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Applied-Research Paper

A Hybrid Entropy-TOPSIS Method to Investigate the Effect of Auditing Team Norms and Peer Personality Components on the Objectivity of Financial Auditors

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ABSTRACT

Auditors' personality traits have a significant effect on the motivation of their financial behavior. In fact, the personal and personality traits of auditors that can be influenced by the environment play an important role in motivating individuals to engage in financially professional behaviors. Audit team norms are one of the factors in the audit firm environment that affect the auditor's behavior. In this study, the effect of auditing team norms and auditors' personality types on auditor objectivity was investigated. The Entropy technique is used to examine the importance of the norms of the audit team and the personality components of the peers, and based on the results and using the TOPSIS method, these factors affecting the objectivity of financial auditors are ranked. The statistical population of this study includes all professional auditors working in the auditing organization and private auditing institutions, members of the Iranian Society of Certified Public Accountants in 2020, including 242 members. The results showed that extroverted and responsible personality types have a positive and significant effect on auditors' objectivity. The results also showed that the norms of the audit team have a positive and significant effect on the objectivity of auditors.

1 Introduction

Objectivity is an unbiased mental attitude that allows auditors to perform their duties in a way that honestly believes in the outcome of their work and does not subject their judgment to the opinion of others. Auditor objectivity, objective judgment, and client satisfaction are sometimes used interchangeably. Higher levels of auditor objectivity mean lower levels of client satisfaction [1-3,30-32]. We refer to client satisfaction when describing our method; Because we measure the auditor's objectivity based on his or her compliance with the client's preferred accounting status. Current evidence shows that changing the auditor is not a perfect and comprehensive way to increase the auditor's objectivity; Because the aiii trr ’s objectivity may be impaired even in the short-term relationship of the client auditor [4-6]. As a result, more research is needed to look for other ways to deal with objectivity threats that seem to be attributable to the auditor-client relationship.

The mechanism proposed by [4] to counter the threats of short-term tenure to the iiii trr ’s objectivity is to stimulate the identity of the auditor's profession. But this method is difficult to control in practice; Because

the auditor is exposed to matters that are not under the control of the auditing firm. Conversely, ethical culture in auditing firms is under the control of management, and exposure to a strong ethical culture can be associated with increased auditor objectivity. The expectation that ethical culture in auditing firms affects auditor objectivity can be justified by the findings of previous research. The role and duty of professional accountants towards society, owners of capital and other competent and interested persons requires that they observe the general principles of good morals in all aspects and adhere to the code of professional conduct and acceptance, credibility and social respect that They need to be active in any profession. Most studies on auditors' personality traits show that personality affects auditors' objectivity and some inherent personality factors can be used as explanatory of auditors' objectivity [4-9]. So far, limited studies have been conducted on the study of auditors' personality types based on the five-factor model. What is the effect of auditing team norms and auditors' personality types on their objectivity?

2 Theoretical Foundations and Research Background

The auditing team's norms create an ethical environment composed of ethical norms and rules that pressure members to behave ethically. Team norms guide individual behavior and provide guidance for members [10-12]. Negrmantou [24] concluded that if team norms support ethical behaviors, individuals are more likely to behave ethically. In other words, the norms of the audit team can put pressure on team members to act in accordance with instructions and rules. Thus, the norms of the audit team are another source of pressure from the environment that is created within the audit firm and supports ethical behaviors.

2.1 Explain the Effect of Personality Types on the Auditor's Objectivity

Like other professions that are responsible for providing professional services to the community; Objectivity can also guarantee the survival of the auditing profession. Objectivity, which has always been the focus of auditors, continues to be of increasing importance as one of the challenges facing audit activities. The words independence and objectivity are often used interchangeably. Although independence and objectivity are related, they have different concepts and characteristics. Independence and objectivity are not the same two concepts. A person can be independent but not have objectivity and vice versa [23] objectivity is a mental category and means freedom from any prejudice and bias. Achieving this requires using the facts and not interfering with personal feelings, prejudice, and prejudice. This means that two people with the same level of expertise will achieve the same result in dealing with reality and circumstances. Objectivity in auditing means a non-partisan mental attitude in auditing work that allows auditors to perform their duties and plans in a way that they believe in their work. In other words, objectivity requires auditors not to subject their judgments about audit subjects to others. The auditor's objectivity requires that an unbiased opinion be presented with respect to all available audit evidence and the auditor's professional judgment. Objectivity also requires the auditor to adopt a clear and robust approach and, when necessary, be prepared to disagree with the views of managers [16].One of the most important personality traits of people is their personality types. Personality types, characteristics, and personality factors of the model are the five main or major factors. The five main or major factors are neuroticism, extraversion, agreeability (pleasantness), openness to experience (flexibility), and conscientiousness (conscientiousness). General tendency to experience negative emotions such as fear, sadness, and confusion. Anger, guilt and hatred make up the whole realm of neurosis.

Loving people, preferring large groups and gatherings and being bold, active, and talkative are traits of extroverts. A pleasant person is basically altruistic. He sympathizes with others and is eager to help, believing that others are also mutually helpful. Elements of flexibility include active imagination, attention to inner feelings, diversity, mental curiosity, and independence in judgment. Conscientiousness includes characteristics such as thinking before acting, observing rules and norms, and organizing and prioritizing

tasks. People with low grades in conscientiousness do not necessarily lack moral principles; Rather, they are less precise in applying ethical principles [7-11].

2.2 Background of Foreign Research

Aleni et al. [5] examined the interaction between the personality traits of internal auditors and the effectiveness of internal audit performance in Jordan. The results showed that all personality traits examined by internal auditors, except for the feature of extraversion, have a significant effect on the performance of internal auditors. The results also showed that personality traits have an indirect effect on the quality of financial reporting through the effectiveness of internal audit performance.Regou and Kahneman [28] has investigated the effect of personality dimensions on organizational citizenship behavior and knowledge sharing. The personality dimensions selected in this study included openness, conscientiousness and adaptability and the sample used by 95 employees of an information and communication company in Surabaya, Indonesia from different units. Data analysis was performed using the partial least squares method and SmartPLS software. The results of this study showed that openness, conscientiousness and adaptation have a positive effect on organizational citizenship behavior and knowledge sharing. Jokar et al. [16] examined the mediating effect of stressors on the relationship between type A personality and burnout in auditors in Indonesia. The results showed that role conflict and job insecurity significantly associated personality A with auditors' burnout. However, research has found no evidence of the role of ambiguity and overload on burnout.

Pochita Martizou et al. [25] examined the impact of auditor personality, experience, ethics, and gender on fraud detection in four large public accounting firms in Indonesia. The results showed that auditors with emotional-thinking (ST) and intuitive-thinking (NT) personality types have a higher ability to detect fraud than auditors with other personality types, but professional skepticism does not mediate this relationship. The auditor's ethics directly and through professional skepticism affect the ability to detect fraud. The auditor's experience and gender do not directly affect the auditor's ability to detect fraud through professional skepticism. Akrseli [2] examined the effects of personality types on the information-seeking behavior of information users. The results of their research showed that users with adaptive and extroverted personality types have a high conscientious personality and are generally in a quick search of information for their tasks. Arnesoun et al. [6] examined the relationship between the auditor's personal characteristics and the quality of the auditor's work in Indonesia. They used a questionnaire in their research and their sample includes 206 internal auditors. The results of their research showed that there is a relationship between the knowledge, experience, and ability of internal auditors with the quality of audit work.

2.3 Background of Internal Research

Khajavi and Kermani [20] in a study examined personality traits affecting knowledge sharing in auditing firms with a structural equation approach. The results showed that the characteristics of extraversion, adaptation and conscientiousness have a positive and significant effect on the process of knowledge sharing of employees in auditing firms, but no significant relationship was observed between the characteristic of openness to experience and the process of knowledge sharing of employees. Given the importance of personality traits in the formation of knowledge sharing, it is suggested that auditing firms pay special attention to the process of hiring and hiring auditors and placing them in working groups so that people with extraversion, adaptability and conscientious personality traits in order to facilitate The process of knowledge sharing, absorb the organization. Adili et al. [1] examined the effect of auditing firm's ethical

culture and auditors' personality types on auditor objectivity. The results indicate that the ethical culture of the audit firm has a positive and significant effect on the auditor objectivity. Also, conscientious personality type (conscientiousness) has a positive and significant effect on the auditor's objectivity. In addition, the findings show that the ethical culture of the auditing firm affects the relationship between auditors' personality types and the auditor's objectivity. Sepehri et al. [32] examined the relationship between auditors' personality types and their adherence to the auditing profession. The results of the study indicate that the personality type of "agreeing" is most related to the degree of adherence of auditors to the code of professional conduct; Other attributes with equal number of repetitions are in the next categories. Also, in general, in terms of auditors' adherence to the code of professional conduct, professional performance and independence are most related to the personality types of auditors; Confidentiality, honesty and integrity, and professional behavior are next in line, respectively. Namazi and Agriculture [23] identified the accounting information of interest of investors active in the Tehran Stock Exchange based on their personality types. The results showed that investors' personality types are an effective factor in their information interests and investors with more risky personality types to more reliable information and investors with more risky personality types to related information are more interested. Regardless of the different personality types, almost all investors are very interested in trading volume information with affiliates and the auditor's report. But in terms of information about sales growth over the past ten years, investors have shown the least interest in this type of information.

Badpa et al. [10] examined the effect of owner transformational leadership on objectivity in the auditor's judgment. The results showed that there is a negative and significant relationship between the transformational leadership of the owner and objectivity in the auditor's judgment and the effect of transformative leadership of the employer on the auditor's judgment is partly through the auditor's familiarity with the owner. What happens. Gholamrezaei and Hassani [19] examined the effect of auditors' personality disorders on their professional skepticism. The results showed that there is a significant negative relationship between the personality disorders of independent auditors and their professional skepticism. Also, personality disorders have the most negative relationship with the criterion of interpersonal perception of professional skepticism. Safari Gerayli and Valyan [33] designed the model and evaluated the role of auditing firms in promoting social trust. The results showed that when the dimensions of internal and external capabilities of an auditing firm are matched, that is, the indicators of internal capabilities are in line with each other, as well as the indicators of external capabilities [30-38]. To be honest, while acknowledging that the auditing firm has the capability and capability, it raises the level of social trust of shareholders and financial decision-makers.

2.4 TOPSIS Method

TOPSIS (technique for order preference by similarity to an ideal solution) method is presented in Chen and Hwang [39], with reference to Hwang and Yoon [40]. TOPSIS is a multiple criteria method to identify lll utioff f rom a fiii ts set of altrrntt isss . eee aaii c priiii pli i s tttt tcc csss aa altrr aativs suuuld heee the shortest distance from the positive ideal solution and the farthest distance from the negative ideal solution. The procedure of TOPSIS can be expressed in a series of steps:

(1) Calculate the normalized decision matrix. The normalized value n_{ij} is calculated as:

$$n_{ij} = x_{ij} / \sqrt{\sum_{i=1}^{m} x_{ij}^2}, \quad i = 1,...,m; \ j = 1,...,n.$$

(2) Calculate the weighted normalized decision matrix. The weighted normalized value v_{ij} is calculated as:

$$v_{ij} = w_j n_{ij}, \quad i = 1,...,m; \ j = 1,...,n.$$

where w_j is the weight of the ith attribute or criterion, and $\sum_{j=1}^{n} w_j = 1$.

(3) Determine the positive ideal and negative ideal solution.

$$A^+ = \{v_1^+, ..., v_n^+\} = \{(\max_j v_{ij} \mid i \in I), (\min_j v_{ij} \mid i \in J)\},$$

$$A^- = \{v_1^-, ..., v_n^-\} = \{(\min_j v_{ij} \mid i \in I), (\max_j v_{ij} \mid i \in J)\}.$$

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(4) Calculate the separation measures, using the n-dimensional Euclidean distance. The separation of each alternative from the ideal solution is given as:

$$d_i^+ = \{\sum_{j=1}^{n} (v_{ij} - v_j^+)^2\}^{\frac{1}{2}}, \quad i = 1, ..., m.$$

Similarly, the separation from the negative ideal solution is given as

$$d_i^- = \{\sum_{j=1}^{n} (v_{ij} - v_j^-)^2\}^{\frac{1}{2}}, \quad i = 1, ..., m.$$

(5) Calculate the relative closeness to the ideal solution. The relative closeness of the alternative A_i with respect to A^+ ie eefiaaa aaa

$$R_i = \frac{d_i^-}{d_i^+ + d_i^-}, \quad i = 1, ..., m.$$

Since $d_i^- \geq 0$ and $d_i^+ \geq 0$, then, clearly, $R_i \in [0,1]$.

(6) Rank the preference order. For ranking alternatives using this index, we can rank alternatives in decreasing order.

The basic principle of the TOPSIS method is that the chosen alternative should have the ssrrr tsst ii stnnee" from tee sss itiee idaal oolutinn ddd the "farthsst dittaeee" frmmthe eettt iee idell lll uti... hhe OOSSIS metiii i i trcccc ss tw" "rffrr nneeo ooitt tt ttt it ooss ttt nnnii drr thr relativi i mrrr tccco of tdd distnnees from these points.

2.5 Shannon's Entropy formula

nnnnnnnns nntroyy (Shannon [41]) has a central role in information theory, and sometimes refers to measure ff nneertaint.. hhnnnnnns ett rppy is a well- known method in obtaining the weights for an MADM problem especially when obtaining a suitable weight based on the preferences and DM experiments are not possible. rrr rr rii lll rr oeeuuro of Snnnnnnne entrccc c cc cc xxrr sseed it t ff f ll lwwinf f orr stsss .

Step 1.(Normalization). Set

$$r_{ij} = \frac{x_{ij}}{\sum_{i=1}^{m} x_{ij}}, j = 1, \dots, n$$

Step 2. Compute entropy E_j as

$$E_j = -e_o \sum_{i=1}^{m} r_{ij} ln(r_{ij})$$

Where e_o is the entropy constant and is considered equal to

$$e_o = \frac{1}{\ln(m)}$$

Step 3. Set $d_j = 1 - E_j$ ss tdd drrr ee of ii vrr ii fictt inn frr (j , ,,)))))

Step 4. Set

$$w_j = \frac{d_j}{\sum_{j=1}^{n} d_j}$$

As the degree of importance of attributec_j.

3 Research Method

Considering that the purpose of this research is to provide a model for the effect of the components of the norms of the audit team and the personality types of peers on their objectivity, so the present study is a behavioral research. Behavioral research in auditing involves the study of theories and methods of behavioral sciences that examine the relationship between accounting information and the behavior of auditors. From the point of view of practical purpose and in terms of nature and descriptive-survey method, it is of correlation type and also in terms of method, it is field and in terms of collecting theoretical framework and research background of deductive and library type. Data collection and final result were performed to test the rejection or acceptance of hypotheses inductively and through the tools used to measure research variables, ie a questionnaire. Then, after collecting statistical data (questionnaire answers), to collect Data collection was done using a questionnaire measurement tool. After collecting statistical data (from the questionnaire answer), for summarizing and calculating from Excel software and research hypotheses from structural equation modeling using Smart software PLS were analyzed. According to the purpose of the research of the statistical community, auditors working in the auditing organization and auditing firms are considered members of the Iranian Society of Certified Public Accountants. In the continuation of this chapter, in order to test the research hypotheses, the general steps of hypothesis testing are used for all research hypotheses.

3.1 Descriptive Statistics

In order to better understand the research community and become more familiar with the research variables, it is necessary to describe these data before analyzing the statistical data. Table (1) presents descriptive statistics of research variables.

Table 1: Descriptive statistics of research variables

Criterion		Symbol	Mean	Std. Dev.	Skewness	Kurtosis
Audit objectivity		AC	۶/۲۵۶	۲/۲۸۶	-۰/۰۹۲	-۰/۷۸۳
Audit team norms		TN	۱۱/۸۰۵	۴/۴۳۵	-۰/۰۵۳	-۰/۹۱۹
Auditors' personality types	Psychiatry	N	۱۷/۵۲۰	۸/۷۴۳	۰/۴۲۱	-۰/۶۴۵
	Extraversion	E	۳۱/۸۷۶	۴/۰۴۹	۰/۲۵۱	۰/۸۰۶
	Flexibility	O	۲۳/۶۴۰	۶/۴۰۴	۰/۴۲۰	۰/۱۹۴
	Agreeableness	A	۲۸/۴۶۶	۵/۱۵۰	۰/۷۰۳	۰/۶۱۷
	Responsibility	C	۳۵/۴۷۹	۴/۴۷۹	۰/۳۹۳	-۰/۰۸۰

As stated in section 3, the auditor objectivity questionnaire has two questions on the Likert scale that a high score means high objectivity in auditing by auditors. According to the score range of two to 10 in this questionnaire with an average score of 5, the results of Table (1) show that the average score of the auditor objectivity in the sample group was higher than the test average, meaning that the auditor objectivity is upward. Has been evaluated. The auditing team norms questionnaire has 4 questions on the Likert scale and a high score in this questionnaire means that most of the norms and rules related to the audit team are observed. Considering the score range of 4 to 20 in this questionnaire and the average of 12, the results show that the norms and rules related to the audit team in the sample group were rated below average. Among the five personality types studied in the sample group, the highest average was responsible for the personality types of responsibility (35.479), extraversion (31.876), agreementability (28.466), and flexibility (640). / 23) and neurosis (5/20/17).

Given the skewness and elongation of the variables, the assumption that the variables are normal is not in doubt, because their amount of skewness is in the range of (1-) to (+1) and their amount of strain is in the range of (2-) to (+2).) contract. Table 2 presents the results of the Kolmogorov-Smirnov test. Considering the significant value of Z statistic related to research variables, which is more than 0.05, it is determined that the distribution of research variables is normal.

Table 2: Results of data distribution normality test

	statistic Z	Significant level
Auditor Objectivity	۱/۳٤۱	۰/۰۵۵
Audit team norms	۱/۲٤۳	۰/۰۹۱
Personality trait N	۱/۱۵٦	۰/۱۳۸
Personality trait E	۱/۱٦۰	۰/۱۳٦
Personality trait O	۱/۲۹۰	۰/۰۷۲
Personality trait A	۱/۲٦۹	۰/۰۸۰
Personality trait C	۱/۲٤۱	۰/۰۹۲

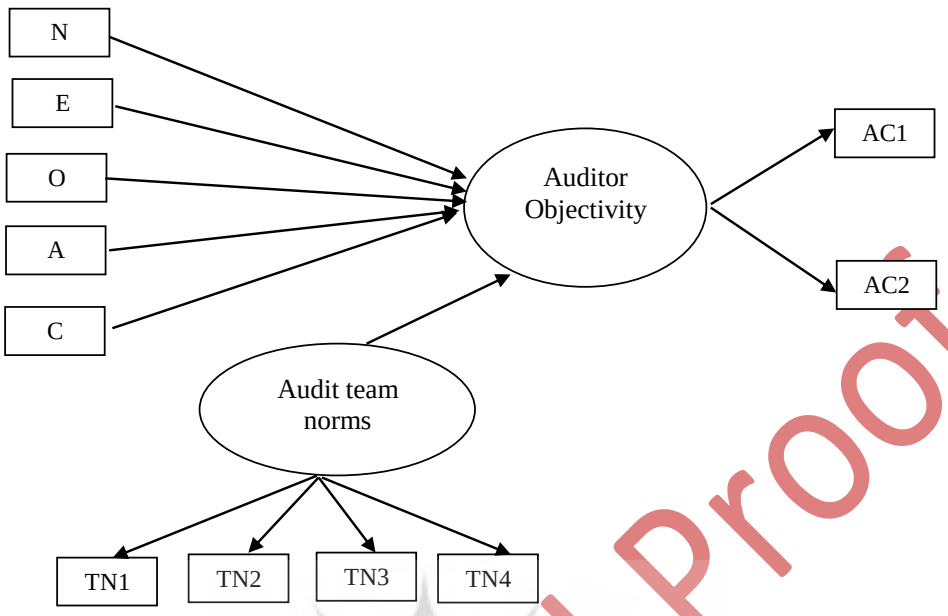

Fig. 1: The main conceptual model of the research

3.2 Measurement Model Fit

The fit of the measurement model in studies with structural equation approach is evaluated by examining the reliability of the index, convergent validity and divergent validity.

3.2.1 Check the Reliability of the Index

In evaluating the reliability of the index, it is necessary that all factor loads of the indicators, which indicate the degree of intensity of the relationship between a hidden variable (structure or questions measuring a variable) and the obvious variable (index or variable studied in the model), are greater than 0.70. At least at the level of 0.05 is significant. Confirmation or rejection of the significance of factor loads should be done according to the significant numbers (T-Value). The results are presented in Table (3).

Table 3: Factor analysis of conceptual model constructs

Variable	Item	Standardized factor load	statistic T	Variable	Item	Standardized factor load	statistic T
Auditor Objectivity	AC1	۰/۹۷۸	۸۹/۰۳۲	Personality trait A	PT37	۰/۸۷۶	۱۵/۵۲۱
	AC2	۰/۹۷۷	۷۰/۵۸۱		PT38	۰/۸۵۶	۸/۷۸۹
Personality trait N	PT1	۰/۸۳۲	۱۰/۵۵۲		PT39	۰/۹۱۳	۱۳/۶۸۹
	PT2	۰/۸۱۳	۱۰/۳۶۲		PT40	۰/۷۸۸	۶/۵۲۱
	PT3	۰/۸۳۹	۹/۴۷۵		PT41	۰/۷۱۵	۴/۸۴۶
	PT4	۰/۸۲۱	۱۰/۳۹۵		PT42	۰/۸۰۲	۷/۸۹۱
	PT5	۰/۸۳۶	۹/۱۲۰		PT43	۰/۸۹۳	۱۱/۰۷۹

	PT6	۰/۸۱۱	۱۳/۳۰۶		PT44	۰/۹۴۸	۶۵/۰۶۳
	PT7	۰/۷۱۵	۱۰/۹۲۹		PT45	۰/۸۹۵	۱۳/۷۱۴
	PT8	۰/۷۰۹	۱۰/۱۱۵		PT46	۰/۷۶۲	۵/۸۹۷
	PT9	۰/۷۰۸	۱۰/۳۴۱		PT47	۰/۸۴۵	۱۲/۰۴۴
	PT10	۰/۸۰۷	۱۴/۷۳۶		PT48	۰/۹۴۲	۵۸/۴۴۴
	PT11	۰/۷۴۶	۱۰/۰۵۸	Personality trait C	PT49	۰/۸۷۹	۱۵/۸۳۵
	PT12	۰/۷۵۲	۱۰/۲۲۸		PT50	۰/۸۹۴	۱۷/۹۰۲
Personality trait E	PT13	۰/۸۰۹	۷/۵۰۹		PT51	۰/۸۳۵	۸/۲۷۴
	PT14	۰/۸۳۲	۷/۴۴۰		PT52	۰/۸۵۶	۱۲/۵۰۵
	PT15	۰/۷۶۷	۶/۹۰۷		PT53	۰/۸۶۰	۱۲/۳۸۸
	PT16	۰/۸۸۰	۶/۹۵۱		PT54	۰/۸۰۶	۷/۷۸۵
	PT17	۰/۷۹۱	۷/۲۲۵		PT55	۰/۷۰۹	۷/۶۴۷
	PT18	۰/۸۳۸	۷/۲۶۷		PT56	۰/۹۵۰	۳۵/۸۴۷
	PT19	۰/۷۵۱	۵/۷۷۵		PT57	۰/۷۶۱	۷/۲۸۱
	PT20	۰/۷۲۱	۴/۸۰۹		PT58	۰/۹۱۹	۳۹/۷۰۷
	PT21	۰/۸۵۰	۷/۹۰۲		PT59	۰/۸۲۱	۱۵/۴۲۴
	PT22	۰/۷۳۸	۵/۸۴۸		PT60	۰/۸۴۶	۱۴/۰۶۳
	PT23	۰/۷۰۱	۴/۸۴۲	Audit team norms	TN1	۰/۹۱۰	۱۵/۰۳۱
	PT24	۰/۷۹۱	۷/۲۴۱		TN2	۰/۹۵۶	۵۶/۳۳۱
Personality trait O	PT25	۰/۹۱۵	۱۵/۶۷۰		TN3	۰/۸۸۲	۱۸/۴۲۸
	PT26	۰/۸۳۸	۱۲/۳۶۳		TN4	۰/۹۵۷	۴۳/۷۷۹
	PT27	۰/۷۵۶	۸/۸۱۷				
	PT28	۰/۸۸۴	۱۱/۹۵۸				
	PT29	۰/۸۳۱	۱۳/۴۲۷				
	PT30	۰/۸۶۸	۸/۳۸۰				
	PT31	۰/۸۳۴	۱۲/۳۶۰				
	PT32	۰/۷۳۵	۴/۵۳۱				
	PT33	۰/۸۱۳	۷/۶۸۹				
	PT34	۰/۹۱۴	۱۵/۸۱۸				
	PT35	۰/۹۳۸	۶۴/۱۹۳				
	PT36	۰/۷۹۴	۱۳/۰۰۰				

According to the table, all factor loads are greater than 0.7 and their T-value is greater than 1.96, so none of the items are deleted.

3.2.2 Convergence Validity

Because Cronbach's alpha coefficient is a traditional criterion for determining the reliability of structures, the structural equation method uses a more modern criterion than this criterion called composite reliability. Combined reliability (CR) is an indicator for providing internal stability of the research measurement model and is accepted in values higher than 0.70. The CR must also be greater than the mean extracted variance (AVE). Results The reliability results of the model structures are presented in Table (4).

Table 4: Results of the reliability of conceptual model structures

Variable	Item No.	Cronbach's alpha	CR	AVE
Auditor Objectivity	۲	۰/۹۵۳	۰/۹۷۷	۰/۹۵۵
Audit team norms	٤	۰/۹٤٥	۰/۹٦۱	۰/۹۳۹
Personality trait N	۱۲	۰/۹٤۳	۰/۹٥۰	۰/۸۱٥
Personality trait E	۱۲	۰/۹٤۸	۰/۹٥۲	۰/٦۲٦
Personality trait O	۱۲	۰/۹٦۳	۰/۹٦۸	۰/۹۲۱
Personality trait A	۱۲	۰/۹٦٦	۰/۹۷۰	۰/۹٦٤
Personality trait C	۱۲	۰/۹٦٤	۰/۹٦۸	۰/۷۱۷

Statistically, the AVE of each latent variable must be greater than the highest second power of the correlation of that variable with other latent variables [15-20]. The correlation matrix of the constructs of the research conceptual model is presented in Table 5. In the main diameter of this square matrix, the amount of AVE and the correlation between the structures are shown at the bottom of the main diameter. According to the table, the square of the AVE value for each structure is greater than the relationship between other structures, which indicates diagnostic validity.

Table 5: Correlation matrix of conceptual model constructs and squared AVE values

Variable	Auditor Objectivity	Audit team norms	Personality trait N	Personality trait E	Personality trait O	Personality trait A	Personality trait C
Auditor Objectivity	۰/۹۷۷						
Audit team norms	۰/٤٤۹	۰/۹٦۹					
Personality trait N	-۰/۱۹۲	-۰/۲۰۰	۰/۹۰۳				
Personality trait E	-۰/۱٥۱	-۰/۱۲۷	۰/۸۸٤	۰/۷۹۱			
Personality trait O	۰/٤۲۹	۰/۹٦۱	۰/۱۹۲	-۰/۱۲٥	۰/۹٦۰		
Personality trait A	۰/٤٤۳	۰/۹۲٤	-۰/۲۰۱	-۰/۱٦۹	۰/۹٤۹	۰/۹۸۲	
Personality trait C	۰/٤۳۳	۰/۹۰٥	-۰/۲۰۸	-۰/۱۹٤	۰/۹۲۹	۰/۹۸۱	۰/۸٤۷

3.3 Structural Model Fit

After fitting the measurement models, the fit of the structural model of the research is examined. Several criteria are used to evaluate the fit of the structural model, the first and most basic of which are the significance coefficients of Z or T-values. If the values are greater than 1.96, it indicates the correctness of the relationship between the structures and thus confirms the research hypotheses at a 95% confidence level. Fig. 2 presents the structural model in standardized coefficient mode and Fig. 3 presents the structural model in T-value mode.

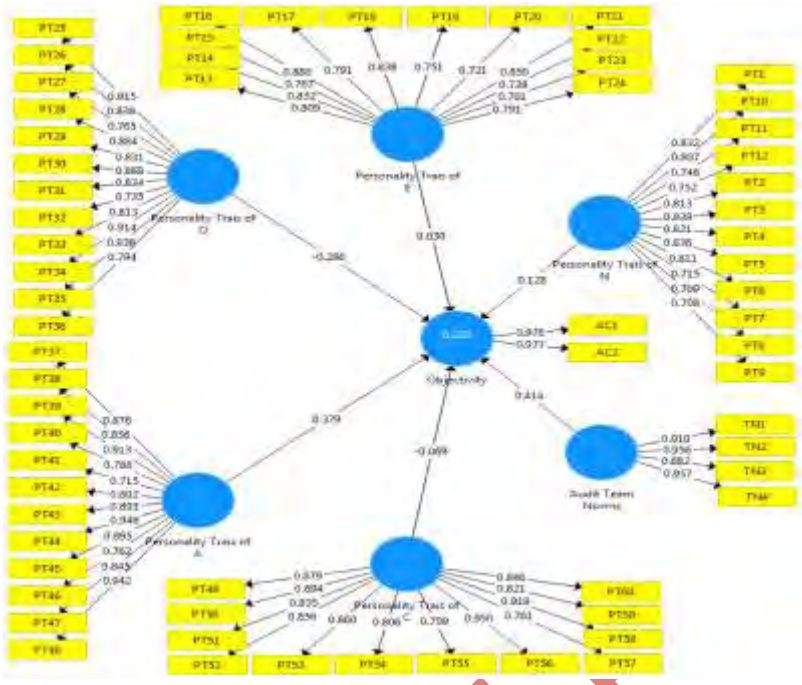

Fig. 2: Path coefficients, factor loads and R2

The R2 values of the variables are shown inside the model circles and are calculated only for dependent structures. Given that the value of R2 for the auditor object structure is 0.222, so the value of R2 for this structure is average.

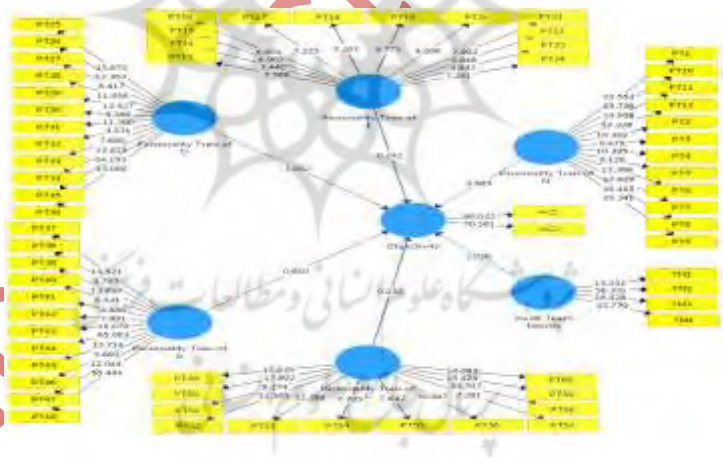

Fig. 3: T test results for significance of coefficients

Given that the value of SSE / SSO (subscription validity index) presented in Table 6 is positive, so it is concluded that the measurement model is of the required quality.

Table 6: Subscription validation results

Total	Q^2
Auditor Objectivity	۰/٦٩٤
Audit team norms	۰/٧٣٤
Personality trait N	۰/٥٣٣

Personality trait E	۰/۵۵٦
Personality trait O	۰/٦٤٦
Personality trait A	۰/٦٤٦
Personality trait C	۰/٦٤٥

4 Results of Testing Research Hypotheses

By comparing the values of t for each path, which is also one of the research hypotheses, and comparing the absolute value of the critical value (1.96) at the 95% confidence level, the confirmation or non-confirmation of the research hypotheses is examined. . The results are presented in Table 7.

Table 7: Results of structural model evaluation to test research hypotheses

coefficient	statistic t	Significant level
۰/٤١٤	۲/۰۲٦	۰/۰٤۳
-۰/۱۲۸	۰/۹۸٥	۰/۳۲٥
۰/۰۳۰	۰/۲٤۲	۰/۸۰۹
-۰/۲۸٦	۱/۰٥۲	۰/۲۹٤
۰/۳۷۹	۰/۹٥۰	۰/۳٤۲
-۰/۰٦۹	۰/۲۳۲	۰/۸۱۷

Hypothesis 1: The norms of the audit team affect the objectivity of the auditor.

According to Table 7, the t-statistic between the variables of auditing team norms and auditor objectivity is equal to (2.026), which is greater than the value (1.96) and indicates that the impact of auditing team norms on objectivity The auditor is significant at the 95% confidence level. Therefore, the first hypothesis, which claims the effect of the auditing team norms on the auditor objectivity, is confirmed. The positive path coefficient between these two variables (0.414) shows the positive effect of the variable of the auditing team norms on the auditor objectivity.

Hypothesis 2 - Main: Auditors' personality types affect the auditor's objectivity.

Hypothesis 1-2: Neurotic personality traits affect the auditor objectivity.

According to Table 7, the t-statistic between the neurotic personality trait variable (N) and the auditor objectivity is equal to (0.985), which is less than the value (1.96) and indicates that the effect of the trait Neurotic personality (N) is not significant on the auditor objectivity at 95% confidence level. Therefore, hypothesis (1-2) which claims the effect of neurotic personality trait (N) on the auditor objectivity is rejected.

Hypothesis 2-2: Extroverted personality trait (E) affects the auditor objectivity.

According to Table 7, the t-statistic between the extroverted personality trait (E) and the auditor objectivity variable is equal to (0.242), which is less than the value (1.96) and indicates that the effect Extroverted personality trait (E) is not significant on auditor objectivity at 95% confidence level. Hypothesis (2-2), which claims the effect of extroverted personality trait (E) on the auditor's objectivity, is therefore rejected.

Hypothesis 3-2: Flexibility (O) personality traits affect auditor objectivity.

According to Table 7, the t-statistic between the variables of flexibility personality trait (O) and auditor objectivity is equal to (1.052) which is less than the value (1.96) and indicates that the effect The flexibility (O) personality trait is not significant on the auditor's objectivity at the 95% confidence level. Hypothesis (3-2), which claims the effect of flexibility (O) on the auditor's objectivity, is therefore rejected.

Hypothesis 4-2: Agreeable personality trait (A) affects the auditor objectivity.

According to Table 7, the t-statistic between the personality trait variable of agreement (A) and the auditor objectivity is equal to (0.950) which is less than the value (1.96) and indicates that the effect of the trait

Agreeable personality (A) on the auditor objectivity is not significant at 95% confidence level. Therefore, Hypothesis (4-2), which claims the effect of agreeable personality trait (A) on the auditor's objectivity, is rejected.

Hypothesis 5-2: Responsibility personality trait (C) affects the auditor objectivity.

According to Table 7, the t-statistic between the variable of personality trait of responsibility (C) and the objectivity of the auditor is equal to (0.232) which is less than the value (1.96) and indicates that the characteristic Responsibility personality (C) on the auditor objectivity is not significant at 95% confidence level. Hypothesis (5-2), which claims the effect of accountability personality trait (C) on the auditor's objectivity, is therefore rejected.

4.1 Structural Equation Model - Second Mode

In this case, the conceptual model is as described in Fig. 4 and two hypotheses are examined as follows:

Hypothesis 1: The norms of the audit team affect the objectivity of the auditor.

Hypothesis 2: Auditors' personality types affect the auditor's objectivity.

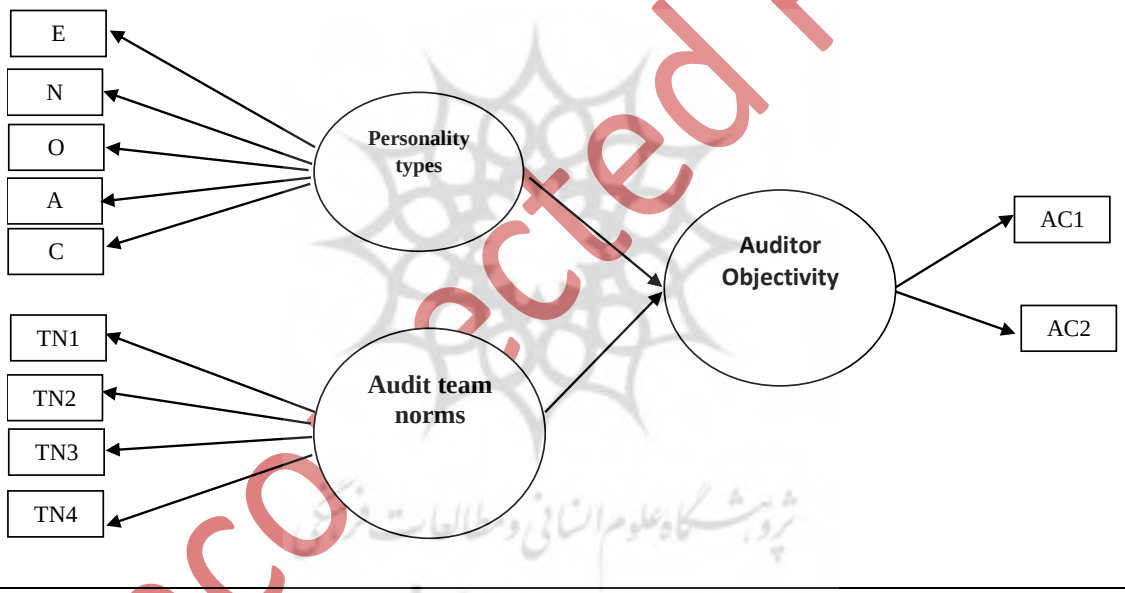

Fig. 4: The second conceptual model

Measurement model fit

The fit of the measurement model in studies with structural equation approach is evaluated by examining the reliability of the index, convergent validity and divergent validity.

4.2 Check the Reliability of the Index

In evaluating the reliability of the index, it is necessary that all factor loads of the indicators, which indicate the degree of intensity of the relationship between a hidden variable (structure or questions measuring a variable) and the obvious variable (index or variable studied in the model), are greater than 0.70. At least at the level of 0.05 is significant. Confirmation or rejection of the significance of factor loads should be done according to the significant numbers (T-Value). The results are presented in Table 8.

Table 8: Factor analysis of conceptual model constructs

Variable	Item	Standardized factor load	statistic T
Auditor Objectivity	AC1	۰/۹۸۱	۱۱۲/۳۳۲
	AC2	۰/۹۷۷	٦٤/٦١٨
Personality types	Personality trait N	۰/۸٦۳	۹/۱۰٥
	Personality trait E	۰/۸۹۰	۱۱/٤۹٤
	Personality trait O	۰/۷۳٦	٤/۸۳۳
	Personality trait A	۰/۸۰۰	٥/٥۷٤
	Personality trait C	۰/۸۰۲	٥/٥۸٤
Audit team norms	TN1	۰/۸۲۲	۱۰/۱۰٤
	TN2	۰/۸٥٦	۱۰/٤۰۳
	TN3	۰/۸۳۸	۱۷/۲٥٤
	TN4	۰/۹۰۰	۱۲/۳۳۳

According to the table, all factor loads are greater than 0.7 and their T-value is greater than 1.96, so none of the items are deleted.

4.3 Convergence Validity

Because Cronbach's alpha coefficient is a traditional criterion for determining the reliability of structures, the structural equation method uses a more modern criterion than this criterion called composite reliability. Combined reliability (CR) is an indicator for providing internal stability of the research measurement model and is accepted in values higher than 0.70. The CR must also be greater than the mean extracted variance (AVE). Results The reliability results of the model structures are presented in Table 9.

Table 9: Results of the reliability of conceptual model structures

Variable	Item No.	Cronbach's alpha	CR	AVE
Auditor Objectivity	۲	۰/۹٥۷	۰/۹۷۹	۰/۹٥۸
Audit team norms	٤	۰/۸۷٦	۰/۹۱٥	۰/۷۳۰
Personality types	٥	۰/۸۹٦	۰/۹۱۱	۰/٦۷۳

Statistically, the AVE of each latent variable must be greater than the highest second power of the correlation of that variable with other latent variables [29-32]. The correlation matrix of the constructs of the research conceptual model is presented in Table 10. In the main diameter of this square matrix, the amount of AVE and the correlation between the structures are shown at the bottom of the main diameter. According to the table, the square of the AVE value for each structure is greater than the relationship between other structures, which indicates diagnostic validity.

Table 10: Correlation matrix of conceptual model constructs and squared AVE values

Variable	Auditor Objectivity	Audit team norms	Personality types
Auditor Objectivity	0/۹۷۹		
Audit team norms	۰/٤۰۱	۰/۸٥٥	
Personality types	۰/۲٥٤	۰/۱۱۸	۰/۸۲۰

4.4 Structural Model Fit

After fitting the measurement models, the fit of the structural model of the research is examined. Several criteria are used to evaluate the fit of the structural model, the first and most basic of which are the significance coefficients of Z or T-values. If the values are greater than 1.96, it indicates the correctness of the relationship between the structures and thus confirms the research hypotheses at a 95% confidence level. Fig. 5 presents the structural model in standardized coefficient mode and Fig. 6 presents the structural model in T-value value mode.

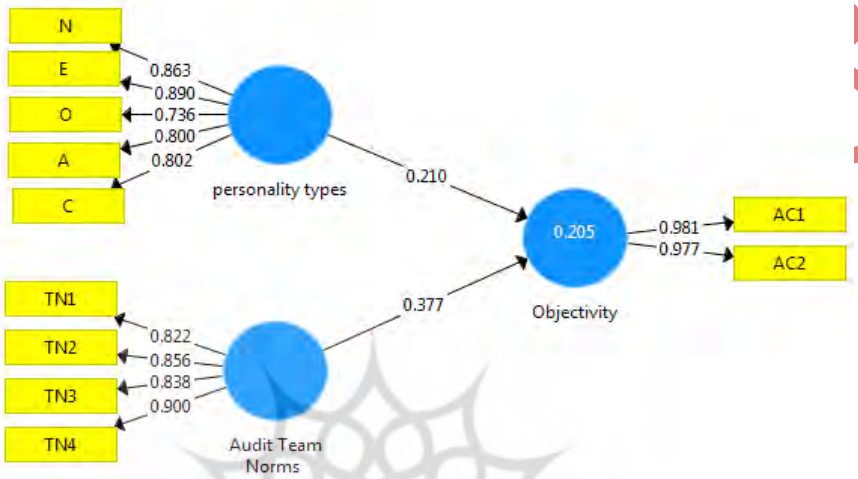

Fig. 5: Path coefficients, factor loads and R2

The values of R2 of the variables are shown inside the model circles and are calculated only for the dependent structure. Given that the value of R2 for the auditor object structure is 0.205, so the value of R2 for this structure is average.

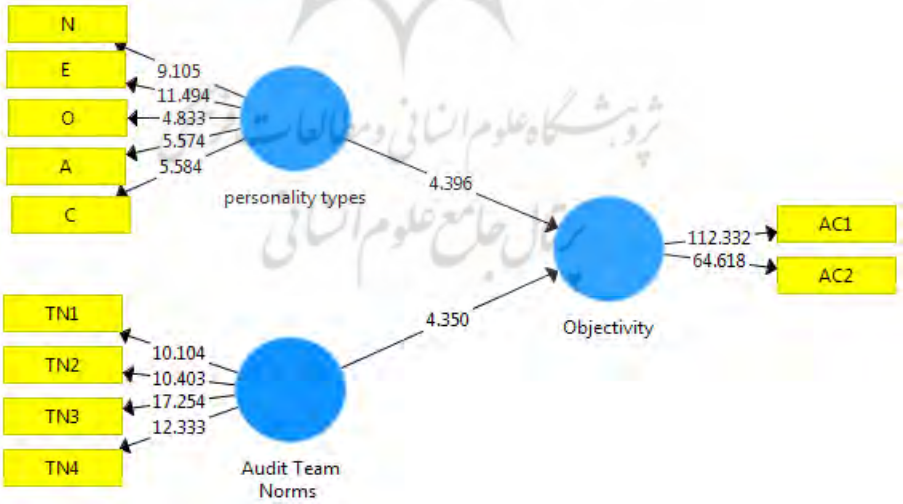

Fig. 6: T test results for significance of coefficients

4.5 Subscription Validity Check Results

Given that the value of SSE / SSO (subscription validity index) is positive, so it is concluded that the measurement model is of the required quality. The results can be seen in Table 11.

Table 11: Subscription validity review results

Total	Q^2
Auditor Objectivity	۰/۷۰۱
Audit team norms	۰/۵۲۲
Personality types	۰/۵۰۹

4.6 Test Results of Research Hypotheses

By comparing the values of t for each path, which is also one of the research hypotheses, and comparing the absolute value of the critical value (1.96) at the 95% confidence level, the confirmation or non-confirmation of the research hypotheses is examined. The results are presented in Table 12.

Table 12: Results of structural model evaluation to test research hypotheses

coefficient	**statistic t**	**Significant level**
۰/۳۷۷	٤/۳٥۰	۰/۰۰۰
۰/۲۱۰	٤/۳۹٦	۰/۰۰۰

Hypothesis 1: The norms of the audit team affect the objectivity of the auditor.

According to Table 12, the t-statistic between the variables of auditing team norms and auditor objectivity is equal to (4.50) which is greater than the value (1.96) and indicates that the impact of auditing team norms on objectivity The auditor is significant at the 95% confidence level. Therefore, the first hypothesis, which claims the effect of the auditing team norms on the auditor objectivity, is confirmed. The path coefficient between these two variables is equal to (0.377), which shows the positive effect of the variable of the norms of the audit team on the objectivity of the auditor.

Hypothesis 2: Auditors' personality types affect the auditor's objectivity.
According to Table 12, the t-statistic between the variables of personality types and the auditor's objectivity is equal to (4.396), which is greater than the value (1.96) and indicates that the effect of personality types The auditor's objectivity is significant at the 95% confidence level. Therefore, the second hypothesis, which claims the effect of personality types on the auditor's objectivity, is confirmed. The path coefficient between these two variables is equal to (0.210), which shows the positive effect of the personality type variable on the auditor's objectivity.

4.7 Financial Evaluation using the Entropy-TOPSIS Method

In the final stage, the well-known Entropy TOPSIS method is applied to evaluate the personality traits. The obtained result is depicted in Fig. 7. We can see that the personality trait O has been recognized as the best in this context.

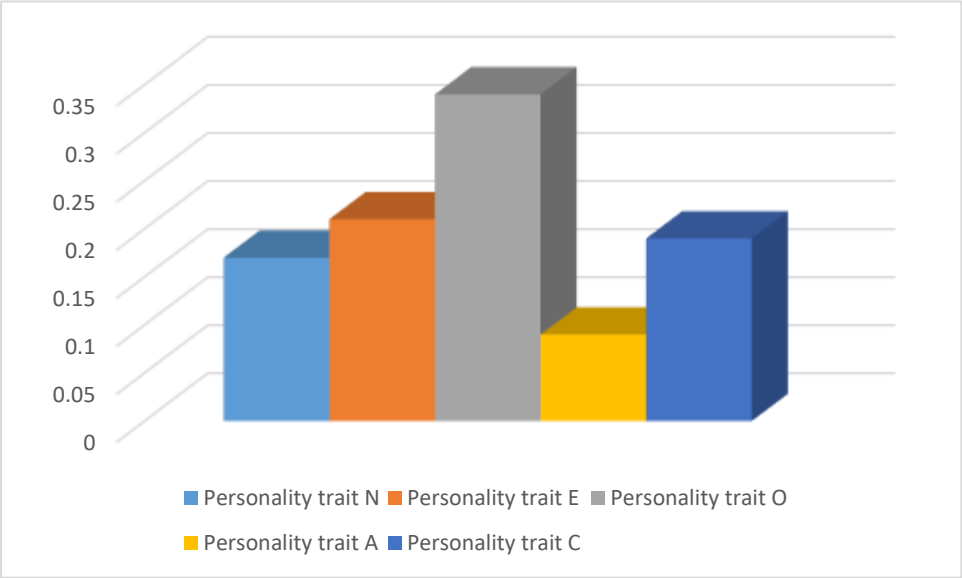

Fig. 7: The Results of the Entropy TOPSIS methodology

5 Discussion and Conclusion

Fortunately, in recent centuries, the science of psychology has made significant contributions to the field of management, and since the mid-1920s, with the advent of the movement, human relations has become one of the most important pillars and strategies in management. Hence, the role of the individual and his personality and behavioral characteristics as a human being in the organization were given special attention, and to succeed in this field, the science of psychology came to the aid of management with all its subtlety and capability. One of the most controversial topics in psychology is personality typology. This discussion is especially important for people who have a lot of work interaction with people. In choosing the right job, various factors such as personality traits, values, interests, skills, family circumstances, community conditions, etc. must be considered for each person. One of the most important factors is personality traits. Getting to know each person's personality is a complex process that requires a lot of expertise and time. Of course, each person has their own unique characteristics, even people who have a similar personality type. Again, in some cases they are different from each other. Personality is a very broad field, because personality itself is a complex subject and has various dimensions and aspects. Personality is an "abstract concept," that is, something like energy in physics that is not observable, but is inferred through a combination of behavior, thoughts, emotion motivation, and so on. Every society cultivates certain personality types that are in harmony with its culture in order to be able to live in a certain culture, to interact and to be successful. While some experiences are common to all cultures, it is unlikely that the specific experiences of one culture will not be available to another. Personality types are a model by which we can evaluate the real person. Hertype is the product of a special interaction between several cultural and personal forces such as peer group, hereditary and genetic factors, social class parents, culture and physical environment. In other words, hertype, has special reserves of attitudes and skills to overcome environmental problems and tasks. Because different types have different interests, competencies and temperaments, they tend to surround themselves with specific people and topics and are looking for issues that Be consistent with their interests, competencies, and attitudes toward the world [11-16].

In this study, the model of the effect of the components of the audit team norms and peer personality types on the objectivity of auditors was examined. The role and duty of professional accountants towards society, owners of capital and other competent and interested persons requires that they observe the general principles of good morals in all aspects and adhere to the code of professional conduct and acceptance, credibility and social respect that are necessary for activity. Every profession is, gain. The accounting profession is one of the most disciplined professions in the world and has a special reputation and trust due to the type and nature of the services it provides. Adherence to moral principles also stems from one's innate personality and personal beliefs, not from a set of rules and regulations. As a result, the dimensions of professional correctness must go beyond a set of professional bylaws [9]. The source of audit value of financial statements is the professional judgment of the auditor and the collective judgment as described in the auditing standards. Therefore, due to the increasing importance of ethics and behavior in auditing in this study, the effect of auditing team norms and auditors' personality types on auditor objectivity was investigated. The results showed that the norms of the audit team have a positive and significant effect on the objectivity of the auditor. It is argued that the higher the norms of the audit team, the more motivated auditors are to report violations by their colleagues, and because auditors work as a team and sometimes make group decisions, the norms and rules set by the audit team can also influence auditors' behavior. Affect. The results also showed that auditors' personality types did not have a significant effect on the auditor's objectivity. What is clear is that non-financial factors, such as the norms and rules set out in the audit team, can pose a serious threat to the auditor's objectivity, although these factors are often not obvious.

The results of this research can be used by the audit organization and auditing firms. Observance of ethical principles by managers, supervisors and partners, setting criteria for judging the performance of auditors based on ethical and behavioral criteria can lead to the need to observe and promote ethical principles in the workplace. Due to the impact of auditing team norms on the objectivity of auditors, it is suggested to the auditing organization and auditing firms to develop the necessary ethical principles in the workplace by compiling bylaws and instructions so that all individuals, especially those with less than Avoid immoral behavior. For example, the development and implementation of some regulations can prevent unethical behavior of employees. Also, teaching ethical norms, like other in-service training, can be on the agenda of the Society of Certified Public Accountants. It is also suggested to the auditing organization and audit firms that in selecting and hiring auditors, in addition to familiarizing them with accounting and auditing standards, their personality traits be taken into account. Considering that according to the main research model, none of the personality traits had a significant effect on the objectivity of auditors, it is suggested that the organization and audit institutions, using the neo questionnaire, identify the personality traits of people working in their organization and pay special attention to Have the type of personality of individuals and take special training according to the personality traits of individuals.

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