

MEASUREMENT OF ORGANIZATIONAL TRANSPARENCY USING ROUGH SET THEORY APPROACH (CASE STUDY: ZARAND POWER PLANT)

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ABSTRACT

Aims: The purpose of this research examines the organizational transparency using Rough Set Theory. This is practical research and statistical population included all employees of Zarand power plant that with referring to the Morgan table determined 53 people, and data Collection tools was questionnaire. In order to determine reliability coefficient was used Cronbach alpha greater than 0.7. In this survey, the organizational transparency was observed by using actual data size, staff participation, responsiveness and secrecy. **Materials and methods:** In order to analyze the data has been used of rough set theory. For this purpose, after the formation of standardized tables, in the next step were identified compatible and incompatible materials and then was formed the tables. **Results:** Eventually, overall results showed that if the transparency of information are in the quantitative level and the actual data is not available to employees, then organizational transparency will be at a quantitative level. According to the results, employee participation and secrecy aspects in the average level are effective in the rate of organization transparency and moreover, the results showed that responsiveness increase organizational transparency of employee.

Published on: 25th– Sept-2016

KEY WORDS

organizational transparency, dimensions of organizational transparency, rough set theory

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INTRODUCTION

In Today's changing world organizations to survive require looking for new tools and organizational transparency is one of the tools that can help organizations to meet goals. People prefer to work in a transparent environment that is clear their role and to be aware of their expectations of their superiors. When increase the role transparency will also increase satisfaction [1]. People need adequate information to effectively carry out their duties. Lack of information about their goals and effective job behavior can lead to ineffective and inadequate efforts to perform the duties and reduce job performance [2]. Staff who have clear goals and are aware of how to achieve these goals, believe that they can do their jobs skillfully and have sense of competence. Employees with uncertain expectations, are reluctant to do the work. The high levels of role clarity, enable staff to offer solutions to discharge their functions effectively and it increases the autonomy or freedom of action. Lack of role clarity induced this belief in them that they in need of assistance, so decreases effective in their working environment [3]. Employees who have an understanding of their role will make decisions that will be effective in work results [4]. The consequences of transparency in terms of organization, and it can include items which contributes to increasing productivity of organization and for this reason is important for administrators and policymakers and organizations and shareholder.

Reduce corruption (occurred by preventing corruption or combating corruption), increase effectiveness, increase quality and reduce service price in competition, increase accountability, reduce unnecessary regulatory costs, improve the structure and enhance public confidence in organizations among the consequences are clear in this respect. Due to the advantages of transparency in the organization, this research aims to evaluate the organizational transparency using Rough Set Theory.

Organizational transparency

Transparency is one of the issues that many researchers have been doing in this field and has attracted the attention of scholars. Role clarity refers to the people's beliefs about the expectations and behaviors related to their job roles [5]. Clarity of role can be described as lack of role ambiguity and role conflict. Role conflict is the situation given to individuals that are in conflict and role ambiguity refers to the lack of role clarity. Role clarity causes doing the job better and duties that the organization is set up for it and a global view and individual attitude towards their duties and responsibilities will change. In order to achieve organizational goals, individual goals can be fulfilled [6]. On the other hand, Hayes described transparent organization as follows: public access to all information, whether positive or negative that can be published legally in a detailed manner, equivalent, and unequivocally to fulfill the aim of increasing reasoning ability of public and accountability of organizations in the actions, policies and practices [7].

Berggren and Bernshteyn according to studies of Bern (2004), Lindstedt, and Naurin (2007) and others in the field of organizational transparency considered aspects and stated that using the explicit dimension in organization and can be realized transparency of the organization. These dimensions include:

Perspective: represents the ideal future of organization,

Mission: indicates the values and priorities of an organization, the mission of the organization represents the whole activities of organization in terms of products and markets,

Objectives: Each organization has two sets of short and long-term goals. Can be defined long-term goals as a certain result in supply mission, these goals determine the company direction and objectives of the company's long-term period, and is a period that exceeds one year. Annual goals, is short-term goal that the company to achieve long-term goals is required to be achieved. And performance dimension: that refers to the overall work of the organization [8]. Bushman et al. in 2004 proposed framework for the transparency of their organization, they put reporting organizations, initiate accessibility to information and dissemination of information in this context. Rawlins (2008), examined the transparency theory, and in theoretical principles related to the transparency, added the four dimensions as the secrecy to definition that proposed by Hayes: he proposed four dimensions of the actual data, employee participation, responsiveness and secrecy that was the reverse factor of measurement, as the dimensions of organizational transparency [9].

Transparency of information is described as follows: organizations are trying to understandable their actions and decisions for individuals or groups who are interested in applying organizations or ascertainable and decisions, in addition to the stated information, awareness of its supply is significant. Shareholders should understand or believe this organization is transparent and give them what they need to know, it is said that since the concept of substantial information is in relation to the needs of the recipient that the sender needs, transparency cannot meet this standard charge unless the organization know and should know, the needs of beneficiaries. Therefore, the participation of beneficiaries promotes disclosure to transparency.

Transparency, is a process which has not only availability of information, but also are included actively participate in the acquisition, distribution and creation of knowledge. Transparency also requires responsiveness, transparent organizations for actions and decisions of their speech, because this information is available for others assessment. Also, the secrecy is meant to deliberately hide proceedings, and transparency is deliberately reveal their meaning [9, 10].

Often, it is expected that organizational transparency brought positive results. Among these consequences cannot the following items:

Employee involvement: Transparency organization makes it possible for employees to better understand their role in organization and consequently has more focus on their duties and greater participation in organizational activities.

Creating confidence in the organization: organizational transparency is increase employees confidence to senior management.

Increase creativity: Organizations without creativity and innovation are impossible. Organizational transparency makes it possible for employees to freely express their different opinions. In transparent organizations employees can express their weak and non-functional opinions without fear and despair.

Improved performance: Because organizational transparency increases employee's confidence to organization manager and also provides infrastructure of employee participation and encourages creative ideas, will also have a positive impact on individual performance.

Increase employee job satisfaction: Employees who are creative and participate in the organization, will tend to be aware of relating information and in this way, will Investment for their role and eventually will have more job satisfaction [11].

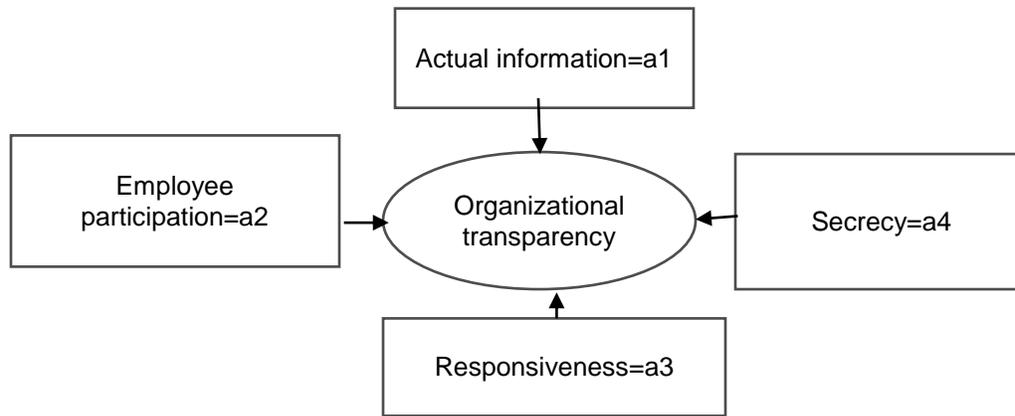


Fig: 1. Conceptual Model

Research questions

What's the level of employee in organizational transparency?

MATERIALS AND METHODS

Rough set theory can be the basis for detailed reasoning in uncertain information [12]. One of the most important applications of Rough Set is classification and categories. The main purpose of Rough set analysis is obtaining approximate concepts of acquired data and to provide methods for removing surplus to requirements information. can be used Rough set in the solution of major problems in the field of data analysis, including: Identified a set of objects based on attribute values, find dependencies between features, remove (cut or trimmed) extra features (data), finding the important characteristics, production decision rules. Rough set theory method, is the first step for the analysis of incomplete, vague and imprecise data. This theory just used login information (presented and existing) and like the rest of methods such as fuzzy and probabilistic models, does not need to take into consideration additional assumptions in the model. In other words, this theory instead of using parameters and additional variables, conducted their analysis only based on the available information. Rough set theory can identify and interpret existing relationships and structure, and major affecting factors on the data. Rough sets philosophy is based on the assumption that should be considered every object in the world as information (data, knowledge). Described objects by standpoint of available information are unrecognizable. Being indistinguishable relationship (causal relationship) obtained in this method is the basis of mathematics rough set theory. Each set of indistinguishable objects is called fundamental collection and is a form of core component atom of knowledge about the world. Human knowledge of phenomena is based on human experience, samples, and his findings. This information can store in a general system which is called information system. This information system including information about the specifically discussed issues (subject, observations, samples, examples, results, events, etc.) and its related factors are (features, specifications, variables, signs).

This complex features can be divided into two categories. The first category of them is test results and measurements or observational data, and are estimated is called features and the second category is the situation that is related to experts decision-making, or the result of events and identify and assess the results with respect to the features or make decision referred to these features. However, anything or any issue and phenomenon can be defined by two sets of features. So, any subject and phenomenon can be defined by two sets of features. One Category is features and specifications of phenomena and the other category is the characteristics of the decision (evaluation). So, according to the Second category of these features and see the differences between them and classify different in different theme (sample), can evaluate the status of features [13]. In this study, two types of decision variables and conditional variables are taken into account. In Rough, variables condition, based on four levels: "real information, employee participation, responsiveness and secrecy" and organizational transparency is the decision variable.

In this study, was used a survey method to gather information, so it can be placed on the field research. The study population consisted of employees of Zarand power plant that refer to the chart Morgan, 53 subjects were determined, To gather the data, was used 26 items and Cronbach's alpha greater than 0.7. Examined factors in the questionnaire regulated through closed questions and with 4-point Likert scale. 26 items to measure organizational transparency. So

at the minimum points of one responsive was $\min = 26$ and the maximum points of responsive was $\max = 104$. Overall, in this study, were considered three levels as decisions that are given in the following **Table-1**:

Table: 1. Classification of features ($a \in A$)

Row	Scores range	Verbal value	Code or numerical value
1	$26 \leq a(X) \leq 52$	Low	1
2	$53 \leq a(X) \leq 79$	Average	2
3	$80 \leq a(X) \leq 104$	High	3

Feature of Decision Making and its categories are listed in the below **table-2**:

Table: 2. Features of decisions making and its verbal values

Feature of Decision Making	Imaginable states		
The organizational transparency	High	Average	Low
Numerical value or code	3	2	1

Two types of rules is applicable in decision table:

1. Incompatible Rule (inconsistent): are rule that has the same position but has different decision features.
2. Compatible rule: the rule that is not incompatible.

Based on these two principles can be written equivalence class position and after forming reduced matrix can be deduced.

RESULTS

With considering the organizational transparency in column D as features of decisions making and taking into account the characteristics of different positions in the column of a_1 to a_4 , data analysis was conducted and Instead of mentioned numbers in **[Table- 1]**, replace the code and In other words, standardize them. Information System is shown in **[Table-3]**:

Table:3. Table Decision

U	Actual information= a_1	Employee participation= a_2	Responsiveness= a_3	Secrecy= a_4	Organizational transparency= d	N
X1	3	3	3	2	3	6
X2	2	2	2	1	2	5
X3	1	1	1	3	1	4
X4	2	2	2	3	2	6
X5	3	1	3	1	3	5
X6	2	3	3	2	2	5
X7	1	2	1	2	2	6
X8	1	1	3	2	3	6
X9	1	1	3	2	1	5
X10	1	1	3	2	2	5

Table: 4. inconsistent Components in decision table

U	Actual information= a_1	Employee participation= a_2	Responsiveness= a_3	Secrecy= a_4	Organizational transparency= d
X8	1	1	3	2	3
X9	1	1	3	2	1
X10	1	1	3	2	2

Table: 5. consistent component in decision making table

U	Actual information=a1	Employee participation=a2	Responsiveness=a3	Secrecy=a4	Organizational transparency=d	N
X1	3	3	3	2	3	3
X2	2	2	2	1	2	2
X3	1	1	1	3	1	1
X4	2	2	2	3	2	2
X5	3	1	3	1	3	3
X6	2	3	3	2	2	2
X7	1	2	1	2	2	2

The decision tables we consider consistent rules. For this reason, aside the components of the [Table-4], and at a later stage we consider [Table-5].

Equivalence collection

- A= {a1, a2, a3, a4}
- V (d) = {1, 2, 3, 4} levels of decisionrange
- X1=D1= {x∈U:d(x)=1}={x3}
- X2=D2= {x∈U:d(x)=2}={x2,x4,x6, x7}
- X3=D3= {x∈U:d(x)=3}={x1, x5}

$$\frac{U}{D} = \{X1, X2, X3\} \text{ equivalence collection classes} = \{X3, \{x2, x4, x6, x7\}, \{x1, x5\}\}$$

Based on three collection of X1 and X2 and X3 obtain the high and low approximation for all three sets. It should be noted that A is defined as following:

$$A = \{a_1, a_2, a_3, a_4\}$$

$$\frac{U}{IA} = \frac{U}{A} = \{\{x1\}, \{x2\}, \{x3\}, \{x4\}, \{x5\}, \{x6\}, \{x7\}\}$$

$$\underline{A}X = \{x \in U \mid \frac{x}{A} = [x] \subseteq x\}$$

$$\underline{A}X_1 = \{x3\}$$

$$\underline{A}X_2 = \{x2, x4, x6, x7\}$$

$$\underline{A}X_3 = \{x1, x5\}$$

Resolution Matrix (to reduce)

Table: 6. resolution Matrix

U	X1	X2	X3	X4	X5	X6	X7
X1							
X2	a1,a2,a3,a4						
X3	a1,a2,a3,a4	a1,a2,a3,a4					
X4	a1,a2,a3,a4	λ	a1,a2,a3				
X5	λ	a1,a2,a3	a1,a3,a4	a1,a2,a3,a4			
X6	a1	λ	a1,a2,a3,a4	λ	a1,a2,a4		
X7	a1,a2,a3	λ	a2,a4	λ	a1,a2,a3,a4	λ	

$$Red_1(A) = \{a_1, a_2\}, Red_2(A) = \{a_1, a_4\}, Red_3(A) = \{a_1\}$$

1. According to the AX_1 category can be concluded that mentioned respondents that in this collection are sure that organizational transparency is at the low level also factors affecting the level of organizational transparency is low. Also according to the AX_1 can be expressed that among the mentioned respondents in this category people who state that organizational transparency is at the low level and the factors affecting organizational transparency is probably in low level.

2. According to the AX_2 category can be expressed that mentioned respondents in this collection are sure that the staff organizational transparency was at the average level and the factors affecting organizational transparency is still at an average level. On the other hand it can be said that with regard to AX_2 collection can be stated that among the mentioned respondents in this category are person who argues that the organizational transparency is in average level and the factors affecting organizational transparency is also at an average level.

3. In AX_3 category can be stated that the mentioned respondents in this category are completely confidence that staff organizational transparency at a high level and the factors affecting staff organizational transparency is also at high level. On the other hand, it can be stated that with regard to the AX_3 collection that among the mentioned respondents in this category are people who have stated that staff organizational transparency is at high level and the factors affecting staff organizational transparency is also at a high level.

Decision rules

Table 7.: decision rules

IF a1=1,a2=1,a3=1,a4=3 THEN Result=1
IF a1=2,a2=2,a3=2,a4=1 THEN Result=2
IF a1=2,a2=2,a3=2,a4=3 THEN Result=2
IF a1=2,a2=3,a3=3,a4=2 THEN Result=2
IF a1=1,a2=2,a3=1,a4=2 THEN Result=2
IF a1=3,a2=3,a3=3,a4=2 THEN Result=3
IF a1=3,a2=1,a3=3,a4=1 THEN Result=3

According to reduction data and also reduction table can describe the $d = 1$ by indicating $a1 = 1$ that is called the reduction value.

IF a1=1 THEN Result=1

So if the actual data on a quantitative level, then organization transparency will be at the quantitative level. Using similar reasoning can be summarized above 7 rules as following:

IF a1=1, a2=1 THEN Result=1

IF a2=2, a4=2 THEN Result=2

IF a1=3, a3=3 THEN Result=3

The second method that is how to act with intransigence, is to remove those objects that are accuracy coefficient and low accuracy. According to [Table -3] this time, we have:

$X1=D1=\{x3, x9\}$

$X2=D2=\{x2, x4, x6, x7, x10\}$

$X3=D3=\{x1, x5, x8\}$

In addition, for collection of equivalence classes than conditional features of A, that is U/A , we have:

$$\frac{U}{IA} = \frac{U}{A} = \{\{x1\}, \{x2\}, \{x3\}, \{x4\}, \{x5\}, \{x6\}, \{x7\}, \{x8, x9, x10\}\}$$

As well as to high and low approximate for each of conceptual or preliminary categories of D_i , according to the conditional features in A, for $i = 1, 2, 3, 4$ by definition we have:

$$\underline{AD}_i = U \{Y \in U/A \mid Y \subseteq D_i\}$$

$$\overline{AD}_i = U \{Y \in U/A \mid Y \cap D_i \neq \emptyset\}$$

Therefore:

$$\overline{AD}_1 = \{x3\}$$

And

$$AD_1 = \{x3, x8, x9, x10\}$$

$$\overline{AD}_2 = \{x2, x4, x6, x7\}$$

And

$$AD_2 = \{x2, x4, x6, x7, x8, x9, x10\}$$

$$\overline{AD}_3 = \{x1, x5\}$$

And

$$AD_3 = \{x1, x5, x8, x9, x10\}$$

Using below images, shows the equivalence classes.

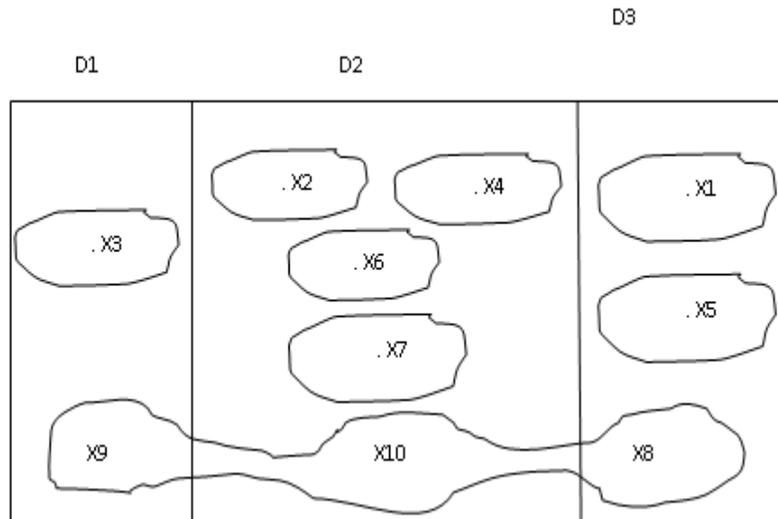


Fig: 2. equivalence Classes

As noted, removed the Incompatible elements by a low accuracy coefficient.

Table: 8. computational table of accuracy coefficient

row	D_i	$\overline{AD}_i \overline{D} \neq$	$\underline{\gamma}(D_i)$	$\overline{\gamma}(D_i)$	$\gamma(D_i)$
1	{x3,x9}	{x3}, {x3,x8,x9,x10}	1/10	4/10	1/4
2	{x2,x4,x6,x7,x10}	{x2,x4,x6,x7}, {x2,x4,x6,x7,x8,x9,x10}	4/10	7/10	4/7
3	{x1,x5,x8}	{x1,x5}, {x1,x5,x8,x9,x10}	2/10	5/10	2/5

So X8, X10 will be deleted.

Table: 9. Table Decision

U	Actual information=a1	Employee participation=a2	Responsiveness=a3	Secrecy=a4	Organizational transparency=d
X1	3	3	3	2	3
X2	2	2	2	1	2
X3	1	1	1	3	1
X4	2	2	2	3	2
X5	3	1	3	1	3
X6	2	3	3	2	2
X7	1	2	1	2	2
X9	1	1	3	2	1

Minimal set of features

Since the decision variable (d) has 3-position (high, medium, low) So we can set minimum construction, respectively, respondents who have rated 1 to the decision variables have to put in one category, respondents who rated 2 to the organizational transparency have to put in one category, respondents who rated 3 to the decision variables have to put in a one category. The 3 creating category are called equivalence class's decision.

$$X_1 = \{X \in U \mid d(X) = 1\} = \{x_3, x_9\}$$

$$X_2 = \{X \in U \mid d(X) = 2\} = \{x_2, x_4, x_6, x_7\}$$

$$X_3 = \{X \in U \mid d(X) = 3\} = \{x_1, x_5\}$$

Based on three categories of X1 and X2 and X3 obtain high and low approximation for all three categories. It should be noted that A is defined as the following category:

$$A = \{a_1, a_2, a_3, a_4\}$$

$$\frac{U}{IA} = \frac{U}{A} = \{\{x_1\}, \{x_2\}, \{x_3\}, \{x_4\}, \{x_5\}, \{x_6\}, \{x_7\}, \{x_8\}\}$$

Matrix resolution (to reduction)

Table: 10. Matrix resolution

U	X1	X2	X3	X4	X5	X6	X7	X9
X1								
X2	a1,a2,a3,a4							
X3	a1,a2,a3,a4	a1,a2,a3,a4						
X4	a1,a2,a3,a4	λ	a1,a2,a3					
X5	λ	a1,a2,a3	a1,a3,a4	a1,a2,a3,a4				
X6	a1	λ	a1,a2,a3,a4	λ	a1,a2,a4			
X7	a1,a2,a3	λ	a2,a4	λ	a1,a2,a3,a4	λ		
X9	a1,a2	a1,a2,a3,a4	λ	a1,a2,a3,a4	a1,a4	a1,a2	a2,a3	

$$Red_1(A) = \{a_1, a_2\}, Red_3(A) = \{a_1, a_4\}$$

$$Red_2(A) = \{a_1, a_3\}, kev(A) = \{a_1\}$$

Decision rules Table: 11. Decisions making rules

IF a₁=1,a₂=1,a₃=1,a₄=3 THEN Result=1

IF $a_1=1, a_2=1, a_3=3, a_4=2$ THEN Result=1
IF $a_1=2, a_2=2, a_3=2, a_4=1$ THEN Result=2
IF $a_1=2, a_2=2, a_3=2, a_4=3$ THEN Result=2
IF $a_1=2, a_2=3, a_3=3, a_4=2$ THEN Result=2
IF $a_1=1, a_2=2, a_3=1, a_4=2$ THEN Result=2
IF $a_1=3, a_2=3, a_3=3, a_4=2$ THEN Result=3
IF $a_1=3, a_2=1, a_3=3, a_4=1$ THEN Result=3

According to reduction data and also reduction table we can describe the $d = 1$ by indicating $a_1 = 1$ that is called the reduction value.

IF $a_1=1$ THEN Result=1

So if the real information is on the qualitative level, then organizational transparency will be at the qualitative level. Using similar reasoning can be summarized above rule as follows:

IF $a_1=1, a_2=1$ THEN Result=1 $= a_1(x) = 1 \wedge a_2(x) = 1 \rightarrow d(x) = 1$

IF $a_2=2, a_4=2$ THEN Result=2 $= a_2(x) = 2 \wedge a_4(x) = 2 \rightarrow d(x) = 2$

IF $a_1=3, a_3=3$ THEN Result=3 $= a_1(x) = 3 \wedge a_3(x) = 3 \rightarrow d(x) = 3$

According to decision information systems or [Table-3], can be draw tree diagram of the decision rule for the entire decision rules (including incompatible rule) as follows

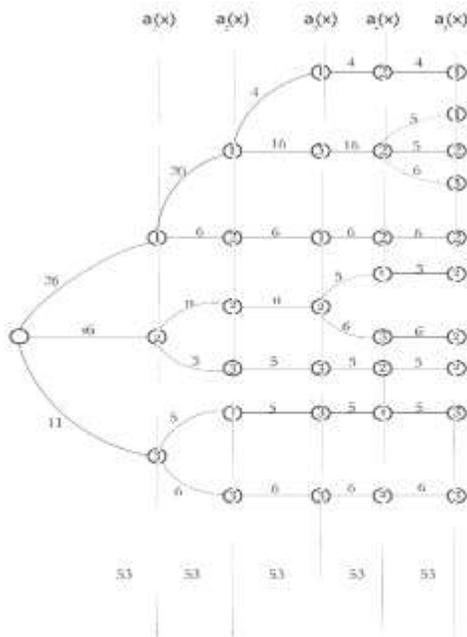


Fig.3. Tree diagram based on the frequency of observations

Up to now had been the custom that among the inconsistent rule or conflicting objects, had maintained a support vehicle and will be removed others. But we recommend that don't remove inconsistent rule, but ranked or validated with one criterion or a measure of the empirical validity based on the relative frequency, the observations known as $M(R(x))$ or an experimental probability measure $Pr(R(X1))$. And significant differences between these experimental validations for inconsistent or conflicting rule be examined by the proportions test.

In addition, take into consideration that in general, rather than conditional feature of A category, using frokalt category for example, $\emptyset \neq B \subseteq A$. For simplicity, suppose that: $B = A = \{a_1, a_2 \dots a_k\}$.

Then a decision rule in a general form as:

$$R(x) = ((\bigwedge_{j=1}^k a_j(x) = \gamma_j) \Rightarrow (d(x) = r))$$

Then:

$$\begin{aligned} M(R(x)) &= M((\bigwedge_{j=1}^k a_j(x) = \gamma_j) \Rightarrow (d(x) = r)) \\ &= \frac{1}{N} \{ (\sum_{j=1}^k F^*(a_j(x) = \gamma_j) + F(d(x) = r)) \} \\ &\quad - \frac{1}{N^2} \{ (\sum_{1 \leq j_1 < j_2 \leq k} [F^*(a_{j_1}(x) = \gamma_{j_1}) \times F^*(a_{j_2}(x) = \gamma_{j_2})] \\ &\quad + \sum_{j=1}^k (F^*(a_j(x) = \gamma_j) \times F(d(x) = r)) \\ &\quad + \dots + (-1)^k \frac{1}{N^{k+1}} \left\{ \left[\prod_{j=1}^k F^*(a_j(x) = \gamma_j) \right] \times F(d(x) = r) \right\} \} \end{aligned}$$

where $F(d(x) = r)$ and $F(a_j(x) = \gamma_j)$ respectively shows the frequencies Of experimentally observed events $(a_j(x) = \gamma_j)$ and $d(x) = r$

In addition:

$$F^*(a_j(x) = \gamma_j) = F(a_j(x) \neq \gamma_j) = N - F(a_j(x) = \gamma_j)$$

also, N shows the total since of data. In addition, the measure of experimental probability based on the relative frequency of experimental is expressed as:

$$P_r(R(x)) = \frac{M(R(x))}{\sum M(R(x))}$$

These values have been calculated for the data in **Table- 3** and are mentioned in below **Table-12**:

Table: 12. Table of inference decision rule and the size and the probability distribution rules

$R(x)$	$R_1(x) = \gamma_1$	$\&a_2(x) = \gamma_2$	$\&a_3(x) = \gamma_3$	$\&a_4(x) = \gamma_4$	$\Rightarrow d(x) =$	r	$M(R(x))$	$\rho_r(R(x))$
F^*								
$R_1(x)$	1	1	1	2		1	0/9747	0/1001
$F^*(R_1)$	27	28	43	16	9			
R_2	1	1	3	2		1	0/9214	0/0946
$F^*(R_2)$	27	28	21	16	9			
R_3	1	1	3	2		2	0/9523	0/0978
F_3^*	27	28	21	16	27			
R_4	1	1	3	2		3	0/9337	0/0959
F_4^*	27	28	21	16	17			
R_5	1	2	1	2		2	0/9898	0/1017
F_5^*	27	36	43	16	27			
R_6	2	2	2	1		2	0/9982	0/1025
F_6^*	37	36	42	43	27			
R_7	2	2	2	3		2	0/9989	0/1026
F_7^*	37	36	42	47	27			
$R_8(x)$	2	3	3	2		2	0/9870	0/1014
F_8^*	37	42	21	16	27			
R_9	3	1	3	1		3	0/9932	0/1020
F_9^*	42	28	21	43	17			
R_{10}	3	3	3	2		3	0/9878	0/1014
F_{10}^*	42	42	21	16	17			
							9/7370	1

The second approach toward the decision rule as a Bayesian view. For this purpose, prepare and drawing the following Contingency **Table-13**.

Table: 13. Table of Reconciliation

(1)Contingency table $a_1 \times 3$

	1	2	3	Sum
$a_1(x)$ 1	9	11	6	26
2	0	16	0	16
3	0	0	11	11
Sum	9	27	17	53

(2) Contingency table a2 × 3

		d(x)			
		1	2	3	Sum
a ₂ (x)	1	9	5	11	25
	2	0	17	0	17
	3	0	5	6	11
	Sum	9	27	17	53

(3) contingency table dx(a3 × 3)

		d(x)			
		1	2	3	Sum
a ₃ (x)	a(x)				
	1	4	6	0	10
	2	0	11	0	11
	3	5	10	17	32
Sum	9	27	17	53	

(4) contingency table (a4 × d) d (x)

		d(x)			
		1	2	3	Sum
a ₄ (x)	a(x)				
	1	0	5	5	10
	2	9	16	12	37
	3	0	6	0	6
Sum	9	27	17	53	

Now, using the contingency table can be written:

$$p_r[(dx) = (r|a_1(x) = \gamma_1 \& a_2(x) = \gamma_2 \& \dots + a_k(x) = \gamma_k)$$

$$= \frac{p_r(d(x) = 1)}{\prod_{j=1}^k p_r(a_j(x) = \gamma_j)} \left\{ \prod_{j=1}^k p_r(a_j(x) = \gamma_j | d(x) = r) \right\}$$

For example:

$$\begin{aligned}
 & p_r(d(x) = r)a_1(x) = 1 \& a_2(x) = 1 \& a_3(x) = 3 \& a_4(x) = 2 \\
 & = \frac{1}{p_r(a_1(x) = 1) \times p_r(a_2(x) = 1) \times p_r(a_3(x) = 3) \times p_r(a_4(x) = 2)} \\
 & \quad \times p_r(d(x) = 1) \times p_r(a_1(x) = 1|d(x) = 1) \\
 & \quad \quad \times p_r(a_2(x) = 1|d(x) = 1) \\
 & \quad \quad \times p_r(a_3(x) = 3|d(x) = 1) \\
 & \quad \quad \times p_r(a_4(x) = 2|d(x) = 1) \\
 & = \frac{1}{\frac{26}{53} \times \frac{25}{53} \times \frac{32}{53} \times \frac{37}{53}} \times \frac{9}{53} \times \frac{9}{26} \times \frac{9}{25} \times \frac{5}{32} \times \frac{16}{37} \\
 & = \frac{(53)^3 \times 9^3 \times 5}{(26)^2 \times (25)^2 \times (32)^2 \times 37 \times 26 \times 25 \times 32} = \frac{1137645}{(1.600768)^{10}} = 0.000071
 \end{aligned}$$

Also:

$$\begin{aligned}
 & p_r((d(x) = 2)|a_1(x) = 1 \& a_2(x) = 1 \& a_3(x) = 3 \& a_4(x) = 2) \\
 & = (10.252704) \frac{37}{53} \times \frac{11}{27} \times \frac{5}{27} \times \frac{10}{27} \times \frac{6}{27} = 0/032433
 \end{aligned}$$

As a result:

$$\begin{aligned}
 & p_r(d_x = 3|a_1(x) = 1 \& a_2(x) = 1 \& a_3(x) = 3 \& a_4(x) = 2) \\
 & = (10.252704) \left(\frac{17}{53} \times \frac{6}{17} \times \frac{11}{17} \times \frac{17}{17} \times \frac{12}{17} \right) = 0.530139
 \end{aligned}$$

As a result:

$$p_r(d_x = 3|a_1(x) = 1 \& a_2(x) = 1 \& a_3(x) = 3 \& a_4(x) = 2)$$

To calculate and compare.

CONCLUSION

Based on the obtained results, if transparency of information is at a qualitative level, organizational transparency will be at a qualitative level. Therefore, organizations should be verifiable and understandable their actions and decisions for interested individuals or groups to the organization's actions or decisions.

In current research, the results showed that, aspects of employee participation and secrecy are in the average level and are effective of organization transparency, In addition, the results showed that, responsiveness increase employee organizational transparency. So, transparency requires responsiveness and transparent organizations should be accountable for their actions, speech, and decision, so this information in order to review is available to others.

CONFLICT OF INTEREST

Authors declare no conflict of interest

ACKNOWLEDGEMENTS

None

FINANCIAL DISCLOSURE

None

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