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**On the ontological and epistemological conceptualization of second and higher order constructs: Distinctions between variance and covariance approaches applied to data complexity**

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In the era of big data, among social science researchers, multi-block data analyses using first order constructs have begun to give way to second or even higher order constructs. Yet, the meaningfulness of the relationship between one level to the higher order level should be considered. The empirical implication can vary depending if one uses a PLS component based approach or a covariance one. This talk will provide examples of how our understanding/conclusions may change depending on both the relationship modeled between first and second order constructs and the algorithm applied (i.e., variance versus covariance). Moreover, discussion on how each algorithm fares relative to increasing data complexity (i.e., number of variables and number of first order constructs).

**Keywords:** Higher order constructs; data complexity; PLS component based approach; covariance approach.