"THE MCKINSEY WAY"

DRAW SMART INSIGHTS FROM LIMITED DATA

EMPHASIS ON SKILFUL TRIANGULATION AND SYNTHESIS

"THE GOOGLE WAY"

DRAW SMART INSIGHTS FROM AN OCEAN OF DATA

EMPHASIS ON SOPHISTICATED MODELLING

TOP-DOWN MODELS V BOTTOM-UP MODELS

LIFE IS A SERIES OF TRADE-OFFS

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TASTY OR HEALTHY?

MONEY OR PASSION?

LOOKS OR BRAINS?

FAMILIAR OR EXCITING?

LIFE IS A SERIES OF TRADE-OFFS

TRADE-OFFS REQUIRE DECISIONS

LIFE IS A SERIES OF DECISIONS

LIFE IS A SERIES OF DECISIONS

WHAT TO WEAR?

WHAT TO EAT?

WHERE TO EAT?

WHOM TO MEET?

DECISIONS ARE CRUCIAL IN BUSINESS TOO

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WHAT TO SELL?

WHEN TO SELL?

WHERE TO SELL?

WHOM TO SELL TO?

IN BUSINESS, AND IN LIFE WE TAKE DECISIONS BASED ON DATA

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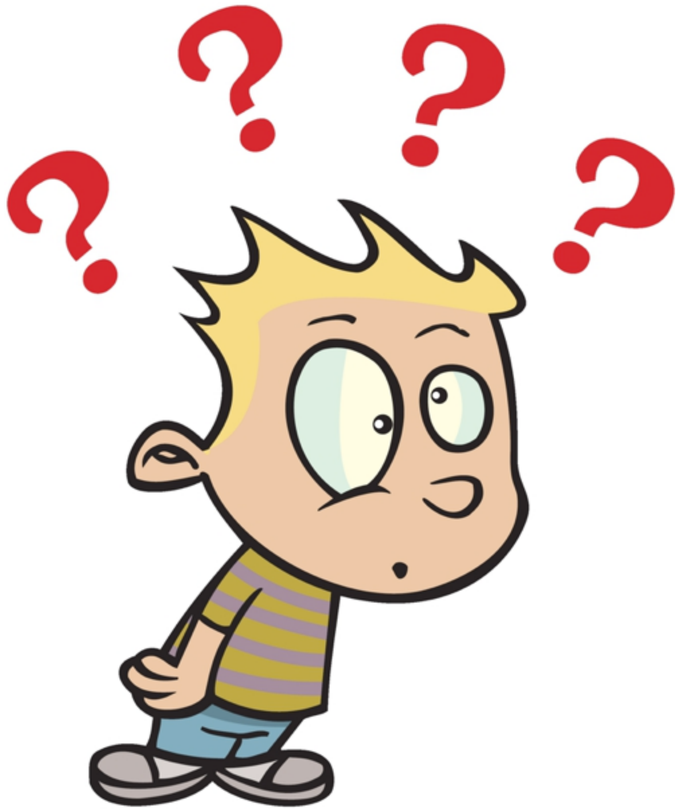
REVIEWS OF
RESTAURANTS HELP YOU
DECIDE WHERE TO EAT

IN BUSINESS, AND IN LIFE WE TAKE DECISIONS BASED ON DATA

REVIEWS OF A RESTAURANT
HELP YOU DECIDE WHERE TO EAT

USER BEHAVIOR DATA
HELPS A BUSINESS
DECIDE **WHAT** TO SELL
AND TO **WHOM**

DATA IS AVAILABLE IN MANY FORMS AND IN LARGE QUANTITIES



0.00	$2.07	$2.00	$1.50	$0.00	$0.90	8.97	5720.79	6.47	16.52	14.21	30.73	33.69
2.50	$3.77	$2.50	$1.00	$1.40	$0.00	15.17	5735.96	11.2	17.00	14.02	31.02	32.55
1.50	$9.07	$3.50	$0.00	$0.70	$0.30	33.07	5768.73	15.1	17.65	14.09	31.74	33.15
9.00	$10.47	$0.50	$1.50	$1.40	$0.00	46.87	5815.60	22.9	18.14	14.38	32.52	34.08
2.50	$4.44	$2.00	$1.50	$3.15	$0.00	33.84	5849.44	13.6	17.49	14.39	31.88	33.58
5.50	$13.72	$1.50	$0.50	$4.20	$0.90	44.57	5893.11	26.3	17.76	14.34	32.10	33.45

ID	Last Name	First Name	City	State	Gender	Student Status	Major	Country	Age	SAT	Average score (grade)	Height (in)	Newspaper readership (times/wk)			
1	DOE01	JANE01	Los Angeles	California	Female	Graduate	Politics	US	30	2263	67	61	5			
2	DOE02	JANE02	Sedona	Arizona	Female	Undergraduate	Math	US	19	2006	63	64	7			
3	DOE01	JOE01	Elmira	New York	Male	Graduate	Math	US	26	2221	78	73	6			
4	DOE02	JOE02	Lackawana	New York	Male	Graduate	Econ	US	33	1716	78	68	3			
5	DOE03	JOE03	Deffiance	Ohio	Male	Graduate	Econ	US	37	1701	65	71	6			
6	DOE04	JOE04	Tel Aviv	Israel	Male	Graduate	Econ	Israel	25	1786	69	67	5			
7	DOE05	JOE05	Climax	North Carolina	Male	Graduate	Politics	US	39	1577	96	70	5			
8	DOE03	JANE03	Liberal	Kansas	Female	Undergraduate	Politics	US	21	1842	87	62	5			
9	DOE04	JANE04	Montreal	Canada	Female	Undergraduate	Math	Canada	18	1813	91	62	6			
10	DOE05	JANE05	New York	New York	Female	Graduate	Math	US	33	2041	71	66	5			
11	DOE06	JOE06	Hot Coffe	Mississippi	Male	Undergraduate	Econ	US	18	1787	82	67	3			
12	DOE06	JANE06	Java	Virginia	Female	Graduate	Math	US	38	1513	79	59	5			
13	DOE07	JOE07	Varna	Bulgaria	Male	Graduate	Politics	Bulgaria		30	1637	79	63	4		
14	DOE08	JOE08	Moscow	Russia	Male	Graduate	Politics	Russia	30	1512	70	75	6			
15	DOE07	JANE07	Drunkard Creek	New York	Female	Undergraduate	Math	US	21	1338	82	64	5			
16	DOE08	JANE08	Mexican Hat	Utah	Female	Undergraduate	Econ	US	18	1821	80	63	3			
17	DOE09	JANE09	Amsterdam	Holland	Female	Undergraduate	Math	Holland	19	1494	75	60	3			
18	DOE10	JANE10	Mexico	Mexico	Female	Graduate	Politics	Mexico	31	2248	95	59	4			
19	DOE11	JANE11	Caracas	Venezuela	Female	Undergraduate	Math	Venezuela		18	2252	92	68	5		
20	DOE09	JOE09	San Juan	Puerto Rico	Male	Graduate	Politics	US	33	1923	95	63	7			
21	DOE12	JANE12	Remote	Oregon	Female	Undergraduate	Econ	US	19	1727	67	62	7			
22	DOE10	JOE10	New York	New York	Male	Undergraduate	Econ	US	21	1872	82	73	4			
23	DOE13	JANE13	The X	Massachusetts	Female	Graduate	Politics	US	25	1767	89	68	6			
24	DOE14	JANE14	Beijing	China	Female	Undergraduate	Math	China	18	1643	79	65	6			
25	DOE11	JOE11	Stockholm	Sweden	Male	Undergraduate	Politics	Sweden	19	1919	88	64	4			
26	DOE12	JOE12	Embarrass	Minnesota	Male	Graduate	Econ	US	28	1434	96	71	4			
27	DOE13	JOE13	Intercourse	Pennsylvania	Male	Undergraduate	Math	US	20	2119	88	71	5			
28	DOE15	JANE15	Loco	Oklahoma	Female	Undergraduate	Econ	US	20	2309	64	68	6			
29	DOE14	JOE14	Buenos Aires	Argentina	Male	Graduate	Politics	Argentina		30	2279	85	72	3		
30	DOE15	JOE15	Acme	Louisiana	Male	Undergraduate	Econ	US	19	1907	79	74	3			

SO, HOW DO YOU GO
FROM DATA TO DECISIONS?

1. USE NUMBERS AND PLOTS TO DESCRIBE THE DATA

SO, HOW DO YOU GO FROM DATA TO DECISIONS?

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2. DRAW INFERENCES FROM THE DATA

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3. ORGANIZE DATA USING ANALYTICAL TOOLS

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4. QUANTIFY RELATIONSHIPS BETWEEN VARIABLES

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TO DESCRIBE A PERSON, YOU USE CHARACTERISTICS LIKE

HEIGHT
WEIGHT
HAIR COLOR
EYE COLOR

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TO DESCRIBE DATA, YOU USE

FREQUENCY TABLES
HISTOGRAMS
MEAN
MEDIAN
MODE
IQR
STANDARD DEVIATION
OUTLIERS
BOXPLOTS

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DESCRIPTIVE STATISTICS

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STUDYING DATA ALLOWS YOU TO SAY THINGS LIKE

"People who play sports live longer than people who don't"

"50% of all the vehicles in India are 2 wheelers"

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THIS IS DONE USING

PROBABILITY DISTRIBUTIONS

SAMPLING

HYPOTHESIS TESTING

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USE TOOLS LIKE EXCEL OR R TO

PRE-PROCESS DATA

STORE IT IN DATA STRUCTURES FOR EASY ANALYSIS

AGGREGATING

SORTING

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REGRESSION HELPS YOU UNDERSTAND HOW DIFFERENT VARIABLES **INTERACT** WITH EACH OTHER

"When there is a product launch, a company's stock value goes up"

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DATA VISUALIZATION HELPS YOU COMMUNICATE ALL OF THE THINGS YOU LEARN ABOUT THE DATA

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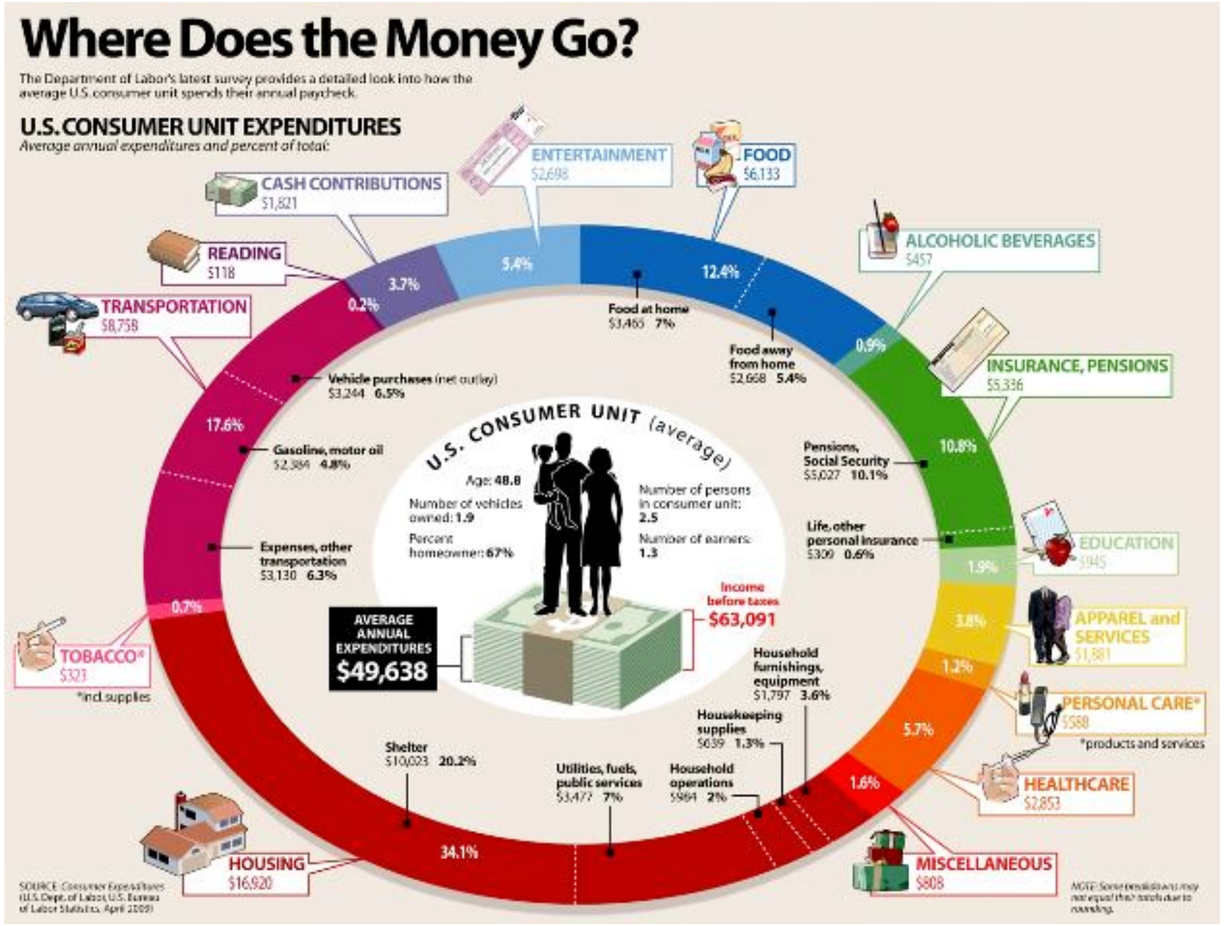

DATA VISUALIZATION

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