Improving Research Techniques for Categorical Predictors for Multiple Regression in Information Science Publication

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ABSTRACT

This poster discusses strategies for incorporating categorical predictors into regression analyses. It will conduct a systematic literature review, on Information Science (IS) articles published in the last five years, to assess how researchers in the field handled categorical predictors in their multiple regression analyses. Researchers often use categorical variables, such as gender, ethnicity, religion, regions, etc., as probable predictors of various outcomes. For example, a researcher may be interested in examining whether ethnicity (categorical) influences individuals' online information seeking behavior. While the analysis of variance (ANOVA) can be used to compare the means between groups in such a case, researchers can opt to use multiple regression analysis. The ability of multiple regression analysis to subsume other univariate analyses, such as ANOVA, has increased its popularity over the last couple of decades (Davis, 2010; Thompson, 2015). Multiple regression, however, requires all variables entered in the model be continuous, unlike other analysis techniques. Therefore, whenever categorical variables are employed in a study, they need to be coded before incorporating the variables in the regression model. This research will be the first attempt to analyze how information science (IS) academic researchers utilize categorical predictors for regression analyses, and 2) it will guide researchers in converting categorical data to quantitative data and best interpret the regression coefficients.

ALISE RESEARCH TAXONOMY TOPICS

research methods, bibliometric; informetric; education

AUTHOR KEYWORDS

information science; categorical variables; regression analysis; coding