THE CONSTITUTIVE ROLE OF TRANSPARENCY IN ORGANIZATIONS

by

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Abstract

Transparency is an increasingly important, yet poorly understood, construct. Drawing on relevant literatures, this study builds a comprehensive definition of transparency and empirically examines its relationship with trust, organizational buy-in, and information usefulness. A quasi-experimental analysis reveals transparency significantly predicts these constructs. Implications for managers and researchers are discussed.

In recent years, a great deal of interest has coalesced around the topic of transparency (Patel, Balic, & Bwakira, 2002). Mainstream periodicals cite transparency as essential to successful mergers and joint ventures ("Shades of grey," 2009; "Changing course," 2009), well-functioning financial markets (Ackermann, 2008), effective national governance (Theil, 2010), and the reestablishment of organizational trust (Fifield, 2010). Empirical studies, however, show mixed results as to the effects of transparency on institutional outcomes (Madhavan, Porter, & Weaver, 2005). Some scholars argue that transparency is an essential component to effective organizing (Fleischmann & Wallace, 2005) while others argue it is an "overrated" concept (Pirson & Malhotra, 2008: p.44).

Transparency is a complicated subject (Madhavan, 2000) and there is a general lack of knowledge about its effects on institutional behavior (Bloomfield & O'Hara, 1999). A fundamental problem in understanding how transparency relates to institutional outcomes stems from a lack of consensus about the basic definition of transparency (Bloomfield & O'Hara, 1999). The primary objective of this study is to develop a comprehensive and unified definition for transparency as the level of perceived understandability, completeness, and correctness in institutional communications.

Specifically, the purposes of this paper are threefold. First, I develop a comprehensive conceptual model for the construct of transparency. Second, I build the case for a multidimensional theory-based scale for transparency and offer evidence of its construct validity. To accomplish this, I elaborate on the theoretical dimensions of transparency and describe the item development and validation processes performed to assess this derived structure.

Third, I use Structural Equation Modeling (SEM) to show the predictive power of transparency by investigating its relationship with perceived organizational trust, company buy-

in, and information usefulness. This analysis reveals the extent to which higher levels of transparency contribute to perceptions of organizational trust. It further reveals that two dimensions of transparency (viz., understandability and completeness) uniquely account for company buy-in and information usefulness, controlling for perceptions of organizational trust. This paper has implications for researchers interested in understanding the relationship between transparency and trust. Further, it offers thought provoking implications for practitioners looking to manage transparency in institutional environments.

TRANSPARENCY: CONSTRUCT DEFINITION

The Latin etymology of the word *transparency* is bipartite, consisting of *trāns* – meaning "across" or "through" – and *pāreō* – meaning "be seen". In the physical sciences, the Merriam-Webster Dictionary defines a transparent object as having the property of transmitting light without appreciable scattering so that bodies lying beyond are seen clearly. Social scientists have metaphorically adopted this definition to connote the ability of interested parties to see through otherwise private information to understand the intentions of the sender.

The field of finance has done much to study the effects of transparency across a broad range of industrial settings. Such studies generally investigate transparency as the inherent quality of information in institutional communications. However, researchers in finance have not yet come to consensus on a single theoretical definition to describe the basic dimensions of transparency (Bloomfield & O'Hara, 1999). Be that as it may, scholars from a variety of research domains have noted the importance of understanding the critical role of institutional communications (e.g., employment contracts) on organizational behavior (e.g., Ashcraft, Kuhn, & Cooren, 2009; Eisenhardt, 1989; Rosengren, 1999; Weick 1987). Therefore, this study builds a

comprehensive definition of transparency based on literature in finance and empirically investigates its constituent parts against important organizational constructs such as trust.

Empirical studies investigating transparency in finance have analyzed it as both the dependent variable (Hodge, Kennedy, & Maines, 2004; Patel et al., 2002) and independent variable (Board & Sutcliffe, 2000; Gemmill, 1996; Rosengren, 1999; Winkler, 2000) under question. Some studies define transparency as the timely disclosure of information (e.g., Bloomfield & O'Hara, 1999; Madhavan, Porter, & Weaver, 2005; Pagano & Roell, 1996; Securities and Exchange Commission, 1995; Securities and Investment Board, 1995) while other studies define transparency as the level of clarity in information (Bushman, Piotroski, & Smith, 2004; Jordan, Peek, & Rosengren, 2000; Winkler, 2000). Still others studies define transparency as the level of accuracy in information (Flood, Huisman, Koedijk, & Mahieu, 1999; Granados, Gupta, & Kauffman, 2006). Overall, the literature in finance appears to ascribe three primary dimensions to the construct of transparency. Namely, transparency is the degree to which information is disclosed, clear, and accurate.

Van Dijk, Duysters, and Beulens (2003) argue that transparency is dynamically constructed between institutions and individuals through exchanges of information construction and interpretation. In essence, transparency is seen as both *enacted* and *perceived* in institutional communications. The literature in finance is primarily focused on understanding transparency as an enacted phenomenon (i.e., as the sending of accurate, disclosed, and clear information). Yet Van Dijk, Duysters, & Beulens (2003) argue that the level of transparency in systems is ultimately determined by its perception rather than its enactment. To date, no instrument has been developed to measure cross-context perceptions of transparency. Hence, this study takes

initial steps towards development of a comprehensive psychometric instrument to measure perceptions of transparency.

To accomplish this, each enacted dimension of transparency identified in the literature is reframed to account for its perception. Specifically, transparency is defined as the level of perceived completeness (i.e., disclosure), understandability (i.e., clarity), and correctness (i.e., accuracy) in messages, documents, or other institutional communications (Table 1). Within this framework, completeness refers to the perceived quantity of information in messages or other communications as well as the availability of that information to interested parties, correctness is defined as the degree to which material claims are made truthfully and reflect truthful qualifications about their perceived validity, and understandability is defined as the extent to which representations are designed in ways that are understandable to focal audiences (Figure 1).

Recent literature has suggested that transparency and trust are intricately related concepts (Pirson & Malhotra, 2008). However, the relationship between trust and transparency has yet to be empirically examined. Hence, this paper reports the results of a quasi experiment conducted to investigate the relationship between perceptions of transparency and organizational trust.

The Dimensional Structure of Transparency: An Empirical Analysis

The conceptual model of transparency outlined in Figure 1 can be understood as a multidimensional model consisting of three formative first-order factors (viz., accuracy, disclosure, and clarity), three reflective first-order factors (viz., perceived correctness, completeness, and understandability), and one second-order factor (viz., transparency) (Law, Wong, & Mobley, 1998; Petter & Straub, 2007). In this study, I take initial steps towards

development and validation of an instrument to measure the three reflective first-order factors of transparency by controlling the three formative first-order factors of transparency.

Item Development and Validation

The following outlines the item development process used to construct the measure of transparency. I then outline the results of an Exploratory Factor Analysis (EFA) conducted to investigate the factor structure of transparency. Next, I offer the results of a Confirmatory Factor Analysis (CFA) carried out to test the higher-order factor structure of transparency. Results investigating the convergent and discriminant validity of transparency are then offered. Finally, factorial equivalence was tested to see if each dimension of transparency was group invariant.

To build a measure for transparency, I used both deductive and inductive approaches for item generation to assess how transparency was perceived in communications (Hinkin, 1995). Initial content specifications were developed based on an extensive review of the literature in finance (e.g., Flood et al., 1999; Flood, Huisman, Koedijk, Mahieu, & Roell, 1997; Fons, 1999; Geraats, 2002; Fry, Julius, Mahadeva, Roger, & Sterne, 2000; Jappelli & Pagano, 2000; Jordan, Peek, & Rosengren, 2000; Khanna, Palepu, & Srinivasan, 2004; Morris & Shin, 1997; O'Hara, 1999; Pagano & Roell, 1996; Rosengren, 1999; Tanzi, 1998; Winkler, 2000), and semi-structured interviews with academic specialists in the areas of finance, organizational behavior, and marketing. Based on this comprehensive review, three initial domains were deemed appropriate to constitute the transparency measure (viz., accuracy, disclosure, and clarity).

The three domains associated with perceived completeness, correctness, and understandability were developed and an item pool generated based on an analysis of the literature on closely related constructs such as trust (e.g., Bhattacharya, Devinney, & Pillutla,

1998; Butler, 1991; Das & Teng, 2001; Duarte & Snyder, 1999; Ferrin, Bligh, & Kohles, 2008; Gabarro, 1978; Jones & George, 1998; Lewicki, McAllister, & Bies, 1998; Mayer, Davis, & Schoorman, 1995; McAllister, 1995; Nelson & Cooprider, 1996; Rempel, Holmes, & Zanna, 1985; Ring, 1996; Rousseau, Sitkin, Burt, & Camerer, 1998; Sheppard & Sherman, 1998; Sheppard & Tuckinsky, 1996; Sitkin & Roth, 1993), source credibility and faking (e.g., Ba & Pavlou, 2002; Cunningham, Wong, & Barbee, 1994; Doney & Cannon, 1997; Ganesan 1994; Giffin, 1967; Hovland, & Weiss, 1951; Komar, Brown, & Robie, 2008; McFarland & Ryan, 2000, 2006), organizational justice (e.g., Bies & Shapiro, 1987; Colquitt, 2001; Greenberg, 1987, 1990; Leventhal, Karuza, & Fry, 1980; Mikula, Petrik, & Tanzer, 1990; Moore, 1978; Roch, & Shanock, 2006; Thibaut & Walker, 1975), and framing (e.g., Benford & Snow, 2000; Druckman, 2001; Fiss & Zajac, 2006; Kahneman & Tversky, 1984; Kaplan, 2008; Kuhberger, 1998; Levin, Schneider, & Gaeth, 1998; Tversky & Kahneman, 1981). Semi-structured interviews were then completed with industry professionals to refine the three domains of transparency. Based on these initial results, feedback from doctoral students and faculty, and discussions with other researchers at conferences, no new dimensions were added. From this review I theoretically derived 31 items which were later refined to 21 items that best captured the proposed content areas. These 21 items were then subjected to a content validity assessment by an expert panel of academic specialists from the related research areas listed above. 53 academic specialists were emailed the items and asked to sort them into their respective categories. A final category of "none of the above" was included for good measure. Respondents were then asked to remark on the item structure and content appropriateness of each question.

21 of the 53 specialists responded to the request. Based on the recommendations of the panel, three items were deleted from the survey. All remaining items were assigned to the proper

category more than 80% of the time, indicating they should be retained for further analysis (MacKenzie, Podsakoff, & Fetter, 1991). Fleiss' kappa was used as a measure of agreement between raters for the remaining 18 items. Fleiss' kappa is a statistical measure for assessing the reliability of agreement between multiple raters when classifying items into multiple categories (Fleiss, 1971). According to Landis & Koch (1977), kappa values above .6 are indicative of substantial agreement. Fleiss' kappa was .62, indicating a sufficient level of agreement between raters. On the basis of the ratings, as well as comments regarding the appropriateness of the items for the specified categories, I revised some of the items accordingly and then tested them in a pilot study using PhD students and faculty from the institution where the measure was being developed. The items that were retained for further analysis were as follows: perceived correctness (6 items), perceived completeness (6 items), and perceived understandability (6 items).

EXPLORATORY FACTOR ANALYSIS AND CONFIRMATORY FACTOR ANALYSIS

Participants and Procedures

This study investigated the properties of transparency using a within-subjects quasi-experimental design. Participants were brought to a single location and instructed to work independently to analyze information from five different organizations. The information on each organization consisted of a company prospectus covering various aspects of the firm's operations and a separate Audited Statement of Performance (ASP) used to verify the information in the company prospectus. Each prospectus included the following sections: company overview, financial performance and growth, management and employees, and future outlook. Participants

were asked to evaluate each organization based on the following criteria: financial performance, recent industry growth, management experience, future outlook, and employee morale.

Information on each company was manipulated to reflect a different level of transparency. Unclear information was manipulated by the use of industry jargon, undefined acronyms, and complicated mathematical notations. Inaccurate information was manipulated by controlling the level of similarity between the information in the company prospectus and the Audited Statement of Performance. Participants were instructed to compare the information in the company prospectus to the ASP, which they were told was supplied by an unbiased third party. In the inaccurate condition, company prospectus information did not match the information found in the ASP. In all other cases, it was identical. The information in the company prospectus for the inaccurate condition was manipulated to be more optimistic than the information presented in the ASP. This manipulation gave the impression that the company was overstating its position. Finally, non-disclosed information was manipulated by removing pertinent information from the company prospectus entirely. The company prospectus instead contained information about organizational factors that were irrelevant to the analysis objectives explained to the participants.

As previously mentioned, five organizational conditions were employed in this study; each represented by a separate company prospectus and associated ASP. The first company prospectus outlined information on Nollac Corporation. Nollac Corporation represented the non-transparent condition, in which all information was unclear, undisclosed, and inaccurate (see Attachment A). The second company prospectus included information on Delhomme Corporation, which represented the undisclosed but clear and accurate condition (See Attachment B). The third company prospectus included information on Kleaning Corporation,

which represented the unclear but accurate and disclosed condition (See Attachment C). The fourth company prospectus included information on Forge Corporation, which represented the inaccurate but disclosed and clear condition (See Attachment D). The final company prospectus included information on TransCom Corporation, which represented the fully transparent condition (i.e., accurate, disclosed, and clear) (See Attachment E).

The data for this study were gathered from a sample of 91 students attending a large Midwestern university. All participants were enrolled in a business degree program at the university. Each participant reported on the same set of items five times; once for each of the five organizational treatment conditions. Hence, the usable sample for the focal constructs in this study was 455 (91 x 5 = 455).

There are two fundamental advantages to the within-subjects design: increased power and a reduction in error variance between participants. Higher power reduces the probability of not finding an effect when one exists. Reduced error variance is a result of minimizing individual differences between treatment conditions. Two disadvantages of within-subjects designs concern carryover and order effects. Order effects occur when changes in individual responses are driven in part by the order in which treatment conditions are presented. Carryover effects occur when individual responses to treatment conditions are influenced by practice or fatigue (Greenwald, 1976).

Mitchell and Jolley (2010) argue that carryover effects can be reduced when the experiment is interesting to the participants and/or relatively short in duration. Most subjects completed the present study in less than an hour and the topic of the experiment (i.e., business analysis) was in-line with the general scholastic interests of the participants (i.e., students

enrolled in business degree programs). As for practice, participants were instructed to analyze company information according to a number of performance metrics unassociated with the actual purpose of the study, which was to measure perceptions of transparency. Hence, effects from fatigue and practice were not envisaged to be overly influential.

A number of experimental designs have been developed to account for the effects of treatment ordering. If tenable, complete counterbalancing allows for order effects to be separated from error terms through the process of allocating subjects to treatment sequences equally. If k is the number of treatment conditions in a given study, k! is the number of possible treatment sequences. Hence, the present study would require 5! or 120 subjects to ensure all treatment sequences could be tested. Because the final sample size for this study was not known a priori, randomized counterbalancing was employed to combat the influence of order effects (Pollatsek & Well, 1995).

Participation was sought from roughly one third of all undergraduate students and two thirds of all graduate students enrolled in a business degree program. The researcher pitched the study directly to students in a number of classes. The total solicited sample was 206, resulting in a response rate of 44%.[1] To test if any systematic pattern existed between respondents and non-respondents that might account for non-participation, a Chi-square test was run to examine differences in participation based on sex. The analysis revealed that there was no difference in the proportion of males and females ($\chi^2(1,40) = 1.97$, $p = .16$) between undergraduate participants and non-participants. Hence, no systematic pattern in participation was identified. The same analysis was completed for graduate students. Results indicated that there was no

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[1] Additional solicitation emails were sent to a select number of undergraduate and graduate students. However, the sending of these emails was not under the control of the researcher. Hence, it was not possible to verify how many emails were sent. These emails were not considered in the calculation of response rate.

difference in the proportion of males and females ($\chi^2(1,49) = .08$, $p = .78$) between the two groups, again indicating that no systematic pattern existed between participants and non-participants based on sex.

The average age of the students was 25.2 years ($SD = 5.81$). 43 (47%) were female, with overall mean work experience for both males and females of 3.5 years ($SD = 4.48$). 41 (45%) students were enrolled in an undergraduate degree program. The remaining 50 (55%) were enrolled in a masters degree program, with 48 (96%) of those working towards a Master of Business Administration (MBA) degree. 67 (74%) of the students were from North America, 11 (12%) were from Asia, 12 (13%) were from India, and 1 (1%) was from South America. Participants were assured confidentiality in a cover letter from the researcher. All surveys were distributed and collected at the site of the experiment.

There were very few missing cases in the dataset. Out of the total sample of 455 cases, only 16 were missing across any of the focal variables. Relatively few missing cases in a dataset are of little concern (Kline, 2005). Rather than input values for missing cases, all cases with missing values were deleted using listwise deletion, resulting in a final sample size of 439.

Data Assumptions

A number of important assumptions about the data must be met in order to ensure estimates are reliable in Structural Equation Modeling. In particular, SEM techniques generally assume univariate normality (i.e., acceptable levels of skewness and kurtosis and absence of extreme univariate outliers) and multivariate normality (i.e., homoscedasticity of error variances, absence of extreme multivariate outliers, absence of multicollinearity, and no systematic pattern in missing cases) (Kline, 2005). Each of these assumptions was tested. Further, tests of sphericity

are required to ensure the error covariance matrix of the orthonormalized transformed within-subjects factor is proportional to an identity matrix. Mauchly's test was used to investigate the sphericity of perceived correctness, completeness, and understandability by treatment condition (Mauchly, 1940). If the Chi-square approximation has a probability of less than or equal to alpha (i.e., .05), assumptions of sphericity are violated. The Chi-square approximation for this test is 3.49 with 2 degrees of freedom and an associated probability of 0.17, indicating assumptions of sphericity were met.

Univariate Normality: All variables included in the reflected transparency scale held skewness values between .03 and .744, well below the commonly accepted threshold of 3 (Curran, West, & Finch, 1997). Kurtosis values ranged between .607 and 1.481, also well below the commonly accepted threshold of 10 (DeCarlo, 1997). Univariate outliers were assessed by looking at frequency distributions of z scores. No values were greater than three standard deviations from the mean, indicating responses were satisfactorily distributed.

Multivariate Normality: Multivariate outliers were investigated using Cook's distance and Mahalanobis distance. Cook's distance measures the effect on the residuals for all other observations when a given case is deleted. Mahalanobis distance indicates the distance in standard deviation units between a set of scores for an individual case and the sample means for all variables. There is no single agreed upon measure for testing multivariate outliers (Bollen & Jackman, 1990; Kline, 2005). Hence, for a case to be considered extreme, it should demonstrate abnormality across multiple measures of distance. Fox (1991) suggests the following cutoff value for detecting influential cases using Cook's distance: 4 / (N - k - 1), where N is sample size and k is the number of independent variables. The cutoff value was equal to .009 in the dataset. With regard to Mahalanobis distance, Stevens (2002) notes that a highly significant (i.e., $p <$

.001) value can be indicative of extreme cases. Five cases (1%) were beyond the cutoff suggested by Fox (1991) for Cook's distance. However, based on analysis of both Cook's distance and Mahalanobis distance, no cases were identified as extreme multivariate outliers on both measures.

Homoscedasticity of error variance was investigated by plotting studentized deleted residuals (y-axis) by standardized predicted scores (x-axis). Scatter around the best fitting line should not exceed a 3 to 1 ratio of highest to lowest error variance (Fox, 1991). The analysis revealed that error variances were well within the range suggested by Fox (1991). Multicollinearity was investigated by analyzing Variance Inflation Factors (VIF). When VIF values are large, multicollinearity may be problematic. Kline (2005) suggests a VIF value of greater than 10 might be indicative of multicollinearity. VIF values ranged from 1.59 to 8.14, indicating multicollinearity was not problematic. Overall, assumptions about univariate and multivariate normality appear to be met.

Results

Exploratory Factor Analysis: I used results of an exploratory factor analysis to further examine the measures. Extraction was completed using Principle Components Analysis (PCA) under a direct oblimin rotation. If the factors are correlated at all, the direct oblimin rotation should theoretically render a more accurate and reproducible solution compared to other orthogonal methods (Costello & Osborne, 2005). Three distinct factors are identified with eigenvalues greater than 1.0 (Kim & Mueller, 1978). Two items from each factor held uniquely high secondary factor loadings. These items were deleted from the analysis, leaving a total of four items for each factor. The final pattern of factor loadings is presented in Table 2.

Correlations between factors are not particularly high, indicating initial evidence of discriminant validity. Reliability estimates (Cronbach's alphas) for perceived completeness, correctness, and understandability is .96, .97, and .94, respectively. The resulting 12 items were retained for confirmatory analysis to test for the existence of a second order-factor (Table 3).

Confirmatory Factor Analysis: I conducted a CFA to examine whether a second-order transparency factor existed and whether it explained the relationships among the three lower order factors using AMOS maximum likelihood procedure (Arbuckle & Wothke, 1999). The existence of a second-order factor would indicate that transparency is an overall measure of completeness, understandability, and correctness. To assess model fit, I used several fit indexes including the Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Chi-square (χ^2), and the ratio of the differences in Chi-square to the differences in degrees of freedom (χ^2/df). Given that there is no one acceptable cutoff value of what constitutes adequate fit (Cheung & Rensvold, 2002), I elected to use a CFI value of .95 and an RMSEA value of .06 or less as indicative of adequate fit (Hu & Bentler, 1999). For χ^2/df, I interpreted a ratio of less than or equal to 3.00 as a good fit (Kline, 2005).

I compared the fit of three different factor structures for transparency. The first was a one factor model, in which all 12 items were loaded on one factor. The second was a first-order factor model in which items were allowed to load onto their respective factors and the factors allowed to correlate with each other. The third was a second-order factor model in which items were loaded onto their respective factors and all three factors were then loaded on a second-order latent factor. The third model is mathematically equivalent to the second model (Bollen, 1989). However, if tenable, the second-order factor model is preferable because it allows for the

covariation among first-order factors by accounting for corrected errors that are very common in first-order CFA (Gerbing & Anderson, 1984).

The fit statistics for the three models for transparency are shown in Table 4. The results illustrate that the best fitting model is the second-order factor model. The fit statistics show a strong improvement in the Chi-square, CFIs, and RMSEAs over the one-factor and first-order factor models and thus suggest that the second-order factor model is preferable. However, a sufficient degree of construct validity must exist to justify the presence of a second-order latent factor. Hence, the following analysis investigates the convergent and discriminant validity of transparency.

Convergent Validity: Fornell & Larcker (1981) argue that convergent validity can be demonstrated when Average Variance Extracted (AVE) exceeds .50. AVE measures the amount of variance that is captured by the factor in relation to the amount of variance due to measurement error. If the AVE is less than .50, then the variance due to measurement error is greater than the variance due to the factor. In this case, the convergent validity of the factor is questionable. I examined the AVE for all focal constructs in this study. The AVE for transparency is .345, well below the threshold suggested by Fornell & Larcker (1981). Hence, the use of a second-order latent factor model is not justified for transparency. The convergent validity of each dimension of transparency was then tested. The AVE values for perceived correctness, completeness, and understandability are .86, .87, and .80, respectively. Hence, each dimension of transparency held a strong degree of convergent validity, indicating that the most appropriate model to represent transparency was the first-order factor model.

Discriminant Validity: Fornell & Larcker (1981) suggest that discriminant validity can be evaluated by comparing the squared correlation between two factors with their respective AVE values. Equivalently, one could compare the square root of AVE against the correlation between two factors. Discriminant validity is demonstrated if the square root of AVE of both constructs is greater than the correlation between those constructs. The correlations between organizational trust and perceived completeness, correctness, and understandability are .42, .74, and .34, respectively. The square root of AVE for organizational trust (i.e., .917) is greater than each bivariate correlation, indicating organizational trust is sufficiently discernable from perceived completeness, correctness, and understandability. Square root of AVE values for perceived completeness, correctness, and understandability are .926, .935, and .896, respectively, indicating the dimensions of perceived completeness, correctness, and understandability are sufficiently discernable from organizational trust. I then tested for discriminant validity between each dimension of transparency. All square root of AVE values exceed the correlation between each construct, indicating each dimension is capturing unique elements of transparency (Table 5).

Test for Factorial Equivalence: Factorial equivalence was tested to see if the measurement instrument was group invariant. Tests of factorial equivalence show the level of instrument stability across a set number of groups. Two subsamples were drawn from the data based on sex (Male $n = 231$, Female $n = 204$) to test if the items comprising the first-order factor model operate equivalently across groups. Three nested models were evaluated as part of the analysis: an unrestricted model that imposed no equality constraints between the two groups, a measurement weights mode that constrained all factor loadings between the groups, and a structural covariances model that constrained all measurement weights and structural covariances

between the groups. The key indices are the Chi-square statistic, CFI, and RMSEA values. A non-significant Chi-square difference would provide support for generalizability across the two groups (Byrne, 2010). Fit statistics are outlined in Table 6. The comparison of the Chi-squares yields a difference value of 6.54 with 15 degrees of freedom between the unconstrained model and the more restrictive structural covariances model. This comparison of models is not statistically significant. Given these findings, I conclude that all factor loadings and covariances are invariant across groups.

Discussion

Results of this analysis suggest that transparency consists of the three first-order factors of perceived correctness, completeness, and understandability. Each first-order factor is measured by four theoretically derived and empirically validated items. Based on tests of factorial equivalence, items used to measure each dimension of transparency demonstrate internal consistency across males and females. The lack of convergence between each first-order factor indicates that a second-order latent factor for transparency may not exist. However, a possible reason for non-convergence between each first-order factor might be related to the methodological controls used in this study. Information on each organization was manipulated to capture the effects of higher or lower levels of accuracy, disclosure, and clarity. To allow for a deeper analysis of each dimension of transparency, these controls exacerbated the differences between each enacted dimension of transparency, which might have lead to less convergence between each perceived dimension of transparency. Nonetheless, at this juncture transparency can be thought of as a categorical term consisting of three separate first-order factors.

TRANSPARENCY, TRUST, SOURCE CREDIBILITY, COMPANY BUY-IN, AND INFORMATION USEFULNESS

The purpose of the following analysis is to provide evidence of nomological validity for the newly developed transparency measure in an effort to demonstrate further construct validity (Hinkin, 1995). The construct validation process adopted in this analysis involves demonstrating predictive validity using Structural Equation Modeling (SEM). I begin by providing an overview of the literature on trust. I then distinguish the two concepts of company buy-in and information usefulness as valid outcome variables to investigate the predictive validity of transparency and organizational trust. Next, I outline the literature on source credibility and discuss its conceptual overlap with the variables in this study. Finally, I advance specific hypotheses about the relationship between transparency, organizational trust, company buy-in, and information usefulness.

Trust

Many studies have focused on understanding the meaning, antecedents and consequents of trust (Das & Teng, 2001). Scholars have investigated trust as deterrence-based, knowledge-based, or identification-based (Sheppard & Tuckinsky, 1996); fragile or resilient (Ring, 1996); conditional or unconditional (Jones & George, 1998); cognitive or affective (McAllister, 1995); or prediction-based, dependence-based, or faith-based (Rempel, Holmes, & Zanna, 1985). The process of trust building has been defined in terms of trust production (Sheppart & Sherman, 1998), trust induction (Bhattacharya, Devinney, & Pillutla, 1998), and trust development (Gabarro, 1978). Placing emphasis on the trustee, trustworthiness is argued to occur through perceptions of ability, benevolence, and integrity (Mayer, Davis, & Schoorman, 1995).

It is quite clear that trust is a well-studied construct. Trust has been associated with knowledge-sharing between departments (Nelson & Cooprider, 1996), interfirm cooperation (Deutsch, 1958; Parkhe, 1993), and organizational survival and growth (Whitener, Brodt, Korsgaard, & Werner, 1998). Fundamentally, the construct of trust is relationship based (Lewicki, McAllister, & Bies, 1998). Transparency, on the other hand, is information based. Transparency seeks to understand how perceptions of information influence behavior regardless of the relationships involved. Hence, trust measures perceptions of expected behavior in others based on relationships (e.g., Rousseau, Sitkin, Burt, & Camerer, 1998) while transparency measures perceptions of expected behavior based on institutional communications. Based on this analysis, I anticipate that transparency will be positively related to organizational trust while remaining empirically distinct.

H1: Perceived understandability is positively related to organizational trust.

H1a: Perceived completeness is positively related to organizational trust.

H1b: Perceived correctness is positively related to organizational trust.

Company Buy-In and Information Usefulness

To test the relationship between organizational trust and transparency, two additional measures were developed. *Company buy-in* was developed as a context-specific measure of the extent to which the subject would invest in or work with the organization. *Information usefulness* was developed as a context-specific measure of the perceived usefulness of information. Both company buy-in and information usefulness were employed as dependent variables in this study.

The distinction between company buy-in and information usefulness stems from work in decision theory related to experience value (i.e., the anticipated experience of an outcome) and decision value (i.e., the anticipated attractiveness of an option) (Kahneman & Tversky, 1984). Both experience value and decision value are commonly mistaken to be the same thing. However, they are in fact quite distinct components of the overall utility of information (March, 1978). Collecting and transferring information is not the same as acting on information (Eisenhardt, 1985; Kirsch, 1996). In this study, company buy-in was developed to measure the *intent to act* on information, while information usefulness was developed to measure the *intent to transfer* information. I anticipate that perceived transparency and organizational trust will be positively related to information usefulness and company buy-in. Specifically, the following hypotheses are derived:

H2: Perceived understandability is positively related to company buy-in, controlling for organizational trust.

H2a: Perceived completeness is positively related to company buy-in, controlling for organizational trust.

H2b: Perceived completeness is positively related to company buy-in, controlling for organizational trust.

H3: Perceived understandability is positively related to information usefulness, controlling for organizational trust.

H3a: Perceived completeness is positively related to information usefulness, controlling for organizational trust.

H3b: Perceived completeness is positively related to information usefulness, controlling for

organizational trust.

H4: Organizational trust is positively related to company buy-in.

H4a: Organizational trust is positively related to information usefulness.

Source Credibility

Many studies have shown that perceived source credibility plays an important role in the

success or failure of persuasion (Druckman, 2001; Hovland, & Weiss, 1951; Petty & Wegener,

1998). Lupia (2000) argues that source credibility requires two features: source competence and

source trustworthiness. Doney & Cannon (1997) argue that source credibility is the result of a

belief that one party to a transaction is honest, reliable, and competent. The psychometric

properties of source credibility and trust are inextricably linked. However, literature on source

credibility is more focused on understanding how it influences persuasion than how it influences

the strength of relationships (e.g., Hovland, & Weiss, 1951; Petty and Wegener, 1998;

Pornpitakpan, 2004). Hence, source credibility is a related but distinct characteristic of trust.

Source credibility can also be considered a correlate to transparency. Transparency,

however, is concerned with understanding how institutional communications influence

perception irrespective of the credibility of the source. A number of studies have found a positive

relationship between source credibility and the ability of the source to persuade (Hamilton,

Hunter, & Burgoon, 1990; Yalch & Elmore-Yalch, 1984). Hence, source credibility was

controlled in this study to enable the influence of transparency on organizational trust, company

buy-in, and information usefulness to be examined. With no awareness of the source, any

perception of organizational trust reached by the participants is argued to be a function of

transparency. Source credibility was controlled by grounding company information in an unfamiliar industry (i.e., salt mining) with unfamiliar (i.e., fabricated) organizational names.

Measures

Transparency: I used the 4 item scales developed and validated in this study to measure perceived correctness, perceived completeness, and perceived understandability. Responses on each factor were made on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item for perceived correctness is "The information on [company name] appears right." A sample item for perceived completeness is "I have all the information I need on [company name]." A sample item for perceived understandability is "The information on [company name] is presented in a language I understand." All scale items for transparency are presented in Table 7.

Organizational Trust: The instrument used to measure organizational trust is the 12 item Organizational Trust Inventory Short Form (OTI-SF) originally validated by Cummings & Bromiley (1996) and later by Naquin & Paulson (2003). The OTI-SF consists of three dimensions measuring the degree to which respondents perceive the organization to keep its commitments, negotiate fairly, and not take advantage of others. Each of these dimensions is loaded onto a second-order latent factor of organizational trust. A sample item for organizational trust is "I think that [company name] succeeds by stepping on other people."

Item parceling was used to create each first-order factor for organizational trust. As long as the dimensions that underlie the focal construct are clear, item parceling is an appropriate way to aggregate scores to form composite indicators of first-order factors (Bagozzi & Heatherton, 1994). Domain representative parcels were created for each of the first-order factors. Domain

representative parcels offer more stable parameter estimates than other parceling methods such as randomly assigned parcels or internally consistent parcels (Kishton & Widaman, 1994). With domain representative parceling, a relatively equal percentage of items from each dimension are placed into each parcel. For example, the first item measuring each dimension of organizational trust is placed in parcel 1. Next, the second item measuring each dimension of organizational trust is placed parcel 2, and so on until all items are equally distributed across parcels.

Company buy-in and Information Usefulness: I used a two item context-specific scale developed in this study to measure company buy-in and a two item context-specific scale developed in this study to measure information usefulness. Bergkvist and Rossiter (2007) find that single-item scales are preferable to multi-item scales when measuring constructs consisting of concrete attributes. Information usefulness and company buy-in were each developed to measure two concrete attributes that were specific to this study. Namely, information usefulness was developed to measure the perceived quality of information as well as the degree to which subjects felt they would forward information to friends and family. A sample item for information usefulness is "If I were asked by a close friend or family member to provide information on [Company Name], I would provide him/her the information I received here." Company buy-in was developed to measure the degree to which subjects felt they would invest in the company as well as the degree to which subjects felt they would work for the company. A sample item for company buy-in is "I would consider doing business with [company name]."

Results

Source credibility was successfully manipulated as only one participant out of 91 reported that he or she had any awareness of the salt mining industry.

Internal Consistency: Assumptions of univariate and multivariate normality were met for all items associated with organizational trust, company buy-in, and information usefulness. The zero-order correlations among the three measures of transparency and outcome variables provide initial evidence that each dimension possesses a good degree of predictive validity (Table 3). All of the internal consistency estimates are above the commonly accepted .70 level except information usefulness (Nunnally & Bernstein, 1994). Hence, further analysis was warranted to ensure information usefulness was a reliable measure.

Under certain conditions coefficient alpha is a biased estimate of internal consistency (Graham, 2006). Coefficient alpha is based on the essentially tau-equivalent measurement model, which requires certain data assumptions to be met for the measurement to accurately reflect the data's true reliability (Raykov, 1997).[2] Violations of these assumptions can cause coefficient alpha to underestimate the reliability of the data (Miller, 1995). Essentially, Coefficient alpha assumes that all items measure the same latent trait on the same scale, with all variance unique to an item being comprised entirely of error.

It is possible that each item for information usefulness is tapping a different dimension of the construct. If this were true, estimates of coefficient alpha might be biased. Hence, composite reliability was calculated to test for possible differences in reliability. Composite reliability is a measure of internal consistency that makes less restrictive assumptions about the data (Fornell & Larcker, 1981; Nunnally, 1978). Composite reliability is calculated as: $(\sum S_i \times 2) / ((\sum S_i \times 2) + \sum I_i)$, where S_i represents item standardized loadings and I_i represents indicator measurement errors. Composite reliability for information usefulness was .743; markedly higher than the previously reported coefficient alpha value of .635. Although caution is warranted in interpreting

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[2] For an in-depth review of congeneric models, tau-equivalent models, and parallel models see Raykov (1998).

results related to information usefulness, a composite reliability value of above .70 is considered an expectable level of internal consistency for early stages of research (Nunnally, 1978).

Predictive validity: Hypotheses 1, 1a, and 1b predicted that each dimension of transparency would be positively related to organizational trust. To test these hypotheses, I used SEM to account for measurement error using items as indicators for each construct except organizational trust. Results are reported in Figure 2. All non-significant paths were removed from the analysis. The resulting structural model reflected a very good fit to the data. $\chi^2(140, N = 439) = 420$, $p < .01$ ($df = 171$, $\chi^2/df = 2.45$; CFI = .971; RMSEA = .068). The results revealed that perceived correctness predicted organizational trust ($\gamma = .71$, $p < .01$); perceived completeness predicted organizational trust ($\gamma = .16$, $p < .01$); and perceived understandably predicted organizational trust ($\gamma = .09$, $p < .05$). Thus, hypotheses 1, 1a, and 1b were supported.

Hypotheses 2, 2a, and 2b predicted that each dimension of transparency would be positively related to company buy-in, controlling for organizational trust. The results revealed that perceived correctness was not significantly related to company buy-in, controlling for organizational trust. However, perceived completeness predicted company buy-in, controlling for organizational trust ($\gamma = .34$, $p < .01$) and perceived understandably predicted company buy-in, controlling for organizational trust ($\gamma = .09$, $p < .01$). Thus, hypothesis 2 was not supported, and hypotheses 2a and 2b were supported.

Hypotheses 3, 3a, and 3b predicted that each dimension of transparency would be positively related to Information usefulness, controlling for organizational trust. The results revealed that perceived correctness was not significantly related to information usefulness, controlling for organizational trust. However, perceived completeness predicted information

usefulness, controlling for organizational trust (γ = .41, p < .01), and perceived understandably predicted information usefulness, controlling for organizational trust (γ = .19, p < .01). Thus, hypothesis 3 was not supported, and hypotheses 2a and 2b were supported. Hypotheses 4 and 4a predicted that organizational trust would be positively related to company buy-in and information usefulness. The results revealed that organizational trust predicted company buy-in (γ = .68, p < .01) and information usefulness (γ = .52, p < .01). Thus, hypotheses 4 and 4a were supported.

Effect size estimates (i.e., squared multiple correlations or R^2) revealed that the three dimensions of transparency accounted for 65.5% of the variance in organizational trust. Further, the three dimensions of transparency and organizational trust accounted for 85.7% of the variance in company buy-in and 79.8% of the variance in information usefulness.

Discussion

This analysis reveals that all three dimensions of transparency uniquely predict perceptions of organizational trust. Further, this analysis shows that two out of the three dimensions of transparency (viz., understandability and completeness) uniquely predict company buy-in and information usefulness, controlling for organizational trust. The relationship between correctness and company buy-in, as well as the relationship between correctness and information usefulness, is entirely mediated by organizational trust. That only correctness was entirely mediated by organizational trust is interesting. In essence, perceived usefulness of information and company buy-in are driven in part by basic factors associated with the presentation and inclusion of relevant information. This finding suggests that managers should consider the direct

effects of information clarity and disclosure on perceived usefulness and buy-in regardless of the relationship between the institution and the individual.

THEORETICAL CONTRIBUTIONS, FUTURE RESEARCH DIRECTIONS, LIMITATIONS, AND PRACTICAL IMPLICATIONS

Theoretical Contributions

This study takes initial steps towards validation of a three dimensional construct of transparency. Transparency is defined as the level of perceived understandability, correctness, and completeness in institutional messages, documents, or other communications. The EFA, CFA, and structural analysis completed in this study demonstrate that transparency is conceptually related but empirically distinct from perceptions of organizational trust.

Overall, this study shows that perceptions of institutional transparency matter. As a property of information, transparency operates across contexts through institutional communications. Institutional communications appear to be used less by individuals when transparency is perceived to be low. This study also shows that institutional communications perceived as transparent correspond to higher levels of organizational trust. Effect size estimates demonstrate the potential importance of transparency in institutional environments where trust is questionable (e.g., negotiation or transaction settings) or entirely missing (e.g., first-time interactions).

Future Research Directions

The next steps in this line of research are to investigate the impact of transparency at different levels of analysis and across multiple environmental contexts. For instance, what does

transparency look like at the team level? How does transparency subsist in artifacts (e.g., policies, contracts, or other documents)? How is transparency perceived in environments with higher or lower levels of media richness, actor heterogeneity, information asymmetry, or newness?

Limitations

A limitation of this study concerns common method bias. When participants are not given a suitable amount of time between treatment conditions, responses may be biased. Further, the order in which participants experience treatment conditions can bias results. Randomized counterbalancing was used to combat the influence of order effects in this study. Nonetheless, a degree of caution is warranted in interpreting the results. With regard to carryover effects, participant fatigue was suppressed by ensuring the experiment was run succinctly and consisted of information that was aligned with participant interests. Practice effects were reduced by instructing participants to analyze company information according to a number of performance metrics unassociated with the actual purpose of the study.

A second limitation of this study relates to the relatively low level of internal consistency for the information usefulness variable. Although composite reliability was sufficient, the low coefficient alpha value is concerning. Further research is needed to distinguish the exact properties of information usefulness as a viable construct. However, as a context-specific measure developed specifically for use in this study, information usefulness demonstrated sufficient levels of composite reliability to justify its inclusion in the analysis.

Finally, the relatively low response rate was somewhat concerning. However, after consideration of possible causes of non-participation, there does not appear to be an identifiable reason to presume a systematic pattern existed between participants and non-participants.

Practical Implications

Findings from this study have implications for organizational leaders managing institutional communications. Specifically, variations in information disclosure, clarity and accuracy can lead to corresponding changes in perceived completeness, understandability, and correctness. The present analysis brings to light interesting questions regarding the ability of institutions to convey knowledge across media in ways that sustain a high degree of communicative value. More research is needed to understand how managers might balance information accuracy, disclosure, and clarity to meet the distributed needs of outside audiences.

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TABLE 1

Definitions and Dimensions of Transparency in the Field of Finance[a]

Study	Study Domain	Definition of Transparency	Transparency Dimensions	
			Enacted	**Perceived**
Bloomfield & O'Hara (1999); Securities and Exchange Commission (1995)	Financial Markets	The real time, public dissemination of trade and quote information	Disclosure	n/a
Eijffinger & Geraats (2006)	Monetary Policy	The extent to which central banks disclose information that is related to the policymaking process	Disclosure	n/a
Flood, Huisman, Koedijk, & Mahieu (1999)	Financial Markets	The disclosure of accurate and timely information	Disclosure & Accuracy	n/a
Granados, Gupta, & Kauffman (2005)	Organizational Governance	The extent to which sellers reveal private information to consumers	Disclosure	n/a
Granados, Gupta, & Kauffman (2006)	Organizational Governance	The offering of unbiased, complete, and accurate information	Disclosure & Accuracy	n/a
Jordan, Peek, & Rosengren (2000)	Financial Markets	The disclosure of timely and clear information	Disclosure & Clarity	n/a
Securities and Investment Board (1995)	Financial Markets	The prompt publication of large trades	Disclosure	n/a
Winkler (2000)	Monetary Policy	The degree of openness, clarity, and information efficiency enacted by monetary bodies	Disclosure & Clarity	n/a
Bushman, Piotroski, & Smith (2004); Herdman (2001)	Organizational Governance	The extent to which financial information about a company is visible and understandable to investors and other market participants	n/a	Completeness & Understandability
Madhavan, Porter, & Weaver (2005)	Financial Markets	The ability of market participants to observe information about the trading process	n/a	Completeness
Pagano & Roell (1996)	Financial Markets	The extent to which market makers can observe the size and direction of current order flow	n/a	Completeness
Lamming, Coldwell, Harris, & Phillips (2004)	Organizational Governance	The act of exchanging sensitive information and tacit knowledge	Disclosure	Completeness

[a] Studies categorized according to transparency dimension.

TABLE 2

Transparency Questionnaire Exploratory Factor Structure[a]

Items	Factor 1	Factor 2	Factor 3
D5	.954		
D4	.943		
D3	.938		
D1	.865		
A3		.951	
A1		.940	
A5		.931	
A2		.920	
C1			.931
C3			.919
C6			.918
C5	.169		.769

Note: 0% of residuals between observed and reproduced correlations were found to have absolute values of greater than .05.
[a] $n = 439$.

TABLE 3

Means, Standard Deviations, Correlations, and Reliabilities among Study Variables[a]

Structure	*M*	*SD*	1	2	3	4	5	6
1. Information Correctness	16.56	6.75	.965					
2. Information Understandability	18.18	7.55	.24**	.941				
3. Information Completeness	12.45	7.87	.29**	.45**	.960			
4. Organizational Trust	47.48	16.33	.74**	.34**	.42**	.935		
5. Company Buy-In	6.59	3.89	.63**	.45**	.62**	.81**	.913	
6. Information Usefulness	7.89	3.68	.42**	.44**	.59**	.59**	.71**	.635

Note: Coefficient alpha reliabilities appear in the diagonal.

[a] *n* = 439.

** *p* < .01 (two-tailed).

TABLE 4

Transparency Questionnaire Factor Structure[a]

Structure	χ^2	Df	χ^2/df	$\Delta\chi^2$	CFI	RMSEA
Transparency						
One-Factor Model	3569.86	54	66.11		.42	.38
First-Order Factor Model	144.57	49	2.95	3425.29**	.98	.06
Second-Order Factor Model	133.61	50	2.67	3436.25**	.99	.06

Note: All Chi-square values are significant at $p < .001$; the $\Delta\chi^2$ is in relation to the one-factor model. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.
[a] $n = 439$.
** $p < .01$ (two-tailed).

TABLE 5

Means, Standard Deviations, Correlations, and the Square Root of AVE among Study Variables[a]

Structure	*M*	*SD*	1	2	3	4	5	6
1. Information Correctness	16.56	6.75	.935					
2. Information Understandability	18.18	7.55	.24**	.896				
3. Information Completeness	12.45	7.87	.29**	.45**	.926			
4. Organizational Trust	47.48	16.33	.74**	.34**	.42**	.917		
5. Company Buy-In	6.59	3.89	.63**	.45**	.62**	.81**	.918	
6. Information Usefulness	7.89	3.68	.42**	.44**	.59**	.59**	.71**	.718

Note: The square root of Average Variance Extracted (AVE) appears in the diagonal.
[a] *n* = 439.
** *p* < .01 (two-tailed).

TABLE 6

Goodness-of-Fit Statistics for Tests of Multigroup Invariance: A Summary[a]

	χ^2	*Df*	$\Delta\chi^2$	ΔDf	CFI	ΔCFI	RMSEA	ΔRMSEA
Unconstrained model[b]	199.14	98	-	-	.983	-	.049	-
Measurement weights[c]	204.63	107	5.49	9	.984	.001	.046	.003
Structural covariances[d]	205.68	113	6.54	15	.985	.001	.044	.005

Note: All Chi-square values are significant at $p < .001$; all $\Delta\chi^2$ values are not significant at $p < .05$; $\Delta\chi^2$, ΔCFA, and ΔRMSEA are in relation to the unconstrained model. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.
[a] Male $n = 231$; Female $n = 204$.
[b] No equality constraints imposed
[c] All factor loadings constrained equal
[d] All structural covariances constrained equal

TABLE 7

Scale Items for Perceived Understandability, Correctness, and Completeness (i.e., Transparency)

Based on your analysis of the company, please answer the following questions about the information you've received from [Company Name]:

1. UNDERSTANDABILITY: The information presented by [Company Name] is understandable
2. UNDERSTANDABILITY: The information from [Company Name] is clear
3. UNDERSTANDABILITY: The information from [Company Name] is comprehendible
4. UNDERSTANDABILITY: The information from [Company Name] is presented in a language I understand
5. COMPLETENESS: The information from [Company Name] fully encompasses what I wanted to know about
6. COMPLETENESS: The information from [Company Name] covers all the topics I wanted to know about
7. COMPLETENESS: I have all the information I need from [Company Name]
8. COMPLETENESS: A sufficient amount of relevant information is presented by [Company Name]
9. CORRECTNESS: The information from [Company Name] appears true
10. CORRECTNESS: The information from [Company Name] appears correct
11. CORRECTNESS: The information from [Company Name] appears accurate
12. CORRECTNESS: The information from [Company Name] appears right

FIGURE 1

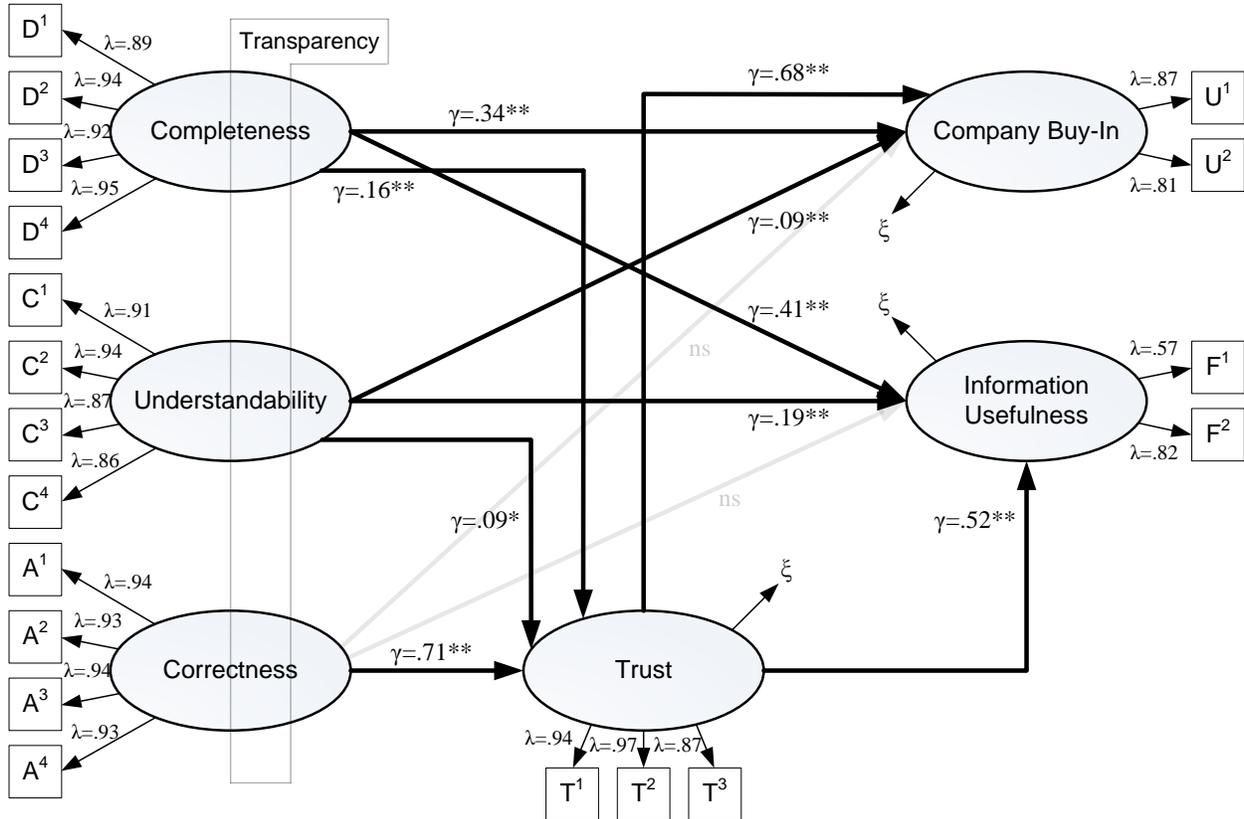Relationships between Transparency and First-order Formative and Reflective Factors
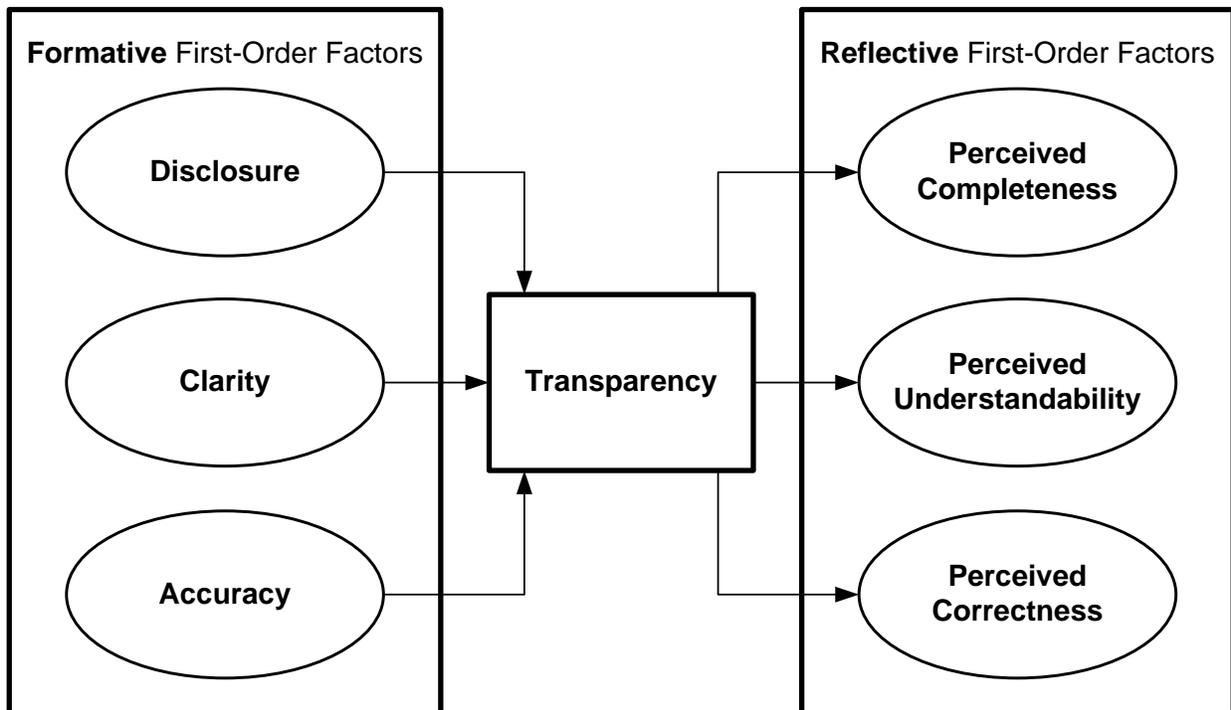
FIGURE 2

Standardized Regression Weights from Structural Equation Model[ab]

[a] Model Fit: CFI = .971; RMSEA = .068; Standardized RMR = .05. All λ are significant at $p < .001$.
[b] * $p < .05$ (two-tailed); ** $p < .01$ (two-tailed); ns = not significant.

ATTACHMENTS

Attachment A - Nollac Corporation

Company Overview:
Nollac operates in the mining industry. Nollac carries capital equal to amounts manifested from ongoing operations. Expenditures are made to keep the company afloat, plus margin. The executive team is satisfied with its current revenue forecasts and operating performance.

Nollac Corporation Financial Performance and Growth:
Over the past few years, Nollac has befuddled its competitors through superior performances in bits and PDC dies. It has succeeded in developing endorheic circumvention devices that have shown to ignite periphery industrials. As base level inventory weights have fallen, the general state of Nollac has remained strong.

Management and Employees:
Stakeholders of Nollac are not at all disengaged from industry affairs. When members of Nollac interact with industry stakeholders, emphasis is placed on channeling relational states towards more rhetorical matters. In recent years, Nollac has satisfactorily demonstrated that collecting stakeholder data is a productive way to manage C&O efforts.

Future Outlook:
In an effort to lever off its recent successes, Nollac has announced its intentions to reorganize into a less hierarchical organizational structure. Nollac is confident this change will further bolster its operating performance into the future.

Audited Statement:	
Nollac Corporation	
Audited Item	**Organizational Condition**

Access to audited information on Nollac's financial and operating performance has been blocked by Nollac Corporation

Attachment B - Delhomme Corporation

Company Overview:
Delhomme operates in the salt mining industry. In recent years, more than 200 million tons of salt have been produced in the world. China is the largest producer with 48 million tons, followed closely by the United States with 46 million tons.

Delhomme Corporation Financial Performance and Growth:
This was a good year for Delhomme in terms of both its financial and operating performance. Operationally, a number of discussions surrounding the daily use of mining equipment took place. Through these discussions Delhomme was able to reaffirm its commitment to employees and stakeholders that all excavation equipment would be operational and ready for use on an ongoing and daily basis. Much to the satisfaction of its employees, Delhomme Corporation also announced its intention to transition towards increased use of excavation methods developed in India, which have proven to be superior to US based-methods on a number of safety metrics.

Management and Employees:
Delhomme continues to be guided by excellent leadership. The executive team met in the fourth quarter of 2009 for three weeks to discuss how the organization would negotiate recently enacted industry regulations. Resolutions from these discussions promise to allow Delhomme to continue its operations without any undue oversight delays.

Employees at Delhomme have started a number of self-organized activities over the past year. Among other things, employees have formed several recreational sports leagues that compete in nearby cities. The management team at Delhomme is interested in developing a program that would allow employees to more easily participate in such activities.

Future Outlook:
Delhomme is hopeful that employees and managers will continue to engage in sporting and other morale building activities into the future. Operationally, Delhomme is confident its financial position will continue to be strong.

Audited Statement: Delhomme Corporation	
Audited Item	**Organizational Condition**
All access to audited information on Delhomme's financial and operating performance has been blocked by Delhomme Corporation	

Attachment C - Kleaning Corporation
34 Harrington
Shelton, Alaska
Sean Harrison
Email: KleaningCorp@Kleaning.com

Company Overview:

Kleaning operates in the solidified sodium mining industry. Its primary function is to extract deposits of halite. To accomplish this, solution mining and vacuum pans are employed to bring brine to ore caskets, upon which iodine and anti-clumping fixtures are applied to resonate.

Kleaning Corporation Financial Performance and Growth:

This year, capital claimed from ongoing operations was equal to 4.96546 times net receipts. Losses from ongoing operations were equal to five times net receipts minus $1,041,584, and net receipts were equal to $1,006,808. During the past 24 months, overall financial assets at Kleaning increased at a rate of 67/100 between $m12_1$ and $m12_2$, and capital assets increased at a rate of 4/5 between $m12_2$ to $m12_3$.

Management and Employees:

Current employee morale at Kleaning is marked to industry standards. In an effort to further increase employee satisfaction, commensurate effort is being applied to pin higher levels of morale. The organizational structure of Kleaning allows for one GOL, six SLs, and 45 LWs. Executive-level industry experience is roughly 57 months, 143 months, 82 months, 35 months, 84 months, 65 months, and 42 months respectively.

Future Outlook:

Based on current projections of performance, Kleaning is enthusiastic about its future. The organization predicts its position within the industry should continue to be positive into the future.

Audited Statement: Kleaning Corporation	
Audited Item	**Organizational Condition**
Company capital performance	m12$_3$ receipts (In) $5,009,264 m12$_3$ receipts (Out) $4,002,456 Net receipts $1,006,808
Previous production	m12$_2$ Receipts (In): 1/33 Increase Receipts (Out): 1/50 Decrease Net receipts: 67/100 Increase m12$_3$ Receipts (In): 1/20 Increase Receipts (Out): 1/20 Decrease Net receipts: 4/5 Increase
Worker morale	Overall employee satisfaction. Employee approval similar to industry outlook.
Description of company operations	Salt mining from aquatic intercepts.
Management experience	Seven member organizational hierarchy reflecting over 42 years of industry experience. 45 member support staff with over 60 years combined industry experience.
Future outlook	Good industry outlook. Similar competitive position to others in the industry.

Attachment D - Forge Corporation
344 Henley Drive
Odessa, Texas
Email: ForgeService@Forge.com
Document Prepared by: Sherri Flanagan

Company Overview:

Forge operates in the salt mining industry. Among other things, it operates by harvesting and selling salt. There are many ways to extract salt from the earth. Forge harvests salt from deposits held deep in the Amazon rainforest. Cranes remove evaporated salt from areas where it collects. This allows new salt to collect in the forest after it is initially removed.

Forge Corporation Financial Performance and Growth:

The salt unearthed by Forge yielded an impressive $7,535,351 in revenue this year. The operating expenses of Forge were $3,438,331, yielding a yearly net profit of $4,097,020. Forge boasts a two year growth rate better than any other company in the salt mining industry. In 2008, revenue increased by 7%, operating expenses decreased by 3%, and net profit increased by 108%. In 2009, revenue increased by 6%, operating expenses decreased by 4%, and net profit increased by 184%.

Management and Employees:

Unlike other organizations in the industry, employee morale at Forge is always positive; a fact the company is very proud of. There is not a single employee that would report dissatisfaction with their work at Forge. The nine member executive team at Forge has a combined 55 years of experience in the salt mining industry. A strong staff of 50 supports the efforts of the executive team. The executive support staff is more experienced than any other comparable group in the salt mining industry.

Future Outlook:

Forge will surely continue its industry leadership into the future.

Audited Statement: Forge Corporation

Audited Item	Organizational Condition
Company financial performance	2009 Revenue $5,008,227 Operating Expenses $4,001,458 Net Profit $1,006,769
Previous two year growth rate	<u>2008</u> <u>2009</u> Revenue: 3% Increase Revenue: 5% Increase Expenses: 2% Decrease Expenses: 5% Decrease Net Profit: 67% Increase Net Profit: 80% Increase
Employee morale	Generally satisfied employees. Employee satisfaction levels similar to other organizations in the industry.
Description of company operations	Salt mining from deposits in desert lands.
Management experience	Nine member executive team holding a combined 43 years of industry experience. 50 member support staff with over 60 years combined industry experience.
Future outlook	Good industry outlook. Similar competitive position to others in the industry.

Attachment E - TransCom Corporation
4562 Carroll Avenue
St. Luis, Missouri
Email: TransComCorp@Transcom.com
Document Prepared by: Felton Smith

Company Overview:

TransCom operates in the salt mining industry. Its primary operations include the harvesting and selling of basic salts. There are a number of ways to extract salt from the earth. TransCom operates by mining large volumes of salt from ponds along ocean shorelines. TransCom extracts rock salt by pumping water into deposits to bring the brine to the surface. Salt is then harvested after the water has evaporated.

TransCom Corporation Financial Performance and Growth:

This year, the salt harvested by TransCom yielded $5,010,549 in revenue. The operating expenses of TransCom were $4,003,921, yielding a net profit of $1,006,628. TransCom has experienced steady growth over the past two years. In 2008, revenue increased by 3%, operating expenses decreased by 2%, and net profit increased by 67%. In 2009, revenue increased by 5%, operating expenses decreased by 5%, and net profit increased by 80% (see annual financial statements).

Management and Employees:

The employees at TransCom are genuinely satisfied with their current working conditions. Over the past few years, a number of events have been held to celebrate the wonderful relationships formed at TransCom. The executive team at TransCom has a combined 43 years of experience in the salt mining industry. The seven-member executive team relies on a support staff of 56. The executive team support staff has over 60 years of experience in the salt mining industry.

Future Outlook:

TransCom is confident it will continue its operational successes well into the next decade and beyond. Upon a strong foundation of stakeholder loyalty and operational efficiency, we at TransCom look forward to engaging and surmounting any and all challenges into the future.

Audited Statement:
TransCom Corporation

Audited Item	Organizational Condition
Company financial performance	2009 Revenue $5,010,549 Operating Expenses $4,003,921 Net Profit $1,006,628
Previous two year growth rate	<u>2008</u> <u>2009</u> Revenue: 3% Increase Revenue: 5% Increase Expenses: 2% Decrease Expenses: 5% Decrease Net Profit: 67% Increase Net Profit: 80% Increase
Employee morale	Overall, employee satisfaction levels appear positive and similar to other organizations in the industry.
Description of company operations	Salt mining from ocean shorelines.
Management experience	Seven member executive team holding 43 years of industry experience. 56 member support staff with over 60 years combined industry experience.
Future outlook	Good industry outlook. Similar competitive position to others in the industry.