

19/20

Assignment #2: 20 points

1. What is random sampling error and how can it be reduced?

Random sampling error is a technical term that refers only to statistical fluctuations that occur because of chance variations in the elements selected for the sample. Random sampling error is a function of sample size. It can be reduced by increasing the sample size.

- Pg 308, Essentials of Marketing Research

2. Assume you have a study with 100 participants, of which 40 are female and 60 are male.

For gender, what is the mode?

Male

For gender, what is the mean?

Male

not defined
1/2

3. For the data in exhibit below, what is the forecast for average ticket price for 2013, using a 3 year moving average? Be sure to show your detailed work!

Forecasting Ticket Price for 2013

Year	Ticket Price	Percent Increase	3 Year Moving Average
1996	11.20	5.2%	3.5%
1997	12.36	10.4%	5.8%
1998	13.59	10.0%	8.5%
1999	14.91	9.7%	10.0%
2000	16.67	11.8%	10.5%
2001	18.99	13.9%	11.8%
2002	18.30	-3.6%	7.4%
2003	19.01	3.9%	4.7%
2004	19.82	4.3%	1.5%
2005	21.17	6.8%	5.0%
2006	22.21	4.9%	5.3%
2007	22.70	2.2%	4.6%
2008	25.43	12.0%	6.4%
2009	26.21	3.1%	5.8%
2010	26.60	1.5%	5.5%
2011	26.92	1.2%	1.9%

2012 Moving Average:

$$\frac{1.5 + 1.2 + 1.9}{3} = 1.5\%$$

2012 Ticket Price:

$$26.92 + (.019 * 26.92) = 27.44$$

2012 Percent Increase:

$$\frac{(27.44 - 26.92)}{26.92} = 1.9\%$$

2013 Moving Average:

$$\frac{1.2 + 1.9 + 1.5}{3} = 1.5\%$$

2013 Ticket Price:

$$27.44 + (.015 * 27.44) = 27.86$$

4. What is the overall concern or research question for Powerade?

Why is Powerade consistently ranked second to Gatorade? What can Powerade do to change it's position in the market?

5. Based on our class discussion and your research related to the Powerade, what are SIX hypotheses that may explain "why" this overall concern (from the question above) is present (aka: what are the possible causes of the overall concern)? This will form the basis of the objectives and hypotheses section of your research project, so write it in that format.

1. Gatorade has a stronger social media presence than Powerade. Gatorade's twitter has twice the number of followers than Powerade. Gatorade has 2 million more likes on facebook.
2. While Gatorade has it's original flavors, it has extended its product line by adding the G Series. It is geared to help athletes before, during, and after training. Powerade has only extended its product line to a calorie free option, Powerade Zero.
3. Powerade lacks innovation when it comes to its brand image compared to Gatorade who continuously evolves to stay relevant in the market.
4. Powerade is manufactured and marketed by Coca Cola, a powerhouse in the soft drink market. Less resources are allocated to promoting its sports drink, Powerade.
5. In 2014, Powerade was pressured to remove a controversial ingredient in its product, thus tainting its image.
6. While Powerade is more relevant outside of the U.S. due to its expansive target market, Gatorade is more relevant in the U.S. due to its condensed target market.

6. **Secondary data analysis:** What are the category sales for sports drinks (in either dollars or bottles)? Note: you may not be able to find the exact amount in the secondary data, so use a range of resources – and logical assumptions – to calculate your estimate of category sales. Be sure to carefully document your sources.

In 2015, sports drinks generated sales amounting to approximately 8.48 billion U.S. dollars.

- <https://www.statista.com/statistics/448605/dollar-sales-of-sports-drinks-in-the-united-states/>

7. Secondary data analysis: What are the 3 or 4 major brands in the sports drinks category? Using the library as a resource, what are the sales (in either dollars or bottles) of these brands? Note: you may not be able to find the exact amount in the secondary data, so use a range of resources – and logical assumptions – to calculate your estimate of brand sales. Be sure to carefully document your sources.

Gatorade- 5.6 Billion dollars in 2015

Powerade- 1.3 Billion dollars in 2015

BodyArmor- 100 Million dollars in 2015

→ *probably higher.*

8a. What is the definition and formula for advertising elasticity of demand (AED)?

The measure of an advertising campaign's effectiveness in generating new sales. Calculated by dividing the percentage change in the quantity demanded by the percentage change in advertising expenditures.

Formula: $N = (Q1 - Q0) / (Q1 + Q0) / (A1 - A0) / (A1 + A0)$

8b. What is a reasonable AED for a \$1 to \$2 beverage product? Please be sure to include your source(s) for this information. Note: you may need to use either book sources or academic journals from the main library.

0.060 when analyzing the elasticity of beverage products. Formulating the advertising cost and the sales generated.

9. What is the definition and formula for ROI?

ROI stands for "Return on Investment," and is a profitability ratio that is calculated by dividing net profit by total assets. The ROI determines the money made off of an investment relative to the cost of making the investment.

Formula: $[(\text{Investment Revenue} - \text{Investment Cost}) / \text{Investment Cost}] \times 100 = \text{ROI}$

10. What is meant by gross margin? What is the calculation for gross margin?

Gross margin is the percent of sales revenue that a company has after taking into account the direct cost of the goods sold (COGS). If the percentage is high, the company keeps more of each dollar sold. If the percentage is low, the company has less money to go towards operating expenses.

Calculation for gross margin: $[(\text{Revenue} - \text{COGS}) / \text{Revenue}] \times 100 = \text{Gross Margin (\%)}$

MKT 411 – 75

Due Date: 9/5/17

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Everyone equally contributed

11. What is the typical gross margin for a food, beverage, or sports drink product (like Powerade) that cost \$1 to \$2 per bottle/unit? For this gross margin, look for a % value. Note: this will take some searching on the internet and secondary data. What source(s) did you use? **Food and beverage products that cost around \$1-\$2 usually have a gross profit margin ranging anywhere between 35-55%.**

Source: <http://yourbusiness.azcentral.com/gross-profit-margin-food-industry-26284.html>

Links for Questions 6 and 7

Question 6:

<https://www.statista.com/statistics/408976/best-selling-sports-drink-brands-in-us-c-stores-based-on-unit-sales/>

<https://www.statista.com/statistics/348758/us-supermarkets-sports-drink-dollar-sales/>

<https://www.statista.com/statistics/566755/us-sports-and-energy-drink-retail-sales/>

<https://www.statista.com/statistics/448605/dollar-sales-of-sports-drinks-in-the-united-states/>

Question 7:

<http://valuenetworkissues.blogspot.com/2016/03/gatorade-sets-its-sights-on-digital.html>

<http://www.foxbusiness.com/features/2016/04/21/inside-bodyarmors-plan-to-catch-gatorade-in-sports-drink-market.html>

Question 8 B:

<http://assignmenthelpseries2.blogspot.com>

<https://core.ac.uk/download/pdf/7012563.pdf>

