Research Paper

The conceptual model of the relationship between institutional transparency, citizen trust and satisfaction
(A case study of Tehran city, Iran)

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Abstract

Trust, along with transparency, is an important indicator of a satisfactory relationship between a government and the public. Considering transparency as the key to trust in government, the purpose of this paper is to postulate a link between transparency and trust taking into account satisfaction as a psychological factor. This paper tries to find the answer of these questions: “Is there any significant relationship between institutional transparency and citizen trust? And what is the role of citizen satisfaction in this context?” In order to investigate these questions, through survey method of research, this paper presents the results of an experiment (N=384) testing three hypotheses by statistical analysis which involve the relationship between institutional transparency, citizen trust and satisfaction. Tehran municipality is elected as a specific institution. This study found that transparency will significantly increase citizen trust, and satisfaction will play a significant role in the relationship between transparency and citizen trust. As well, trust will increase satisfaction. This study found that transparency and satisfaction play a substantial role in enhancing citizen trust. Furthermore, transparency and citizen trust play a significant role in enhancing citizen satisfaction. The results show that among background variables (gender, age, education, income and history of residence) the two variables, education and income have a week significant relationship with trust.

Keywords: Transparency, Trust, Satisfaction, Tehran municipality.

1. INTRODUCTION

Citizen trust in government is a core concern in public administration, especially since it has been seen as declining over the last several decades [1]. Despite the important role played by transparency in improving citizen trust and satisfaction, little systematic analysis has been undertaken to understand the relationship between them [2]. The aim of this paper is to postulate a link between transparency and trust with considering satisfaction and find the answer of these questions: “Is there any significant relationship between institutional transparency and citizen trust? And what is the role of satisfaction with the performance of institution and public services in this context?”

In order to investigate these questions, Tehran municipality is elected as a specific institution and this paper presents the results of an experiment (N=384) investigating the effect of institutional transparency on citizen trust and the role of citizen satisfaction in this context. Three hypotheses are designed as: background variables (gender, age, education and history of residence) effect on citizen trust. Satisfaction will play a significant role as a mediator in the relationship between transparency and citizen trust. Transparency will significantly increase trust, and in turn, trust will increase satisfaction. Hypotheses investigated through statistical analysis. The results demonstrate that transparency and satisfaction play a substantial role in enhancing citizen trust. Also transparency and citizen trust play a substantial role in enhancing citizen satisfaction.

Furthermore, among background variables (gender, age, education, income and history of residence) the two variables, education and income have a week significant relationship with trust.
This paper is organized in six sections. The first part discusses the concept of trust and trust in institutions and Dimensions of trust. The second section discusses the concept of transparency and section three discusses the concept of satisfaction. According to the theoretical framework, Conceptual Model is designed in section four. Also methods, data and variables are described in this section, followed by the finding and results of the analysis described in the fifth section. Finally, section sixth is about Discussion and Conclusion.

2. THE CONCEPT OF TRUST

Trust is indeed a multidimensional concept [3]. As many social science concepts, the definition of trust is not unequivocal and usually problematic, (Table 1).

<table>
<thead>
<tr>
<th>Definition of Trust</th>
<th>Author</th>
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<tbody>
<tr>
<td>Trust is such an evaluation situated in a defined context. Trust would not be a general predisposition but it would vary according to situation, agents and contents.</td>
<td>[4]</td>
</tr>
<tr>
<td>One party’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest, and open.</td>
<td>[5]</td>
</tr>
<tr>
<td>A kind of intelligence that allows individuals to assess the degree of risk.</td>
<td>[6]</td>
</tr>
<tr>
<td>Trust is such a cognitive premise by which individual, collective and corporative actors interact, based on an evaluation of others preferences for cooperation and unselfishness.</td>
<td>[7]</td>
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<tr>
<td>A psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another.</td>
<td>[8]</td>
</tr>
<tr>
<td>A product of rational expectation without any moral residue.</td>
<td>[9]</td>
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</tbody>
</table>

Trust could be insufficient but necessarily part of a set of indicators which are unnecessary but sufficient for good governance [10]. Trust is commonly viewed as a proxy indicator of social capital, and a high level of trust is considered a factor that can enhance economic growth and social well-being and good governance [11] (fig 1).

![Fig. 1 The relationship between Trust and Good Governance (Source: based on [11])](image)

There are different theories about trust [12, 13 14], and the importance of trust has long been emphasized by social and political theorists from Locke and Tocqueville to Putnam and civil society theorists [15] but the theory that is more comprehensive and appropriate to apply in this paper is Piotr Sztompka’s theory [16]. According to that theory, several macro-societal circumstances may be hypothetically postulated as conducive to the emergence of trust culture. The first is normative coherence, as opposite to normative chaos, or anomie. The second structural condition is the stability of the social order, as opposed to radical change. The third is the transparency of the social organization, as opposed to the pervasive secrecy. The easy availability of information about the functioning, efficiency, levels of achievement, as well as failures and pathologies of groups, associations, institutions,
organizations, regimes provides the feeling of security and predictability. People are apt to relate to them with trust, because they are assured about what they may expect. The fourth factor is the familiarity, or its opposite, the strangeness of the environment in which people operate. The fifth condition is the accountability of other people and institutions, as opposed to arbitrariness and irresponsibility. If there is the rich, accessible and properly functioning set of institutions, setting standards and providing checks and controls of conduct, the danger of abuse is diminished, and the regularity of procedures is safeguarded [16].

Besides these structural conditions, there are some individual characteristics that might effect on trust, oft believes that the more readily the trusted person can switch to resources such power, money, and information, the less vulnerable he is to a breakdown of trust. As a consequence, the rich, the powerful, and the well informed can afford to trust, as they can comfortably survive the contingency of the trust being disappointed, whereas the less powerful on either the supply or demand side of trust may suffer badly from the breakdown of the trust relation [17].

2.1. Trust in Public Institutions

Institutions can be divided in two large groups: public and private. Both types of them generate elements of order and predictability, shaping, training and bounding agents within logic of appropriate action [18]. Trust in public institutions plays a key role in democratic societies. To the extent to which individuals rely on institutions, they would be more willing to participate and get involved in public life [19]. Individuals who do not trust in public institutions might be more likely to resort to bribery to advance their interests, or to believe that corruption is wide-spread [20]; therefore, trust in institutions impacts in the legitimacy and stability of democratic regimes. It has been related to how efficient the institutions are perceived according to democratic principles or justice principles [19]. From an organizational perspective, trust is a collective judgment of one group that another group will be honest, meet commitments, and will not take advantage of others [21]. Trust in public institutions has been conceived as the extent to which institutions are expected to carry on their expected role satisfactorily [4]. Trust in public institutions is enhanced through their administrative rules, standards, laws, and regulations relating to provision of services and information [22]. It depends on the amount of personal resources, levels of threat and the evaluation of the own competencies for dealing with those threats. It has been argued that those with fewer personal resources, both material as non-material, should exhibit lower trust levels when experiencing threatening situations, since they do not feel capable of preventing damages or bear the consequences [23]. Furthermore, the criteria that individuals use for evaluate institutions depends on beliefs and values acquired during socialization processes [24]. Trust in government or public services is typically measured in terms of citizens subjective judgments based on their experience, suggesting that citizens trust will arise when a government or its public service is viewed by citizens as competent, reliable and honest, whilst also meeting their needs. There are individual differences as far as trust in public institutions are concerned, and this variability can be at least partially related to psychosocial characteristics as authoritarianism and social dominance orientation [2].

2.2. Dimensions of Trust

Many authors on trust find some dimensions (table 2). In this paper, three often-mentioned dimensions of perceived trust are distinguished: competence, benevolence and honesty. In this paper, competence refers to whether people perceive an institution to be capable, effective, skilled or professional in making decisions. Benevolence refers to whether people think that an institution genuinely cares about citizens’ interests and perceived honesty implies that the institution is perceived to keep commitments and tell the truth.

<table>
<thead>
<tr>
<th>Dimensions of trust</th>
<th>Author</th>
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<tbody>
<tr>
<td>Competence, Benevolence, Honesty</td>
<td>[25]</td>
</tr>
<tr>
<td>Competence, Integrity, Goodwill</td>
<td>[21]</td>
</tr>
<tr>
<td>Competence, Benevolence, Honesty, Predictability</td>
<td>[26]</td>
</tr>
<tr>
<td>Competence, Benevolence, Integrity</td>
<td>[3]</td>
</tr>
<tr>
<td>Competence, Benevolence, Integrity</td>
<td>[27]</td>
</tr>
<tr>
<td>Benevolence, Reliability, Competence, Honesty, Openness</td>
<td>[5]</td>
</tr>
<tr>
<td>Ability, Benevolence, Integrity</td>
<td>[28]</td>
</tr>
</tbody>
</table>

3. THE CONCEPT OF TRANSPARENCY

Transparency has been discussed under different labels in several areas of the literature while the core idea in all these conceptualizations is the same which involves openness, availability, or disclosure of information [29]. The definition of transparency by the Asian Development Bank (1995) is “the availability of information to the general public and clarity about government rules, regulations and decisions” [30]. Transparency includes making it clear who is taking the decisions, what the measures are, who is gaining from them and who is paying for them [31].

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 [21]. Within the organizational behavior area, transparency may be conceptualized at the organizational level as informational justice, which entails providing explanations about organizational procedures and being thorough, candid, timely, and considerate toward others specific needs in communications about those procedures [32]. Most definitions of transparency recognize the extent
to which an entity reveals relevant information about its own decision processes, procedures, functioning and performance [29]. Transparency is defined as having 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 [21]. Transparency is starting to subsume accountability in public discourse about good governance [2]. Several authors argue that one cause for a lack of trust in government is that citizens are not often enough provided with factual documentation about government processes and performance [33] they believe that transparency will reduce governmental malfeasance through its sunshine effect, and demand for transparency has grown rapidly, with organizations in both private and public sectors being encouraged to be more transparent [2].

4. SATISFACTION, TRANSPARENCY AND TRUST

Customer satisfaction is of great importance to public agencies that function as service providers to their citizens. When public services are provided to citizens on demand, governments, particularly local governments, devote considerable resources to meeting the needs of their citizens. It is reported a relationship showing that trust increases citizen satisfaction; and the impact of satisfaction on trust is significant as well [34]. Trust is in principle a precondition for citizen satisfaction. Trust seems likely to enhance the public satisfaction with services [2]. The literature on transparency advises that organizations should be transparent to increase the degree of trust [21]. Transparency has a positive effect on trust and accountability. Transparency is linked with the values of accountability, as it allows citizens to monitor the quality of public services and encourages public employees to satisfy citizens [2]. When citizens do not know what government is or does, they will not come to trust it [33]. Transparency helps people to become more familiar with government, brings them closer together and creates understanding. Therefore, increasing people’s knowledge by providing factual knowledge about government performance outcomes is seen as an important way of increasing citizen trust in government [25]. Transparency is expected to contribute positively to trust by building credibility [2]. In the debate on transparency and trust, ‘transparency optimists’ emphasize that transparency stimulates a ‘culture of openness’ within organizations, which is thought to have a positive effect on trust [25]. Trust, along with transparency, is an important indicator of a satisfactory relationship between a government and the public [21].

5. MATERIALS AND METHODS

5.1. Conceptual Model

Based on the theoretical framework, Conceptual Model is designed which involves hypothesizes of the paper and the relationship between variables (fig 2).

The most important background variables that might affect trust are considered to be gender, age, education and history of residence [35, 36, and 17].

Three Hypothesizes of this study are:

H1: background variables (gender, age, education, income and history of residence) effect on citizen trust.
H2: Satisfaction will play a significant role as a mediator in the relationship between transparency and citizen trust.
H3: Transparency will significantly increase trust, and in turn, trust will increase satisfaction.

5.2. Tehran City as the Case Study

The central question of this paper about institutional transparency and citizen trust; refers to municipality transparency and trust of citizen of Tehran city in their municipality. The municipality of Tehran is as the specific institution. The conceptual model of this paper is tested using recent data from questionnaires administered to 400 citizens in Tehran city through statistical analysis.

5.3. Sampling

According to the stratified sample of households which is a scientific valid method for assessing, around four
hundred questionnaires were conducted in three regions of Tehran from 24th of May 2015 through to 30th Jun 2015.

Based on level of development by using four indicators which are “growth rate of household”, “female employment rate”, “total employment rate” and “income”; rank of region three in the north of Tehran was 1, rank of region ten in the center of Tehran was 16 and rank of region nineteen in the south of Tehran was 22, among 22 regions in Tehran. So these three regions of Tehran city could reflect cultural and socio-economic conditions of Tehran as the case study. Out of 400 questionnaires distributed, 368 were returned and after excluding incomplete questionnaires, a valid sample of 348 questionnaires left for analysis. Linear Structural Relationships analysis was performed to estimate the model parameters.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Questionnaires have been used for designing the questionnaire of this paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Items of Questionnaire</td>
</tr>
<tr>
<td>Based on [3, 21]</td>
<td>Competence</td>
</tr>
<tr>
<td>Based on [3]</td>
<td>Benevolence, Honesty</td>
</tr>
<tr>
<td>Based on [25, 21, 2]</td>
<td>Overall Trust and Satisfaction</td>
</tr>
<tr>
<td>Based on [21]</td>
<td>Transparency</td>
</tr>
</tbody>
</table>

5.4. Questionnaire

The cultural and socio-economic attributes of Tehran City have been taken into account to provide assistance in modifying the questionnaire. In Table 3, there are questionnaires have been used for designing the questionnaire of this paper. A small group of Tehran residents were sampled and selected to perform a pre-test to ensure that the questionnaire made sense.

5.4.1. Reliability Coefficient

The survey comprised three scales (trust, transparency, citizen satisfaction) totaling thirty four items, each item being a statement to which participants were invited to respond on a five-point Likert-scale, where “strongly agree” was coded as 5 and “strongly disagree” as 1. After performing a confirmatory factor analysis on all items to look for patterns of similarity between items and searching a structural equation model best fitted to the data, ten items (four items for trust, one item for satisfaction and five items for transparency) were deleted, leaving twenty four items for subsequent analysis.

As mentioned above, trust was measured by three dimensions: competence, benevolence and honesty beside general trust in municipality. Also, trust in government in general was taken into account to assess whether a participant’s general attitude towards government affected trust in a specific public institution. The mean score for all items was computed to serve as a measure of trust by additionally sixteen items. Through a confirmatory factor analysis, four items were deleted.

For transparency, fourteen items were originally developed. Through a confirmatory factor analysis, five items were deleted.

Citizen satisfaction was surveyed with totally four items. Through a confirmatory factor analysis, one item was deleted.

Alpha is a coefficient of reliability which measures test or item battery reliability, based on its internal consistency. The Alpha coefficients all exceed 0.7, indicating that the variables have acceptable reliability (Table 4).

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Reliability of variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors</td>
<td>Items</td>
</tr>
<tr>
<td>Trust(competence, benevolence, honesty)</td>
<td>12</td>
</tr>
<tr>
<td>Transparency</td>
<td>9</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>3</td>
</tr>
</tbody>
</table>

6. RESULTS

The first hypothesis was: background variables (gender, age, education, income and history of residence) effect on citizen trust. Thus, the variables displayed in Table 5 are those which might influence trust in a specific organization and which might thus distort the relation between transparency and trust. Correlation between age and trust was assessed by a Pearson test showing no correlation between these two variables. Also there is no correlation between sex and trust through Chi square test.

The correlation between educational level of respondents and their trust was measured through Spearman correlation coefficient. The significance level is equal to 0.03 that indicates a significant relationship between these variables. The correlation value is equal to -0.115, indicating a weak negative correlation between these two variables. It means that when the educational level increases, the trust decreases weakly.

The correlation between income and trust was measured through Spearman correlation coefficient. The significance level is equal to 0.03 that indicates a significant relationship between these variables. The correlation value is equal to 0.119, indicating a weak positive correlation between these two variables. It means that when the income increases, the trust increases weakly.

There is no correlation between history of residence and trust through spearmen correlation coefficient test. Thus, among background variables, level of education and income effect on citizen trust but this effect is very weak.
Table 5 Result of testing the first hypothesis (H1)

<table>
<thead>
<tr>
<th></th>
<th>test</th>
<th>correlation</th>
<th>Sig.</th>
<th>d.f/ frequency</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Correlation between age and trust</td>
<td>Pearson</td>
<td>0.069</td>
<td>0.13</td>
<td>N= 384</td>
</tr>
<tr>
<td>b</td>
<td>Correlation between sex and trust</td>
<td>Chi square</td>
<td>2.159</td>
<td>0.21</td>
<td>d.f=2</td>
</tr>
<tr>
<td>c</td>
<td>Correlation between level of education and trust</td>
<td>Spearman</td>
<td>- 0.115</td>
<td>0.03</td>
<td>N= 384</td>
</tr>
<tr>
<td>d</td>
<td>Correlation between level of income and trust</td>
<td>Spearman</td>
<td>0.119</td>
<td>0.03</td>
<td>N= 384</td>
</tr>
<tr>
<td>e</td>
<td>Correlation between history of residence and trust</td>
<td>Spearman</td>
<td>0.054</td>
<td>0.16</td>
<td>N= 384</td>
</tr>
</tbody>
</table>

According to the statistical analysis (Fig 3), (Table 6), there is a direct positive relationship between transparency and satisfaction (32.8%), and results indicate a fairly strong correlation between transparency and trust (22.7%). But considerably, by involving satisfaction as mediator variable, trust goes higher. So the second hypothesis of this paper is proved. Thus Satisfaction will play a significant role as a mediator in the relationship between transparency and citizen trust. Trust also shows a strong relationship with Satisfaction (10.6%), so third hypothesis is proved. Thus, transparency will significantly increase trust, and in turn, trust will increase satisfaction.

7. CONCLUSIONS

The issues of transparency, citizen trust and satisfaction are clearly important. Although transparency has a significant role in improving trust and citizen satisfaction, but little systematic analysis have been undertaken to investigate the relationship between these variables.

This study highlights some of the benefits of transparency and trust, referencing trust in public institutions. It was carried out as a case study of the municipality of Tehran city and its public work services. Findings of this paper, suggest a complex interplay between these variables. The results of the correlations and regressions provide strong evidence that trust and transparency are positively related. Simple correlations indicate that overall trust and transparency are positively correlated and as institution becomes more transparent it will also become more trusted. Additionally, the three components of trust (benevolence, competence and honesty) and transparency are positively related. Therefore, results of this paper, confirm Sztompka’s theory about the effect of transparency of the public institutions on trust.

In addition, as it is noted above, although satisfaction influences trust it is also the case that trust can improve satisfaction. In summary, Transparency and satisfaction play a substantial role in enhancing citizen trust. Also
transparency and citizen trust play a substantial role in enhancing citizen satisfaction.

The results show that among background variables (gender, age, education, income and history of residence) the two variables, education and income have a week significant relationship with trust. The relationship between income and trust, confirms the idea of Offe who believes that the more readily the trusted person can switch to resources such power, money, and information, the less vulnerable he is to a breakdown of trust. On the other hand, the revers week relationship between level of education and trust is against that idea. Thus the higher level of education not only increases trust but also decrease it. This can be justified as in the case study, people with higher education have more understanding of the status of their living conditions and have more knowledge about the commitments and duties of their municipality so they have extra expectations which are not fulfill in comparison with people with less education. Furthermore, in the case study, education does not become to resources such money and power, so people with higher education cannot comfortably survive the contingency of the trust being disappointed.

Due to the week relationship between two variables, education and income with trust, it can be concluded that in explaining the level of citizen trust in municipality, background variables of citizens are not so important, whereas features of the institution should be considered. Thus increasing institutional transparency should be put on the agenda.

This paper tries to promote comprehension of the relationship between transparency and trust, and the role of citizen satisfaction in this relationship in order to equip researchers and policymakers who seek to develop policy for improving citizen trust and satisfaction, with accurate and deep understanding in this context. Proposed model of this paper puts forward a foundation for future researches which are about the relationships between these variables and policymakers would benefit the interests of such this study.

**APPENDIX (QUESTIONNAIRE)**

**Answer categories:**

**Trust: Competence**
- The municipality is capable.
- The municipality is effective.
- I feel very confident about the skills of this organization.
- The municipality carries out its duty professional and successful.

**Trust: Benevolence**
- If citizens need help, the municipality will do its best to help them.
- If anyone, is damaged for dealing with the risk factors in the city, quickly becomes his case.
- The municipality acts in the interest of citizens.
- The municipality is genuinely interested in the well-being of citizens, not only in its own.

**Trust: Honesty**
- The municipality keeps its commitments.
- The municipality is honest.
- The municipality is sincere.

**Trust in general**
- I have confidence in Municipality.
- Most of the people have confidence in Municipality.

**Trust in government in general**
- In general, the government cares about the well-being of citizens.
- In general, the government keeps its promises.
- In general, the government carries out its duties effectively.

**Satisfaction**
- At this moment I am satisfied with the conditions of my neighborhood.
- Currently I have knowledge about the municipality’s general policies for dealing with my neighborhood problems and I am satisfied with those policies.
- I am satisfied with the results of public works projects.
- Municipality’s performances have brought me comfort and peace.

**Transparency**
- The municipality wants to understand how its decisions affect people like me.
- The municipality wants people like me to know what it is doing and why it is doing it.
- In the municipality, formalities and paperwork is very low.
- The municipality provides information that is useful to people like me for making informed decisions.
- Municipality provides sufficient information about its annual performance to citizens.
- Municipality provides sufficient information about its financial savings to citizens in a timely fashion.
- Municipality presents regulations and required documents, clearly and transparently to the client.
- Municipal employees provide oral and timely guidance to clients.
- Municipality provides sufficient information about its budget to citizens.
- Municipality provides sufficient information about its politics and policies to citizens.
- The municipality discloses sufficient information to the residents on its public works projects.
- Number of media interviews of managers and operators of Municipality (press, radio and television) is sufficient.
- The municipality involves citizens in municipal decision-making, especially in the neighborhoods.
- The municipality takes the time with people like me to understand who we are and what we need.

**CONFLICT OF INTEREST**

The authors declare that there are no conflicts of interest regarding the publication of this manuscript.
REFERENCES


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