

Homework 2

POM 500 Statistical Analysis

Note: Attempt all questions as per rubric. Weightage for each problem including case study is 10 marks. The maximum you can score is 50. Use Excel function wherever possible.

Problem-1

Using 'VehicleFailureData', summarize 'Mileage at Failure' by obtaining:

- a) Mean (Write Excel function)
- b) Median (Write Excel function)
- c) Mode (Write Excel function)
- d) 10th percentile (Write Excel function)
- e) 90th percentile (Write Excel function)
- f) 1st quartile (Write Excel function)
- g) Total Count (Write Excel function)
- h) Sum (Write Excel function)
- i) Range (Write Excel function)
- j) Standard deviation (Write Excel function)

Problem-2

Public transportation and the automobile are two methods an employee can use to get to work each day. Samples of times recorded in minutes for each method are shown.

Public Transportation	28	29	32	37	33	25	29	32	41	34
Automobile	29	31	33	32	34	30	31	32	35	33

- a) Compute the sample mean time to get to work for each method. (Write Excel function)
- b) Compute the Standard deviation for each method. (Write Excel function)
- c) Based on your results from parts (a) & (b), which method of transportation should be preferred? Explain.

Problem-3

Closing stock market prices for Apple and Microsoft during a week in January 2012 were as given below: (Write Excel function)

Apple	Microsoft
\$447.28	\$29.23
\$444.63	\$29.50
\$446.66	\$29.56
\$420.41	\$29.34
\$427.41	\$29.73

Calculate coefficient of variation (CV) for each company. (Write Excel function)

Problem-4

Shown below are the top nine leading retailers in the United States in a recent year according to Kantar consulting.

Company	Revenues (\$ billions)
Walmart	374.80
The Kroger Co.	115.89
Amazon	102.96
Costco	93.08
The Home Depot	91.91
Walgreens Boots Alliance	82.75
CVS Health Corporation	79.54
Target	71.88
Lowe's Companies	63.13

Assume that the data represent a population.

- Find the mean. (Write Excel function)
- Find the range. (Write Excel function)
- Find the population variance. (Write Excel function)
- Find the population standard deviation. (Write Excel function)

Case study: Business Schools of Asia-Pacific

The pursuit of a higher education degree in business is now international. A survey shows that more and more Asians choose the master of business administration (MBA) degree route to corporate success. As a result, the number of applicants for MBA courses at Asia-Pacific schools continues to increase.

Across the region, thousands of Asians show an increasing willingness to temporarily shelve their careers and spend two years in pursuit of a theoretical business qualification. Courses in these schools are notoriously tough and include economics, banking, marketing, behavioral sciences, labor relations, decision making, strategic thinking, business law, and more. The dataset MBA Asia-Pacific shows some of the characteristics of the leading Asia-Pacific business schools.

Managerial Report: Use the methods of descriptive statistics to summarize the data in MBA Asia-Pacific. Discuss your findings.

- Your discussion should include a summary for each variable in the data set. Make comments and interpretations based on appropriate means and proportions. What new insights do these descriptive statistics provide concerning Asia-Pacific business schools?
- Summarize the data to compare the following:
 - Any difference between local and foreign tuition costs.
 - Any difference between mean starting salaries for schools requiring and not requiring work experience.
 - Any difference between starting salaries for schools requiring and not requiring English tests.
- Do starting salaries appear to be related to tuition?