

INES5700

Assignment Project Exam Help

Introduction to Business Analytics

<https://powcoder.com>

Week 3: Data Visualization &

Communication 2

Add WeChat powcoder

T2 2022

Agenda

- Recap on Week 2 topic
- **Assignment Project Exam Help**
Continue with discussion on “A simple approach to build a Good Chart”
<https://powcoder.com>
- **Add WeChat powcoder**
Walkthrough - Designing Report with SAS VA

Recap: Anscombe's Quartet example (1)

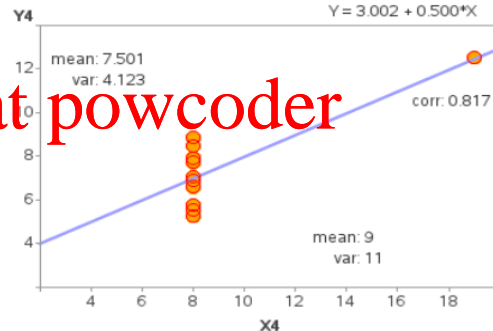
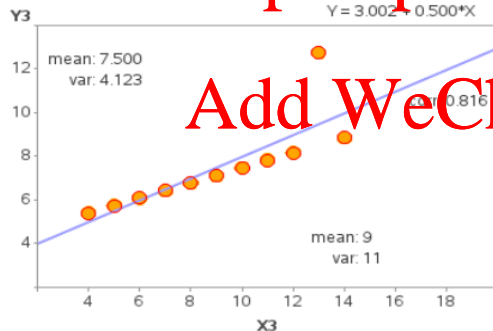
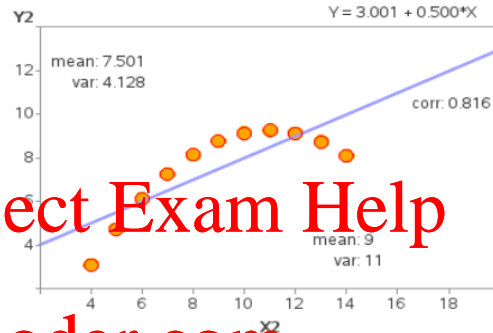
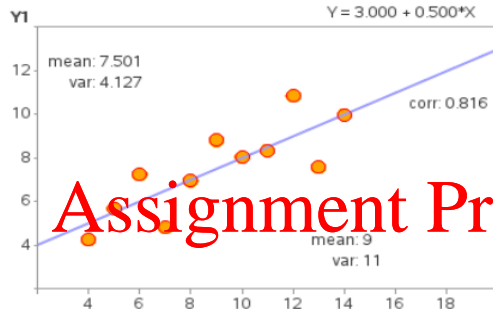
DATA SETS									
Data Set 1		Data Set 2		Data Set 3		Data Set 4			
10	8.04	10	9.14	10	7.46	8	6.58		
8	6.95	8	8.14	8	6.77	8	5.76		
13	7.58	13	8.74	13	12.74	8	7.71		
9	8.81	9	8.77	9	7.11	8	8.84		
11	8.83	11	9.26	11	7.81	8	8.47		
14	9.96	14	8.1	14	8.84	8	7.04		
6	7.24	6	6.13	6	6.08	8	5.25		
4	4.26	4	3.1	4	5.39	8	5.56		
12	10.84	12	9.13	12	8.14	8	7.91		
7	4.82	7	7.26	7	6.42	8	6.89		
5	5.68	5	4.74	5	5.73	19	12.5		

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Recap: Anscombe's Quartet example (2)

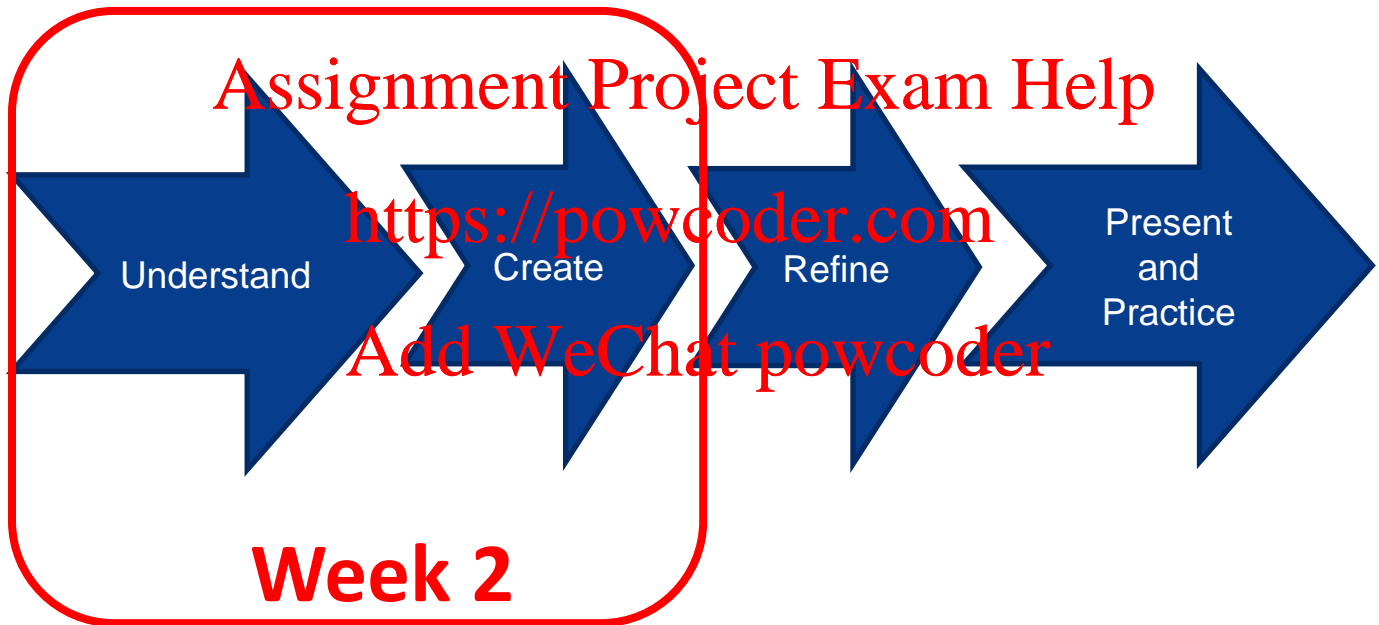


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An simple approach to build a Good Chart



Understand the Science of How We See

1. We don't go in order
2. We see first what stands out
3. We see only a few things at once
4. We seek meaning and make connections
5. We rely on conventions and metaphors

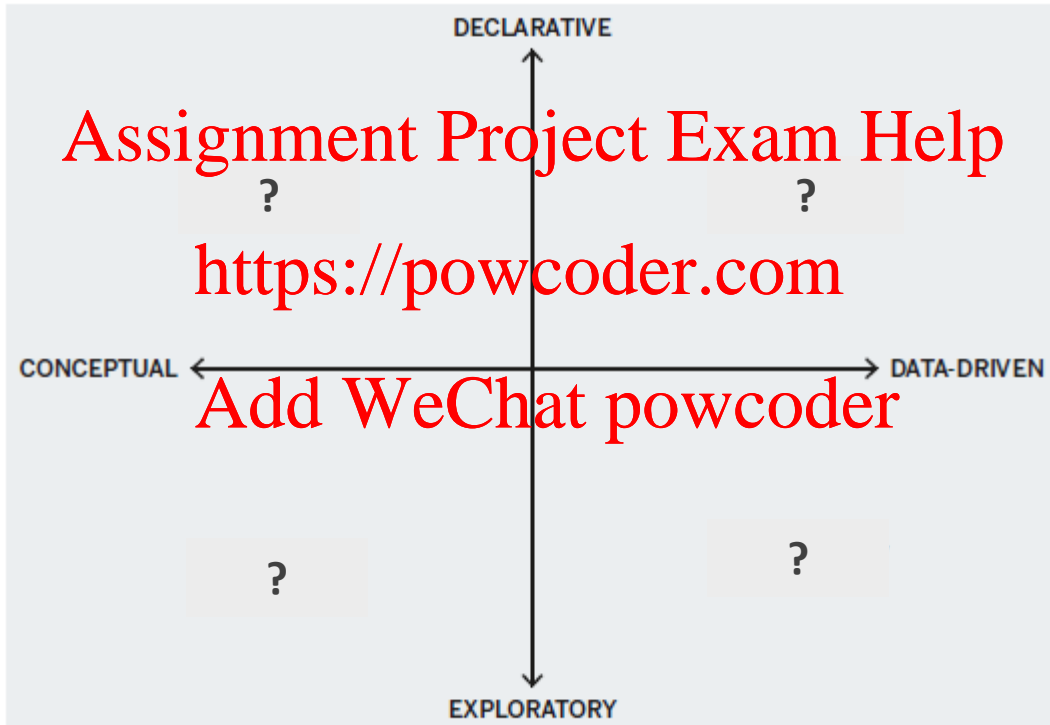
**What are the two questions we
should consider before create
visualization...**

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A Typology for Chart Making



An simple approach to build a Good Chart

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Understand

Create

Refine

Present
and
Practice

Week 3

The “Feeling Behind Our Eyes”

BAD

GOOD



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VS

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The “Feeling Behind Our Eyes”

When Do People Buy on Our Website?



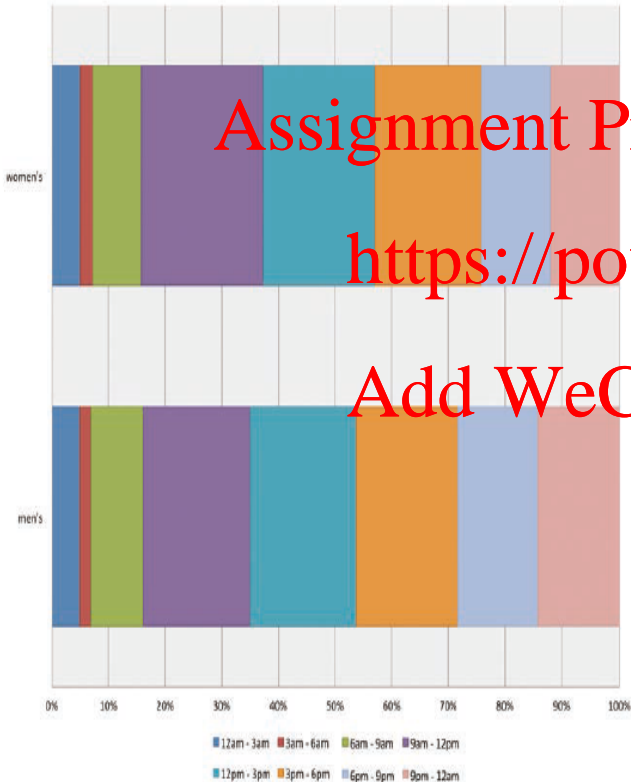
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<https://powcoder.com>

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The “Feeling Behind Our Eyes”

When Do People Buy on Our Website?



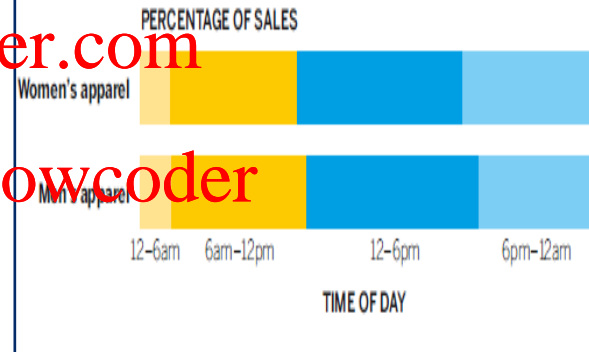
Assignment Project Exam Help

<https://powcoder.com>

VS.

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WHEN DO PEOPLE BUY ON OUR WEBSITE?



How to Create the “Good Feeling Behind Our Eyes”

- **Assignment Project Exam Help**
Refine to Impress
- **<https://powcoder.com>**
Refine to Persuade
Add WeChat powcoder

Refine to Impress

1. To make charts feel **neat** or **clean**, focus on design **structure** and **hierarchy**
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2. For charts that just make sense or **feel instantly understood**, focus on **design clarity**
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3. To make charts that look **elegant** or **beautiful**, focus on **design simplicity**

Achieve Neatness (1): Use Consistent Structure

- Title
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- Subtitle
<https://powcoder.com>
- Visual field (visuals, axes, labels, captions, legend)
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- Source line

Achieve Neatness (1): Use Consistent Structure

Title 12%

Subtitle 8%

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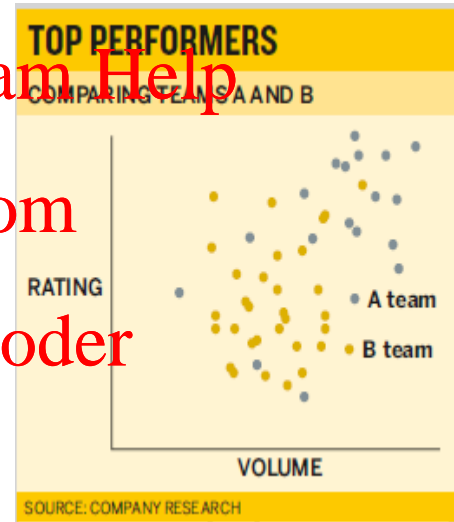
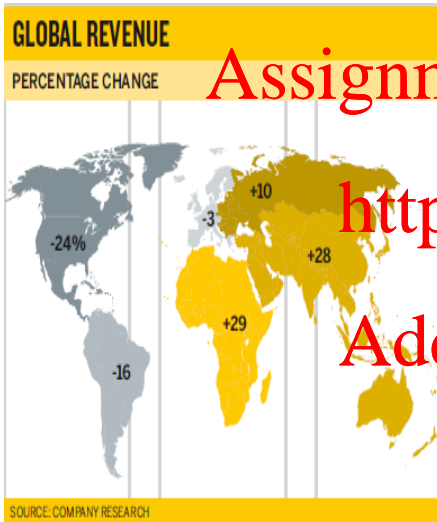
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Field 75%

Source line 5%

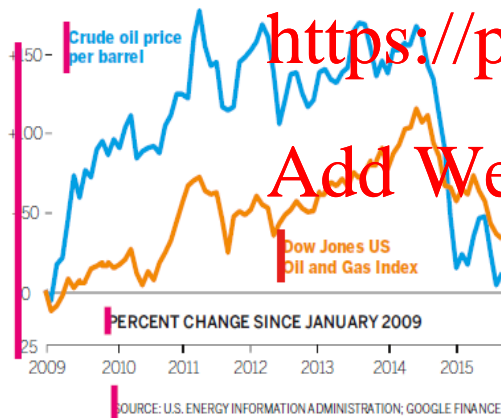
Use Consistent Structure: Examples



Achieve Neatness (2): Keep Elements Aligned

OIL AND GAS POISED FOR A FALL?

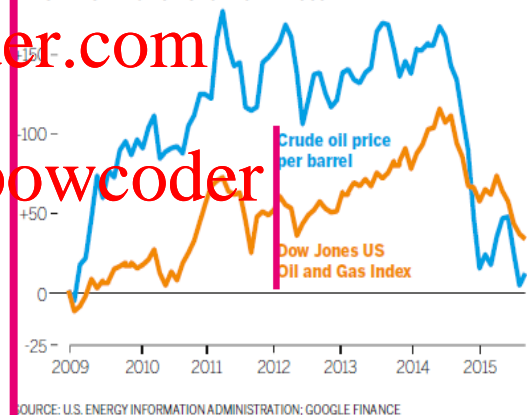
Because reserves account for a major portion of valuations in the oil sector, its market cap tends to track OPEC prices. But when crude prices recently plunged, the sector's market cap did not — a sign that valuations in the industry may be artificially high.



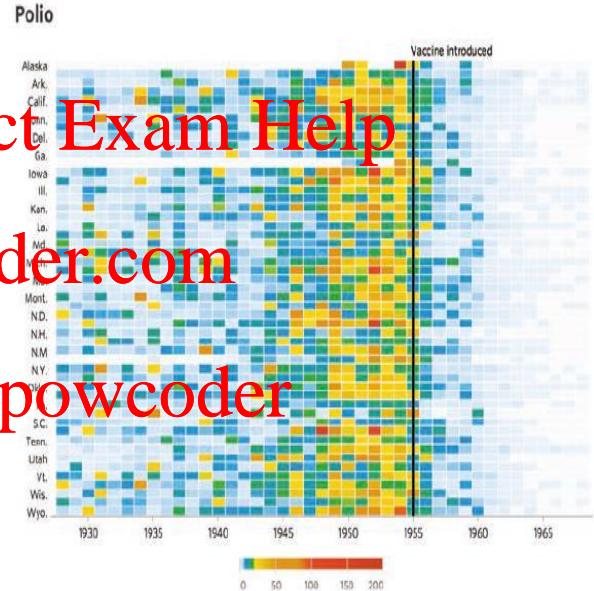
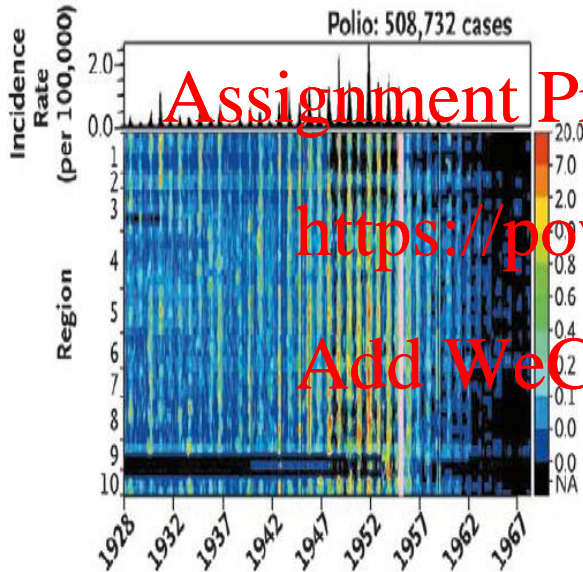
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PERCENT CHANGE SINCE JANUARY 2009



Achieve Clarity



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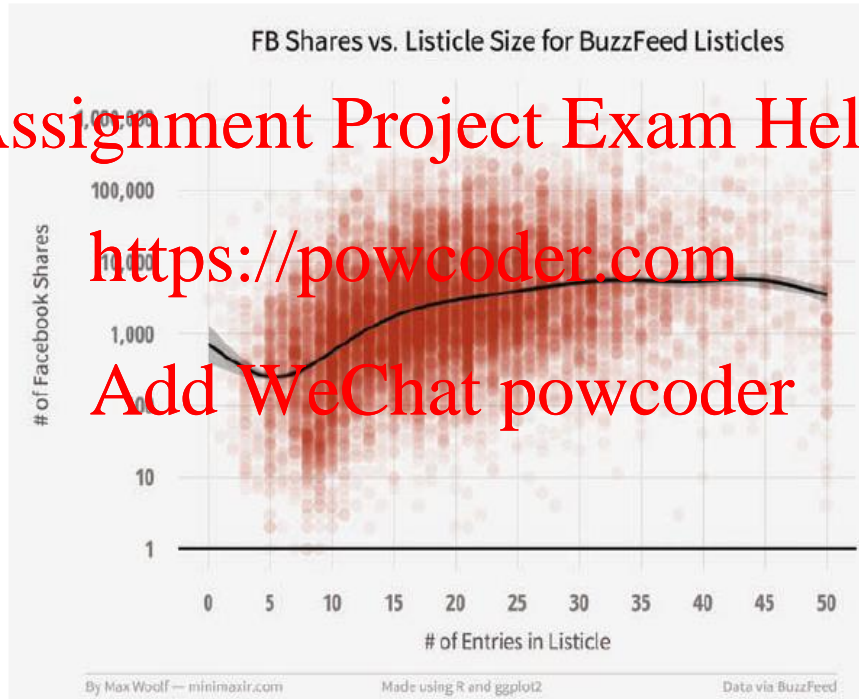
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Achieve Clarity (1):

Each element is unique and supports the visual

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Achieve Clarity (2): Remove ambiguity

- Each element in your visualization has a single purpose that can't be misinterpreted

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Achieve Simplicity

- Clarity concerns effective communication: Does the idea come through?

- Simplicity focuses on effective presentation: Are you showing only what's necessary for the idea to come through?



VS



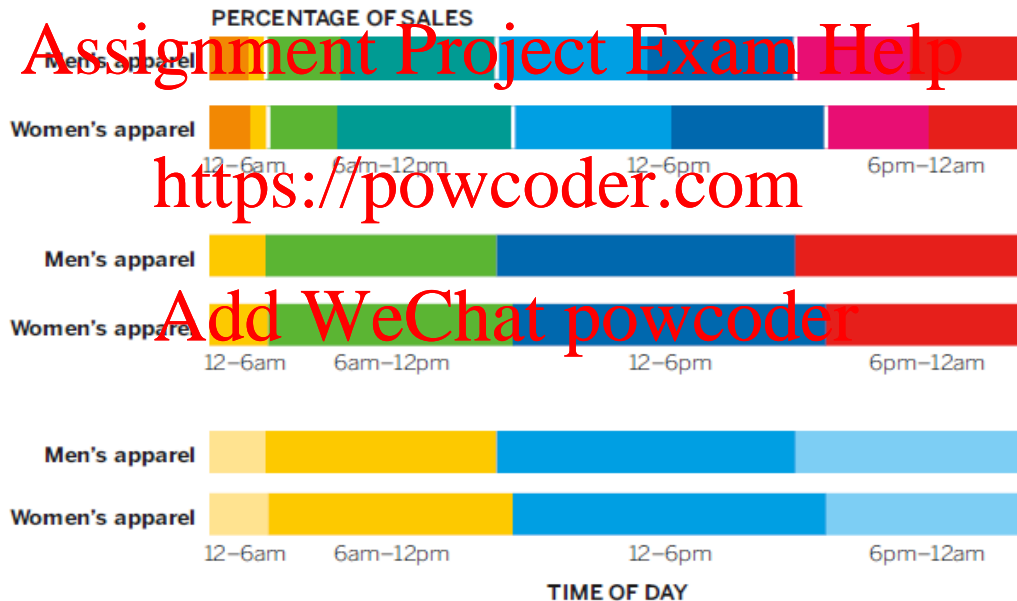
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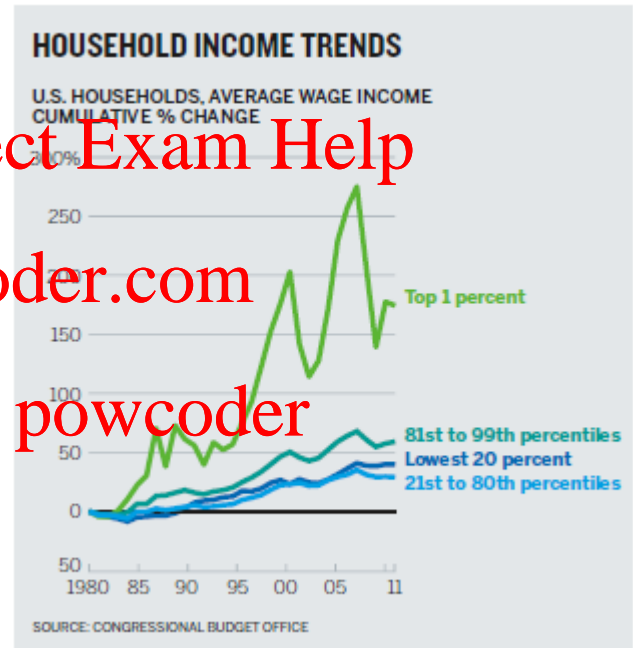
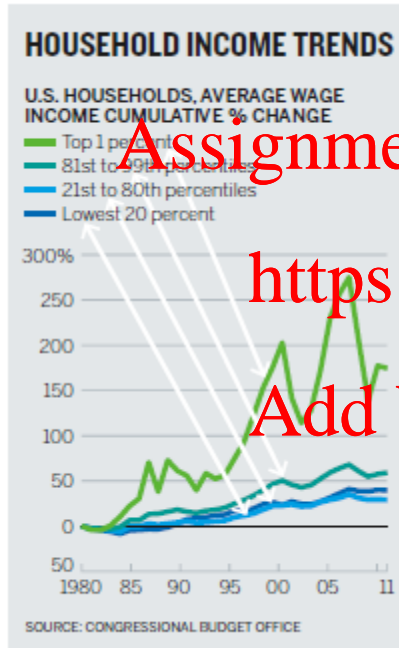
Achieve Simplicity (1): Minimize the number of color use

WHEN DO PEOPLE BUY ON OUR WEBSITE?



Colors are like fractions that can be reduced.

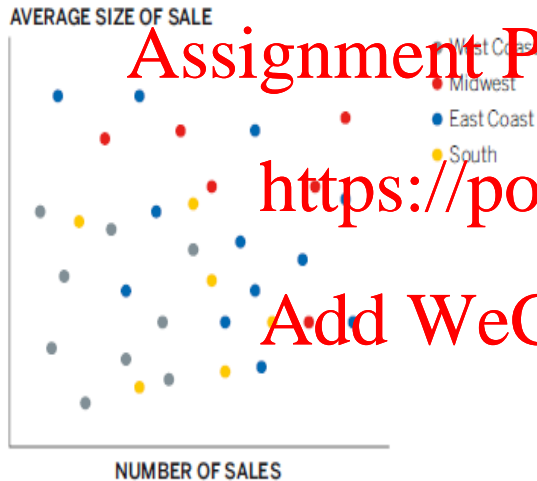
Achieve Simplicity (2): Limits eye travel



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<https://powcoder.com>
VS.
Add WeChat powcoder

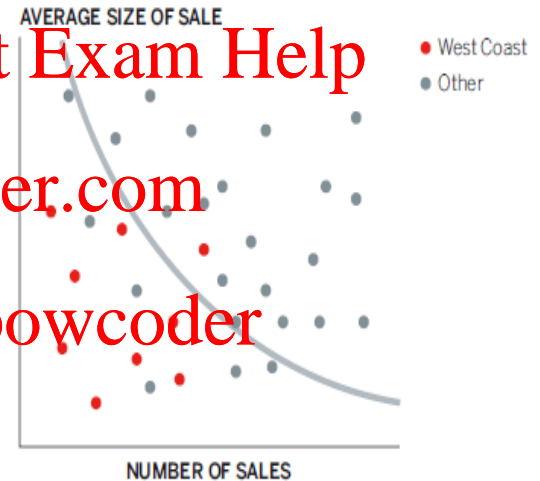
Refine to Persuade

SALES PERFORMANCE BY REGION



SOURCE: COMPANY RESEARCH

WEST COAST SALES REPS UNDERPERFORM



SOURCE: COMPANY RESEARCH

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Refine to Persuade

1. Hone the **main idea**
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2. Make it **stand out**
<https://powcoder.com>
Add WeChat powcoder
3. **Adjust** what's around it

Hone the main idea

What am I trying to say or show?

I am trying to show the distribution of costs of buying a beer at baseball stadiums.

I am trying to show the relationship between increased automation in manufacturing and fewer jobs being available. Automation increases profits but creates a need for new jobs that are hard to fill.

I am trying to show how increasing hours spent on work isn't increasing productivity and may be decreasing it.

I am trying to show the relationship between unbundling products and declining revenue.

I am trying to show that the gardening population is a large, growing, diverse, and underserved market.

I need to convince them that . . .

I need to convince them that beer is unreasonably expensive at every single baseball stadium.

I need to convince them that although profits are higher, robots are killing manufacturing jobs and creating a massive skills gap that offsets those short-term gains.

I need to convince them that all this extra work needed as backring is hurting the company's productivity, not helping.

I need to convince them that unbundling our software suite will devastate revenue streams.

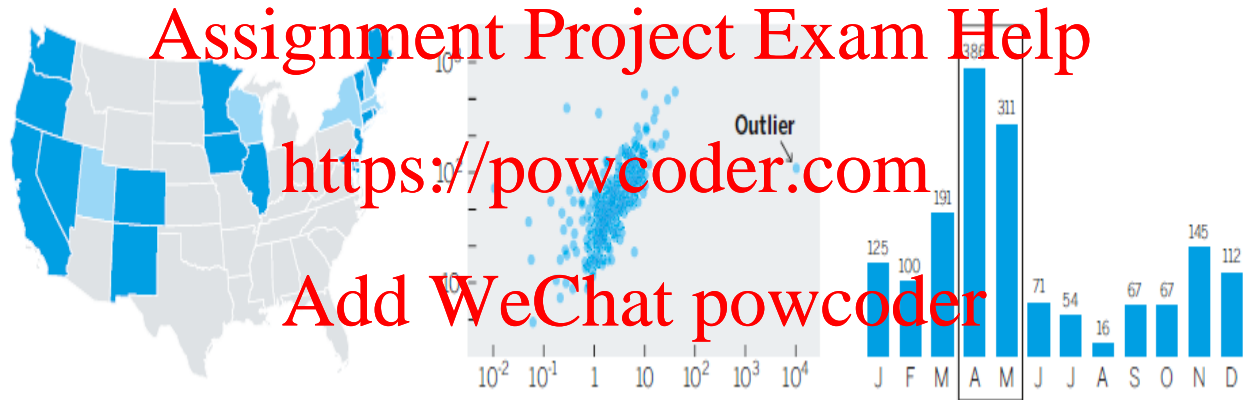
I need to convince them that growth in the gardening market is coming from gardeners who are hungry for apps, younger, and more technically savvy than they think.

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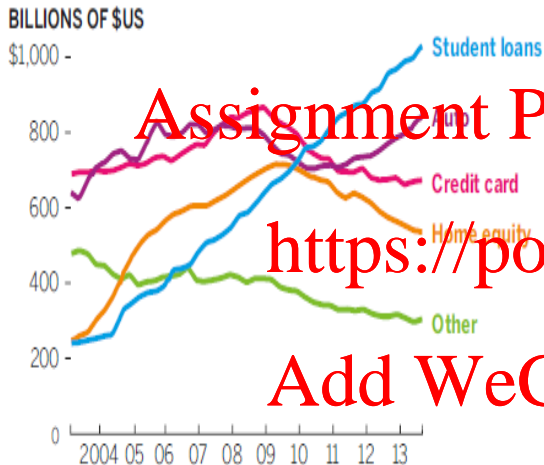
<https://powcoder.com>

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Make it stand out: Emphasize



Make it stand out: Isolate



SOURCE: FEDERAL RESERVE BANK OF NEW YORK

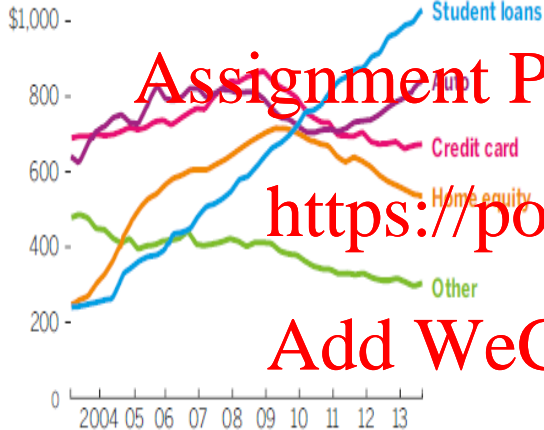
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Make it stand out: Isolate

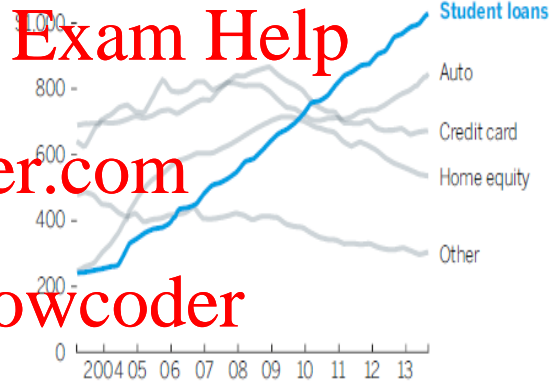
BILLIONS OF \$US



SOURCE: FEDERAL RESERVE BANK OF NEW YORK

NON-MORTGAGE DEBT OUTSTANDING

BILLIONS OF \$US

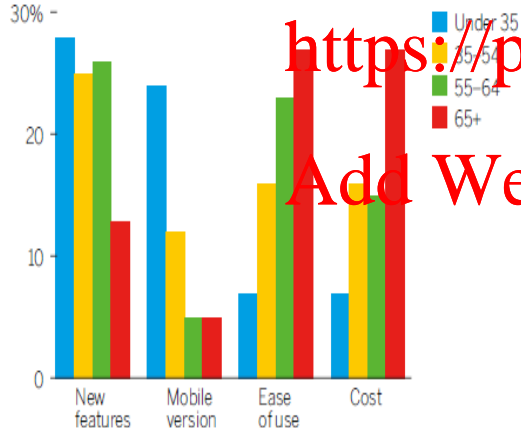


SOURCE: FEDERAL RESERVE BANK OF NEW YORK

Adjust what's around it: Remove reference points

WHAT ARE THE MOST IMPORTANT ASPECTS OF THIS PRODUCT THAT MAKE YOU WANT TO BUY IT?

PERCENTAGE SAYING IT'S IMPORTANT



SOURCE: COMPANY RESEARCH

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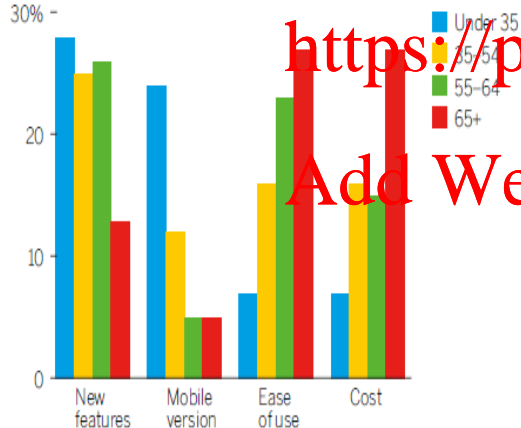
<https://powcoder.com>

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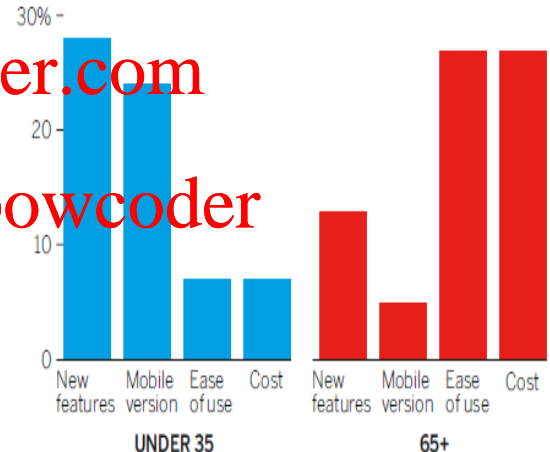
PERCENTAGE SAYING IT'S IMPORTANT



SOURCE: COMPANY RESEARCH

OPPOSING DESIRES OF THE YOUNGS AND THE OLDS

WHAT PEOPLE WANT FROM OUR PRODUCTS



SOURCE: COMPANY RESEARCH

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Adjust what's around it: Add reference points

VINYL SALES SINCE 1993

MILLIONS OF UNITS



SOURCE: RIAA

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<https://powcoder.com>

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Adjust what's around it: Add reference points

VINYL SALES SINCE 1993

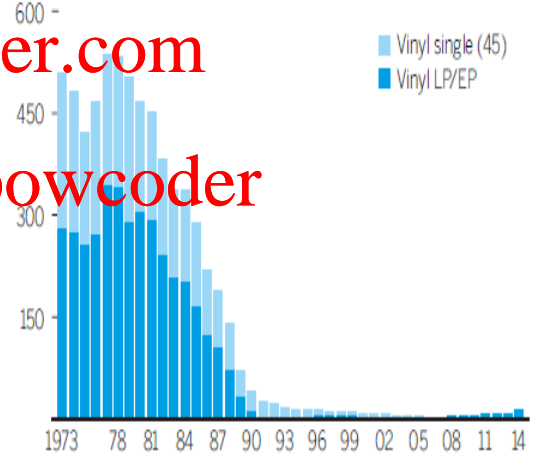
MILLIONS OF UNITS



SOURCE: RIAA

VINYL SALES SINCE 1973

MILLIONS OF UNITS



SOURCE: RIAA

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VS.

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Adjust what's around it: Shift reference points

TASK 1 AND TASK 2

HOURS LOST PER YEAR

120 -

80 -

40 -

Task 1 Task 2

SOURCE: COMPANY RESEARCH

Assignment Project Exam Help

<https://powcoder.com>

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Adjust what's around it: Shift reference points

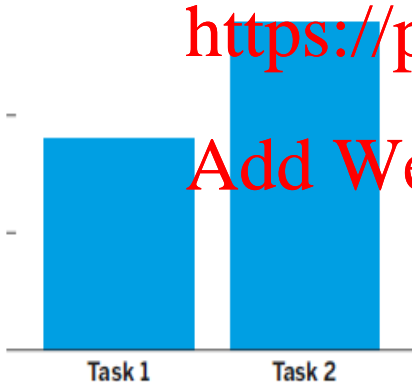
TASK 1 AND TASK 2

HOURS LOST PER YEAR

120 -

80 -

40 -

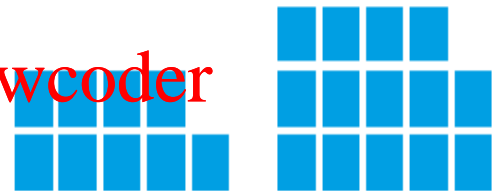


SOURCE: COMPANY RESEARCH

DAYS LOST TO TASK 1

AND TASK 2: TIME SINK

WORK DAYS LOST PER YEAR



Tim

9 work days

Susan

14 work days

SOURCE: COMPANY RESEARCH

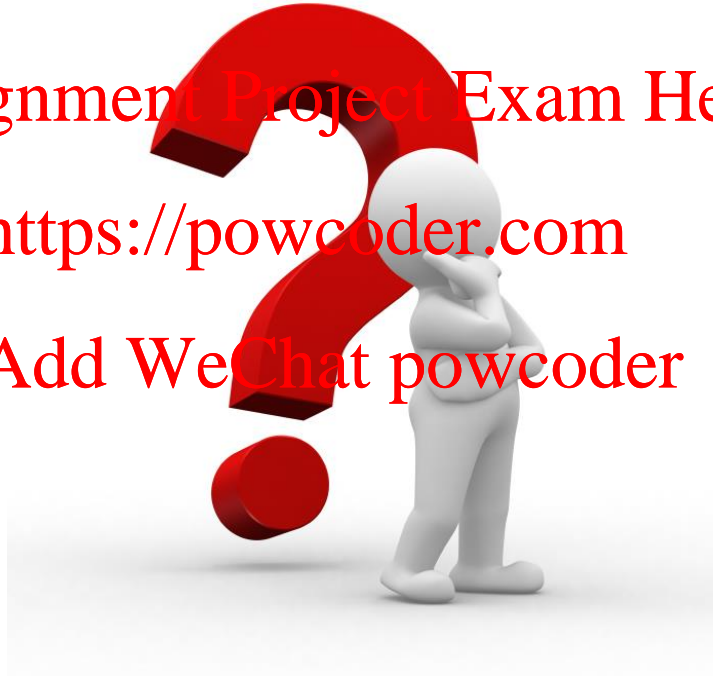
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Persuasion or Manipulation

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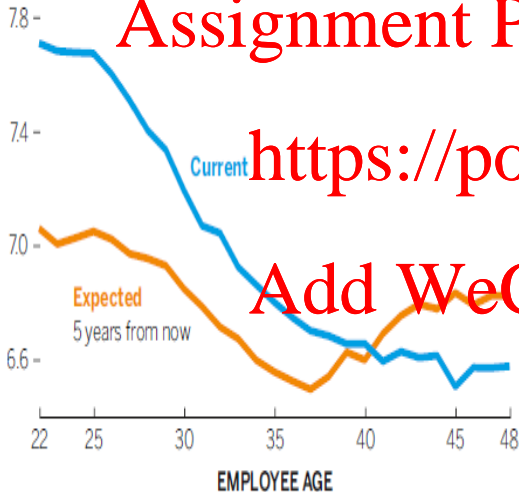
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The Truncated Y-axis

JOB SATISFACTION

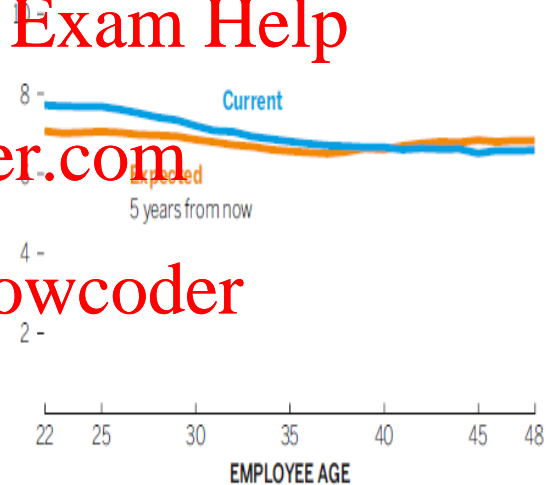
AVERAGE SATISFACTION RATING



SOURCE: COMPANY RESEARCH

JOB SATISFACTION

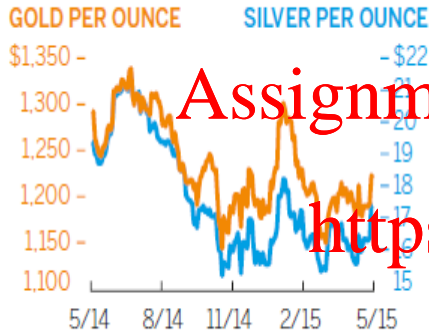
AVERAGE SATISFACTION RATING



SOURCE: COMPANY RESEARCH

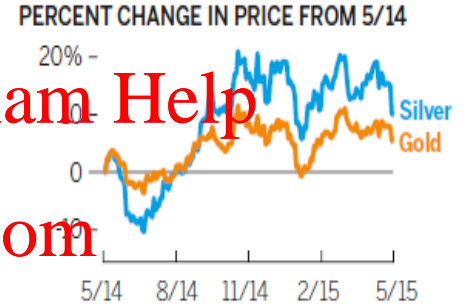
The Double Y-axis

PRICE OF GOLD AND SILVER



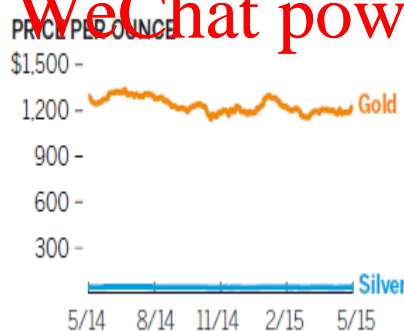
SOURCE: BULLIONVAULT.COM

PRICE CHANGE: GOLD AND SILVER

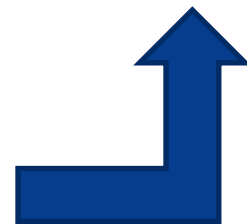
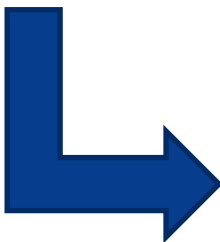


SOURCE: BULLIONVAULT.COM

PRICE OF GOLD AND SILVER



SOURCE: BULLIONVAULT.COM



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Persuasion or Manipulation ?

- Does my chart make it easier to see the idea, or is it actively changing the idea?
- If it's changing the idea, does the new idea contradict or fight with the one in the less persuasive chart?
- Does eliminating information hide something that would rightfully challenge the idea I'm showing?
- Would I feel duped if someone else presented me with a chart like this?

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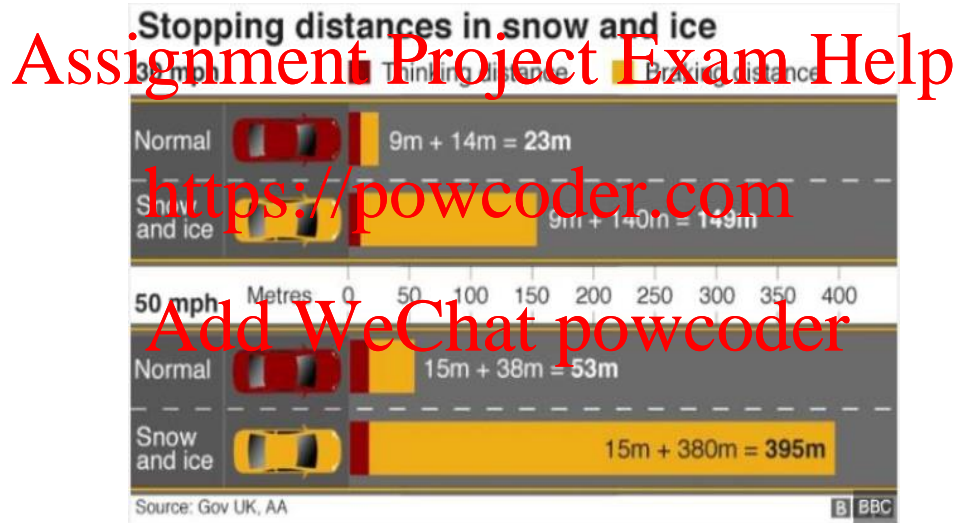
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An simple approach to build a Good Chart



Presentation tips (1): Show the chart and stop talking

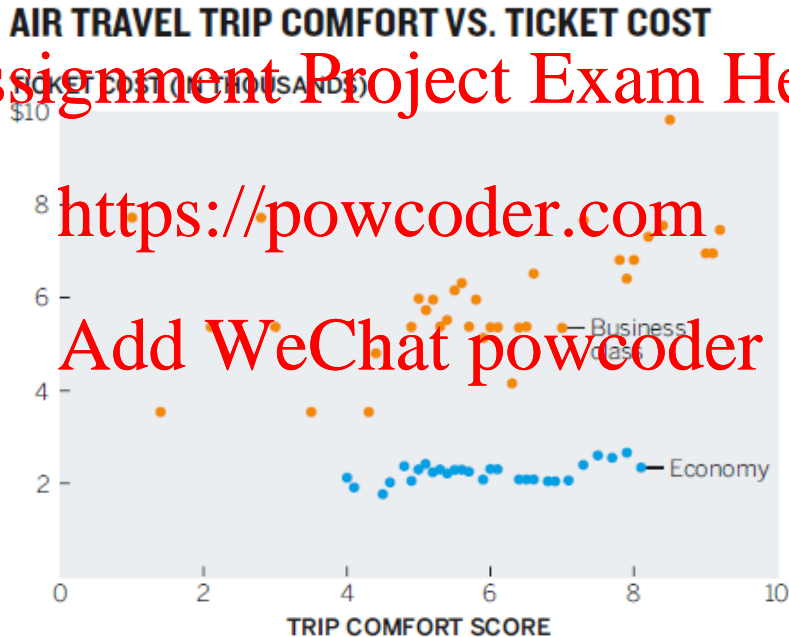


Presentation tips (2): When it's time to talk, don't read the picture

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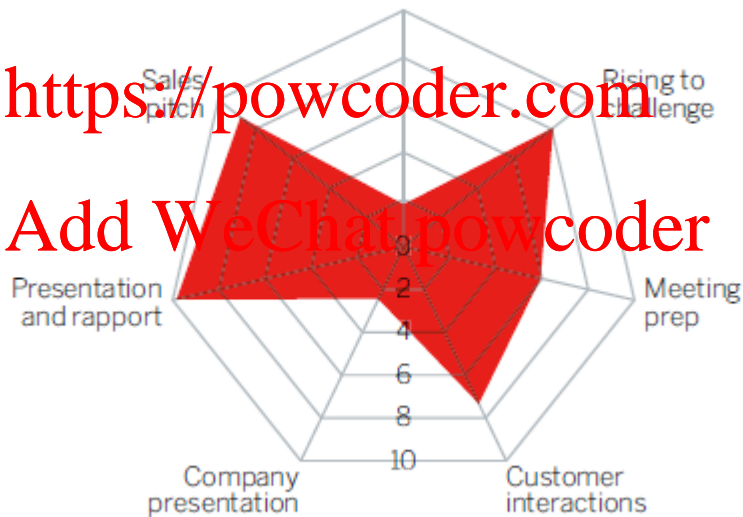
SOURCE: CARLSON WAGONLIT TRAVEL (CWT) SOLUTIONS GROUP,
TRAVEL STRESS INDEX RESEARCH (2013)

Presentation tips (3): Use reference charts

TOM'S SALES SKILLS RATING
Assignment Project Exam Help

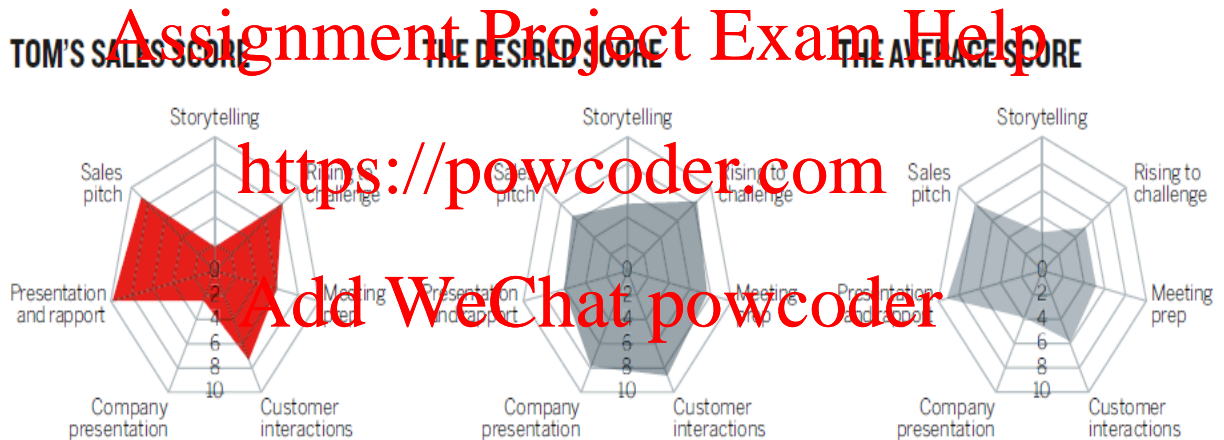
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SOURCE: COMPANY RESEARCH

Presentation tips (3): Use reference charts



SOURCE: COMPANYRESEARCH

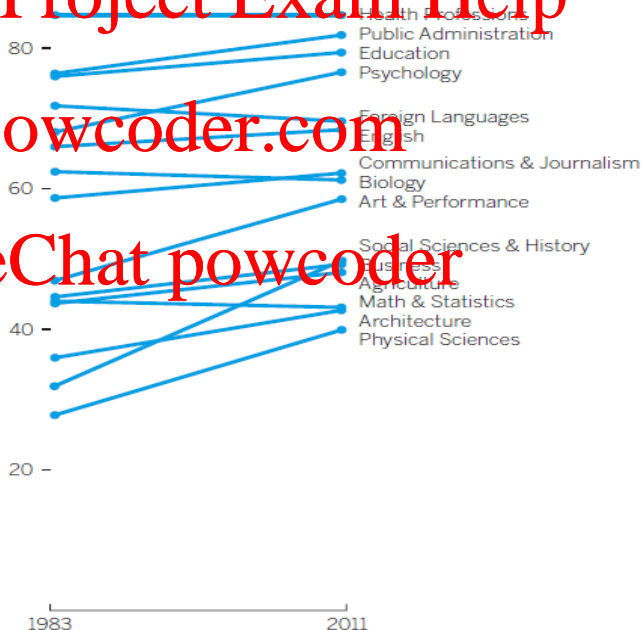
Engagement tips (1): Create tension

[Wait 5 beats] There's not a college major charted here in which women earn fewer than 40% of the degrees given out. This shows great progress. But we haven't yet added computer science and engineering to the chart. [Pause]

MORE WOMEN ARE EARNING DEGREES

PERCENTAGE OF U.S. DEGREES
CONFERRED ON WOMEN

100% -



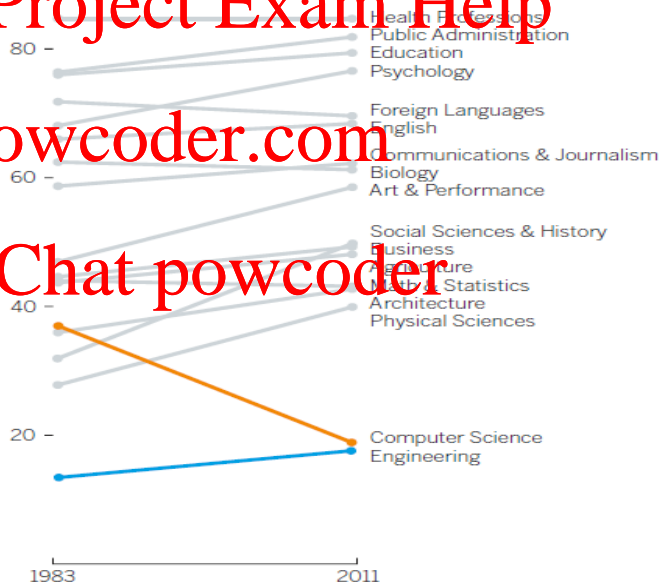
SOURCE: NCES

Engagement tips (1): Create tension

[Wait 5 beats] There's not a college major charted here in which women earn fewer than 40% of the degrees given out. This shows great progress. But we haven't yet added computer science and engineering to the chart. [Pause]

THE COMPSCI BRAIN DRAIN

PERCENTAGE OF U.S. DEGREES
CONFERRED ON WOMEN
100% -



SOURCE: NCES

Engagement tips (2): Tell Stories

- **Setup:** Here is some reality

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- **Conflict:** Here is new information that complicates or changes reality

<https://powcoder.com>

- **Resolution:** Here is the new reality

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Engagement tips (2): Tell Stories

MAPPING STORIES

	MOBY DICK	HARRY POTTER	WILE E. COYOTE AND THE ROAD RUNNER
Setup	Man goes on whaling voyage	Boy Wizard survives attack by Evil Wizard	Wile E. Coyote sets trap to catch speedy Road Runner
Conflict	Man's captain becomes unhinged seeking revenge on one whale	To defeat Evil Wizard, Boy Wizard must give up his life	Trap fails spectacularly
Resolution	Ship sinks, only man survives	Boy Wizard gives up life, Evil Wizard defeated	Road Runner escapes, Coyote injures self

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Putting it all Together

WHAT CAUSED THE HIGHER PRICE OF PEANUT BUTTER?

PRICE PER POUND
\$3 -
2 -
1 -

2004 08 12 15

[Pause 5 beats] For nearly a decade, prices of peanut butter were smooth. Modest increases during the recession mapped to rises in most food prices.

SOURCE: CPI

PRICE PER POUND

\$3 -
2 -
1 -

2004 08 12 15

But then there was a drought and a bad peanut harvest. What happened? Where did prices go from here? [Pause, invite speculation].

PRICE PER POUND

\$3 -
2 -
1 -

2004 08 12 15

For most of the following year, prices were actually flat, until the next harvest approached, when prices started to rise as growers feared another drought.

PRICE PER POUND

\$3 -
2 -
1 -

2004 08 12 15

And that's what happened: another bad harvest. Prices spiked almost 50%. And since then ... [Pause]

PRICE PER POUND

\$3 -
2 -
1 -

2004 08 12 15

Prices have remained high. One bad harvest was tolerable, but two sent prices to nearly \$3 per pound, where they've remained for nearly half a decade.

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Walkthrough - Designing Assignment Project Exam Help Report with SAS VA

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Questions?

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