# 4 Steps for conducting a Meta-Analysis.

**Step#1:**  Search for a pool of journal articles related to the current study's dependent and independent variables of interest. The actual search shall be conducted in two ways. First, the researcher used resources from reputable databases—*JSTOR, databases A-Z from SUBR, Google Scholar*, and specialized databases for the field of investigation. Assume from this effort, 300 studies were retrieved.

**Step#2**:  Selection of the usable studies for the dissertation.
Selecting usable research cases. The selection of usable research cases is guided by frequently used statistics such as the p-value, the t-statistic, the mean (average), the standard deviation, the sample size, and the confidence interval. Da Costa and Jüni (2014) refer to this step as quality assessment.

*First,* the researcher collects and analyzes each article, by making the association and capturing the title, year of publication, the author(s) information, and more importantly, what is the response (dependent) variable and the explanatory (independent) variable, and predictor/covariates and other control variables, in each article. The information gathered for this study becomes a database for the dissertation. Once the studies were retrieved, a Microsoft Excel spreadsheet shall be designed to capture information related to the dependent and independent variables, the sample size, the p-values, the t-statistics, the standard deviations, the correlation coefficients, and other statistics pertinent to the study.

A careful examination shall be conducted to ensure that the main elements are present in the newly created MS Excel document including the title of the study, the name(s) of the author(s), the type of publication (book, journal article, magazine, working paper, report, fact sheets, and other information). These studies shall be evaluated for inclusion or exclusion in the analysis based on the decision rule for selecting usable research cases-- the p-value, the t-statistic, the mean (average), the standard deviation, the sample size, and the confidence interval.

**Step#3:** Data analysis.
Note that once the usable research cases are selected, the researcher shall perform the data analyses in three steps:
(1) calculate the mean effect size,
(2) measure heterogeneity in effect size between studies,
and (3) measure the relative contribution to the heterogeneity of different research cases.
 The standard practice is to employ the fixed and random-effects models to estimate the weighted average of estimates from different research cases. The main objective is to measure the effect size from the random or fixed-effects models. It has been a common practice for the p-value approach to combine the results of [xxx] usable-research cases.

**Step#4**: Analysis of the Forest Plot—the overall summary results of a meta-analysis
The forest plot displays the relative contribution of each research case to the overall quantitative summary of the influence that the independent variable may have on the dependent variable.