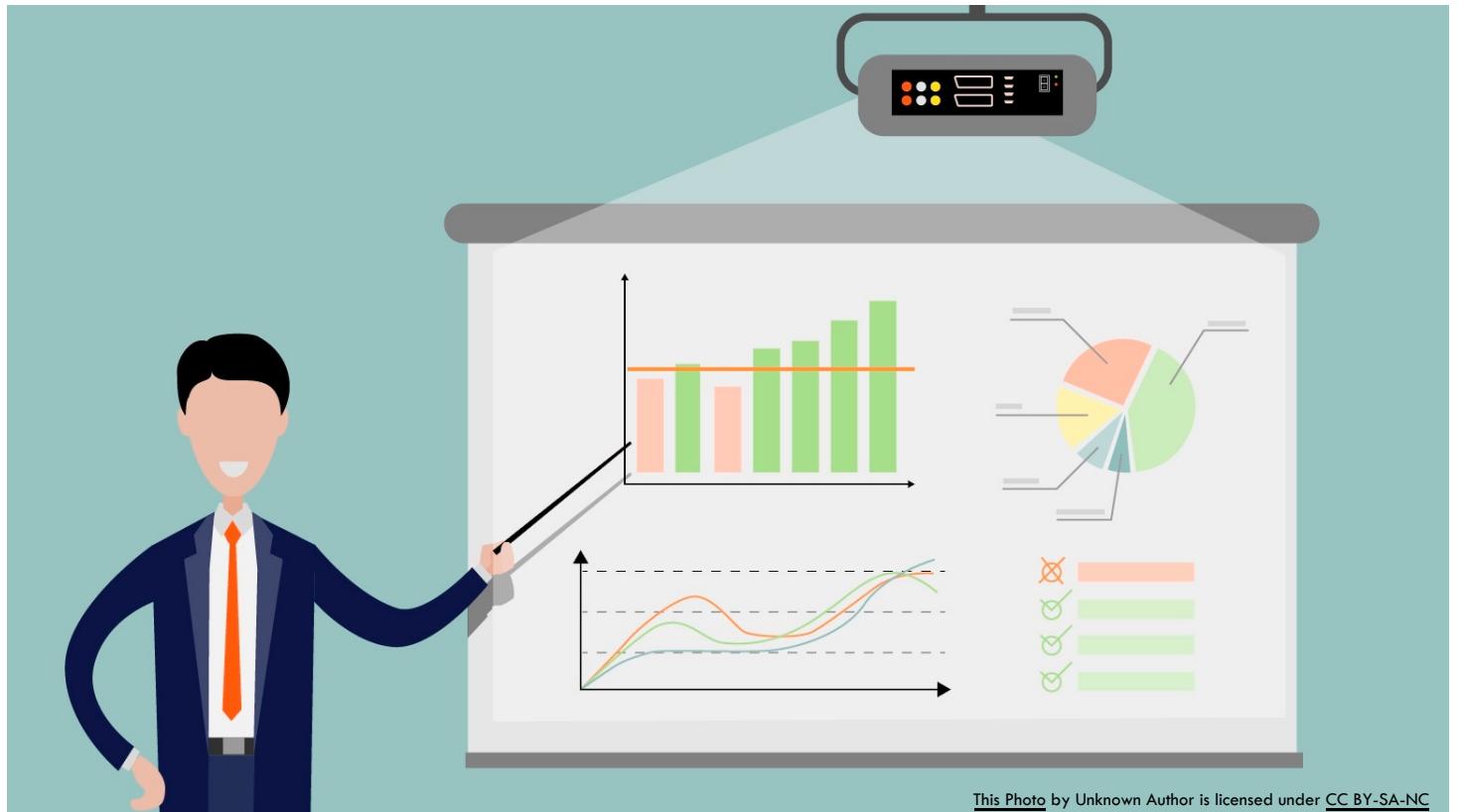
## 5. ANALYSIS

- Statistical methods to process the data and generate answers to your questions.
  - Types of Analysis??
    - Descriptive Analysis.
    - Diagnostic Analysis.
    - Predictive Analysis.
    - Prescriptive Analysis.

# 6. CONCLUSION

☐ Taking the results of your statistical analysis and presenting it in a form that others can understand.

☐ EXAMPLE!



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# THE 6 STEPS OF A STATISTICAL STUDY



1. TOPIC OF INTEREST



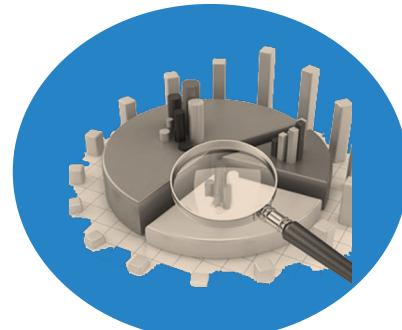
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