Impersonal trust - the development of the construct and the scale

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Please cite the publication as follows:

Vanhala, M., Puumalainen, K. and Blomqvist, K. (2011), "Impersonal trust", Personnel Review, Vol. 40 No. 4, pp. 485-513. https://doi.org/10.1108/00483481111133354

IMPERSONAL TRUST - THE DEVELOPMENT OF THE CONSTRUCT AND THE SCALE

INTRODUCTION

Until recently organizational trust has been treated mainly as an interpersonal phenomenon (Mayer et al. 1995; Cummings and Bromiley, 1996; Schokley-Zalabak et al., 2000; Tyler, 2003) consisting of lateral trust referring to relations among employees and vertical trust referring to relations between employees and their immediate superiors, top management or the organization as a whole (McCauley and Kuhnert, 1992).

We argue that this social approach to organizational trust is limited. Firstly, the need for trust in contemporary organizations has strengthened due to the emphasis on knowledge as a focal resource, yet the natural evolution of interpersonal trust is more challenging due to globalization and virtualization. Knowledge work is increasingly carried out in temporary and technology-enabled task forces, projects and virtual teams. Furthermore, supervisors and leaders may have dual roles, working as experts and only part-time as supervisors (Alvesson, 2004). In many cases employees may not have a shared past or future vision (Axelrod, 1984). Such settings provide limited opportunities for the natural evolution of interpersonal trust. Consequently, trust among employees and between employees and supervisors may become very thin and fragile, and employees have actually become less trusting (Zeffane and Connel, 2003; Schoorman et al., 2007).

There is increasing interest in the impersonal element of organizational trust, known as institutional (see e.g., Costigan et al., 1998; McKnight et al., 1998) or systems (Luhmann, 1979) trust, as we need trust more than ever, yet there are fewer natural opportunities for interpersonal trust to evolve. Impersonal trust refers to trust in impersonal organizational factors such as vision and strategy, top management, the management group's goals and capability, technological and commercial competence, justice, fair processes and structures, roles, technology and reputation, and HRM policies (Costigan et al., 1998; McKnight et al., 1998; McCauley and Kuhnert, 1992; Kramer, 1999; Tan and Tan 2000; Atkinson and Butcher, 2003; Kosonen et al., 2008).

Our aim in this paper is to develop a construct and a scale encompassing the impersonal element of organizational trust. Researchers measuring organizational trust have focused on specific dimensions of the impersonal trust. It is characterized in previous studies

mainly as trust in top management (McCauley and Kuhnert, 1992; Costigan, Ilter and Berman, 1998; Daley and Vasu, 1998; Clark and Payne, 1997; Tyler, 2003; Mayer and Davis, 1999), and also in the employer organization (Tan and Tan, 2000), its competence (Lee, 2004) and performance (Robinson, 1996). Previous measures shed light on some aspects of the impersonal dimension of organizational trust, but there is no comprehensive measurement instrument available.

In this paper we describe a step-by-step approach to developing the construct of impersonal trust and a valid measurement scale for assessing employee perception of impersonal organizational trust (see Figure 1). We start with a discussion on the role and nature of the impersonal dimension of organizational trust. Secondly, we develop the construct and the scale on which to measure it, and then demonstrate its validity and reliability. Finally, in our conclusions we discuss the theoretical, methodological and normative implications.

Take in Figure (1)

THE CONCEPTUAL AND EMPIRICAL DOMAINS OF THE IMPERSONAL ELEMENT OF ORGANIZATIONAL TRUST

Theoretical background

In the context of sociology trust is considered critical in supporting coherence and coordination in social communities. Luhmann (1979) argued that the opportunities and interdependencies characterizing modern life demand commitment to and trust in the system. He further differentiated system trust or trust in abstract systems and interpersonal trust: complex systems (such as organizations) demand some basic trust or confidence both in the institution and in being a member of it.

In the realm of social psychology, and especially according to social-exchange theory, justice and the norm of reciprocity are also critical elements in the impersonal dimension of organizational trust. This is visible in the symmetry of the psychological contract between employer and employee (Rousseau, 1989; Whitener, 1997; Blau, 1964). Not only may a reciprocal attitude affect the dyadic relationship, it could also become a meta-psychological contract and a generalized level of reciprocity (Parzefall, 2006; Rousseau et al., 1998).

In the research on economics and strategy trust is seen as a higher-order organizing principle enhancing knowledge sharing and transfer (Kogut and Zander, 1992; Foss, 1996). According to the dynamic-capability view of the firm, operational routines support adaptation in complex situations. Modern HRM and leadership practices, organizing principles, and the roles and decision-making processes among top management are critical factors (see e.g., Tzafrir et al., 2004). According to organization theory, the organizational culture in terms of values, norms and identity has an impact on the impersonal nature of organizational trust (Creed and Miles, 1996).

Multi-disciplinary research focusing on organizational trust has identified the vision, strategy, decision-making processes, roles and HRM practices of top management as sources of the impersonal element (Costigan et al., 1998; Atkinson and Butcher, 2003). Fairness in decision-making and HRM are also critical factors (Tan and Tan, 2000; Kim and Maubougne, 2003).

Previous literature

In order to identify the previous research on the impersonal element of organizational trust and its measurement we carried out a literature review. We conducted a search for journal articles within the Abi/Inform, ScienceDirect, Elsevier, Emerald and Ebsco information sites, using key words such as "organizational trust", "impersonal trust", "intra-organizational trust" and "trust within the organization". We then analyzed the results in order to find research of relevance to our study. Thus, at this stage studies dealing with inter-organizational trust or trust between an organization and consumers were left aside. After these restrictions, 20 studies on intra-organizational trust with impersonal components were left for deeper analysis (see Table 1).

Take in Table (1)

According to McCauley and Kuhnert (1992), trust between employees and management is not interpersonal in nature, but derives from the roles, rules, and structured relations of the organization. They further argue that trust is determined by the fairness and efficiency of the organizational structures. Atkinson and Butcher (2003) point out that impersonal

organizational trust is based on the roles and systems of the employer organization, specifically on perceptions of the other's competence to fulfil the role or task..

McKnight et al., (1998) divide impersonal trust along the dimensions of situation normality, referring to the belief that success is likely because the situation is normal, and structural assurance, referring to the belief that success is likely because the contextual conditions, such as promises, contracts, regulations and guarantees, are in order. Zucker (1986) differentiates institution-based trust from character- and process-based trust, which could be built on certification, authorization and insurance.

The trustworthiness of an organization is also evaluated based on its leadership style and behaviour. For most employees the decision to trust top management depends more on the outcomes of its actions (Costigan, Ilter and Berman, 1998). Moreover, it is argued that trust in top management is usually based on the outcomes of its decision-making. Perceived organizational justice has an impact on experienced organizational trustworthiness (McCauley and Kuhnert, 1992; Tan and Tan, 2000.)

Whitener (1997) states that competent decisions made in the organization produce increased trust in its top-level management. Employees feel they have exchange relationships with the organization as an entity, and their trust in it is partially based on its decision history, possibly in the hands of higher-level superiors with whom they have no interpersonal relationships. They evaluate organizational trustworthiness on the basis of their experience of these decisions, routines and activities.

According to Blunsdon and Reed (2003), characteristics of the production system define the context in which work occurs, and are therefore included among the organization's values, as is trust. Moreover, Shockley-Zalabak et al. (2000) argue that trust in an organization entails having confidence that it is capable of delivering quality products in terms of reliable production technology.

Perry and Mankin (2007) argue that organizational trust incorporates the acceptance of goals and values as well as a strong desire to identify with the organization. According to Shockley-Zalabak et al. (2000), identity concerns how individuals manage the paradox of separation and association as a member of an organization: those who identify with it are more likely to consider it more worthy of trust.

Employees observe how outsiders such as customers, employees of other companies and the media value their employer. Its reputation may derive from the reliability of the company and its products or services, how familiar the brand is or its position in the branch or the stakeholder's networks. A good external reputation as perceived by employees leads to trust in the employer (Gillespie and Dietz, 2009; Atkinson and Butcher 2003).

According to Whitener (1997) the experience of decisions, routines and activities related to fairness in HRM practices has an impact on experienced organizational trustworthiness. In a similar vein, Kim and Mauborgne (2003) argue that fair process refers to the human need to be valued as human beings and not as mere personnel or human assets. Also Tan and Tan (2002) argue that employee trust may change if the organization does not compensate fairly or recognize employee contributions.

Perceived organizational support also has an impact on experienced organizational trustworthiness (McCauley and Kuhnert, 1992; Tan and Tan, 2000). The norm of reciprocity is discussed in earlier research, especially in terms of the psychological contract between employer and employee (Rousseau, 1989; Whitener, 1997; Blau, 1964).

According to Whitener et al. (1998) accurate information, explanations for decisions and openness in communication affect perceptions of the organization's trustworthiness. Finally, open communication in the form of honest information and the exchange of thoughts and ideas enhances perceptions of trust.

Focus groups

We used the focus-group approach in order to further understanding of how employees perceive the impersonal element of organizational trust. Perceptions of impersonal trust in four focus groups comprising employees from eight different organizations and different positions in the ICT, forest and transport industries as well as the public sector. Each group contained people in the same kind of organizational position. A total of 22 people participated, of which five were planning staff, six were experts, six were managers and five worked within HR development. The participants were first asked to discuss "What kind of trust there is in your organization and in organizations in general". It should be noted that in all of the groups they raised the issue of impersonal trust naturally (without

the moderator's probing). Once the issue had been raised they were asked to discuss in more detail the question: "What are the objects of impersonal trust in organizations?" The focus-group data were subjected to content analysis wherein the components of the data on impersonal trust were extracted. Atlas.ti software was used for the analysis of the empirical data.

Identification of the components of impersonal trust

Inductively collected components of the impersonal organizational trust were then connected to components taken from the literature review in the fields of sociology, social psychology and economics, as well as from a separate review of the emerging inter-disciplinary research on trust. On the basis of the literature review and our qualitative focus-group research we defined the impersonal element of organizational trust as *"the individual employee's expectation about the employer organization's capability and fairness"*. The capability dimension consists of six and the fairness dimension of five components (see Table 2).

Take in Table (2)

ITEM DEVELOPMENT AND CONTENT VALIDITY

Before constructing the scale we carried out an extensive review of published measures dealing with impersonal organizational trust and other related aspects. About half of the items comprising the original version of the scale were drawn from the early studies, the other half being generated by the researchers based on the model of impersonal trust.

The items characterize specific aspects of impersonal trust. The response format for them all was a five-point Likert scale, anchored by "I totally disagree" and "I totally agree". A neutral option "neither disagree nor agree" was introduced in order to reduce uninformed response.

A total of 132 items were generated. The item pool was then further refined by a group of PhD students and their supervisors. The questionnaire was then pre-tested on a group of PhD students, which led to the removal of about half of the items. The wording of some of the items was also refined. Thus the final version included 60 items grouped in the six

components of the capability dimension (37 items) and the five components of the fairness dimension (23 items) of impersonal trust (see Appendix 1).

Expert panel

An expert panel capable of understanding the construct further evaluated the 60 items. The panel consisted of seven members, five people with PhDs and two PhD students. The instructions and a list of items (in Finnish) were sent by e-mail to the panel members, who individually assigned each item to one of the eleven components. There was also the option of putting the items in a "no class" category. The items were listed in random order in the Excel sheet and the panellists were instructed to assign each item to only one component.

Items placed in the wrong category by four of the seven panellists were taken under review. There were 14 items that the experts classified differently than the researchers had originally done. However, all of the 60 items were included in the questionnaire because there was inconsistency among the panel members: they placed these 14 items in various categories.

DATA COLLECTION

The respondents comprised a heterogeneous group: working adult students with different kinds of organizational backgrounds. They were not randomly selected, and the questionnaire was sent to all current and former students in the Master's degree programme whose e-mail addresses were available.

An Internet questionnaire was used for data collection. A covering letter including a personal link to the questionnaire (in Finnish) was sent to 356 potential respondents via e-mail. The initial e-mail was followed up with two reminders, the first after 10 days and the second after another three days. A total of 166 completed questionnaires were received, representing a 46.6 percent response rate. The majority of the respondents were women (54%) and 48% were in the 31-40-year age group. Almost half of them (49%) had a higher university degree, one third (35%) had a lower university degree, and a few had a vocational education (7%). The majority were officials (43%) or managers (30%), the third major group comprising ordinary employees (10%). In terms of employment duration, the majority had worked in the organization for less than ten years: 1-5 years (36%), 6-10

years (28%) and under one year (15%). The major fields of activity were education (13%), state administration (10%), telecommunications (8%) and information technology (8%), followed by the metal industry (8%), the forest industry (6%), trade (5%), and health care and social services (5%). One third of the respondents (30%) worked in organizations with over 1,000 employees, 16 percent with between 500 and 999, 11 percent with between 250 and 499, and 8 percent with between 100 and 249.

An analysis of variance (ANOVA) test was carried out in order to confirm the absence of non-response bias. The respondents were divided to into three groups: 1) the first mailing, 2) the first follow-up and 3) the second follow up. It was assumed that the last group most closely resembled non-respondents (Armstrong and Overton, 1977). The three groups were compared on all items, and it was found that there was no significant (at the five-percent level) difference between them.

ITEM REDUCTION – EXPLORATORY FACTOR ANALYSIS

The first stage in the item reduction was to carry out exploratory, principal-component factor analysis (PCA), the objective being to cull items that did not load on the appropriate component of the dimensions of impersonal trust. SPSS 14 for Windows software was used for the analysis, with direct oblimin rotation. As a result, nine items from the capability dimension and four items from the fairness dimension were removed (see Appendix 1). In addition, some modifications were made to the original construct. On the capability dimension (see Table 3). Identity and Employer reputation were originally different components, but in the PCA their items loaded together to comprise one component referring to the organization's reputation as an employer. On the fairness dimension (see Table 4) Values and morals and the Norm of reciprocity were combined into one component, which refers to fair play in the organization. Items concerning salary loaded onto a different component than other HRM items.

Take in Table (3)

Take in Table (4)

DIMENSIONALITY – CONFIRMATORY FACTOR ANALYSIS

We carried out a confirmatory factor analysis (CFA) in order to test the dimensionality of the scale, separately for the capability and fairness dimensions. According to the theoretical conceptualization and exploratory factor analysis the capability scale should exhibit the latent structure of a second-order model, in which five components are first-order factors and are collectively accounted for by a second-order factor. The fairness scale, in turn, should consist of three first-order factors and a second-order factor. A total of 141 cases were processed by means of LISREL 8.50. PRELIS 2.50 was used to compute the covariance matrix and the Maximum Likelihood estimation method was applied.

The capability dimension

First, CFA was conducted separately for each component in order to verify that the items were, in fact, grouped together. During this phase three items were removed (in stages, i.e. one item at a time) from the Management component because of the large standardized residuals with the other Management items.

In the next phase all five components were tested together. The initial model fit indices indicated that the original model needed to be re-specified to fit better with the sample data. Seven items were sequentially removed according to the values of the standardized residuals. From pair of items with a large standardized residual the one with lower squared multiple correlation was removed and the one resulting in more improvement in the model fit was retained. As a result of the above steps, a total of ten items were removed.

The following three absolute-fit measures were obtained: the likelihood-ratio chi-square value, the goodness-of-fit index (GFI) and the root mean square error of approximation (RMSEA). Even though all the measures fell within acceptable levels, incremental i.e. the normed fit index (NFI) and the comparative fit index (CFI) and parsimonious i.e. the adjusted goodness-of-fit (AGFI), the normed chi-square (chi-square/df), and Akaike's information criterion (AIC) fit indices were needed to ensure acceptability of the model from other perspectives. In sum, the various measures of overall goodness-of-fit gave sufficient support to deem the results an acceptable representation of the hypothesized construct (see Table 7).

In order to further establish the dimensionality, we compared three competing models.

- Model 1 – the five correlated factors model: Covariance among the items is accounted for by five first-order factors, each factor representing a distinct component of capability and each item being reflective of only a single component. The five factors are correlated.
- Model 2 – the one-factor model: capability is conceptualized as a uni-dimensional construct, the covariance among the 18 items being accounted for by a single factor.
- Model 3 – the second-order factor model: responses to each item are reflective of two factors, a general capability factor and a specific component factor.

The summary statistics for these three models are shown in Table 5. Model 1 was found to outperform Model 2 on all measures.

Take in Table (5)

As shown in Figure 2, all the first-order factors loaded quite well onto the second-order construct. Moreover, the t-values associated with each of the loadings exceeded the .01 significance levels (critical value = 2.576). The fit indices of Model 3 showed similar results (see Table 5). All of the second-order measures presented in Table 5 are close to the first-order measures, indicating acceptance of the second-order factor structure.

Take in Figure (2)

The fairness dimension

CFA was first conducted separately for each component on the fairness dimension. Three items were removed during this phase due to large standardized residuals with other items. Then all the components were tested together. The initial model fit indices indicated the original model needed to be re-specified. First, the Culture and Pay components were combined with the Fair play component: the contents of all of the items are similar and the model worked better that way. In addition, three more items were sequentially removed because of the high modification indices. These steps resulted in the removal of a total of six items. Based on absolute, incremental and parsimonious fit measures the hypothesized construct can be accepted (see Table 9).

In order to further establish the dimensionality we compared three competing models: Model 1 – the three correlated factors model, Model 2 – the one-factor model, and Model 3 – the second-order factor model. The summary statistics for the three competing dimensionality models are shown in Table 6. Model 1 was found to outperform Model 2 on all measures.

Take in Table (6)

As shown in Figure 3, the first-order factors load quite well onto the second-order construct. Moreover, the t-values associated with each of the loadings exceed the .01 significance levels (critical value = 2.576). The Model-3-fit indices show similar results as Model 1 (see Table 6). All of the second-order measures are the same as those in the first-order model, indicating acceptance of the second-order factor structure.

Take in Figure (3)

CONSTRUCT RELIABILITY AND VALIDITY

Reliability

We evaluate the reliability of the items by their path coefficients and squared multiple correlations (R^2). Cronbach's alpha and composite reliability (also known as construct reliability) are used for assessing the reliability of each latent component. A complementary measure is the average variance extracted, which directly shows the amount of variance that is captured by the construct in relation to the amount of variance due to measurement error.

The reliability statistics for the capability dimension are shown in Table 7. All the items were significantly related to their specified constructs, verifying the posited relationships among the indicators and constructs. The Cronbach's alphas vary from .67 to .93 and the construct reliabilities range from .67 to .94, both exceeding the minimum recommended level of .60. The average variance-extracted meets the recommended 50 percent (cf. Diamantopoulos and Siguaw, 2000; Hair et al., 1998) in all but one component (Organizing

the operational activities). The squared multiple correlations (R^2) were also mainly over or near the limit of 0.50.

Take in Table (7)

The reliability measures for the fairness dimension are shown in Table 9. Most of the loadings of the items turned out to be high, and the t-values associated with each of the loadings exceeded the critical values for the .01 significance level, implying good reliability on the item level. All of the constructs exceeded the recommended level of .60 for Cronbach's alpha and for the construct reliability. The average variance extracted is at or above the recommended level in all but one component (Fair play). Thus the model provides a reliable measurement of the fairness dimension of impersonal trust.

Take in Table (9)

Construct validity

Convergent validity

According to Bagozzi and Yi (1991), weak evidence of convergent validity results when the factor loading on an item of interest is significant. Strong evidence is achieved when the squared factor loading is greater than 0.5 (i.e. more than half of the total variation in the measures is due to the trait). Secondly, convergent validity can be assessed in terms of the degree to which the components, i.e. factors (which could be considered different measures of the construct) are correlated (Smith et al., 1996; Bagozzi and Yi, 1991).

As shown in Table 7, the factor loadings for almost all of the items (15 out of 18) of the capability dimension were greater than 0.6, and all were statistically significant at the 0.01 significance level. In addition, 11 of the 18 items turned out to have a squared factor loading (R^2) greater than 0.5. Table 8 gives more evidence of convergent validity in that the correlations between the components of capability are all significant, ranging from .28 to .78. This suggests that the five components all measure some aspect of the same construct.

Take in Table (8)

On the fairness dimension (Table 9) 10 of the 13 items turned out to have a factor loading of over 0.60, all of the loadings being statistically significant at the 0.01 significance level. In addition, five items showed a squared factor loading greater than 0.5, and four items almost reach the limit. Furthermore, the correlations among the components (Table 10) all turned out to be significant and thus they all measure the same construct.

Take in Table (10)

Discriminant validity

Assessment of discriminant validity requires examination of the components to ensure that they are not perfectly correlated i.e. correlations equal to 1 (Smith et al., 1996; Bagozzi and Yi, 1991). Discriminant validity exists if the correlations are two or more standard errors below 1.0 (Schmitt and Stults, 1986). Further, more rigorous evidence is obtained from the average variance extracted (AVE) by each factor relative to that factor's shared variance with other factors in the model (see Fornell and Larcker, 1981).

As shown in Table 8, all of the component correlations on the capability dimension turned out to be significantly different from one ($p<0.05$). This suggests that when the components measure aspects of the same construct they measure unique dimensions of it. The AVE is greater than or almost equal to the squared correlation in all but one component (Organizing the operational activities).

On the fairness dimension, too, all of the component correlations are significantly different from one (see Table 10). Analysis of the AVE by each component relative to that component's shared variance with the other components reveals some problems with discriminant validity, however: only Communication has greater AVE than the squared correlation with the other components.

THE FINAL CONSTRUCT AND THE SCALE FOR IMPERSONAL TRUST

Impersonal trust in the organizational context consists of two dimensions, capability and fairness. From the scale-development process described above it could be assumed that these dimensions consist of the components presented in Figure 4. The items measuring these dimensions are presented in Appendix 1.

Take in Figure (4)

DISCUSSION AND CONCLUSIONS

In theoretical and methodological terms, our interest was in organizational trust as a more comprehensive concept incorporating both the inter-personal and impersonal aspects of trust. From the normative and managerial perspectives, the more comprehensive measure we developed could be used to analyze, evaluate and develop the concept of organizational trustworthiness. This has value especially for the strategic-management and HRD functions, which increasingly strive to differentiate the organization in terms of human capital. If a company is able to set itself apart from its competitors and to build a higher level of trust, it could exploit the benefits related to organizational trust in order to increase its efficiency and effectiveness, and also to attract and retain the most competent employees (see also Barney and Hansen, 1994; Blomqvist, 1997).

The construct and the scales of impersonal trust developed and validated in this study represent a step forward towards the effective and reliable measurement of organizational trust. Despite the increasing research attention in this area, to date no valid, comprehensive operational measure of impersonal trust has been developed. To the best of the researchers' knowledge this is the first study to provide such a measure that is psychometrically sound and operationally valid.

This study provides two major contributions to the research on organizational trust: first a framework describing the construct of impersonal trust and secondly an instrument for measuring it.

Managerial implications

Given current organizational and management challenges, organizations cannot rely only on interpersonal trust. Hence, there is a need to develop complementary forms of organizational trust. Even if a supervisory role and interpersonal trust are critical, organizations could benefit from complementary impersonal forms of trust. If an employee is able to trust the organization s/he works for, s/he can trust her/his future in it even if co-workers and supervisors cannot provide sufficient support for the evolution of strong interpersonal trust. If employees could trust the organization without having personalized knowledge of each decision maker and key actor, the organization should be more efficient (Kramer, 1999). Further, if the impersonal element of organizational trust were embedded in its measurement, a more holistic understanding of employee perceptions could be reached.

Limitations

Overall, it could be said that the steps reported in this study fulfil the requirements of successful scale development. However, there are some limitations, the most severe one being that the same data sample was used throughout. The optimum solution would have been to use one data set for item reduction through PCA, and another for CFA, in order to allow comparison of the models and assessment of the construct reliability and validity. However, the problem in finding another sample and being forced in using only one dataset is not uncommon. (see e.g. Wang & Ahmed, 2004; Plank et al., 1999).

Another limitation is that the discriminant validity of the fairness dimension is not totally established. This should be tested on a new set of data and, if necessary, items in the "HRM practices" and "Fair play in the organization" components should be modified and/or deleted/added. The average extracted variance measures in the "Organizing of the operational activities" and "Fair play in the organization" components should also be tested on another set of data, and if necessary items should be modified and/or deleted/added.

Directions for future research

The development and validation of the scales require retest and replication in a systematic manner (Churchill, 1979; Hinkin, 1998). This construct of impersonal trust is the first step and it should be subjected to further research.

Discriminant, nomological, and convergent validities of the scale were not part of this research, and should therefore be tested in future studies. For example, discriminant validity between scales of impersonal trust and scales that measure interpersonal trust should be assessed. In order to ensure generalizability of the construct and the scales, scales measuring impersonal trust should also be tested a) in different kinds of organizations, b) with respondents from different organizational levels, and c) in different countries and cultures. Another recommendation would be to test the causal relationships between impersonal trust and other organizational parameters. This would allow the further assessment of nomological validity.

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Table 1. The conceptualization of impersonal trust in the literature

AUTHOR(S)	CONTEXT	OBJECT OF TRUST	COMPONENTS OF TRUST	OPERATIONALIZATION
Atkinson & Butcher (2003)	Conceptual paper	Organization	Roles, systems, technology and reputation	-
Clark & Payne (1997)	British Coal in the UK	Organization and top management	Fairness, honesty, communication, capability and reliability	23 items, e.g., "I believe that managers apply the same rules to all workers."
Blunsdon & Reed (2003)	Australian workplaces	Organization	Organization's technological system	N/a
Brockner et al. (1997)	Employees from a wide variety of organizations in the USA	Organization and top management	Capability and fairness	4 items, e.g., "I trust the management to treat me fairly"
Costigan et al. (1998)	Focal employees from various firms in the USA	Top management	Top management's decisions on vision, strategy and processes	6 items, e.g., "The CEO and the top management of my organization are sincere in their attempts to meet the worker's point of view."
Daley & Vasu (1998)	North Carolina state employees in the USA	Top management	Communication, fairness and capability	4 items, e.g., "I feel positive about the direction in which upper management is leading the agency/university."
Kim & Mauborgne (2003)	Conceptual paper	Organization and top management	Fairness of the processes	-
Kramer (1999)	Conceptual paper	All organizational members	Organizational roles and rule system	-
Lee (2004)	Korean-US joint venture multinational organization	Organization	Organizations capability (resources, technology, competitiveness)	3 items, e.g., "I am confident that this company will be continuously competitive in the market in future."
Mayer & Davis (1999)	Small manufacturing firm in the USA	Top management	Top management's capability, fairness, honesty and reliability.	21 items, e.g., "Top management is well qualified."
McCauley & Kuhnert (1992)	Federal government training organizations in the USA	Top management	Roles, rules and structures.	6 items, e.g., "I feel quite confident that the organization will always try to treat me fairly."
McKnight et al. (1998)	Conceptual paper	Organizational structures	Structures that enable situation normality and structural assurance.	-
Perry & Mankin (2007)	Municipal fire department and manufacturing firm in the USA	Organization and top management	Organizational goals, values and shared identity; Top management's integrity, motives, intentions and fairness	N/a for the organization. For top management 7 items, e.g., "The chief executive is fair in rewarding and recognizing all employees."
Robinson (1996)	Graduates of a MBA program in the USA	Organization	Organizational qualities and performance	7 items, e.g. ,"My employer is not always honest and truthful."
Shockley-Zalabak et al. (2000)	54 companies in the USA and in Italy	Organization and top management	Organizational capability (products and services, technology, competitiveness). Top management's capability, fairness, honesty and reliability. Shared identity with the organization.	46 items, n/a
Tan & Lim (2009)	Life insurance company in Singapore	Organization	Fairness, organizational support and shared identity with the organization	5 items, e.g., "I am willing to depend on the organization to back me up in difficult situations."
Tan & Tan (2000)	Respondents with no common organizational background	Organization	Organizational support and organizational justice	7 items, n/a
Tyler (2003)	n/a	Organization and top management	Fairness and sustainability of the organization	7 items, "My views are considered when decision are made."
Whitener (1997)	Conceptual paper	Organization	Strategy, fairness of the processes (e.g., HRM) and organizational support	-
Whitener et al. (1998)	Conceptual paper	Organization	Communication and fairness of the processes	-

Table 2. The dimensions and the components of impersonal trust

DIMENSION	COMPONENT	DESCRIPTION OF THE COMPONENT	APPEARANCE IN THE FOCUS GROUPS	APPEARANCE IN THE LITERATURE
Capability	Organizing the operational activities	The general operations, the organization's ability to cope in exceptional situations and how its resources are exploited.	Yes	Yes, Atkinson & Butcher (2003); Kramer (1999); Lee (2004); McKnight et al. (1998)
	Stability and predictability of the operational environment	Changes in the operational environment and employment outlook.	Yes	Yes, Atkinson & Butcher (2003); McKnight et al. (1998); Robinson (1996); Shockley-Zalabak et al. (2000); Tyler (2003)
	Management of the business and people	Top management's capabilities and decision-making practices.	Yes	Yes, Costigan et al. (1998); Daley & Vasu (1998), Mayer & Davis (1999); Shockley-Zalabak et al. (2000)
	The organization's technological reliability	Equipment that is crucial for its operations, the respondents' personal tools, working conditions and assistance with technical problems.	Yes	Yes, Atkinson & Butcher (2003); Shockley-Zalabak et al. (2000), Blunsdon & Reed (2003)
	Identity	The organization's products and services as well as the organization itself compared to its competitors	Yes	Yes, Perry & Mankin (2007); Shockley-Zalabak et al. (2000)
	Employer reputation	Perceptions of what outsiders think about the employer organization.	Yes	Yes, Atkinson & Butcher (2003)
Fairness	HRM practices	Salary, reward systems, education and career.	Yes	Yes, Brockner et al. (1997); Daley & Vasu (1998); Whitener (1997); Whitener et al. (1998)
	The norm of reciprocity	Top management's behaviour, reward systems and the employer's promises and obligations	Yes	Yes, Clark & Payne (1997); Mayer & Davis (1999); Perry & Mankin (2007); Tan & Lim (2009); Tan & Tan (2000)
	Communication	Trustworthiness of the information, sufficiency of information, information that is relevant, and overall internal communication.	Yes	Yes, Clark & Payne (1997); Daley & Vasu (1998); Whitener et al. (1998)
	Culture	Internal competition and opportunism.	Yes	Yes, Brockner et al. (1997); Tan & Lim (2009)
	Values and moral principles	The organization's values and ethicality.	Yes	Yes, Perry & Mankin (2007); Kim & Mauborgne (2003)

Table 3. Results of the PCA on the capability dimension

ITEMS	MGM	TECH	EMRE	OPACT	OPENV	COMMUNALITY	MSA
Mgm5	.924					.848	.962
Mgm3	.898					.779	.949
Mgm11	.897					.737	.951
Mgm7	.876					.849	.940
Mgm4k	.859					.768	.958
Mgm10	.847					.817	.963
Mgm1	.837					.769	.961
Mgm8	.823					.745	.946
Mgm12k	.813					.723	.938
Mgm2k	.775					.614	.938
Mgm9k	.711					.649	.965
Mgm6k	.564					.618	.970
Tech2		.901				.826	.817
Tech4		.883				.778	.811
Tech3		.747				.715	.915
Tech5		.699				.610	.917
Emre1			.819			.793	.861
Emre2			.694			.667	.858
Iden2k			.656			.696	.898
Iden1			.611			.682	.935
Opact5k				.750		.575	.920
Opact4				.678		.463	.907
Opact6				.622		.587	.921
Opact9				.543		.570	.949
Opact2				.462		.494	.910
Openv5k					.923	.811	.856
Openv1					.688	.679	.875
Openv4k					.483	.607	.945
Eigenvalue	12.556	2.781	1.824	1.295	1.011		
% of variance	44.843	9.932	6.514	4.624	3.611		

Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. Rotation converged in 9 iterations. Loadings under 0.40 are not presented. Kaiser-Meyer-Olkin Measure of Sampling Adequacy 0.932 and Bartlett's test of Sphericity: sig. 0.000. Opact = Organizing the operational activities, Openv = Stability and predictability of the operational environment, Mgm=Management of the business and people, Tech=The organization's technological reliability, Emre=Empoyer reputation.

Table 4. Results of the PCA on the fairness dimension

ITEMS	COMMU	PAY	CULT	FAIR	HRM	COMMUNALITY	MSA
Commu1	.897					.836	.880
Commu2	.863					.831	.887
Commu6	.824					.796	.924
Commu7k	.681					.745	.930
Commu4	.680					.630	.948
HRM2k		.958				.901	.672
HRM1		.896				.891	.710
Cult1k			-.858			.858	.797
Cult2k			-.798			.844	.825
Valmo2k				-.747		.693	.863
Valmo3k				-.715		.679	.890
Valmo1				-.639		.624	.948
Reci2k				-.634		.599	.857
Reci1k				-.570		.594	.854
Valmo4				-.542		.437	.915
HRM5					-.823	.785	.902
HRM4					-.718	.648	.925
HRM6					-.710	.668	.883
HRM3					-.495	.509	.940
Eigenvalue	8.336	1.930	1.305	1.065	0.930		
% of variance	43.876	10.156	6.866	5.608	4.895		

Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. Rotation converged in 10 iterations. Loadings under 0.40 are not presented. Kaiser-Meyer-Olkin Measure of Sampling Adequacy 0.876 and Bartlett's test of Sphericity: sig. 0.000. HRM=HRM practices, Commu=Communication, Cult=Culture, Pay= Pay, Fair=Fair play in the organization

Table 5. A comparison of the capability dimension models

	MODEL 1: five correlated factors	MODEL 2: one general factor	MODEL 3: second-order model
Absolute measures			
GFI	0.900	0.676	0.889
RMSEA	0.0298	0.158	0.0391
Incremental-fit measures			
CFI	0.985	0.742	0.976
NFI	0.904	0.679	0.892
Parsimonious-fit measures			
AGFI	0.863	0.589	0.854
Normed chi-square	1.12	4.48	1.21
AIC	232.505	677.075	239.835

Table 6. A comparison of the fairness dimension models

	MODEL 1: three correlated factors	MODEL 2: one general factor	MODEL 3: second-order model
Absolute measures			
GFI	0.925	0.849	0.925
RMSEA	0.0365	0.103	0.0365
Incremental-fit measures			
CFI	0.975	0.897	0.975
NFI	0.904	0.829	0.904
Parsimonious-fit measures			
AGFI	0.890	0.788	0.890
Normed chi-square	1.19	4.48	1.19
AIC	131.535	214.402	131.535

Table 7. The results of the CFA on the capability dimension

ITEMS	R^2	LOADING	T-VALUE	CR	AVE	ALPHA
OPACT						
Opact2	0.469	0.685	[a]			
Opact4	0.231	0.481	5.037			
Opact5k	0.240	0.490	5.117			
Opact6	0.448	0.669	6.769			
Opact9	0.472	0.687	6.920			
				0.743	0.372	0.763
OPENV						
Openv1	0.339	0.582	[a]			
Openv4k	0.684	0.827	5.709			
				0.670	0.511	0.674
MGM						
Mgm1	0.721	0.849	[a]			
Mgm4k	0.701	0.837	12.630			
Mgm5	0.817	0.904	14.512			
Mgm9k	0.664	0.815	12.070			
Mgm10	0.834	0.913	14.573			
				0.937	0.747	0.928
TECH						
Tech2	0.789	0.888	[a]			
Tech4	0.682	0.826	10.070			
Tech5	0.442	0.665	8.148			
				0.839	0.637	0.841
EMRE						
Iden1	0.716	0.846	[a]			
Iden2k	0.666	0.816	10.581			
Emre1	0.539	0.734	9.330			
				0.842	0.640	0.829

[a] The t-value is not available because the coefficient is fixed at 1. Chi-square=140.505, df=125, chi-square/df=1.12 p=0.162, GFI=0.900, AGFI=0.863, RMSEA=0.0298, NFI=0.904, CFI=0.985, AIC=232.505. Opact = Organizing the operational activities, Openv = Stability and predictability of the operational environment, Mgm=Management of the business and people, Tech=The organization's technological reliability, Emre=Empoyer reputation.

Table 8. The factor intercorrelations on the capability dimension

FACTORS	Opact	Openv	Mgm	Tech	Emre
Opact	0.372				
Openv	0.652 (0.049)	0.511			
Squared correlation	0.425				
t-value	3.923				
Mgm	0.776 (0.034)	0.680 (0.045)	0.747		
Squared correlation	0.602	0.462			
t-value	5.444	4.376			
Tech	0.428 (0.069)	0.290 (0.077)	0.276 (0.078)	.637	
Squared correlation	0.183	0.084	0.076		
t-value	3.648	2.475	2.822		
Emre	0.681 (0.045)	0.706 (0.042)	0.619 (0.052)	0.517 (0.062)	0.640
Squared correlation	0.464	0.498	0.383	0.267	
t-value	4.960	4.363	5.336	4.606	

The AVE associated with a factor is presented diagonally. The standard errors are in parentheses. Opact = Organizing the operational activities, Openv = Stability and predictability of the operational environment, Mgm=Management of the business and people, Tech=The organization's technological reliability, Emre=Empoyer reputation.

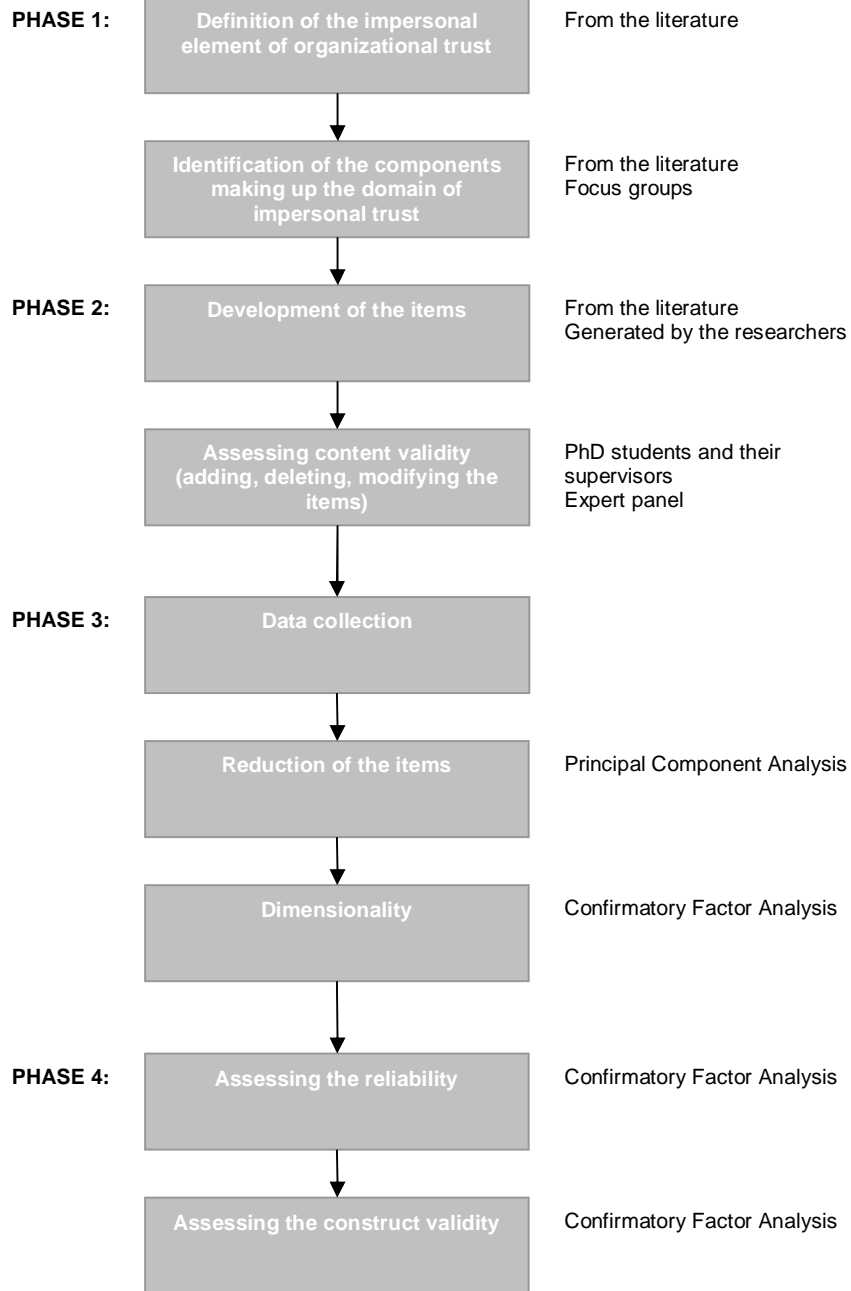**Table 9. The results of the CFA on the fairness dimension**

ITEMS	R^2	LOADING	T-VALUE	CR	AVE	ALPHA
HRM						
HRM3	0.493	0.702	[a]			
HRM4	0.457	0.676	7.108			
HRM5	0.599	0.774	7.979			
HRM6	0.397	0.630	6.661			
				0.790	0.486	0.789
Fair						
HRM2k	0.108	0.328	3.422			
Reci2k	0.465	0.682	[a]			
Cult2k	0.333	0.577	5.762			
Valmo3k	0.493	0.702	6.750			
Valmo4	0.266	0.516	5.220			
				0.702	0.333	0.725
Commu						
Commu2	0.704	0.839	[a]			
Commu4	0.520	0.721	9.599			
Commu6	0.743	0.862	12.428			
Commu7k	0.755	0.869	12.567			
				0.894	0.680	0.888

[a] The -value is not available because the coefficient is fixed at 1. Chi-square=73.535, df=62, chi-square/df=1.19, p=0.150, GFI=0.925, AGFI=0.890, RMSEA=0.0365, NFI=0.904, CFI=0.975, AIC=131.535. HRM=HRM practices, Commu=Communication, Cult=Culture, Pay= Pay, Fair=Fair play in the organization

Table 10. The factor intercorrelations on the fairness dimension

FACTORS	Hrm	Fair	Commu
Hrm	0.486		
Fair	0.790 (0.032)	0.333	
Squared correlation	0.624		
t-value	4.910		
Commu	0.796 (0.031)	0.742 (0.038)	0.680
Squared correlation	0.634	0.551	
t-value	5.551	5.193	

AVE associated with a factor is presented diagonally. Standard errors are in parentheses. HRM=HRM practices, Commu=Communication, Cult=Culture, Pay= Pay, Fair=Fair play in the organization

PHASE 1:	Definition of the impersonal element of organizational trust	From the literature
	↓	
	Identification of the components making up the domain of impersonal trust	From the literature Focus groups
	↓	
PHASE 2:	Development of the items	From the literature Generated by the researchers
	↓	
	Assessing content validity (adding, deleting, modifying the items)	PhD students and their supervisors Expert panel
	↓	
PHASE 3:	Data collection	
	↓	
	Reduction of the items	Principal Component Analysis
	↓	
	Dimensionality	Confirmatory Factor Analysis
	↓	
PHASE 4:	Assessing the reliability	Confirmatory Factor Analysis
	↓	
	Assessing the construct validity	Confirmatory Factor Analysis

Chi-square=157.835
df=130
chi-square/df=1.21
p=0.0487
GFI=0.889
AGFI=0.854
RMSEA=0.0391
NFI=0.892
CFI=0.976
AIC=239.835

Path	Value
Opact → OPACT2	0.68
Opact → OPACT4	0.49
Opact → OPACT5K	0.48
Opact → OPACT6	0.67
Opact → OPACT9	0.69
Openv → OPENV1	0.57
Openv → OPENV4K	0.84
Mgm → MGM1	0.85
Mgm → MGM4K	0.84
Mgm → MGM5	0.91
Mgm → MGM9K	0.82
Mgm → MGM10	0.91
Tech → TECH2	0.90
Tech → TECH4	0.82
Tech → TECH5	0.66
Emre → IDEN1	0.86
Emre → IDEN2K	0.80
Emre → EMRE1	0.73

Measurement errors: OPACT2 0.54, OPACT4 0.76, OPACT5K 0.77, OPACT6 0.55, OPACT9 0.52, OPENV1 0.67, OPENV4K 0.29, MGM1 0.28, MGM4K 0.30, MGM5 0.18, MGM9K 0.33, MGM10 0.17, TECH2 0.19, TECH4 0.33, TECH5 0.57, IDEN1 0.26, IDEN2K 0.35, EMRE1 0.46

Structural paths from Capab: Opact 0.89 (0.21), Openv 0.79 (0.37), Mgm 0.82 (0.33), Tech 0.45 (0.80), Emre 0.80 (0.36)

Chi-square=73.535
df=62
chi-square/df=1.19
p=0.1499
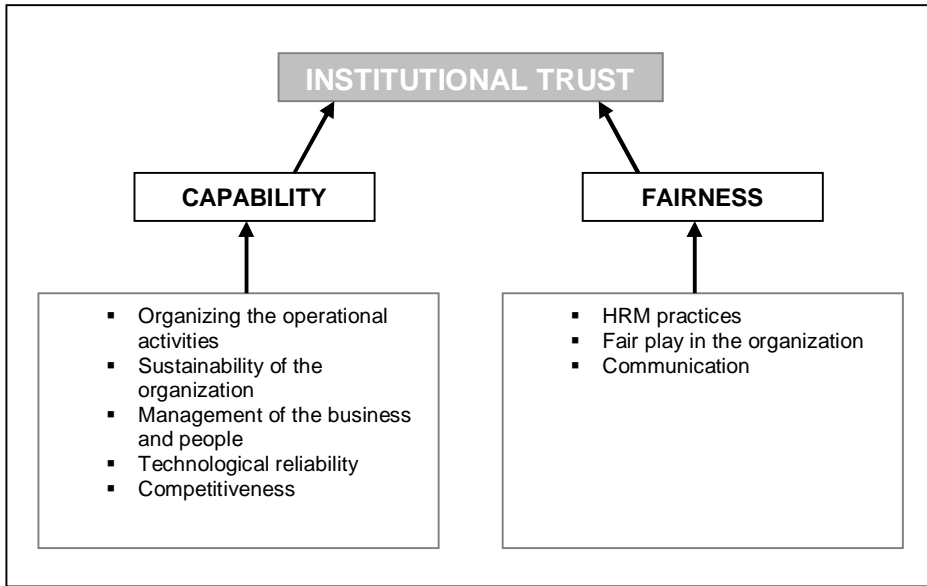GFI=0.925
 AGFI=0.890
RMSEA=0.0365
NFI=0.904
CFI=0.975
AIC=131.535
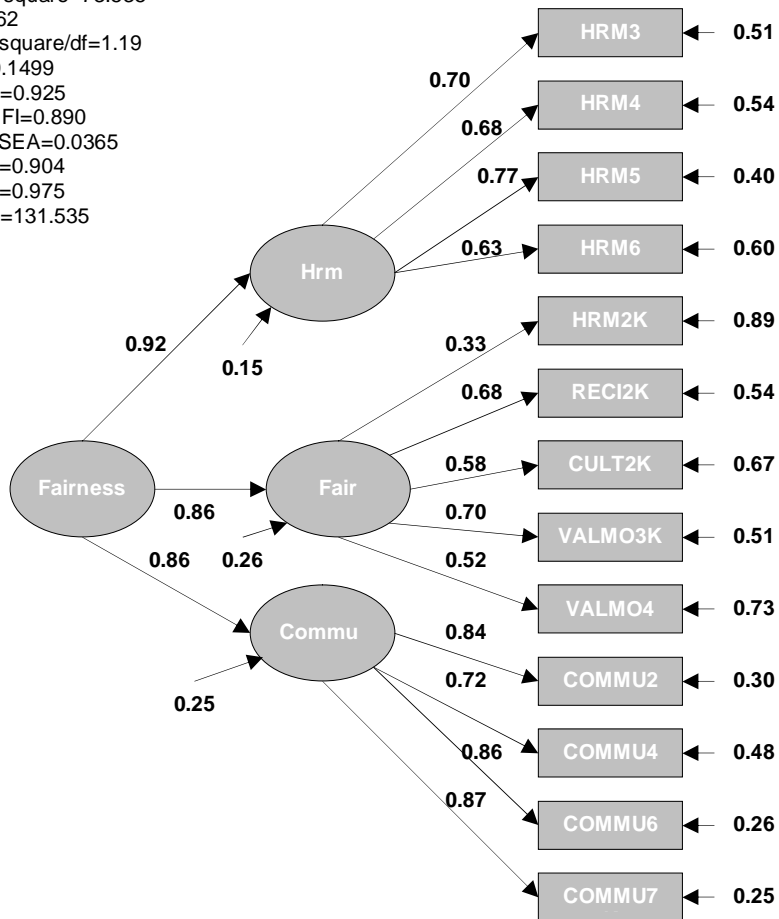
Figure 4. The structure of impersonal trust