MARKETING
ZFP – Journal of Research and Management

Executive Summary

On Comparison Results from CB-SEM and PLS-SEM: Five Perspectives and Five Recommendations

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Descriptive statistics and the application of multivariate data analysis techniques such as regression analysis and factor analysis belong to the core set of statistical instruments, and their use has generated findings that have significantly shaped the way we see the world today. The increasing reliance on and acceptance of statistical analysis, as well as the advent of powerful computer systems that allow for handling large amounts of data, paved the way for the development of more advanced next-generation analysis techniques. Structural equation modeling (SEM) is among the most useful advanced statistical analysis techniques that have emerged in the social sciences in recent decades. SEM is a class of multivariate techniques that combine aspects of factor analysis and regression, enabling the researcher to simultaneously examine relationships among measured variables and latent variables as well as between latent variables.

Considering the ever-increasing importance of understanding latent phenomena such as consumer perceptions, attitudes, or intentions and their influence on organizational performance measures (e.g., stock prices), it is not surprising that SEM has become one of the most prominent statistical analysis techniques today. While there are many approaches to conducting SEM, the most widely applied method is certainly covariance-based SEM (CB-SEM). Since its introduction by Karl Jöreskog in 1973, CB-SEM has received considerable interest among empirical researchers across virtually all social sciences disciplines. Recently, however, partial least squares SEM (PLS-SEM) has gained massive attention in the social sciences as an alternative means to estimate relationships among multiple latent variables, each measured by a number of manifest variables. Along with the ongoing development of both SEM techniques, research has recently witnessed an increasing debate about the relative advantages of PLS-SEM vis-á-vis other SEM methods, which resulted in the formation of two opposing camps. One group of scholars, supportive of the PLS-SEM method, has emphasized the method's prediction-orientation and capabilities to handle complex models, small sample sizes, and formatively specified constructs. The other group has noted that PLS-SEM is not a latent variable method, producing biased and inconsistent parameter estimates, calling for the abandonment of the method.

Tying in with these debates, in this manuscript, we highlight five different perspectives on comparing results from CB-SEM and PLS-SEM. These perspectives imply that the universal rejection of one method over the other is shortsighted as such a step necessarily rests on assumptions about unknown entities in a model and the parameter estimation. We argue that researchers' functional background and adherence to a specific position in philosophy of science contribute to the confusion over which method is "right" and which one is "wrong." Based on our descriptions, we offer five recommendations that share a common theme: The comparison of results from CB-SEM and PLS-SEM—despite considerable research interest—is misguided, capable of providing both false confidence and false concern. Instead of seeking

confidence in the comparison of results from the different approaches, researchers should instead focus on more fundamental aspects of modeling, measurement, and statistical analysis.