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Identify and Rank the Factors Affecting Accounting and Auditing Ethics based on Multi-Criteria Decision Making Methods

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ABSTRACT

The accounting and auditing profession must acquire the necessary skills in ethical judgment so that it can consider the well-being of all those affected by its performance. Without strong and moral behavior, the position of this ancient art and profession is undermined. This issue should be given greater consideration by individuals aspiring to enter this field and by technology, rather than solely by companies. The main objective of this study is to identify and rank the factors that influence accounting and auditing ethics among accountants and auditors. To identify the influential factors, a qualitative method of theme analysis was employed, which included conducting semi-structured interviews with sixteen university professors and professionals in the accounting and auditing profession. A comprehensive review of the literature, research, and interview findings resulted in the identification of nine key themes that categorize the factors affecting corporate accounting and auditing ethics. This research not only identifies the key factors but also employs the fuzzy Delphi technique to rank and determine the importance of these factors. The findings demonstrate that government and legal, economic, individual, social, cultural, corporate governance, organizational, and intelligence factors are all involved in accounting and auditing ethics.

1 Introduction

The most important human endeavor is to strive for the crystallization and objectification of morality in human behavior and performance at the individual, professional, and social levels. The internal balance and even the existence of all human beings at the organizational and societal levels depend on morality. It is individual, professional, or social behavior that bestows beauty, dignity, and true value upon human life and society, as stated by Albert Einstein [5]. The question has been repeatedly posed: should ethics not be the lifeblood of good business? However, global crimes, particularly white-collar crimes, appear to be contingent upon personal interests or the influence of leverage.

Hence, the question arises as to whether ethics are merely considered in theory, or if sufficient effort is also devoted to the professional aspects of ethics. At the professional level, particularly within the accounting and auditing profession, what factors influence ethics, and what is the level of importance attributed to each of these factors? According to Wyatt et al. [22], white-collar crimes committed by

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professionals in fields such as accounting are prevalent in various countries and consistently plague organizations and institutions. Instances of financial misconduct, manipulation and fraud in financial documents and statements, embezzlement, widespread fraud, and profit management behaviors are examples of ethical shortcomings or a lack thereof [11]. Nevertheless, significant scandals continue to arise in both public and private companies across different countries, most of which are linked to the behavior or performance of accountants or auditors. The emergence of such scandals has prompted inquiries into the relationship between ethics and professional accounting and auditing. While the accounting and auditing literature has addressed the need to incorporate ethics education into classical or professional training programs for accountants and aspiring auditors, no research has been conducted to identify, refine, and assess the factors that influence accounting and auditing ethics.

This research is deemed important by present-day professional accountants and auditors, considering the challenges that lie ahead (Praiogo & Afrizal) [17]. Insights into the factors that influence accounting and auditing ethics and the ranking of their level of importance will enhance our understanding of the relevance of ethics for accounting and auditing professionals. The findings pertaining to the identification and evaluation of factors that influence unethical behaviors in financial reporting, such as fraud, and the ethical challenges faced by accountants and professional auditors, will also aid regulators, legislators, educators, and professional institutions in improving moral education and ethics [15]; [1]; [20]). Thus, in light of the aforementioned statements, this study was conducted to compare, refine, and evaluate the identified factors influencing accounting and auditing ethics using a knowledge analysis method, relying on the comparison and summarization of results using four multi-criteria evaluation approaches.

2 Research Background

A distinctive feature of the accounting profession is the acceptance of responsibility to the public. The expectations of the society from the people of this profession are very high and people should trust the quality of the complex services provided by the accounting profession. However, maintaining public confidence in the accounting profession is possible as long as professional accountants provide their services at a level worthy of public trust; Therefore, professional accounting services should be provided at the highest possible level and in compliance with the criteria that ensure the continuity of these services with appropriate quality. On the other hand, users of financial services, especially decision-makers who use financial statements, expect the information provided to be significantly efficient, reliable, factual, and unbiased. Therefore, those who work in the field of accounting should not only have professional qualifications and qualifications, but also have a high degree of professional honesty and integrity, and professional reputation is one of their most important assets.

As a result, accounting ethics is very important for professional accountants and those who rely on accounting services, and the accounting profession must develop ethical principles and rules that require its members to have a level of restraint that is beyond legal requirements and regulations. Zoran [23] In his research, has introduced ethics as a set of ethical rules and norms that affect organizations and individuals and also determines how individuals and organizations perform in personal and business activities. Mariana and Ciurea [6] believe that ethics in the accounting profession can be linked to ethical standards and values by guiding accountants to ensure the quality of accounting and financial reporting in a fair and equitable manner. Theoretical framework and studies, the main purpose of the accounting and auditing profession is to help stakeholders make decisions with accurate and fair reporting. sepasi [18] states that Luca Pachiol, known as the father of accounting, refers to the rule of ethics in his book.

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The basic principles of ethics related to the accounting and auditing profession include professional honesty, confidentiality and professional competence and behaviour [21]. Recognizing these principles, IFAC has stated that the relationship between ethics and the accounting profession is not solely for the benefit of individual clients, but also for the public interest [4]. Moore et al [13] in an article entitled conflict of interest and auditor independence: ethical misguidance and the cycle of the strategic subject, examine Enron's bankruptcy on a micro and macro scale in terms of professional ethics and strategic issues. They have emphasized that auditing should not be associated with other audit services, and stressed that the root of the problem is conflict of interest, which requires changes in the auditing industry for treatment.

Marshal et al [7] in a study entitled ethics before accountants have studied the standard of professional behaviour among accountants. Clement [2] in his research entitled ethical conflict of interest in the accounting profession concludes three reasons for the conflict of interest in the accounting and auditing profession. Therefore, instead of advocating or defending the interests of stakeholders, it will advocate or defend the interests of management. Montenegro [12] examined the company's financial integrity and financial reporting in Portugal between 2003 and 2008. The results showed that there is a negative and significant relationship between religiosity and earnings management of accruals and companies that are in areas with a higher level of religiosity are less involved in earnings management. He also argues that religiosity, along with other methods of external oversight, can be a mechanism for reducing daring accounting practices. The research of Talebi et al [19] is to determine the criteria of importance and skill and ranking the knowledge required by accounting graduates in order to achieve future financial success. Research results show that according to the views of strategic management experts in the first priority and communication skills in the last rank. The results of the research of Masoudi a et al [14] indicate that an ethical training program in accounting is needed to provide accountants with guidance on ethical issues and the importance of ethical standards.

One of the researches based on AHP is the research of Mohammaddoost et al [10]. The findings of this study showed that three macroeconomic factors: the price index of consumer goods and services, exchange rate and interest rate are more effective on credit rating. Dibakia et al [3] examined the impact of accountants' knowledge and ethical judgment on their willingness to report financial misconduct by emphasizing the moderating role of perceived moral intensity. The occurrence of recent financial violations in Iran, in addition to the negative economic, political and social consequences, has had a devastating effect on public confidence. The results of testing the hypotheses using structural equation modelling using the partial least squares method show that moral awareness has a positive and significant effect on the moral judgment of accountants and the perceived moral intensity in this regard plays a moderating role. The results also show that the ethical judgment of accountants has a positive and significant effect on their willingness to report financial violations to authorities inside and outside the organization and this relationship is not adjusted by the perceived moral intensity variable.

Mohammadi Nafchi [9] dealt with ethics and culture in accounting. The presence of accounting in today's world is vital and necessary because it is a driving force for the current economic system and is a key and sensitive responsibility to the public; it should be noted that the importance of high moral and cultural standards leads the society to an honourable view and increases the social prestige and respect that is necessary in any society. Also, since the basis of the accounting profession is based on the ethical and cultural principles of accounting and accountants have social responsibility, they are required to follow ethical and cultural rules in order to strengthen their decision-making skills and professional behaviour and ethical values and spread a culture of accounting.

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3 Research Method

The method of conducting this research is a survey in terms of time, because the subject under study is related to the present, and we seek to gain a better and more complete understanding of the current situation by collecting data and information about ethical indicators in accounting and auditing. In terms of purpose, it is practical in that it is feasible in the real world. This study will examine the identification, classification, refinement and evaluation of ethical behaviour in accounting and auditing and the factors affecting it. This model is based on research such as Miller et al [8] O'Grady et al [16] and Mintz and Murray [7] and others.

According to the purpose of this study, two distinct statistical populations have been used in this study. To design the final questionnaire, the statistical population consists of experts including experts, university professors and experts in the field of ethics and in measuring the research variables of the statistical population of this study, accountants and auditors and in other words experts. The questionnaire is used to measure the judgmental and qualitative variables that are defined as qualitative or judgmental in the research model. The questionnaire used on a quantitative scale of 1 to 5 is defined based on the severity of the importance or impact and will be provided to the experts of each company (financial manager, accounting or financial experts).

3.1 Research Model

Quantitative part of this research is in using the methods of evaluation, significance, ranking and in other words multi-criteria decision making including methods: 1) BWM, 2) Grey AHP, 3) AHP and 4) Grey BWM and comparison of the obtained results. On the one hand, determining the relationships between ethical behaviour in accounting and auditing and the factors affecting them is based on the approach of simultaneous structural equations on the other hand. Accordingly, the general research process will be as a qualitative-quantitative or mixed method and through the following steps:

Step 1: Identify the criteria of ethical behaviour in accounting and auditing and the factors affecting them based on the qualitative method of knowledge analysis and applying the content analysis approach of qualitative texts in the form of reviewing the theoretical foundations and background of related and similar research.

Step 2: Refinement, classification and evaluation of ethical behaviour measures in accounting and auditing identified in the analysis of the field of knowledge and the factors affecting it, relying on the Delphi survey of experts in a persuasive manner, which at this stage of the semi-structured questionnaire is used.

Step 3: Assess the importance, refinement and ranking of ethical behaviour measures in accounting and auditing identified in the analysis of the field of knowledge and the factors affecting it, relying on the use of multi-criteria evaluation methods including: 1) BWM, 2) Grey AHP, 3) AHP and 4) Grey BWM

Step 4: Compare and summarize the results of the evaluation, refinement and ranking of ethical behaviour measures in accounting and auditing identified in the analysis of the field of knowledge and the factors affecting it, relying on the use of multi-criteria evaluation methods including the method: 1) BWM, 2) Grey AHP, 3) AHP and 4) Grey BWM with adaptive approach

Step 5: Analyse the paths and determine the relationship between ethical behaviour measures in accounting and auditing identified in the Delphi field analysis and refined method and multi-criteria evaluation approaches and factors affecting it, using the simultaneous equations approach Structural.

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4 Research Findings

4.1 Descriptive Statistics

From the sample of 16 university professors who participated in the survey and imitation of the questionnaire agents, 7 were equivalent to 44% of the total members of the statistical sample and 9 were equivalent to 56% of the total members of the sample. There are 3 single people, which is equivalent to 19% of the total members of the statistical sample. The rest of the sample is 13 people who are married, which is equivalent to 81% of the total sample. 4 people in the sample are 30 to 40 years old, which constitutes 25% of the total sample. The frequency of people between 40 and 50 years old is 7 people in the sample, which constitutes 43.8% of the total sample. Of the total sample, 2 people are under 30 years old and 3 people are over 50 years old, which the frequency of these two classes is 12.5 and 18.8%, respectively. Of the 16 sample of the research, 14 are PhDs, which constitute 87.5% of the total members of the statistical sample of the research. The frequency of people who have a master's degree is equal to 2 people, which is equivalent to 12.5% of the total members of the statistical sample. Thirteen of these (equivalent to 81%) were specialists in accounting and the rest in auditing. 3 out of 16 people have a history of 10 to 15 years, which constitutes 18.75% of the total sample. Of the total sample, 9 people have a history of more than 20 years, the frequency of this class is 56.25%. Also, the number of people with less than 10 years of experience is equal to 25% of the total sample. The descriptive information of 403 respondents is as follows. The statistical sample of managers, financial, accounting and auditing experts participating in the survey, by gender, is summarized in Table 1

Table 1: Gender distribution of people participating in the survey

No	Gender	Frequency	Percentage
1	Female	40	9.9
2	Male	363	90.1
2	Total	403	100

The results of the respondents' gender distribution evaluation showed that the majority of participants in the survey were men (363 people, equivalent to 90.1% of the total people) and only 40 people, or 9.9% of them, were women. Marital Status can be described as follows: The statistical sample of managers, financial, accounting and auditing experts participating in the survey, based on marital status, is summarized as described in Table 2

Table 2: Gender distribution of people participating in the survey

Percentage	Frequency	Marital status	No
26.6	107	Single	1
73.4	296	Married	2
100	403	Total	2

The results of the respondents' gender distribution evaluation showed that the majority of the participants in the survey were married (296 people, equivalent to 73.4% of the total population) and only 107 people, or 26.6% of them were single. Age distribution is as follows: The distribution of financial managers, financial experts, accounting and auditing statistical sample of survey participants, based on the age of individuals by year is summarized in Table 3.

As can be seen, most of the participants in the survey were in the age range of 31 to 40 years and accounted for about 44.9%. People over 40 years old were 146 people or 36.2% of the total participants. The lowest frequency is related to people up to 20 years old (76 people equals 18.9).

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Table 3: Age distribution of people participating in the survey

No	Age range	Frequency	Percentage
1	20 to 30 years	76	18.9
2	31 to 40 years	181	44.9
3	Over 40 year	146	36.2
	Total	403	100

4.2 Education level Distribution

The distribution of the statistical sample of managers, financial experts, accounting and auditing participants in the survey, based on the level of education of individuals is summarized as shown in Table 4:

Table 4: Distribution of education level of people participating in the survey

No	Level of Education	Frequency	Percentage
1	Associate Degree	7	1.7
2	Bachelor	228	56.6
3	MA	161	40.0
4	P.H.D	7	1.7
	Total	403	100

Based on this table, it can be inferred that the education of most of the employees participating in the bachelor's survey (228 people, equivalent to 56.6%). Of these, 161 people (equivalent to 0.40%) had a master's degree. Finally, 7 people, or in other words, 1.7 percent with post-diploma and doctoral education have also participated in the survey.

4.3 Identifying the ethics of accounting and auditing

In this study, to assess the degree of importance or impact of accounting and auditing ethics and the factors affecting it, the identified criteria based on knowledge analysis and content analysis and refined by expert survey method and fuzzy Delphi analytical model, from a survey of 403 Managers, financial experts, accounting and auditing were used and following the research literature, the level of each ethical dimension was scored and averaged on a scale of 1 to 5. Based on this assessment, the findings were described as follows:

4.3.1 Measuring Social Components

As shown in Table 4, the second independent variable in this study is the social components with eight scenarios (measures): 1) social interaction (exchange), 2) religious norms and values in society, 3) influence of social institutions, 4) influence of professional institutions, 5) social dignity, 6) norms and values of humanity in society, 7) norms and cultural values in society and 8) influence of stakeholders with attention to Table 5 consists of 8 criteria and a scoring range of 1 to 5 is defined. The level of importance of the average social components of managers' opinions in this field has been evaluated, and in return, the moral components have been graded, and finally, averaged for the sample under study, as

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summarized in Table 5.

Table 5: Level of importance of social components

No	Code	Components	Mean	Standard deviation
1	SOC_{01}	Social interaction	3.69	0.60
2	SOC_{02}	Religious norms and values in society	3.31	1.08
3	SOC_{03}	Influence of social institutions	3.50	0.82
4	SOC_{04}	Influence of professional institutions	3.94	0.93
5	SOC_{05}	Dignity and social status	4.00	0.89
6	SOC_{06}	Norms and values of humanity in society	3.75	1.06
7	SOC_{07}	Norms and cultural values in society	4.00	0.82
8	SOC_{08}	Influence of beneficiaries	3.94	0.85
Total			3.77	0.88

Based on Table 5, the level of importance or impact of each of the social components based on a survey of managers, financial experts, accounting and auditing companies has averaged 3.77 with a standard deviation of 0.88.

4.3.2 Assessment of Cultural Components

As shown in Table 5, the third independent variable in this study is the cultural components with six scenarios (measures): 1) family upbringing and originality, 2) religious beliefs, 3) social customs and values 4) cultural background, 5) organizational atmosphere and 6) command ability and distance from power, which is defined according to Table 6, consisting of 6 criteria and a scoring range of 1 to 5. The level of importance of the average cultural components of the managers' opinions in this field has been evaluated, and in return, the ethical components have been graded, and finally, the average for the sample under study has been summarized and summarized in Table 6

Table 6: Level of importance of cultural components

No	Code	Components	Mean	Standard deviation
1	CUL_{01}	Family upbringing and originality	4.31	0.70
2	CUL_{02}	Religious beliefs	3.44	1.09
3	CUL_{03}	Customs and social values	3.69	0.79
4	CUL_{04}	Cultural background	3.69	0.79
5	CUL_{05}	Organizational atmosphere	4.00	0.73
6	CUL_{06}	Command ability and distance from power	3.38	0.81
Total			3.75	0.82

According to Table 6, the level of importance or impact of each of the cultural components based on a survey of managers, financial experts, accounting and auditing companies averaged 3.75 with a standard deviation of 0.82.

4.3.3 Assessment of Organizational Components

As shown in Table 5, the fourth independent variable in this study is the organizational components with fourteen scenarios (measures): 1) pressure or influence from colleagues, 2) leadership style of top management in interaction with subordinates, 3) organizational justice, 4) the grandeur or charisma of top management, 5) organizational rules and regulations, 6) encouragement and punishment policies, 7) opportunities for violations and weakness of controls, 8) organizational policies and policies, 9) responsibility to organizational goals and consequences, 10) situational constraints, 11) organizational norms, 12) organizational procedures, 13) organizational relationships and communications, and 14) the quality of information systems according to Table 7, which contains 14 Criteria and scoring range 1 to 5 are

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defined. The level of importance of the average cultural components of the managers' opinions in this field has been evaluated and in return, after this, the ethical components have been graded and finally, averaged for the sample under study and summarized as described in Table 7

Table 7: Level of importance of organizational components

No	Code	Components	Mean	Standard deviation
1	ORG_{01}	Pressure or influence from colleagues	3.56	0.96
2	ORG_{02}	Top management leadership style in interaction with subordinates	4.19	0.66
3	ORG_{03}	Organizational justice	3.75	0.77
4	ORG_{04}	The grandeur or charisma of top management	3.31	1.08
5	ORG_{05}	Organizational rules and regulations	3.88	1.02
6	ORG_{06}	Encouragement and punishment policies	3.88	0.81
7	ORG_{07}	Opportunities for violations and weak controls	4.19	0.83
8	ORG_{08}	Responsibility for organizational goals and consequences	3.69	1.01
9	ORG_{09}	Responsibility for organizational goals and consequences	4.19	0.54
10	ORG_{10}	Situational restrictions	3.56	0.96
11	ORG_{11}	Organizational norms	3.63	0.89
12	ORG_{12}	Organizational procedures	3.50	0.97
13	ORG_{13}	Organizational relations and communications	3.94	0.93
14	ORG_{14}	Quality of information systems	3.69	0.87
Total			3.78	0.88

Based on Table 7, the level of importance or impact of each of the organizational components based on a survey of managers, financial experts, accounting and auditing companies has averaged 3.78 with a standard deviation of 0.88.

4.4 Assessing the components of government

As shown in Table 5, the fifth independent variable in this study is the components of government and the legal environment with eight scenarios (measures): 1) legislative system, 2) legitimacy and authority of government, 3) transparency of laws and regulations, 4) procedural justice in legal proceedings, 5) judicial system, 6) centralism or democracy (accountability to the people), 7) the level of public awareness and knowledge of laws and regulations, and 8) political corruption, which according to table 8 consists of 8 criteria and a scoring range of 1 to 5 is defined.

Table 8: Level of importance of government components and legal environment

No	Code	Components	Mean	Standard deviation
1	LIG_{01}	Legislative system	3.94	0.77
2	LIG_{02}	Legitimacy and authority of the government	4.13	0.81
3	LIG_{03}	Transparency of laws and regulations	4.06	0.77
4	LIG_{04}	Procedural justice in legal proceedings	4.25	0.68
5	LIG_{05}	Judicial system	4.13	0.72
6	LIG_{06}	Centralism or democracy (being accountable to the people)	4.19	0.66
7	LIG_{07}	Level of awareness and knowledge of society about laws and regulations	4.00	0.63
8	LIG_{08}	Political corruption	4.44	0.63
Total			4.14	0.71

The level of importance of the components of the government and the legal environment, the average

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opinions of managers in this field are evaluated, and in return, the ethical components are graded, and finally, the average for the sample under study is summarized and summarized in Table 8. According to Table 8, the level of importance or impact of each of the components of government and the legal environment based on surveys of managers, financial experts, accounting and auditing companies has averaged 4.14 with a standard deviation of 0.71.

4.4.1 Measuring economic components

As shown in Table 6, the sixth independent variable in this study is the economic components with nine scenarios (measures): 1) level of social welfare, 2) level and extent of economic corruption and bribery, 3) development, 4) Gini coefficient and social justice, 5) government economic policies, 6) individual welfare level, 7) economic conditions, 8) individual welfare level, and 9) economic environment, which according to table 9 consists of 9 measures and scoring intervals. 1 to 5 is defined. The level of importance of the average economic components of managers' opinions in this field has been evaluated, and in return, the ethical components have been graded, and finally, averaged for the sample under study, as summarized in Table 9

Table 9: The level of importance of economic components

No	Code	Components	Mean	Standard deviation
1	ECO_{01}	Level of social welfare	4.06	0.77
2	ECO_{02}	The level and extent of economic corruption and bribery	4.38	0.62
3	ECO_{03}	Development	3.94	0.57
4	RCO_{04}	Gini coefficient and social justice	4.19	0.54
5	ECO_{05}	Government economic policies	4.13	0.62
6	ECO_{06}	Individual welfare level	4.00	0.97
7	ECO_{07}	Economic conditions	4.25	0.68
8	ECO_{08}	Individual welfare level	4.00	0.73
9	ECO_{09}	Economic environment	3.94	0.77
Total			4.10	0.70

According to Table 9, the level of importance or impact of each of the economic components based on a survey of managers, financial experts, accounting and auditing companies has averaged 4.10 with a standard deviation of 0.70.

4.4.2 Assessing the components of corporate governance

As shown in Table 6, the seventh independent variable in this study is the components of corporate governance with seven scenarios (measures): 1) audit committee, 2) independence of the board, 3) transparency of governance, 4) effective system internal controls, 5) efficient accountability system, 6) financial expertise of the board of directors and 7) level of activity of the audit committee, which is defined according to table 10, which consists of 7 criteria and a scoring range of 1 to 5. The level of importance of the components of corporate governance is evaluated by the average opinions of managers in this field, and in return for this, the ethical components are graded, and finally averaged for the sample under study and summarized in Table 10.

Based on Table 10, the level of importance or impact of each of the components of corporate governance based on a survey of managers, financial experts, accounting and auditing companies has averaged 3.73 with a standard deviation of 0.79.

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Table 10: The level of importance of the components of corporate governance

No	Code	Components	Mean	Standard deviation
1	GOV_{01}	Audit Committee	3.44	0.51
2	GOV_{02}	Independence of the board of directors	3.50	0.82
3	GOV_{03}	Transparency sovereignty	3.88	1.02
4	GOV_{04}	Effective system of internal controls	4.00	0.82
5	GOV_{05}	Efficient response system	4.13	0.72
6	GOV_{06}	Financial expertise of the board of directors	3.81	0.66
7	GOV_{07}	Level of activity of the audit committee	3.38	0.96
Total			3.73	0.79

4.4.3 Assessing the components of accounting ethics

As shown in Table 6, the dependent variable in this research is the components of accounting ethics with seven scenarios (measures): 1) honesty and truthfulness, 2) objectivity and realism, 3) professional care and attention 4) professional competence, 5) confidentiality and confidentiality of information, 6) independence of opinion and opinion; the level of importance of the components of the ethical principles of average accounting has been evaluated by the opinions of managers in this field.

Table 11: The level of importance of the components of accounting ethics

No	Code	Components	Mean	Standard deviation
1	PRE_{01}	Honesty and truth	4.31	0.60
2	PRE_{02}	Objectivity and realism	3.94	0.77
3	PRE_{03}	Professional care	3.94	0.77
4	PRE_{04}	Professional competence	4.19	0.75
5	PRE_{05}	Confidentiality and confidentiality of information	4.13	0.62
6	PRE_{06}	Independence of opinion	4.06	0.85
7	PRE_{07}	Pay attention to conflicts of interest	4.00	0.63
Total			4.08	0.71

According to Table 11, the level of importance or impact of each of the components of accounting ethics based on a survey of managers, financial experts, accounting and auditing companies has averaged 4.08 with a standard deviation of 0.71.

4.5 Measuring intelligence components

As shown in Table 6, the eighth independent variable in this study is the components of intelligence with six scenarios (measures): 1) logical intelligence, 2) emotional intelligence, 3) cultural intelligence, 4) spiritual intelligence 5) general intelligence and 6) legal intelligence, which is defined according to table 12, consisting of 6 criteria and a scoring range of 1 to 5. The level of importance of the average intelligence components of managers' opinions in this field has been evaluated, and in return for this, the ethical components have been graded, and finally, averaging has been summarized for the sample under study, as summarized in Table 12.

Table 12: The level of importance of intelligence components

No	Code	Components	Mean	Standard deviation
1	INT_{01}	Logical intelligence	3.50	0.63
2	INT_{02}	Emotional intelligence	3.63	0.72
3	INT_{03}	Cultural intelligence	3.25	0.93
4	INT_{04}	Spiritual intelligence	3.56	1.15
5	INT_{05}	Clever intelligence	3.44	1.15
6	INT_{06}	Legal intelligence	3.63	0.62
Total			3.50	0.87

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According to Table 12, the level of importance or impact of each of the intelligence components based on a survey of managers, financial experts, accounting and auditing companies has averaged 3.50 with a standard deviation of 0.87.

4.6 Prioritization of indicators by AHP method

The method of data analysis in this study is based on the AHP model. This method can be useful when the decision-making action is faced with several options and decision indicators. Indicators can be quantitative or qualitative. This method is based on pairwise comparisons. The process of ranking and prioritizing options in the AHP method involves the following steps.

4.6.1 Hierarchical construction

As described in Chapter 3, at this stage the problem is defined and the purpose of the decision is drawn in a hierarchical manner from the factors and elements that make up the decision. The process of hierarchical analysis requires breaking the decision problem with several hierarchical indicators of levels. The decision tree is used for this purpose. The first level contains the overall purpose of the decision. At the second level are the general criteria on which decisions are made. At the third level, there are subcriteria. Fig. 6 shows the hierarchical structure of factors affecting the selection of a sustainable supplier.

Table 13: Matrix of pairwise comparisons of factors affecting accounting and auditing ethics

Factor	Government and the legal environment	Social	Cultural	Organizational	Government and the legal environment	Economic	Corporate governance	Intelligence
Government and the legal environment	1	0.52	0.58	1.06	0.97	0.81	1.22	1.04
Economic	1.94	1	0.72	1.37	1.37	1.25	0.90	1.09
Individual	1.72	1.38	1	1.43	1.85	1.39	0.95	1.08
Organizational	0.94	0.73	0.70	1	0.56	0.54	0.86	0.79
Social	1.03	0.73	0.54	1.80	1	0.61	0.96	0.79
Cultural	1.23	0.80	0.72	1.86	1.64	1	0.63	0.70
Corporate governance	0.82	1.11	1.05	1.16	1.04	1.60	1	0.79
Intelligence	0.96	0.92	0.93	0.88	1.26	1.43	1.26	1

The table above shows the relative importance of the main factors from the perspective of experts. The incompatibility rate of pairwise comparison of these factors is 0.024, which indicates the acceptable accuracy of this pairwise comparison.

4.6.2 Final weight

After forming the pairwise comparison matrix for the main factors, calculating the adjustment rate and relative weight for the indicators, in this part of the research we seek to determine the final weight

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and prioritize the factors and indicators. In this stage of the research, we calculate the weight of each of the main factors and the desired indicators, and finally we prioritize the desired factors and indicators.

Table 14: Final weight of main factors and prioritization of factors

Factor	Final weight	Rank
Government and the legal environment	0.1348	1
Economic	0.1335	2
Individual	0.1286	3
Organizational	0.1230	4
Social	0.1227	5
Cultural	0.1221	6
Corporate governance	0.1214	7
Intelligence	0.1139	8

According to Table 14, the most important and least important factor affecting the principles of accounting and auditing ethics from the point of view of experts were the factors of government and the legal environment, respectively, and was intelligence. Economic, individual, organizational, social, cultural and corporate governance factors have been effective other factors, respectively.

4.7 Test of normality of data distribution

The normality test of variable distribution has been used as one of the diagnostic tests to analyze the concordance of experts' opinions based on personality traits on the one hand and to explain the relationships between variables based on the use of advanced multi-criteria decision making model on the other hand. Based on the concepts and statistical methods in the diagnostic test of the normality of the distribution of each of the dependent or explanatory variables, the null hypothesis is considered to be the normality of the distribution of the variable under test. In this test, following the usual research in accounting, finance, auditing and management, the assumption of data normality at a significance level of 5% was tested by Kolmogorov-Semyonov test. For this test, the statistical hypotheses are set as Table 15:

Table 15: Explanation of statistical hypotheses of Kolmogorov-Semyonov test

No	Hypothesis	Description of the hypothesis	Acceptance criteria
1	$\mathbf{H_0}$	The distribution of response options is normal.	More than 5% probability
2	$\mathbf{H_1}$	Distribution of response options is not normal.	Less than 5% probability

Based on the outputs of SPSS statistical software, the results of diagnostic test for data normality in relation to each of the variables are presented in Table 16.

Table 16: Results of Kolmogorov-Semyonov test

No	Factor	Symbol	Z Statistics	Significance level	Result
1	Individual component	PER	0.582	0.887	Acceptance H0
2	Social component	SOC	0.449	0.988	Acceptance H0
3	Cultural component	CUL	0.584	0.884	Acceptance H0
4	Organizational component	ORG	0.988	0.283	Acceptance H0
5	The component of government and the legal environment	LIG	0.599	0.865	Acceptance H0
6	Economic component	ECO	0.708	0.697	Acceptance H0
7	Component of corporate governance	GOV	0.566	0.906	Acceptance H0
8	Principles of accounting and auditing ethics	PRE	0.691	0.726	Acceptance H0
9	Intelligence component	INT	0.906	0.706	Acceptance H0

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The research findings in the non-parametric Kolmogorov-Semyonov test in relation to the normality of the variables are summarized in Table 16 as follows:
- Z-statistic of Kolmogorov-Semyonov test for each of the variables of principles of accounting and auditing ethics and the factors affecting it, respectively 0.691, 0.582, 0.449, 0.584, 0.988, 0.599, 0.708, 0.566 and 0.906 have been obtained.
- The level of significance corresponding to Kolmogorov-Semyonov statistic for each of the variables of ethical patterns and factors affecting it, respectively 0.726, 0.887, 0.988, 0.884, 0.283, 0.865, 0.697, 0.906 and 0.706 have been calculated.
Given that the significant levels calculated for each of the variables of the principles of accounting and auditing ethics and the factors affecting it, more than 5% of the test level is obtained, the null hypothesis is accepted. Therefore, at the level of 95% confidence, the assumption of normal distribution of dependent and explanatory variables in the model studied in the research can be accepted.

5 Discussion and Conclusion

In this part of the research, based on the calculations, tests and analyzes presented as research findings, research questions are examined. Based on the theoretical support relied on in explaining the proposed model in this research, the research questions during the first chapter or the generalities of the research were defined as shown in Table 17

Table 17: Research questions

Hypothesis	Description of the hypothesis
First	What are the factors affecting accounting and auditing ethics based on knowledge analysis and qualitative analysis approach of previous theoretical texts and researches?
Second	What are the identified factors affecting the ethics of accounting and auditing by the method of knowledge analysis and refined by relying on the Delphi survey approach to persuade experts?
Three	What is the importance and rank of the identified factors affecting the ethics of accounting and auditing by knowledge analysis method, based on the multi-criteria BWM approach?
Four	What is the importance and rank of the identified factors affecting accounting and auditing ethics by knowledge analysis method, based on the Grey AHP multi-criteria approach?
Five	What is the importance and rank of the identified factors affecting the accounting and auditing ethics by knowledge analysis method, based on the multi-criteria approach of AHP?
Six	What is the importance and rank of the identified factors affecting the ethics of accounting and auditing by knowledge analysis method, based on the multi-criteria Grey BWM approach?
Seven	What is the difference between the rank and importance of the identified factors affecting accounting and auditing ethics by knowledge analysis method, based on comparison and summarizing the results using four multi-criteria evaluation approaches?
Eight	What is the relationship between the identified factors of a method of knowledge analysis, refinement and importance assessed by Delphi survey methods from experts and four methods, with ethical behaviour in accounting and auditing based on a multi-criteria decision approach?

In this study, the criteria of ethical behaviour in accounting and auditing and the factors affecting it have been evaluated based on the initial review of research literature. Ethical behaviour in accounting and auditing with criteria such as: 1) honesty and truthfulness, 2) objectivity and realism, 3) professional care and competence, 4) professional competence, 5) confidentiality and confidentiality of information and finally 6) The independence of opinion is defined. By adapting the existing literature and interviews as well as the approval of professors, the above statements are classified into nine main themes and seventy-seven sub-themes and the main themes under the headings of components of accounting and

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auditing ethics, individual, social, cultural, organizational, Government and legal environment, economic, corporate governance and intelligence were registered. In the questionnaire, experts were asked to answer the most important factor over the other factors and the importance of other factors to the least important factor in each of the indicators with dimensions 1 to 9. After forming the pairwise comparison matrix for the main factors, calculating the adjustment rate and relative weight for the indicators, in this part of the research we seek to determine the final weight and prioritize the factors and indicators. In all prioritization methods, the most important factor has been the component of government and the legal environment. Another noteworthy point is the intelligence component, which is considered to be of the least importance by experts. After the government component and the legal environment, another important component has been the economic component. Other components have gained different degrees of importance in different ways. The results of identifying and refining the components and measuring the relationships between variables based on the method of structural equations of the research showed that the characteristics of the legal environment and government behaviour of men have a positive effect on judgment and ethical behaviour of accounting and auditing.

Therefore, policy makers and senior managers at the level of legislation and government institutions are advised in order to strengthen the legal aspects affecting the behaviour of employees and experts in accounting and auditing training programs, appropriate institutional and legal framework to reform the legislative system, legitimacy and authority. Government, transparency of laws and regulations, procedural justice in legal proceedings, reform of the judiciary, reduction of the level of centralism and improvement of democracy (accountability to the people), improvement of public awareness of laws and regulations, reform and transparency in the field of corruption Political, are common. Although the role of government and the legal environment on ethical decisions in accounting and auditing seems to be greater than other factors, but to have a proper ethical plan, all the factors and dimensions provided must be considered in order to create a complete and desirable set.

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