

# Research design, measurement, and analysis in a quantitative research method

[Business](#)



## Research Design, Measurement and Analysis Quantitative Research Method

Measurement levels Measurement is important because it connects the observed and the mathematical expressions to be used. Measurement levels include; first, there is the nominal scale differentiating observations based on the number and the class they belong. The degree of difference is not important because the assigned numbers have no value. Example, women are assigned number 3 while women are assigned number 6. Interpreting that with the degree of difference means women are twice men which are wrong (T. R., 1999).

Ratio scale with relevant zero value which forms the basis for the degree of difference hence conclusion foundation (Vogt, 2007). Example of such conclusion is, table length is twice that of a chair. The third scale is Interval showing distance between items. Example is the distance in temperature measurement. Distance from 40-50 is the same as 70-80. The last one is an ordinal scale, which puts items in ranks. There is no degree of difference in this. Example, the ranks below shows an increase in education, 1-lower learning, 2-high school, 3-college and 4- university. Distance from 1 to 2 is comparatively not the same as 3 to 4 (Creswell, 2009).

A variable is a factor that exists in differing types or amounts. In making observations and conclusions, the researcher needs to define which factor affects the other (Christensen, 2011). Dependent variables are used in the conclusion after interacting with independent variables. Variables should relate to the study subject. In my research on poor academic performance, for example, I will use teaching styles, student-teacher ratio and study hours as variables.

## References

Christensen, L. J. (2011). Research methods, design, and analysis (11 th ed).

Boston: MA: Allyn & Bacon.

Creswell, J. W. (2009). Research Design: Quantitative, Qualitative and Mixed Methods Approaches. London: SAGE publications.

T. R., B. (1999). Doing quantitative research in the social sciences: An integrated approach to research design, measurement and statistics.

London: Sage Publications.

Vogt, W. (2007). Quantitative research methods for professionals. Boston:

MA: Pearson.