

Reputation as an Intangible Asset: Reflections on Theory and Methods in Two Empirical Studies of Business School Reputations

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In this commentary, two studies of reputation that use different theoretical perspectives and modeling strategies to analyze the same data are compared. The purpose of the commentary is twofold: (a) to articulate the consequences of different modeling strategies for studying organizational reputation empirically and (b) to highlight some core theoretical issues concerning the attributes of reputation as an intangible asset. It is hoped that the commentary will provide some guiding points for future research seeking to develop a better understanding of reputation as an intangible asset.

Keywords: *reputation; resource-based view; multidimensional constructs; structural equation modeling*

The topic of organizational reputation has attracted considerable attention among management scholars over the past 20 years. Much of this work is informed by an intuition that reputation—broadly defined as stakeholder perceptions with regard to an organization's ability to deliver valued outcomes (Rindova & Fombrun, 1999)—provides the firm with an

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intangible asset that affects subsequent performance (Barney, 1991; Dierickx & Cool, 1989). Although this **basic resource-based view** (RBV) intuition permeates much of the work on reputation in management research, a well-developed theory of reputation as an intangible asset is lacking. Much of the current work on the topic has focused on establishing that reputation is a valuable intangible asset by showing its effects on firm performance (Deephouse, 2000; Rao, 1994; Roberts & Dowling, 2002). Less attention has been given to the attributes of firm reputation that make it a valuable intangible asset.

In this regard, Boyd, Bergh, and Ketchen's (2010; from now on BBK) article published in this issue of *Journal of Management* offers a timely attempt to test an RBV framework of reputation using the variables and reported correlations among them from our article published in the *Academy of Management Journal* (AMJ) in 2005 (Rindova, Williamson, Petkova, & Sever, 2005). The core argument that BBK advance in their article is that reputation is "an organizational attribute . . . depicted as a broad, multidimensional single construct whose value is determined through the interactions and interrelationships among multiple attributes, both internal and external to the firm (Barney, 1991; Roberts & Dowling, 2002)." **Based on this argument, BBK model reputation as a single latent construct represented by a heterogeneous set of internal and external objective attributes, including stakeholder perceptions.** They also treat the prominence dimension of reputation we proposed in our study as a distinct construct mediating the relationship between reputation and performance.

Although we agree with the treatment of reputation as a multidimensional construct and the complementarity between an RBV perspective and the theory we developed in our AMJ article, we believe that both the conceptual and empirical issues of such an approach merit further consideration. The purpose of our commentary, therefore, is to consider these issues in order to (a) **explicate the consequences of different modeling approaches for the empirical study of reputation and its effects on performance** and (b) **clarify several important theoretical issues concerning an RBV perspective on reputation as an intangible asset.**

Specifically, we emphasize that reputation is a sociocognitive construct that is distinct from the objective internal and external resources invested to develop it and that reputation is characterized by two dimensions—quality and prominence—that together determine its value as an intangible asset contributing to firm competitive advantage. We focus on these two issues not only because they provide important insight into the differences in the conceptual and empirical treatment of reputation in our article and in BBK's but also because we see them as central to the development of a more systematic RBV approach to the study of reputation as an intangible asset. By highlighting the implications of these theoretical issues for the empirical tests of reputation effects, we hope that our commentary will guide future research toward developing more nuanced understanding of the value of reputation as an intangible asset.

Modeling Reputation: Reflective Versus Composite Models

A key distinction between our AMJ study and the analyses presented by BBK lies in **how the relationships between reputation and its antecedents are modeled.** BBK treat reputation

as a latent construct predicting business school attributes, as indicated by the structural paths in their model pointing from the reputation construct to business school attributes. Structural equation modelers refer to this approach as a reflective view of a multidimensional construct (Jarvis, MacKenzie, & Podsakoff, 2003; Law & Wong, 1999). Conversely, in our *AMJ* study we theorize and model reputation (with its quality and prominence dimensions) as predicted by business school internal and institutional attributes, as illustrated by the structural paths in our model pointing from business school attributes toward reputation. This approach is commonly referred to as a composite view of a multidimensional construct. Thus, in our model reputation is an endogenous variable predicted by a set of theoretically relevant business school attributes, whereas in BBK's model reputation is an exogenous variable without predictors.

BBK reanalyze our *AMJ* data in an effort to empirically determine whether their reflective model offers a superior understanding of the reputation–performance relationship compared with our composite model. They conclude that because their model “has only three causal paths, more degrees of freedom, and substantial improvements in explained variance. Combined with improvements in summary fit measures . . . [the] model is advantageous due to its parsimony, greater explanatory power, and lack of nonsupported hypotheses” (Boyd et al., 2010).

Although consistent with some general criteria for parsimony, BBK's conclusions are inconsistent with the methodological guidance in the domain of structural equation modeling. Structural equation modeling researchers have argued that model parsimony, variance explained, and model fit indices are inadequate criteria for determining when a reflective or composite approach is superior and therefore, how a construct should be modeled (Jarvis et al., 2003; Law & Wong, 1999). Instead, they advocate that “whether one should use the . . . [reflective] or composite view of multidimensional constructs should be theory-driven” (Law & Wong, 1999: 156). Taking this recommendation to heart leads to the following considerations about BBK's and our modeling approaches.

First, BBK view their model as more parsimonious because it has five more degrees of freedom. We note that the increased degrees of freedom are due solely to the fact that BBK do not estimate covariances between their measured indicators of reputation. In contrast, in our model we estimate six covariances between the predictors of reputation. BBK's decision to not estimate covariances between the indicators of reputation is appropriate on the basis of the assumption made in reflective modeling approaches that the indicators are caused by a single construct which accounts for all intercorrelations between them (Jarvis et al., 2003). In other words, reflective models assume that the shared variance between the indicators resides in the latent factor.

In contrast, composite model indicators are usually allowed to be freely correlated because the relationships between these exogenous predictors are not the theoretical focus of the specified model. As a result, it is almost always the case that the degrees of freedom for a composite model are much smaller than those of a reflective model using the same variables (Law & Wong, 1999). Thus, the degrees of freedom difference identified by BBK is not an empirical indicator of model superiority, but simply a reflection of their modeling strategy.

Second, structural equation modeling researchers also caution against interpreting the amount of variance explained in the endogenous variables as an indicator of model superiority. In fact, they specifically analyze how the specification of a multidimensional construct as reflective, as opposed to composite, can result in an inflation of the path coefficient estimates between a multidimensional construct and an endogenous variable (Jarvis et al., 2003;

Law & Wong, 1999). This is because the error variances of the indicators may be overestimated if a reflective approach is taken when “reality” is better reflected by a composite approach. Jarvis et al. (2003) develop a simulation that shows that inappropriately applying a reflective measurement model instead of a composite model can positively inflate the path coefficients between a multidimensional construct and an endogenous variable by 335% to 492%, depending on the intercorrelation magnitudes of the focal constructs. They conclude that “paths emanating from a construct with a misspecified [reflective] measurement model are likely to be substantially inflated, thus leading to Type I errors” (Jarvis et al., 2003: 212). Therefore, they advise researchers that the first step to be taken when determining whether to model a construct as reflective or composite is to develop a “clear conceptual definition of the construct . . . [generate] a set of measures fully representing the domain of the construct, and [give] careful consideration of the relationships between the construct and its measures” (Jarvis et al., 2003, p. 213). Furthermore, their analysis suggests that conclusions about model superiority based on increased variance explained in endogenous variables when using a reflective versus a composite model are unwarranted, unless it can be shown that a reflective model is more consistent with the theoretical conclusions in a given domain.

Finally, prior research has found that many model fit statistics are inadequate tools for determining whether a multidimensional construct should be specified as reflective or composite. In their study comparing reflective with composite measurement models, Jarvis et al. (2003) reported that most commonly used fit-indices, such as the comparative fit indices, the standardized root mean square residual, and the root mean square error of approximation could not differentiate between correctly specified or misspecified reflective and composite models. Only the chi-square and goodness-of-fit indices were able to detect model misspecification. They therefore warn that “when the measurement model is misspecified, researchers may have difficulty detecting it based on the overall goodness-of-fit indices” (Jarvis et al., 2003: 212). BBK report only minor differences in the chi-square statistic (43.03 vs. 46.95) and in the goodness-of-fit indices (.90 vs. .89) between their model and our *AMJ* model, suggesting that the model fit statistics do not provide clear evidence of model superiority.

Taken together, the issues raised by structural equation methodologists about using model parsimony, variance explained, and model fit indices to compare reflective versus composite models of multidimensional constructs suggest that *the empirical results alone of either our study or of BBK’s reanalysis cannot be interpreted as offering a better or worse understanding of reputation as an intangible asset*. Instead, clear theory should guide researchers’ measurement and modeling decisions (Jarvis et al., 2003; Law & Wong, 1999). In keeping with this recommendation, we turn to a discussion of several theoretical issues next.

What Is Reputation?

Over the past three decades, reputation scholars from several disciplines, such as management, economics, sociology, and marketing, have generated multiple definitions of reputation that vary in their focus and specificity (see Rindova et al., 2005: table 1, for a summary of definitions and approaches to reputation across these disciplines). As we emphasized in our *AMJ* article, scholars working primarily from an economic perspective tend to define

reputation as perceptions about an organization's strategic type (Shapiro, 1983; Weigelt & Camerer, 1988). Conversely, scholars working from a sociologically-oriented perspectives view reputation as broad collective knowledge and recognition (Fombrun, 1996; King & Whetten, 2008; Rao, 1994; Rhee & Valdez, 2009). Furthermore, whereas the first group of scholars view reputation as the perceptions of a particular stakeholder group, such as customers (Allen, 1984; Shapiro, 1983) or alliance partners (Arend, 2009; Dollinger, Golden, & Saxton, 1997), the second group views reputation as generalized perceptions that develop across stakeholder groups (Camic, 1992; Fombrun & Shanley, 1990; King & Whetten, 2008; Lang & Lang, 1988).

Despite these differences in definitions and approaches, scholars from all disciplines converge on two conceptual points: (a) that the term *reputation* refers to social cognitions, such as knowledge, impressions, perceptions, and beliefs and (b) that these social cognitions reside in the minds of external observers. An important implication of this consensus is that it is theoretically and empirically important to distinguish between the antecedents of reputation (i.e., internal and external investments, actions, and attributes through which reputation is developed) and the social cognitions—of a specific stakeholder group or across stakeholder groups—that constitute firm reputation. Therefore, although it may be true that *the value of reputation* can be “determined through the interactions and interrelationships among multiple attributes, both internal and external to the firm” (Barney, 1991; Roberts & Dowling, 2002) as BBK argue (Boyd et al., 2010), *reputation itself* cannot be equated with the external and internal attributes that lead to its development. If they were the same, reputation would be redundant with those attributes as an explanation of firm performance.

Furthermore, the distinction between resources invested in developing reputation (i.e., its antecedents) and reputation itself is central to the RBV view of reputation. In a seminal contribution on the topic, Dierickx and Cool (1989) distinguished between resource flows and asset stocks and argued that “a firm's current *strategy* involves choosing *optimal time path of flows*, whereas its *competitive position* and hence its potential profitability is determined by the level of its *stock*” (Dierickx & Cool, 1989: 1510). This argument suggests that the investments (resource flows) that firms make to accumulate a reputational asset are distinct from the asset itself. The accumulation of the asset in turn is affected by the pattern (Rindova, Petkova, & Kotha, 2007), consistency (Clark & Montgomery, 1998), and levels (Shapiro, 1983) of different actions and investments. Conceptualizing reputation as distinct from the investments and attributes that lead to its accumulation is, therefore, central to the RBV perspective on reputation. The idea that reputation is distinct from the resource flows leading to its accumulation also points to the appropriateness of using composite models to study reputation.

BBK construct a reflective model using student GMAT scores, media rankings, faculty publications, faculty degree prestige, and recruiters' perceptions of quality all as indicators of the latent construct they call reputation. However, a closer look at these indicators reveals that only one of them—perceptions of quality—is actually a direct measure of stakeholders' reputation cognitions, whereas the rest are measures of different types of investments in reputation building. In our study, we explicitly treated these investments in reputation building as antecedents of reputation to develop a more nuanced understanding of reputation formation. Our central point is that using a composite approach that separates measures of stakeholders' reputation cognitions from objective antecedents is both theoretically consistent with the RBV

perspective and critical for understanding the mechanisms through which reputation affects performance. Accordingly, we took care to collect all data on the internal and external antecedents of reputation in a time period prior to the administering of the recruiter's survey, which provided our perceptual measures of reputation.¹

We also believe the use of a composite (as opposed to reflective) model is appropriate given the specific characteristics of the data. A necessary assumption of reflective models is that the indicators of a construct are interchangeable, such that a change in one indicator is expected to be associated with a corresponding change in the other indicators (Jarvis et al., 2003). In the context of our data, this would suggest that business schools' GMAT scores have the same meaning as faculty publications or schools' media rankings. Although it is appropriate to assume that these attributes may covary (as in our model), we do not believe that they can be treated as either conceptually or empirically interchangeable. Indeed, prior research has found that faculty degree prestige and business school public rankings are not strong predictors of faculty publications (Long, Bowers, Barnett, & White, 1998; Williamson & Cable, 2003). In contrast to the reflective approach, a composite approach does not require indicators to be interchangeable, to covary, or even to come from the same nomological net (Jarvis et al., 2003). The only critical assumption in composite models is that changes in the indicators will create a change in the construct to which they are linked. Thus, overall, we believe that our composite model of reputation, which distinguishes between reputation as a sociocognitive construct and its antecedents, is more consistent with both extant theory in reputation research and with the work in RBV on asset stock accumulation.

Reputation: From Definition to Composition

It is fairly obvious that all organizations are subject to some type of stakeholder perceptions with regard to their ability to deliver valued outcomes and therefore have some degree and type of reputation. Yet it can hardly be argued that all firms can claim a competitive advantage because of their reputation. For example, a firm that is known to a handful of stakeholders only or a firm that has accumulated mixed, lukewarm, or negative perceptions among its stakeholders, is unlikely to benefit from its reputation even though its reputation may have emerged over a considerable period of time and through complex, causally ambiguous, social processes. Therefore, the question about the characteristics of reputation that make it a valuable intangible asset looms large on the RBV research agenda in this area.

An important theoretical and empirical contribution of our *AMJ* study was to theorize and demonstrate that reputation manifests along two dimensions—prominence and perceived quality—and that these dimensions have different predictors and performance consequences. This theory was developed based on a comprehensive review of research on reputation in four different research fields. Based on this review we predicted that prominence reflects the organization's relative centrality in collective attention and memory, whereas perceived quality reflects the relative favorability of stakeholders' evaluations of an organization's ability to produce quality products.

These ideas and empirical findings have considerable implications for the RBV treatment of reputation as an intangible asset, as they provide insights into how reputation can be understood as varying both in terms of level of accumulation (prominence) and content

(quality). Although the quality dimension of reputations has been studied more often (Benjamin & Podolny, 1999; Greenwood, Li, Prakash, & Deephouse, 2005), the prominence dimension is quite important for analyzing the effects of reputation because it characterizes its asset mass (Dierickx & Cool, 1989)—that is, its level accumulated within a given organizational field. Thus, we theorize that accounting for the composition of a reputational asset in terms of both dimensions should enable more detailed analysis of its functions as an asset and how it contributes to the competitive advantage of a firm.

These arguments run counter to BBK's choice to treat prominence as a separate construct that fully mediates the relationship between the latent construct of reputation and the performance variable—price premium. However, given limitations inherent in the context of our sample, we believe further research is needed to clarify the dimensions of reputation. As explicitly highlighted in our *AMJ* study, we advised future research to investigate our ideas in other contexts in order to “examine the extent to which the economic consequences of the two dimensions depend on the institutional context that surrounds an industry” (Rindova et al., 2005: 1045). We further explained that

[T]he organizational field of business schools, which provided the empirical context for the test of our model, may have particularly strong institutional forces, since premier scholarly journals are strongly institutionalized forms for certifying scholarly contribution (Zuckerman, 1988) and media rankings of business schools have a high degree of legitimacy with various stakeholders. In such a context the effects of prominence on economic payoffs may be stronger than in contexts where institutional intermediaries are less well established or credible. Further, it will be important to examine the extent to which our findings hold in other settings, where rankings are common and pervasive, but product quality is not so difficult for stakeholders to evaluate. (p. 1045)

Because of these limitations as well as the fact that our sample consists only of Association to Advance Collegiate Schools of Business–accredited schools, which places them above a clear high standard of quality, we believe that the questions of whether perceived quality and prominence are two dimensions of reputation or two distinct constructs, and whether prominence fully mediates the effect of reputation on performance cannot be addressed effectively using the same data and research setting.

We highlight these issues as important directions for future research. It may be the case that perceived quality is a necessary but not sufficient condition for reputation to generate the competitive advantages theorized by extant RBV research; it may also be the case that the effects of perceived quality and prominence vary across contexts, as suggested above. We believe that future research using diverse empirical settings where organizations' reputations vary considerably along both dimensions (see Gardberg & Fombrun, 2002, for a discussion) is needed to develop a more systematic understanding of the joint effects of prominence and perceived quality. Such research will also contribute directly to the RBV by accounting for the effects of both the level of accumulation and the content of reputational assets.

Conclusion

In conclusion, the purpose of our commentary is twofold: (a) to articulate the consequences of different modeling strategies for studying organizational reputation empirically

and (b) to highlight some core theoretical issues that need to be better accounted for in future empirical research. Our review of the structural equation modeling literature brings to the attention of management scholars the need to distinguish more carefully between reflective and composite modeling strategies and to make theoretically guided and theoretically consistent choices between them. In the context of reputation research, our review of the reputation literature suggests that composite models—such as the one used in our *AMJ* article—are more consistent with both the general literature on reputation and the RBV understanding of reputation as an accumulated asset. However, we would like to emphasize that we do not mean to imply that reputation should always be modeled using composite models. If researchers collect multiple measures of a stakeholder's perceptions or measure the perceptions of different stakeholder groups, it would be both conceptually and empirically appropriate to employ reflective models. For example, researchers interested in understanding the effects of different types of perceptions—such as those reported in the general media versus those reported in an industry trade press or those that can be found on various blogging sites—can fruitfully employ reflective models to address their research questions. In contrast, we believe that composite models are more appropriate for distinguish the effects of different types of antecedents (for example, resource-based versus institutional, as in our *AMJ* article) on reputation.

In terms of advancing understanding of reputation as an intangible asset, we draw attention to the idea that the value of reputation as an asset depends not only on perceived quality (i.e., the extent to which an organization is evaluated positively by stakeholders) but also on its level (i.e., the extent to which large numbers of stakeholders focus their attention on the focal firm rather than on competitors). Therefore, going forward we believe it is important for future research studying reputation in different settings to account for both dimensions of reputation in order to better determine the importance of the prominence and quality dimensions of reputation in shaping organizational outcomes.

Taken together our comments highlight important empirical and conceptual issues that should facilitate future research on reputation from an RBV perspective. The efforts of BBK to reanalyze our original data provided us with a rare opportunity to compare and contrast the outcomes from two fundamentally different modeling and theoretical approaches to reputation and to bring research attention to some underappreciated issues in this growing area of inquiry.

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Note

1. Specifically, we used incoming students' GMAT scores for 1998 and 1999, average faculty experience prior to 2000, media rankings in 1998, faculty publications from 1996 to Fall 2000, and university prestige ranking in 1997. In contrast, the recruiter survey was administered during the last quarter of 2000.

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