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Measuring the relationship between organizational transparency and employee trust

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The literature on transparency and trust suggest the two concepts are related. While this idea is logical on its face, would it hold true if measured? Using an instrument that measures both transparency and trust, analysis of employee opinion supports this notion. In particular, organizations that encourage and allow public participation, share substantial information so their publics can make informed decisions, give balanced reports that hold them accountable, and open themselves up to public scrutiny, are more likely to be trusted.

Introduction

While trust in government and media continues to decline, the 2007 Edelman Trust Barometer showed increased trust in business for the first time since 2002. Michael Deaver (Edelman Trust Barometer, 2007) attributed this increase to strong economic growth and the rise of responsible business behavior. Certain measures to ensure more accountability and transparency in reporting financial and social responsibility indicators, such as Sarbanes-Oxley, have also contributed to this increase in trust. Indeed, the literature often draws a relationship between trust and transparency.

The literature clearly suggests that to increase trust, organizations must be more open and transparent with their communication. In fact, the idea of organizational transparency was mentioned several times in the 2007 Edelman Trust Barometer. Pam Talbot implied that customers will seek mutual benefits from companies, and that "mutual benefits imply trust, which in turn implies transparency and honesty" (p. 6). Richard Edelman said that "continuous, transparent—and even passionate—communications is central" to business success in today's new environment (p. 2). Chris Deri advised nongovernmental organizations (NGOs) to also be more transparent, because their entire value is based on trust: "they need to be laser-focused on the trust they earn and on their transparency about their own successes and failures" (p. 12). Employees also need their organizations to be transparent to them, according to Gary Grates: "today's management must still hold true to some basic tenets: authentic communication, relationship-building methods, and a communication style that affords open, transparent, ongoing discussion, which allows people to drive business strategy, and, most importantly, to voice opinions and suggestions that ultimately affect

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performance and business outcomes" (p. 11). Finally Nancy Turett counseled healthcare organizations to embrace transparency, and concluded with the following insight: "openness trumps an image of perfection" (p. 25).

Of course, the idea of a connection between transparency and trust has roots much older than the 2007 Edelman Trust Barometer. The trust crisis that followed some of the most damaging corporate frauds in U.S. history—with Enron, WorldCom, Arthur Anderson and Tyco as the biggest culprits—resulted in a flood of demands for more transparency to restore trust in corporate America and the stock market. After studying this decline of trust and credibility, the Public Relations Coalition (2003), a summit of communications organizations representing 50,000 professional communicators, recommended that organizations, in particular corporations, "articulate a set of ethical principles," "create a process for transparency that is appropriate for current and future operations," and "establish a formal system of measurement of trust."

The public relations trade magazines declared that "ethical standards and transparency through every aspect" of corporate communications was critical to restoring trust (Savage 2005, p. 11). To restore that trust, a 2003 Golin/Harris survey reported that people want companies to be more "open and honest in business practices," "communicate more clearly, effectively and straightforwardly," and to show more concern and consideration for their stakeholders, such as employees and customers (Golin 2004, pp. 4-5). In an age when nothing can be hidden for long, everything depends on trust and transparency according to David Silver (2005). He also said that stakeholders were demanding that organizations become more transparent—which he defined as honesty and accuracy—not only "in the numbers they release but also in how they're run" (p. 16).

However, transparency also requires trust. Being transparent requires a willingness to be vulnerable because you can't ensure how people will use the information you share. Therefore, organizations must also trust their stakeholders in order to risk being transparent. As the authors of "The Naked Corporation" put it, "If you're going to be naked, you'd better be buff" (Tapscott & Ticoll, 2003). This is the intimidating part of being transparent, because when organizations aren't buff or have done something that justifiably will raise criticism, the temptation is to keep it hidden.

Trust requires a reciprocal relationship. Organizations can't expect trust from stakeholders if they are not willing to trust them first or in return. In the case of transparency, organizations must trust their stakeholders to use the information responsibly. As Fort (1996) explained:

> *Institutions that are trustworthy open themselves to criticism. Their decisions and the reasons for such decisions are open to examination and evaluation by stakeholders. Stakeholder management thus requires corporations to be*

> *accountable to questions similar to those of professions [such as law and medicine]*. (p. 214)

The above notion is supported by Butler's (1986) research that found that one person's trust in another strongly influences the other's trust in that person. In particular, Butler found that reciprocal trust was more significant in explaining dyadic trust than personality traits. He also found that a partner's efforts to control the other had a negative impact on trust, suggesting that corporate efforts at requiring trust among stakeholders without reciprocity may have the opposite effect.

A key part of reciprocal trust is an organization's efforts to be transparent. Fort (1996) cited Koehn's (1996) argument that "institutionalized self-critique engenders trustworthiness" (Fort, 1996, p. 214). Fort argued that through transparency, organizations encourage a similar self-analysis and ultimately a public accounting. In this sense, transparency, like trust, demands an act of good faith. Fort (1996) and Koehn (1996) referred to this act of faith as "willed trust" (Fort, 1996, p. 214; and Koehn, 1996, p. 201). Koehn categorized this faith in the good will of stakeholders as "trusting as a matter of policy" (p. 201). He explained,

> *Because human relations are extremely nuanced, involving risks we cannot calculate and conditions of action we cannot predict, and because descriptions of actions are open to dispute, we are, in this view, better off simply proceeding on the assumption that others mean well and will respond generously to our trust in them.* (p. 201)

This paper takes a closer look at the two concepts, trust and transparency, that have received so much attention in the trade press and management books. In particular, care will be taken to define trust and transparency. Both concepts are complex and multidimensional. Then, the results of an employee survey will be analyzed to determine whether there is empirical evidence that trust and transparency are significantly related to each other. The survey included questions developed to measure their trust and their perceptions of their organization's transparency. This is the first time that the two multidimensional concepts have been measured together and the first time the intuitive notion of their association has been measured empirically.

Literature Review

Defining and Measuring Trust

While the literature on trust has identified it as a critical component of social interaction, it hasn't been consistent in how to define and measure trust. Because trust is a complex construct, it has been difficult to define and measure (Rousseau, Sitkin, Burt, & Camerer, 1998). We seem to have a sense of what trust is—as Jack Welch (2005) has said, "you know it when you feel it" (p. 71)—but there is little agreement on what it means (Hosmer, 1995). This isn't from a lack of trying. The literature on trust is voluminous and covers everything from trusting personality traits (Rotter, 1967; Driscoll, 1978; Swan, Trawick, Rink, & Roberts, 1988; McCallister, 1995) to trust as a behavior in exchange relationships (Schurr & Ozanne, 1985: McKnight, Choudhury & Kacmar, 2002).

From the research on trust conducted over the last 50 years, there appear to be several dimensions that make up the way it has been defined and measured. The first dimension is a person's disposition to trust others. The first attempts at measuring trust looked at the characteristics of individuals who were more likely to have an expectancy to rely upon others. For example, Rotter's (1967) Interpersonal Trust Scale tested characteristics that were both demographic (position in family, socioeconomic status, religion, etc.) and sociometric (dependence on others, gullibility, humor, popularity, etc.) to see what could predict trusting dispositions. Rotter found evidence that trusting individuals were likely to be more trustworthy, happy, and to be honest in their dealings with others. He also found that high trusters aren't more likely to be fooled than low trusters.

The second dimension is the interdependent nature of trust that requires opening oneself up to another, or creating a degree of vulnerability. Zand (1971) wrote that trust is not a feeling but the conscious regulation of one's dependence on another. Morrow, Hansen, and Pearson (2004) described trust as "one's overall belief that another individual, group or organization will not act to exploit one's vulnerabilities" (p. 50). And Rousseau et al. (1988) described trust as the willingness to accept this vulnerability "based upon positive expectations of the intentions or behavior of another" (p. 35). This vulnerability and dependency is often manifested in organization-public relationships. Dependent stakeholders, where the organization has much power and the stakeholder has little power in the relationship, are in a "vulnerable position of having to trust the organization in times when a strategic decision is made that might affect their well-being" (Spicer, 2007, p. 36). This can create anxiety among those who must extend their vulnerability until they have developed trusting relationships with the party on whom they are dependent. Cook et al. (2005) explained the process of gaining trust as a series of risk taking behaviors between groups. They hypothesized that a typical trust-building process begins with people realizing they can potentially gain from a social exchange, and risking a little to test the benefits of the exchange. As the benefit is realized, they risk a little more and so on until a trusting relationship is built. In these interdependent relationships, trust functions as a social lubricant that reduced uncertainty (Holmes & Rempel, 1989; Luhmann, 1979).

To overcome the anxiety created by putting ourselves in a vulnerable position, we cognitively, and affectively, evaluate the trustee on having certain qualities. This is the third dimension of trust, namely the characteristics of a trustworthy individual, group, or entity. The following characteristics of trustworthiness have been measured in previous research: benevolence, competence, honesty, integrity, reliability, predictability, good judgment, concerned, and openness (Ellison & Firestone, 1974;

Butler & Cantrell, 1984; Mishra, 1996; McKnight, Choudhury, and Kacmar, 2002). After an extensive literature of trust research in the social sciences, Tschannen-Moran and Hoy (2000) found that the variables used the most in measuring the trustworthiness of another party were benevolence, reliability, competence, honesty, and openness. This led them to the following definition: "Trust is one party's willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open." (556)

These trusting relationships are especially important in organization-public relationships. From an organizational perspective, trust is often a collective judgment of one group that another group will be honest, meet commitments, and will not take advantage of others (Bradach & Eccles, 1989; Cummings & Bromily, 1996). For organizations, trust is necessary for cooperation and communication, and the foundation for productive relationships (Tschannen-Moran & Hoy 2000, p. 55). According to Govier (1992), distrust impedes the communication that could overcome it, so that "suspiciousness builds on itself and our negative beliefs about the other tend in the worst case toward immunity to refutation by evidence" (p. 52).

Bruning and Ledingham (2000) have identified trust and openness as important indicators of how organization-public relationships (OPR) are initiated, developed, and maintained. Hon and Grunig (1999) have also identified trust as an essential component of satisfactory relationships between organizations and their stakeholders. They defined trust as "one party's level of confidence in and willingness to open oneself to the other party" (p. 2). They then identified three qualities that these parties must have to engender trust: integrity, or the belief that a party is fair and just; dependability, or the belief that a party will do what it says it will do; and competence, or the belief that a party has the ability to do what it says it will do.

From this literature, the author has modified the definition provided by Tschannen-Moran and Hoy (2000) to incorporate the OPR literature. Therefore, the operational definition of trust for this study is the following: Trust is one party's willingness to be vulnerable to another party based on the confidence that the latter party is competent and dependable, has integrity, and acts with goodwill. Using items developed by Hon and Grunig (1999), McKnight et al. (2002), and Paine (2003), the author developed thirteen statements that would measure an overall willingness to trust (which included a sense of vulnerability) based on the confidence employees had on an organization's competence, goodwill, and integrity.

Defining and Measuring Transparency

The idea of organizational transparency isn't new, but the use of the term "transparency" increased after the corporate scandals of the early 21st century, such as Enron, WorldCom, and Tyco. However, the concept of transparency has not received as much academic attention as trust and, therefore, it is a little harder to define and measure.

In the organization-public relationship literature, transparency is often identified as openness. The trust literature also lists openness as a component of trusting relationships. But the definitions of openness are relatively simple compared to the complex construct of trust. Ledingham and Bruning (2000) defined openness as "plans for the future with the community" in their indicators. Grunig and Huang (2000) also identified openness as an interpersonal concept that has application for OPR, but didn't provide a definition.

The 2007 edition of the Miriam-Webster Dictionary defined transparency as "free from pretense or deceit," "easily detected or seen through," "readily understood," and "characterized by visibility or accessibility of information especially concerning business practices." Simply put, transparency is the opposite of secrecy. Ann Florini (1998), of the Brookings Institute, states, "Secrecy means deliberately hiding your actions; transparency means deliberately revealing them" (p. 50).

According to Rawlins (2006), when Balkin (1999) identified three types of transparency he was actually identifying the dimensions of transparency that make up this complex construct. Balkin (1999) claimed that informational transparency, participatory transparency, and accountability transparency "work together but are analytically distinct" (p. 393). Rawlins (2006) proposed that transparency efforts of organizations need all three qualities in order to build, maintain, and restore trust with stakeholders. Therefore, transparency is defined as having these three important elements: information that is truthful, substantial, and useful; participation of stakeholders in identifying the information they need; and objective, balanced reporting of an organization's activities and policies that holds the organization accountable. Rawlins (2006) tested several statements related to transparency and, using factor analysis, found the statements grouped around four factors he labeled substantial information, participation, accountability, and secrecy (which was a reverse item factor, measuring the opposite of openness).

Transparent organizations must share information that allows stakeholders to make informed decisions regarding their relationship with the organization. This is true of all stakeholders, internal and external. This does not mean that they must share all information, but that information that is substantial and useful to the stakeholders. As Heise, (1985) described it, this means transparent organizations "make available publicly all legally releasable information—whether positive or negative in nature—in a manner which is accurate, timely, balanced, and unequivocal" (p. 209). However, just disclosing copious amounts of information does not meet the transparency test. As Strathern (2000) has noted, too much information often leads to less understanding, and therefore more information can lead to less trust (313). There has to be a balance of how much information is shared, and the public receiving that information must define the scale.

Because the concept of substantial information is concerned with the needs of the receiver rather than the sender, transparency cannot meet this standard unless it knows what stakeholders want and need to know. Therefore, stakeholder participation elevates disclosure to transparency. Stakeholders must be invited to participate in identifying the information they need to make accurate decisions. The inclusion of stakeholder participation satisfies the process of transparency that Cotterrell (2000) defined as not just the availability of information but the "active participation in acquiring, distributing and creating knowledge" (p. 419).

Transparency also requires accountability. Transparent organizations are accountable for their actions, words, and decisions, because these are available for others to see and evaluate. It requires that persons in transparent organizations contemplate their decisions and behaviors, because they will most likely have to justify them before an open court of opinion. The Global Reporting Initiative (2006) defined accountability in terms of balanced information. Does the organization "disclose both favorable and unfavorable results and topics," and "not attempt to unduly influence the stakeholder's interpretation of the results?" (p. 13). As one author put it: "if you disclose, you hide neither your light nor your trash under a bushel; you get to shine, but you have to clean up your act, too" (Szwajkowski, 2000, p. 391). The accountability dimension of transparency seems especially related to trusting relations. A survey of 25,000 employees by Towers Perrin showed that employees prefer "communication that is an open and honest exchange of information—both the good and bad—and materials that are clear and understandable (Strategist 2005, p. 4). Jahansoozi (2006) also found that when crises or organizational behaviors led to a decline in trust, the trust could be restored with transparency efforts that promoted accountability, collaboration, cooperation, and commitment.

In summarizing the elements found in the transparency literature, Rawlins (2006) augmented a definition provided by Heise (1985) into the following operational definition: "Transparency is the deliberate attempt to make available all legally releasable information—whether positive or negative in nature—in a manner that is accurate, timely, balanced, and unequivocal, for the purpose of enhancing the reasoning ability of publics and holding organizations accountable for their actions, policies and practices" (p. 5). This is the definition that will be used for the purposes of this study.

Transparency will be measured by using the instrument developed by Rawlins (2006) that breaks down the construct into the four dimensions identified above. The *participation* dimension included statements about involvement, feedback, detailed information, and the ease in finding the information. The *substantial information* dimension included statements about the relevance, clarity, completeness, accuracy, reliability and verifiability of information shared. The *accountability* component included statements about the organization sharing information that covers more than one side of controversial issues, might be damaging to the organization, admitting mistakes, and that can be compared to industry standards. The *secrecy* component was composed of reversed-item statements that reflect a lack of openness, or attempts at secrecy. This included statements about sharing only part of the story, using language that obfuscates meaning, and only disclosing when required. The questions measuring the four transparency components were used in this research to measure employee perception of organizational transparency.

Research Questions

While the literature has drawn connections between transparency and trust, the relationship has never been measured empirically. The concept of "openness" has been measured as a part of the concept of trust, but not the more multidimensional construct of transparency. In part, this is because there hasn't been an instrument to measure transparency. With the Rawlins (2006) transparency measurement instrument, this question can be answered. To see the questions used to measure trust and transparency, see Table 1.

Because these instruments are being used together for the first time, they will be tested for reliability and measured for their relationship to each other. In particular, this study will attempt to answer the following research questions:

RQ1: Are the components of trust and transparency reliable constructs?

RQ2: Are the components of trust significantly related to overall trust?

RQ3: Are the components of transparency significantly related to overall transparency?

RQ4: Is overall transparency related to overall trust?

RQ 5: Are the components of transparency related to overall trust and its components?

RQ 6: Which components of transparency contribute the most to overall trust and to each component of trust?

To measure the first research question, the individual items in each construct will be tested with reliability alphas. The last five research questions will be tested with correlations, using Pearson's R to test for significance, and regression analysis to determine which components contribute the most to the relationship.

Table 1: Survey Items Used to Measure Trust and Transparency

Statements using 7-point scale between Strongly Disagree and Strongly Agree.

Overall Trust.

1. I'm willing to let the organization make decisions for people like me.
2. I think it is important to watch this organization closely so that it does not take advantage of people like me.
3. I trust the organization to take care of people like me.

Organization shows competence

4. I feel very confident about the skills of this organization.
5. This organization has the ability to accomplish what it says it will do.
6. This organization is known to be successful at the things it tries to do.

Organization shows integrity.

7. The organization treats people like me fairly and justly.
8. The organization can be relied on to keep its promises.
9. Sound principles seem to guide the behavior of this organization.
10. This organization does not mislead people like me.

Organization shows goodwill

11. Whenever this organization makes a decision I know it will be concerned about people like me.
12. I believe this organization takes the opinions of people like me into account when making decisions.
13. This organization is interested in the well-being of people like me, not just itself.

Overall Transparency.

14. The organization wants to understand how its decisions affect people like me.
15. The organization provides information that is useful to people like me for making informed decisions.
16. The organization wants to be accountable to people like me for its actions.
17. The organization wants people like me to know what it is doing and why it is doing it.

Communication efforts are participative.

18. Asks for feedback from people like me about the quality of its information.
19. Involves people like me to help identify the information I need.
20. Provides detailed information to people like me.
21. Makes it easy to find the information people like me need.
22. Asks the opinions of people like me before making decisions.
23. Takes the time with people like me to understand who we are and what we need.

Communication efforts provide substantial information

22\. Provides information in a timely fashion to people like me.
23\. Provides information that is relevant to people like me.
24\. Provides information that can be compared to previous performance.
25\. Provides information that is complete.
26\. Provides information that is easy for people like me to understand.
27\. Provides accurate information to people like me.
28\. Provides information that is reliable

Communication efforts provide accountability

29. Presents more than one side of controversial issues.
30. Is forthcoming with information that might be damaging to the organization.
31. Is open to criticism by people like me.
32. Freely admits when it has made mistakes.
33. Provides information that can be compared to industry standards.

Communication efforts are secretive (reverse item)

34. Provides only part of the story to people like me.
35. Often leaves out important details in the information it provides to people like me.
36. Provides information that is intentionally written in a way to make it difficult to understand.
37. Is slow to provide information to people like me.
38. Only discloses information when it is required.

Methodology

A large regional healthcare organization agreed to participate in testing the relationship between trust and transparency with its employees. The not-for-profit organization had 25,000 employees and provided medical attention at 150 sites, including 21 hospitals, in two states. It also offered healthcare plans to individuals and employers. Employees were chosen because they were intimate enough with the organization to establish trust judgments and evaluate its efforts at transparency.

The organization had a stated mission that included values suggesting it would value trust and try to practice transparency. Those values were:

- Mutual respect: "We treat others the way we want to be treated."
- Accountability: "We accept responsibility for our actions, attitudes and mistakes."
- Trust: "We can count on each other."
- Excellence: "We do our best at all times and look for ways to do it even better."

Survey Sample

The instrument was administered as a Web-based survey, through Survey Monkey. An email invitation, with a link to the survey, was sent to 1,200 employees. The survey was conducted over a 5-day period, and 385 surveys were completed for a 32% response rate. Twenty-four surveys were deleted because they were incomplete, leaving 361 surveys for analysis. The sample demographics matched approximately those of the healthcare organization's population. Seventy three percent of respondents were female (75% in population), 78% were full-time employees (65% in population), 47% were in positions that provided direct care to patients, such as doctors, nurses, and therapists (54% in population), 19% worked in administration (8% in population), and 66% worked in a hospital (78% in population). Additionally, 57% had worked for the organization for 6 years or more, compared to 50% of the population.

Results

The alpha reliabilities of items used to measure overall trust, overall transparency, and their component ranged from .79 to .93 (see Table 2), meeting the basic standards for reliability. Churchill (1979) has recommended that minimum reliabilities should be .6, which all of the measures exceeded, some by a large margin. The reliability of the constructs were not improved by removing items, therefore the full set of items were used for subsequent analysis. The two measures that could be improved in subsequent research are the overall trust and secrecy constructs. This answers the first research question.

The first step to answering research questions 2 through 5 was a simple correlations matrix of all constructs, which shows that they are all significantly related to each other at the $p < .001$ level (see Table 3). Of the trust components, all are significantly related to overall trust (RQ 2), with competence having the weakest relationship (.63), and integrity and goodwill strongly related (.82 and .81 respectively). The trust components are also significantly related to each other, with the strongest relationship being between integrity and goodwill (.89).

Table 2: Reliability of Trust and Transparency Measures

	alpha	sd	Item Mean[a]
Overall Trust (3 items)	0.79	4.15	4.61
Competence (3 items)	0.87	3.12	5.72
Integrity (4 items)	0.92	5.57	4.98
Goodwill (3 items)	0.92	4.87	4.29
Overall Transparency (4 items)	0.91	5.84	4.61
Participate (6 items)	0.92	8.74	4.20
Substantial Information (7 items)	0.93	8.15	4.94
Accountability (5 items)	0.87	6.38	4.29
Secrecy (A reverse construct w/5 items)	0.79	5.63	3.20

[a] Mean score per item on a scale of 1 to 7, where 1=SD and 7=SA.

All of the component measures of transparency are also significantly related to the measure of overall transparency (RQ 3), with strong correlations of nearly equal value for the components of participation, substantial information, and accountability (from .80 to .81), and an inverse relationship with secrecy (-.65). The direction and strength of the relationships fit the model of transparency developed by Rawlins (2006). The participation, information, and accountability components have significantly strong relationships with each other (from .74 to .82). Since secrecy is a reverse construct of the concept of openness, it should have a negative relationship with overall trust and the other components, which the correlations matrix shows are weaker than the relationships among the positive components (-.62 to -.67). These correlations suggest that the components are strongly related to the concept of overall transparency.

The relationship between overall trust and overall transparency is strongly correlated (.75), which provides evidence that these two concepts are strongly related in the minds of the employees who participated in this study (RQ 4). The correlation matrix also shows significantly moderate to strong relationships among components of trust and transparency (from -.47 to .81). This answer to RQ 5 suggests a certain mental overlap of these concepts in the minds of the hospital employees.

Table 3: Pearson Correlations of All Constructs[a]

	TR	C	I	G	TY	P	SI	A	S
Overall Trust (TR)	—								
Competence (C)	0.63	—							
Integrity (I)	0.82	0.76	—						
Goodwill (G)	0.81	0.62	0.89	—					
Overall Transparency (TY)	0.75	0.65	0.87	0.88	—				
Participate (P)	0.66	0.55	0.76	0.80	0.81	—			
Substantial Information (SI)	0.67	0.70	0.81	0.75	0.80	0.82	—		
Accountability (A)	0.68	0.56	0.79	0.77	0.80	0.74	0.74	—	
Secrecy (S)	-0.59	-0.47	-0.63	-0.60	-0.65	-0.63	-0.67	-0.62	—

[a] All correlations significant at .001 level

A second analysis of the strength of the relationships between trust and its components, transparency and its components, and between trust and transparency was conducted by linear regressions. About 70% of the variation in overall trust could be explained by the three components of competency, integrity, and goodwill (F = 259.56, p <.001). Using a stepwise procedure, the model with all three components explained for the most variance. The standardized regression coefficients suggested that integrity (Beta = .44) and goodwill (Beta = .38) contributed the most to overall trust, while competency (Beta = .06) was not a significant contributor in a model that included all three components. While all three components are strongly correlated with overall trust, integrity and goodwill are more closely associated than competence among the hospital employees who participated in the study. (See Table 4 for all regressions.)

About 70% of the variation in overall trust could be explained by the three components of competency, integrity, and goodwill (F = 259.56, p <.001). Using a simultaneous multiple regression procedure, the model with all three components explained for the most variance. The standardized regression coefficients suggested that integrity (Beta = .44) and goodwill (Beta = .38) contributed the most to overall trust, while competency (Beta = .06) was not a significant contributor in a model that included all three components. While all three components are strongly correlated with overall trust, integrity and goodwill are more closely associated than competence among the hospital employees who participated in the study. (See Table 4 for all regressions.) Due to the high correlations between the variables, the model was tested for multicollinearity. The condition index for the four-dimension model was 24, suggesting a problem with multicollinearity. Further examination of the variance proportions showed that the four-dimension model has relatively sizable proportions of variance in all three variables (competence .64, integrity .87, and goodwill .44). This would suggest that, although the model explains for 70 percent of the variance for overall trust, the beta coefficients may not provide the best predictive model. Therefore, it is possible that competency is a stronger predictor than is indicated in this model.

Regressing transparency on its four components accounts for 78% of the variation in this measure (F = 267.88, p <.001). The stepwise procedure indicated that all four components provided the model that explained the most variance, although it only increased the model without the secrecy component by one percent. The standardized regression coefficients suggested that participation (Beta = .26), substantial information (Beta = .27), and accountability (Beta = .39) contributed the most to overall transparency, while secrecy (Beta = -.06) was not a significant contributor in the model that included all four components. When secrecy is included in a model without participation, it is a significant contributor (Beta = -.25). The correlation matrix shows that all four components are related to overall transparency, but accountability explains for more of transparency than the other components, with participation and substantial information making strong contributions. Again, the high correlations between variables suggested an analysis of collinearity, which found a condition index of 25.7 for this model. Additional analysis of the variance proportions found a possible multicollinearity problem between substantial information (.69) and secrecy (.54), which suggests caution when using the coefficient betas to predict which variables contribute the most to the overall variation.

While the correlations indicated that the components of transparency were also significantly related to trust, regressing overall trust to the four transparency components explained 56% of the variance (F=94.36, p<.001). The transparency components aren't as strongly related to the concept of overall trust as they are to overall transparency, but the linear regression shows a definite relationship. Of the transparency components, accountability had the highest standardized coefficient (Beta = .31), followed by substantial information (Beta = .25), secrecy (Beta = -.14) and participation (Beta = .13). Interestingly, participation wasn't a significant coefficient. So, accountability, substantial information, and openness (reverse of secrecy) were the transparency components the hospital employees most closely associated to the concept of trust (RQ 6).

Table 4: Regressions

	UB	SEB	B	Sig.
Overall Trust[a]				
Competence	.08	.06	.06	.195
Integrity	.33	.06	.44	.000
Goodwill	.32	.05	.38	.000
Overall Transparency[b]				
Participate	.17	.03	.26	.000
Substantial Information	.19	.04	.27	.000
Accountable	.35	.04	.39	.000
Secrecy	-.06	.04	-.06	.109
Overall Trust[c]				
Participate	.06	.03	.13	.134
Substantial Information	.13	.04	.25	.001
Accountable	.20	.04	.31	.000
Secrecy	-.10	.04	-.14	.011
Competence[d]				
Participate	-.06	.03	-.16	.032
Substantial Information	.29	.03	.76	.000
Accountable	.07	.03	.16	.015
Secrecy	.02	.03	.04	.455
Integrity[e]				
Participate	.08	.04	.13	.019
Substantial Information	.28	.04	.41	.000
Accountable	.31	.04	.36	.000
Secrecy	-.04	.04	-.05	.243
Goodwill[f]				
Participate	.22	.03	.39	.000
Substantial Information	.09	.04	.15	.012
Accountable	.25	.04	.34	.000
Secrecy	-.04	.04	-.05	.253

[a] Adjusted R^2 =.70, F=259.56, p<.001
[b] Adjusted R^2 =.78, F=267.88, p<.001
[c] Adjusted R^2 =.55, F=94.36, p<.001
[d] Adjusted R^2 =.52, F=82.43, p<.001
[e] Adjusted R^2 =.75, F=219.62, p<.001
[f] Adjusted R^2 =.72, F=189.83, p<.001

To further explore the relationship between trust and transparency, regression analyses were also conducted on the trust components (dependent variables) and transparency components (individual variables). When competence was regressed on the transparency components, it produced an adjusted R^2 of .52 (F=82.43, p <.001). Substantial information was the strongest predictor (Beta = .76) among the transparency components, while participation and accountability were also significant, but considerably weaker. Secrecy was a weak and insignificant coefficient.

The transparency components explained 75% of the variation of integrity. Substantial information (Beta = .41) and accountability (Beta = .36) were the major contributors, while participation (Beta - .13) was also significant. Again, secrecy was not a significant coefficient. This result is somewhat surprising, because one would suppose that being open (the opposite of secrecy) would be a central component to integrity. A regression model that includes secrecy and excludes accountability shows secrecy as a significant contributor. Secrecy has a significant negative correlation with integrity, but when all of the transparency components are present, secrecy doesn't help explain a significant amount of variation in the integrity measure.

For goodwill, the transparency components explained 72% of the variation, with participation and accountability as the strongest coefficients. Substantial information had a significant standardized Beta, but secrecy was insignificant again. Again, problems with multicollinearity could explain the weaker contribution of secrecy in these three regressions.

Discussion and Conclusion

The results of the correlations and regressions provide strong evidence that trust and transparency are positively related. As employee perceptions of organizational transparency increased so did trust in the hospital. Simple correlations indicate that overall trust and overall transparency are positively correlated. Additionally, the three components of trust (competence, integrity, and goodwill) and three components of transparency (participation, substantial information, and accountability) are positively related, while the fourth transparency component, secrecy, has an inverse relationship with the other components.

The multiple regressions also support the evidence of the correlations that the concepts are related. The components of trust are explaining 70% of the variance of the overall trust factor, while the components of transparency are explaining 78% of the overall transparency factor. While one wouldn't expect that the transparency components would explain as much of the overall trust factor, they do explain a very healthy 56% of the variance. Additionally, the transparency dimensions also explain for much of the variance in each of the trust components.

While multicollinearity problems reduce the confidence one can have interpreting which transparency components contribute the most to the trust measures, there are some interesting results. The regression analyses indicated that the employees found integrity and goodwill more important to overall trust than competency. Employee participation that leads to an organization sharing information that employees find useful and substantial, and that holds an organization accountable, are strongest predictors of overall transparency.

The regressions also found that certain components of transparency have stronger explanatory power in predicting the relationship between trust and transparency. Sharing information that is useful and that holds the organization accountable were the transparency coefficients that explained the most in the relationship between transparency and overall trust. Sharing substantial information was the most important transparency component for evaluating competence. When evaluating the integrity of an organization, the transparency components of accountability and sharing substantial information were the most important. Accountability and participation were the strongest transparency coefficients for explaining goodwill.

Overall, secrecy was the weakest component for explaining trust. The correlations showed moderately strong relationships, but as a regression coefficient it didn't show to be a strong or significant explanatory component for trust or its components. This could be due to the reverse relationship nature of the component. However, recoding the data to be scored on a positive scale did not improve secrecy coefficients in the regression models.

From this study, one could conclude that as organizations become more transparent they will also become more trusted. This study is limited to the perceptions of one stakeholder group, namely employees. Because this group has a unique relationship with the organization, the results of the study could be limited to employee perceptions of trust and transparency. A study of shareholders, consumers, or members of the media, might yield different results. However, the statistical evidence of the relationship appears strong enough to suggest that the positive relationship exists, but that the components explaining the relationships may vary among different stakeholder groups.

Further research should be conducted among different stakeholders to test these possible differences. Future studies should also seek to achieve a higher sample size in order to address the potential problems of multicollinearity.

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