

Chapter 22

Which is the Best Way to Measure Job Performance: Self-Perceptions or Official Supervisor Evaluations?

Ned Kock

*Department of International Business and Technology Studies, Texas A&M International University,
Laredo, TX, USA*

ABSTRACT

Among latent variables that can be used in e-collaboration research, job performance is a particularly important one. It measures what most e-collaboration tools in organizations aim to improve, namely the performance at work of individuals executing tasks collaboratively with others. The authors report on a comparative assessment of scores generated based on a self-reported job performance measurement instrument vis-à-vis official annual performance evaluation scores produced by supervisors. The results suggest that the self-reported measurement instrument not only presents good validity, good reliability and low collinearity; but that it may well be a better way of measuring job performance than supervisor scores.

INTRODUCTION

Structural equation modeling (SEM) methods and software tools make possible for researchers to simultaneously specify and test measurement and structural models involving latent variables. Mathematically, latent variables are aggregations of their indicators and measurement error. The indicators are quantitative responses, often provided along Likert-type scales, to question-statements in questionnaires.

Two main classes of SEM have been experiencing increasing use in e-collaboration research, as well as in empirical research in many other fields where multivariate statistical methods are typically used. One of these two main classes are SEM based on the partial least squares (PLS) method, a composite-based (as opposed to factor-based) method that does not explicitly account for measurement error. This class of SEM methods owes much of its existence to the work of Herman Wold, who devised a set of

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computationally efficient and nonparametric algorithms that serve as an alternative to the more restrictive covariance-based approach to SEM.

Covariance-based SEM accounts for measurement error and yields fairly precise parameter estimates; also, it has been widely used in the past, although it is arguably experiencing some decline in recent years. Among the reasons for this decline are that covariance-based SEM is somewhat difficult to use and restrictive in its assumptions (i.e., it assumes multivariate normality); and, perhaps more importantly, covariance-based SEM does not estimate factors as part of its iterative parameter convergence process, which can be seen as a major limitation (Kock, 2015a, 2015b).

The other main class of SEM methods seeing increasing use is factor-based SEM (Kock, 2015b), which fully accounts for the measurement errors that are part of the factors in a model. This latter SEM class in some cases builds on coefficients generated by PLS algorithms, although it is very different from PLS-based SEM. The increasing use of this latter type of SEM is due in part to the ease-of-use and extensive features of software tools that implement it, such as WarpPLS (Kock, 2010, 2015a), which we use here in our analyses, building on an illustrative model. We use WarpPLS not only because it implements factor-based SEM, but also because it provides the most extensive set of features among comparable SEM software. Among these features is a comprehensive set of model fit and quality indices, as well as various coefficients that can be used in a variety of tests – e.g., full collinearity variance inflation factors, used in multi-collinearity and common method bias tests.

Among latent variables that can be used in e-collaboration research, job performance is a particularly important one. After all, it measures what one usually wants to ultimately improve with the use of practically any e-collaboration tool in any organization – the job performance of individuals working in teams. In this study, we provide a comparative assessment of scores generated based on a self-reported job performance measurement instrument vis-à-vis official annual performance evaluation scores produced by immediate supervisors. The results discussed here suggest that the self-reported job performance measurement instrument is not only more than adequate, but may well be a better measure than official evaluation scores produced by supervisors.

ILLUSTRATIVE MODEL AND DATA

Our discussion is based on the illustrative model depicted in Figure 1. This illustrative model addresses the organizational effect of the use of social networking sites (SN), such as Facebook and LinkedIn, on job performance (JP). In the model, this effect (i.e., of SN on JP) is hypothesized to be indirect and mediated by intermediate effects on job satisfaction (JS) and organizational commitment (OC). These hypotheses are generally supported by the structural model coefficients; notable among these are the path coefficients and P values indicated next to each arrow in the model. This illustrative model is based on an actual study.

Note that in the model the effect of SN on OC also appears to be primarily indirect and mediated by JS. Our illustrative model is consistent with theoretical developments and past empirical studies relating the use of social networking sites and job performance (Moqbel et al., 2013; Kock & Moqbel, 2016; Kock et al., 2016). The impact of social networking site use on job performance is a topic that can be seen as falling within the broader scope of the e-collaboration research area (Kock, 2005, 2008; Kock & Lynn, 2012).

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