

## RESEARCH ARTICLE

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## Leveling of Effective Factors on Ethical Culture in the Audit Organization, with ISM Method

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### Abstract

"Organizational culture" is a shared and relatively stable pattern of basic values, beliefs, and convictions in an organization. Considering the importance of organizational ethical culture in the country, and especially in public and private organizations, also considering the role of culture as a guarantee of stability in this organization. This descriptive-analytical research aims at identifying and leveling the factors affecting the organizational ethical culture in the audit firm by applying The Pairwise comparisons ISM method was performed. For this purpose, by using the studies and research done in the past and also benefiting from the opinions of fifteen university professors and employees of the auditing organization, the factors affecting the organizational culture were investigated and after the final approval, 9 factors were selected. In the next steps, these factors are used in the research with the interpretive structural modeling technique and with the method of ISM pairwise comparisons and EXCEL software. Finally, among the investigated factors on "organizational ethical culture", five general levels were classified. The "Working pressure" was selected as the first level. At the second level, the parameters of "performance measurement system", "power structures", and "incentive and punishment systems" were confirmed. The third level also includes "management of educational programs" and "organizational norms". The fourth level is dedicated to "Employee Behaviors". Finally, the fifth level, the most influential parameter of "Organizational Ethical Culture", was declared to be trusted.

**Keywords:** *Organizational ethical culture, Audit organization, Interpretive structural modeling*

### Introduction

Property culture has many definitions that are defined in different societies, organizations, groups, etc. based on their specific principles and laws. In the Oxford dictionary, "culture" refers to: art, literature, music and other intellectual expressions of a particular society or organization, social institutions, belonging to a group or nation (1). Also, in Persian culture, "culture" means:

science, knowledge, literature, education, scientific and literary works, a nation (2). In a MOEIN dictionary, "culture" is defined as: "science and knowledge, education, insight". Also, according to Webster's dictionary, "culture" means: "an integrated pattern of human knowledge, belief, and behavior that depends on the capacity to learn and transmit knowledge to subsequent generations" (2, 3). Research in recent years shows that

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organizational ethical culture plays an optimal role in employee decision-making and shows the integrity of decisions in the organization. Also, the outcome of several important factors, including the general policies of the organization and leadership (leaders and senior managers) in the field of organizational ethical issues, causes employees to commit unethical behavior or ethical behavior. According to Hofstede, culture is the common idea of members of a particular group or class that distinguishes them from other groups. In another definition, culture is defined as a set of social behavior patterns, arts, beliefs and other human thoughts as well as the intellectual characteristics of society or nation (4, 5).

Significant successes of organizations with minimal financial resources on the one hand and failures of organizations with the best financial resources on the other hand. It indicates appropriate and inappropriate decisions and the existence of strong and weak organizational cultures in the organization (6). Clearly, organizational growth as a planned process is dependent on its "organizational culture". Also, managers who want to increase productivity and organizational performance should pay attention to the parameters of organizational culture. Studies show that inflexible organizational culture can cause destructive mistakes. As the lack of seriousness in an organization can take the organization out of the progress process (7). The more employees feel the ethical culture of the organization in the work environment, the less likely it is to make unethical decisions in the organization. "Organizational ethical culture" is strongly related to the idea that consideration for others in an organization helps identify the right ethical decisions within that organization. Considering the important role of the audit organization as a financial guarantee for economic enterprises and creating a sense of security and confidence for employers (8).

In many cases, problems arise due to the non-implementation of these items. And it

leads to instability, destruction, and failure. Therefore, this research was conducted in order to identify and level the factors affecting the ethical culture of the organization in the auditing organization. After explaining the general concept of culture, the concept of organizational ethics is discussed. It is formed from the combination of two words "ethics" and "organization", which has created a new definition. "Organization" is a metaphor for discipline. While "morality" is different in different people and is not the same. Based on this, I can express the "moral culture" in the "organization" as a special individual personality in humans. In other words, every organization has rules that are called "organizational culture". Organizational culture describes a part of the organization's internal environment (9). In fact, it is a combination of a set of commitments, beliefs, and shared values among the employees of that organization, which is used to guide them in performing their duties.

Regarding the concept of "organizational culture" and how to study, recognize and measure it, There are also the factors of culture formation and transformation and the consequences of becoming dominant, a specific culture of the organization, which there is a significant difference of opinion among researchers.

However, there is agreement that the management of organizational culture reinforces the needs of management in today's era and is one of the necessary conditions for success (10).

In this article, only the component of "organizational culture" and its effect on the audit organization was discussed. The reason for prioritizing the category of "organizational culture" in the audit organization is the need for this organization to have a favorable culture for success in various fields and also to create a sense of security for private and government clients.

According to the mentioned cases. First, it was necessary to confirm the important parameters based on previous research and experts' opinions. Then the parameters should be checked carefully and after ranking, their effectiveness should be checked. Therefore, the researchers in the present study were of the opinion that the dimensions and branches Identify and examine the parameters affecting "organizational culture".

## Method

In this research, meta-combination method, paired comparison questionnaire (ISM) as well as library and survey method were used to obtain indicators of ethical culture and investigate their influence on each other in the audit organization of Tehran city. The research community is the employees and experts of the audit organization (Tehran province) and the research is purposeful. Therefore, first the past articles were reviewed and then the questionnaires were prepared. Therefore, first the questionnaire was completed by the first person and then the first person introduced another person and finally this process continued until the last person was

informed. (Snowball method) (2). A method used to advance meta-synthesis to synthesize articles and review documents used in research. The seventh step method was Sandelowski and Barroso (11).

Whose steps are briefly mentioned and explained (Table 1). After classifying the articles, using "Critical Appraisal Skills (CASP)" which is a tool to check the quality of the primary study and includes ten basic questions (12,2). In this method, the researcher examines each article individually and evaluates the total points of each article and assigns one point to each of the proposed questions, and classifies the articles in the form of a set of 50 points. Then, according to the scores and results of the articles, they are divided into 5 levels: excellent, very good, good, average, and poor (Chart 1). In the next steps, all the parameters were coded and then the analysis and synthesis of the findings were done. Delphi method was used to check and control the obtained qualities and using the opinions of 15 people from the managers of the audit organization team (members - expert team) (2).

Table 1.

*Review steps, related articles and documents (Sandelowski and Barroso)*

steps	Short description
1 Creating research questions	Such as: parameter/ the effect of the parameter/ year of publication of articles/ reliable scientific databases.
2 Review of content articles	Targeted search for published articles, checking keywords, checking Persian and English sources.
3 Choosing the right articles	Examining the appropriateness of the articles found in the previous stages according to the research questions and objectives, and defined parameters.
4 Text information extraction	Selected articles are reviewed several times to summarize their findings.
5 Analysis and synthesis of findings.	The analysis and integration of qualitative findings are aimed at creating a unified and new interpretation of the findings
6 Quality Control / Resources	For this purpose, the parameters obtained by the Delphi method and the opinions of the managers of the auditing organization were used
7 Presentation of findings	The findings from the previous stages are presented in the form of a summary of the initial and final factors and dimensions.

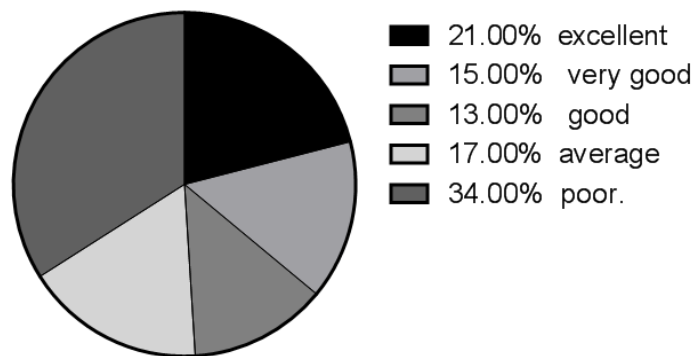


Chart 1. Classification of articles based on total CASP scores

First, they were asked to express their opinion about the research topics and given that they were extracted from past studies and had strong scientific support. It was approved by expert team members for the next steps.

Then, you can see the amount of previous research support for this research and the coding done in (Table 2). The findings of these stages are presented in the form of a summary of the initial and final plans.

Table 2.

*The code assigned to the parameters and the amount of support of the past researches for "parameters of moral culture"*

parameter	Symbol	Rank by frequency	Abundance
learning programs	C1	3	18
Performance measurement system	C2	9	10
trust	C3	1	21
Management behaviors	C4	7	12
Power structures	C5	8	11
Reward and punishment system	C6	6	13
Organization norms	C7	4	17
Employee behavior	C8	5	16
work pressure	C9	2	20

### Quality Check

The obtained model included 9 main parameters obtained from the "meta-combination" method. This research has two parts: the first part is the review of past articles and the use of the parameters of the previously presented models that led to the construction of the model, and its approval by the "expert group" and, employees of the auditing organization (Tehran province) and, completing the questionnaires by them. In this research, the snowball method was used to investigate the statistical population. In this way, first, the questionnaire was completed by the first person, and then the first person

introduced another person for research, and finally, this process continued until receiving the last person's information. (Snowball method) (2).

The results obtained in the first part of this research (expert group) mentioned 9 parameters and the second part (employees) mentioned 11 parameters and 8 parameters are common. Then, the "kappa" index was used to check the reliability of the obtained model. The Kappa index was calculated as (0.81) and was placed at the level of a valid agreement. Based on these findings, the reliability of the research is also confirmed.

**Quantitative review - DEMATEL-ISM technique method**

**First step:** calculation of direct correlation matrix (D)

In this section, using the results obtained from the initial stages, the group of experts and also the group of employees were asked to determine the influence of the parameters on each other. Express, them using numbers and

verbal expressions. Then, to measure the reliability of the data, mathematical relationships (with Excel software) have been used. In this case, first by removing the expert (i) you get the average opinion of all experts and then the average opinion of the experts. We come to the final conclusion (Table 3).

Table 3.

*The results of the direct effect of parameters of moral culture.*

DM	(C1)	(C2)	(C3)	(C4)	(C5)	(C6)	(C7)	(C8)	(C9)
(C1)	0.000	1.000	2.000	2.125	1.500	2.000	2.500	2.500	1.000
(C2)	3.000	0.000	1.25	1.500	2.000	1.500	2.125	2.000	2.000
(C3)	1.000	1.000	0.000	1.500	1.000	1.000	1.000	3.000	1.500
(C9)	1.500	2.000	2.500	0.000	1.125	2.000	2.000	2.500	1.000
(C5)	2.000	2.000	2.000	2.125	0.000	1.500	2.500	1.125	2.000
(C6)	2.000	2.000	2.125	2.000	1.125	0.000	2.500	2.125	3.000
(C7)	2.000	2.000	2.000	2.000	2.500	1.125	0.000	2.125	2.000
(C8)	2.000	1.125	2.500	2.500	1.000	1.000	1.500	0.000	1.000
(C9)	2.500	1.500	2.500	2.500	2.125	3.000	2.500	2.000	0.000

**The second step.** Direct correlation matrix normalization

We calculate the average matrix from Table 3 using mathematical relationships (Chart 1)

and call it the normal matrix (N). The results of this step form the data normalization matrix (Table 4).

Table 4.

*The result table is normalized*

MN	(C1)	(C2)	(C3)	(C4)	(C5)	(C6)	(C7)	(C8)	(C9)
(C1)	0	0.0537	0.1074	0.1141	0.0805	0.1074	0.1342	0.1342	0.0537
(C2)	0.1611	0	0.0604	0.0805	0.1074	0.0805	0.1141	0.1074	0.1074
(C3)	0.0537	0.0537	0	0.0805	0.0537	0.0537	0.0537	0.1611	0.0805
(C9)	0.0805	0.1074	0.1342	0	0.0604	0.1074	0.1074	0.1342	0.0537
(C5)	0.1074	0.1074	0.1074	0.1141	0	0.0805	0.1342	0.0604	0.1074
(C6)	0.1074	0.1074	0.1141	0.1074	0.0604	0	0.1342	0.1141	0.1611
(C7)	0.1074	0.1074	0.1074	0.1074	0.1342	0.0604	0	0.1141	0.1074
(C8)	0.1074	0.0604	0.1342	0.1342	0.0537	0.0537	0.0805	0	0.0537
(C9)	0.1342	0.0805	0.1342	0.1342	0.1141	0.1611	0.1342	0.1074	0

$$D = \frac{1}{\max_{1 \leq i \leq n} \sum_{j=1}^n a_{ij}} A$$

Chart 1. *Mathematical relationships*

**The third step.** Calculation of complete correlation matrix of criteria:

In this step, the total matrix is calculated using mathematical relations (Table 5).

Table 5.

The results of the total relationship matrix

MT	(C1)	(C2)	(C3)	(C4)	(C5)	(C6)	(C7)	(C8)	(C9)
(C1)	0.3571	0.3437	0.4844	0.4754	0.3592	0.3945	0.4896	0.5218	0.3570
(C2)	0.5267	0.3096	0.4684	0.4726	0.4042	0.3967	0.5021	0.5224	0.4213
(C3)	0.3267	0.2726	0.2980	0.3616	0.2678	0.2806	0.3342	0.4498	0.3048
(C4)	0.4315	0.4315	0.5022	0.3691	0.3404	0.3921	0.4639	0.5205	0.3560
(C5)	0.4796	0.4076	0.5053	0.4968	0.3068	0.3952	0.5155	0.4844	0.4222
(C6)	0.5185	0.4367	0.5536	0.5325	0.3943	0.3540	0.5540	0.5722	0.4986
(C7)	0.4869	0.4121	0.5139	0.5001	0.4301	0.3835	0.4032	0.5351	0.4260
(C8)	0.4029	0.3068	0.4529	0.4392	0.2955	0.3095	0.3922	0.3502	0.3108
(C9)	0.5732	0.4451	0.6088	0.5909	0.4645	0.5231	0.5918	0.6066	0.3896

**The fourth step:** the internal relationships of the dimensions of moral culture are determined.

In this step, based on the previous data, we first obtain the initial values of  $r$  and  $c$  for each parameter. Then the effectiveness of the parameters on each other is checked (Table 6). Simply put, if  $(ri-cj)$  is positive; Criterion ( $i''$ ) is part of influencing factors, And If  $(ri-cj)$  is negative, ( $i''$ ) is part of the affected parameters. The chart can be drawn based on the two mentioned indicators. which is known as a network relations map. According to this map, it is possible to decide how the dimensions and criteria can be improved. Based on this, we calculate the final values  $(ri+cj)$  and  $(ri-cj)$  for each parameter (Table 6).

Then, based on the obtained values, we will draw a graph to show the influence of the parameters of the "Organization's Ethical Culture" on each other (Chart 2). It should also be noted that: the horizontal line  $(ri+cj)$  indicates the level of interaction with other Variables. This means that the larger this number is, it indicates that that parameter is interacting and communicating with more parameters. Also, the vertical axis  $(ri-cj)$  shows the influence and effectiveness of the parameters. The parameters that are in the upper part of the graph above the horizontal line are the influencing parameters, and the parameters that are below the horizontal line are the Underinfluence parameters.

Table 6.

Values of  $(ri+cj)$  and  $(ri-cj)$  for each parameter

parameters	$(ri+cj)$	$(ri-cj)$
(C1)	7.8858	-0.3204
(C2)	7.3897	0.6583
(C3)	7.2836	-1.4914
(C4)	8.0454	-0.4310
(C5)	7.2762	0.7506
(C6)	7.8436	0.9852
(C7)	8.3374	-0.1556
(C8)	7.8230	-1.3030
(C9)	8.2799	1.3073

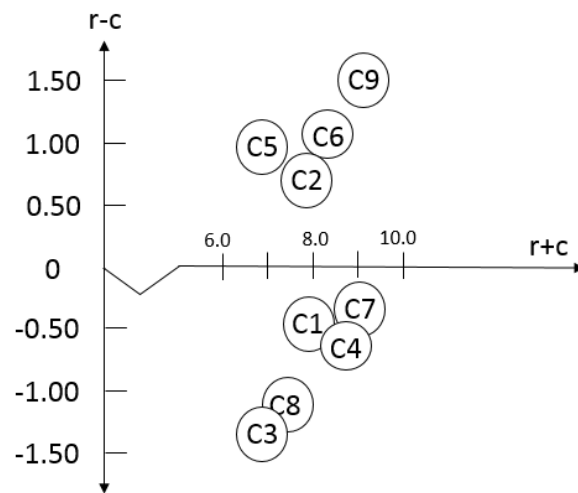


Chart 2. Influence and effectiveness of the parameters

**The sixth step:** calculating the threshold limit and forming the accessibility matrix.

To determine the Normal relationship map (NRM), the threshold value should be calculated. Based on this, partial relationships can be ignored and a network of acceptable relationships can be drawn. Only relations whose values in matrix T are greater than the threshold value will be displayed in NRM (14). After the threshold value is obtained in the

matrix (T), All data smaller than the threshold, which indicate meaningless relationships, are removed. The houses marked with "\*" indicate a significant correlation between the ethical culture parameters of the auditing organization. According to the results, the significant relationships of ethical culture dimensions in the audit organization are shown in Table (Table 7).

Table 7.

*Matrix of significant relationships*

	(C1)	(C2)	(C3)	(C4)	(C5)	(C6)	(C7)	(C8)	(C9)
(C1)	0.3571	0.3437	0.4844*	0.4754*	0.3592	0.3945	0.4896*	0.5218*	0.3570
(C2)	0.5267*	0.3096	0.4684*	0.4726*	0.4042	0.3967	0.5021*	0.5224*	0.4213
(C3)	0.3267	0.2726	0.298	0.3616	0.2678	0.2806	0.3342	0.4498*	0.3048
(C4)	0.4315	0.4315	0.5022*	0.3691	0.3404	0.3921	0.4639*	0.5205*	0.356
(C5)	0.4796*	0.4076	0.5053*	0.4968*	0.3068	0.3952	0.5155*	0.4844*	0.4222
(C6)	0.5185*	0.4367*	0.5536*	0.5325*	0.3943	0.3540	0.5540*	0.5722*	0.4986*
(C7)	0.4869*	0.4121	0.5139*	0.5001*	0.4301	0.3835	0.4032	0.5351*	0.4260
(C8)	0.4029	0.3068	0.4529*	0.4392*	0.2955	0.3095	0.3922	0.3502	0.3108
(C9)	0.5732*	0.4451*	0.6088*	0.5909*	0.4645*	0.5231*	0.5918*	0.6066*	0.3896

**Measurement (reliability and validity) of the quantitative part:**

Validity means whether the tool; A measure can measure the property it is designed to measure or not. Validity is important because incorrect measurements can make any scientific research worthless (15). In the above model, variables and parameters have been used that are similar to those observed in other research. Also, if a change has been made in the variable or a merger has been made, it has been done with the opinion of experts and their

permission. Also, the outputs of "Dimtel's model" indicate the relevance of all the variables in the model, so the validity is confirmed. Reliability also means that if we give the measurement tool to a single group of people several times in a short period of time, the results will be close to each other (15). After determining the level of all factors affecting the ethical culture of the audit organization, the ISM model of this research is shown in Table 8.

Table 8.

*Leveling of factors affecting organizational ethical culture with ISM method*

Level 1	Level 2	Level 3	Level 4	Level 5
work pressure	Performance measurement system	Management behaviors	Employee trust	trust
	Power structures	learning programs	behavior	
	Reward and punishment system	Organization norms		

**Discussion and conclusion**

The main goal of this research is to identify and categorize the factors affecting "ethical

culture" as well as to examine previous models and studies. This research is the first step in modifying previous models in large

organizations and introducing a new model. As mentioned, in examining the parameters affecting the ethical culture of the organization, work pressure is the first level and the most influential factor. In the second level, there are performance measurement factors, power structures, and incentive-punishment plans. The third level includes the management of educational programs and organizational norms. The fourth level is dedicated to employees' behaviors, and finally, it is the most influential factor of trust in the organization the fifth level. The results of this research show that senior managers should focus more on reducing work pressure in the organization in order to improve the behavior of employees and increase the level of trust in the organization, and as a result, improve the moral culture of the organization.

For this purpose, it is suggested to review the systems of performance measurement, encouragement and punishment, and managers' behaviors.

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#### **Reference**

Horner, M, (1997). "Leadership Theory. Past, Present and Future." *Team erformance Management*, 3, 270-287.

JavadGolban, HadiRezghiShirsavar. (2021). The Application ISM Model to Rate the Components of Organizational Culture and AHP Method to Rank the Obtained Factors. *Organizational Culture Management. Vol. 18, No. 4, Winter 2021.*

Pizzinatto, Andrea Kassouf, et al. "Internal marketing and organizational culture: a case on

multi brands company." *RAM. Revista de Administração Mackenzie* 6 (2020): 79-105

Ateyesafardoost. etal. (2013). Examining the role of organizational culture based on the model in the effectiveness of technology transfer and competitive performance. *Socio-Cultural Development Studies Quarterly*, 59, 965-98.

Hofstede, G., (1989). Organising for cultural diversity. *European Management Journal*, 7(4), 390-397.

ParvanehZainali Souma, Ali AsgharPourezat (2012), The effects of an unethical atmosphere in the work environment on organizational anti-citizenship behaviors. *The Quarterly Journal of Ethics in Science and Technology*, No. 4 (in Persian)

Abdul-Manafi, S. (2010). "Designing a cultural, organizational, knowledge-based model in the Iranian automotive industry", PhD thesis, University of Isfahan, Faculty of Administrative Sciences and Economics. (in Persian)

Salimi, A., Moradi, J., &Vafae, R. (2016). "Investigating the Relationship between Organizational Culture and Knowledge Management in Khodabandeh City Education Organization (Qeydar)", *Educational management innovations (new ideas in educational sciences)*, 11 (3), pp. 64-49. (in Persian)

Zarei-Matin, H., Yazdani, H. R., &Rajabzadeh, A. (2018). "Designing an effective organizational culture model in project-based organizations", *Organizational Culture Management*, Vol. 16, No. 3, pp. 779-804. (in Persian)

Choi, Y. S., Seo, M., Scott, D., & Martin, J. (2010). "Validation of the organizational culture assessment instrument: An application of the Korean version", *Journal of sport management*, 24(2), pp. 169-189.

Ludvigsen, M.S., Hall, E.O., Meyer, G., Fegran, L., Aagaard, H. and Uhrenfeldt, L., 2016. Using Sandelowski and Barroso's meta-synthesis method in advancing qualitative evidence. *Qualitative health research*, 26(3), pp.320-329.

Mohapatra, Pratap KJ. "Supplementary Research Methods: DEA, ISM, AHP and Non-Parametric Statistics." *Methodological Issues in Management Research: Advances, Challenges,*



*and the Way Ahead*. Emerald Publishing Limited, 2019.

- Ling, Y., López-Fernández, M. C., Serrano-Bedia, A. M., & Kellermanns, F. W. (2020). "Organizational culture and entrepreneurial orientation: examination through a new conceptualization lens", *International Entrepreneurship and Management Journal*, Vol. 16, pp. 709–737.
- Tang, M., Li, M. G., & Zhang, T. (2016). The impacts of organizational culture on information security culture: a case study. *Information Technology and Management*, 17(2), 179-186.
- Hassannejad, Reza, Ali Mohammad Safaninya, and Akbar Afarinesh Khaki. "Organizational culture and the effectiveness of laziness on inertia and performance of sports and youth ministry." *Journal of Advanced Pharmacy Education & Research* | Oct-Dec 10.S4 (2020): 105.