

CHAPTER 1

An Introduction to Business Statistics

- 1.1** Quantitative/Interval. The differences between average monthly temperatures are meaningful, but there is no true zero point, i.e., absence of temperature.
- 1.2** Quantitative/Ratio. The differences between average monthly rainfalls are meaningful, and there is a true zero point, because there may be a month without any rainfalls.
- 1.3** Qualitative/Ordinal. You can rank education level, but the differences between different educational levels cannot be measured.
- 1.4** Qualitative/Nominal. The marital status is just a label without a meaningful difference, or ranking.
- 1.5** Quantitative/Ratio. The differences between ages of respondents are meaningful and there is a true zero point: an age of the respondents that equals zero represents the absence of age.
- 1.6** Qualitative/Nominal. The genders are merely labels with no ranking or meaningful difference.
- 1.7** Quantitative/Interval. The differences between birth years are meaningful, but there is no true zero point with calendar years.
- 1.8** Qualitative/ Nominal. The political affiliations are merely labels with no ranking or meaningful difference.
- 1.9** Qualitative/ Nominal. The races of the respondents are merely labels with no ranking or meaningful difference.
- 1.10** Qualitative/ Ordinal. You can rank the performance rating, but the differences between different performance ratings cannot be measured.
- 1.11** Qualitative/ Nominal. The uniform numbers of each member of the school's sport team are labels with no ranking or meaningful difference.
- 1.12** Qualitative/ordinal. The differences in the data values between class ranks are not meaningful.

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- 1.13** Quantitative/Ratio. The differences between final exam scores for your statistics class are meaningful, and there is a true zero point because a student who did not take the exam would have a score of zero.
- 1.14** Qualitative/Nominal. The state in which the respondents in a survey reside is a label and it is meaningless to talk about the rating of this value.
- 1.15** Quantitative/Interval. The differences between SAT scores for graduating high school students are meaningful, but there is no true zero point because a student with an SAT score equal to zero does not indicate the absence of a score.
- 1.16** Qualitative/Ordinal. You can rank movie ratings, but the differences between different ratings cannot be measured.
- 1.17** Qualitative/ordinal. The differences in the data values between ratings are not meaningful.
- 1.18** Qualitative/ordinal. The differences in the data values between ratings are not meaningful.
- 1.19** Cross-sectional
- 1.20** Time series
- 1.21** Time series: Men weekly earnings over the five years.
Time series: Women weekly earnings over the five years.
- 1.22** Cross-sectional data: Men and women workers weekly earnings for any one particular year.
- 1.23** Cross-sectional: The number of 8x10, 11x14 and 13x19 prints sold over a particular year.
- 1.24** Time series: the number of 8x10 prints sold over the four years.
Time series: the number of 11x14 prints sold over the four years.
Time series: the number of 13x19 prints sold over the four years.
- 1.25** Descriptive statistics, because it identifies a sample mean.
- 1.26** Inferential statistics, because the statements about comparing the average costs of a hotel room in two states was based on results from samples taken from two populations.

- 1.27** Inferential statistics, because it would not be feasible to get the credit card debt from every graduate student in the country. These results would be based on a sample of the population used to make an inference about the entire population.
- 1.28** Descriptive statistics, because we summarize reviewer scores without going into inference.
- 1.29** Inferential statistics, because it would not be feasible to survey every American in the country. These results are based on a sample of the population used to make an inference on the entire population.
- 1.30** Descriptive statistics, because this percentage represents the proportion of a specific group of customers arriving before 6 PM and is not making an inference about the entire population of customers.