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Identifying the antecedents and consequences of business intelligence in accounting businesses by considering ethical decision making

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Abstract

From the consequences of business intelligence, we can mention the realization of organizational goals, having a systematic and standard structure on the consequences of business intelligence in terms of ethical decision-making, and increasing the ability to process data. The purpose of this research is to provide a comprehensive model regarding the process of business intelligence in accounting businesses, including ethical decision-making, so that in this way it can help to spread business and ethical intelligence more, of course, with importance in the said accounting business. In this research, using the contextual theory method, the parameters of business intelligence were identified in terms of ethical decision-making. For this purpose, causal, background, intervening factors, business intelligence action strategies, and the consequences of business intelligence were first identified. And then, using the structural model, the relationships between the factors were identified. The results show that organizations are different from other organizations in terms of structure, culture, and type of workforce. In terms of ethical decision-making, they can be effective in the consequences and response of business intelligence. Although so far none of the internal research has addressed the issue of business intelligence model design in terms of ethical decision-making in accounting businesses, but the mixed approach to modelling applied using the data theory method of the primary model foundation shows that the design of the business intelligence model in terms of ethical decision-making in accounting businesses can measure the effect of auditors' ethical decision-making in the organization and its effect on the design of business intelligence.

Keywords: business intelligence, ethical decision making, contextual theory
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1 Introduction

Business intelligence is the process of displaying the business environment. It is business intelligence that enables all senior managers of an organization to make informed decisions about everything from marketing research and development and investment tactics to long-term strategies.

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Ethics management is the identification and prioritization of values to guide behaviours in the organization. Organizations can manage ethics in the workplace by creating an ethics management program. Ethics programs help organizations to maintain their ethical performance in chaotic conditions. Today, ethics management is one of the scientific fields of management that has a programmatic approach and several practical tools. These tools include: codes of ethics, codes of conduct, policies and procedures, methods of solving ethical problems and training [40].

Managing ethics in the workplace has many benefits for leaders and managers; Both functional benefits and moral benefits. This is especially true in today's era when managers are dealing with many different values in the workplace. But so far, those who have dealt with work ethics have been philosophers, academics and social critics, not managers. As a result, many of the materials that have been written about work ethics are not following the practical needs of managers and leaders of organizations. The purpose of this article is to help managers enter into this discussion. To enter the discussion of ethics management, ethics must be defined first. Morality, simply and briefly, consists of knowing what is right from what is wrong, and then doing what is right and abandoning what is wrong. Distinguishing right from wrong is not always easy. Many scholars of ethics claim that there is always a correct solution according to the moral principles in terms of action, and some others believe that the correct solution depends on the situation and circumstances, and it is ultimately up to the individual to determine which solution is correct [19].

On the other hand, critical ethics is questioning the old and traditional ethics and considering the development of technology believes in creating a type of ethics based on the new era and the new needs of man. Critical ethics in accounting, by questioning the current professional ethics which is based on utilitarianism, has proposed ethics based on relational action, creating critical accounting as a necessary foundation for evolution. These findings provide evidence that it seems that critical ethics is a foundation for Creating critical accounting [30].

2 Theoretical foundations of research

Today, having business power is the basis of companies' survival. On the other hand, having and maintaining business power requires information more than anything. In fact, information is considered as one of the important items of strategic assets and marketing tools. Therefore, in this situation, business intelligence in these companies helps to make informed decisions about all their affairs including marketing, research and development, investment and business strategies. Business intelligence is a continuous process that provides usable information to the decision maker [13]. The main purpose of business intelligence is to obtain data and information about the environment of competitors and the market, therefore, effective business intelligence not only requires information about other environmental tendencies such as industry tendencies, legal and regulatory tendencies, international tendencies, technological developments, developments political and economic conditions [3].

Although the focus of business intelligence is on decision-making, its scope is wide and includes research on topics such as competitors' capabilities, analysis of alliances or joint ventures with competitors, competitors' future plans, market strategies or pure product lines, and reasons for transformation. In companies or the strategy of business units. Currently, not only large companies but also many small businesses are benefiting from the benefits of business intelligence, many of these companies use business intelligence to gain a share of the market and gain the share of unknown competitors. , they use business intelligence to know the current market environment, predict the future market environment, analyse political, economic and technological factors related to their business, identify weaknesses and find solutions for them, knowing competitors' weaknesses and know a way to threaten them and Recognizing the weakness of the company that competitors may use this opportunity and providing steps and moves to eliminate them [27].

On the other hand, the most important role of ethics is when making a practical decision; Both when a person sits down to make a decision and when the organization and society reach a decision. Ethics has a decisive role in shaping the decision and regulating its formation process. Failure to observe ethics in decision-making causes a lot of damage to the individual and the society, and even various laws and punishments have not been able to compel the society to behave appropriately [2]. Decision-making in the field of management science is not realistic without considering the components of ethics and social responsibility. One of the effective ways to introduce ethical issues into human daily affairs is to consider ethics in decision-making [4]. The process of moral decision-making begins when a person faces a moral dilemma. Then, the person makes a judgment (depending on which of the stages of Kohlberg's moral cognitive development) and forms his behavioural intentions (which are based on the assumption that they predict actual behaviour). This process is influenced by individual, situational and subject-related factors [23].

Personal values can also influence business decisions and organizational concepts. The potential relationship between values and managerial decisions has been of interest for years. Recently, the influence of personal values

on ethical judgments has been formally recognized in ethical decision-making models in organizations. For example, Shitan and Peiris [39] considered values in their model as one of several personal characteristics that potentially affect all stages of the decision-making process. The role of personal values in ethical decisions has also been explicitly recognized in the theoretical model of [8, 38]. According to Choi et al., [10], the ethical decision-making process can happen very quickly and lead to the solution of an ethical issue. This concept is only used in connection with subjects for which there are explicit and clear guidelines or standards and there is no conflict between the principles. In other words, some moral issues (especially those that are the basis of conflicting moral principles) cannot be easily resolved, they can lead to confusion and may require time-consuming discussions.

The more the employees' trust in the managers and the organization decreases, the managers will have to pay more to control the employees' behaviour, which will get less results. Trust-building is created by predicting the behaviour. In modern management theories such as Representation, corporate governance, stakeholders, theories of information asymmetry and institutionalization, incorrect selection, moral hazard, and even several critical theories, issues related to ethics are of interest [26].

Due to the fact that accounting business companies, like other companies, have good potential in the field of business intelligence, therefore, scientific and organized research has not been done for accounting businesses, and this further strengthens the need. This research is about presenting the native model of decision-making based on ethics for these organizations, because the human resources in these organizations are different in structure, and the selection of the statistical population in this research is an issue that is not similar to other organizations. Therefore, the upcoming research will seek a comprehensive and clear answer to the following main question: "How is the design of the business intelligence model in terms of ethical decision-making in the accounting business?"

2.1 Accounting business strategy

Cost leadership strategy: In this research, operating asset turnover is used as an indicator of cost leadership strategy as follows and can be measured using the following model.

$$CLS_{i,t} = \frac{OS_{i,t}}{AOA_{i,t}} \qquad \text{(model 1)}$$

CLS Operating Assets Turnover OS Operating Sales AOA Average Operating Assets Total Assets Less Cash and Cash Equivalents.

Differentiation strategy: In this research, profit margin is used as an indicator of differentiation strategy as follows.

$$DS_{i,t} = \frac{(OP_{i,t} + R\&D_{i,t})}{S_{i,t}} \qquad \text{(model 2)}$$

OP operating income OP operating profit R&D expense. Competition in the market In this research, the Herfindahl-Hirschman index is used to measure the competition in the product market as follows.

$$HHI_{j,t} = \sum_{t=1}^{NJ} \left(\frac{S_{j,t}}{\sum_{t=1}^{NJ} S_{j,t}} \right) \times -1 \qquad \text{(model 3)}$$

$HHI_{j,t}$: Herfindahl-Hirschman index of industry J in the year T NJ, the total number of active enterprises in the industry J in the year t. $S_{j,t}$: Sales of industry J in year T

2.2 Accounting businesses in stock returns and profits

For accounting work, the measurement scale of negative non-operating accruals [17] is used as follows [28].

$$\frac{NOPAC}{TA} = \frac{\sum_{i=1}^{n} (NOA_i | NOA_i < 0)}{\text{Total Assets}} \qquad \text{(model 4)}$$

which in model 4 above: $NOPAC$ is non-operating accrual items and TA is the total assets. For profit management, we use the total discretionary accruals scale according to the modified Jones model [12]. The modified Jones model is as follows [5].

$$NDA_{i,t} = \alpha_0 \left(\frac{1}{A_{i,t-1}} \right) + \beta_1 \left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} \right) + \beta_2 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right) \qquad \text{(model 5)}$$

where, $NDA_{i,t}$ is the total non-discretionary accrual items of the company in year $A_{i,t}$, t is the total assets of the company in year $1 - AREV_{i,t}$, t change in annual income difference between current year's income and last year's income of company I in year ARE_{it} change in accounts receivable difference in accounts receivable at the end of each year with accounts receivable at the beginning of the same year $PPE_{i,t}$ is the total property, machinery and equipment of company I in year t. The following model 6 is used to determine the return on investment in common stocks [31].

$$R_{i,t} = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}} \times 100 \qquad \text{(model 6)}$$

P is the share price at the end of period $1 - P$ is the share price at the beginning of period t or the end of period $1 - t$ and D_t are the benefits of the ownership of shares that accrued to the shareholder in the period.

2.3 Accounting business indicators and fraud from an ethical perspective

Following the experimental and theoretical studies [7], the model 7 below has been developed in accordance with the dependent form of the logistic regression model.

$$\begin{aligned} L\left(\frac{p_{i,t}(Y_{i,t}=1)}{1-p_{i,t}(Y_{i,t}=1)}\right) = {} & b_1 + b_2 OCFTNI_{it} + b_3 OCFTSAL_{it} + b_4 NITSAL_{it} + b_5 NITTA_{it} + b_6 NITEQ_{it} \\ & + b_7 TDTEQ_{it} + b_8 TLTTA_{it} + b_9 CATCL_{it} + b_{10} CASHTTA_{it} + b_{11} INVTTA_{it} \\ & + b_{12} ARTTA_{it} + b_{13} CATTA_{it} + b_{14} CCC_{it} + b_{15} INVTSAL_{it} + b_{16} ARTSAL_{it} \\ & + b_{17} COGTSAL_{it} + b_{18} SALTTA_{it} + b_{19} APTSAL_{it} + b_{20} COGTINV_{it} + b_{21} Board_{it} \\ & + b_{22} ESTQ_{it} + b_{23} NESTQ_{it} + b_{24} TAX_{it} + b_{25} UNEM_{it} + b_{26} GS_{it} + b_{27} OIL_{it} \\ & + b_{28} INF_{it} + b_{29} log(EXC_{it}) + b_{30} log(GDP_{it}) + b_{31} log(GDPP_{it}) + b_{32} MTGDP_{it} + e_{it} \end{aligned} \qquad \text{(model 7)}$$

where in Y_{it}; is a virtual variable. This variable is assigned a value of zero for the years when the company's financial reports are accepted, and a value of one is assigned to it if it is conditionally rejected and no comment is made; $OCFTNI_{it}$: Ratio of Operating Cash Flow to Net Income for the Name Company for the Year $OCFTSAL_{it}$ Operating Cash Flow to Sales for the Name Company for the Year $NITSAL_{it}$ Net Income to Gross Sales for the Name Company for the Year $NITTA$ Return on Assets for the Name Company for the Year $NITEQ_{it}$ Return on Equity for Company Name for Year $TDTEQ_{it}$ Total Liabilities to Equity for Company Name for Year $TLTTA$ Total Liabilities to Total Assets for Company Name for Year $CATCL$ Current Assets to Current Liabilities for Company Name for Year $CASHTTA$ Cash to Total Assets for Company Name for the year $INVTTA$ balance to total assets for the company name for the year $ARTTA_{it}$: accounts receivable to total assets for the company name for the year $CATTA$ current assets to total assets for the company name for the year CCC cash flow cycle for the company name for the year $INVTSAL$ cash balance to Sales for Company Name for the year $ARTSAL$ Accounts Receivable for Sales for Company Name for the Year $COGTSAL$ Cost of Goods Sold for Company Name for the Year $SALTTA$ Asset Turnover Ratio for Company Name for the Year $APTSAL$ Accounts Payable for Sales for Company Name for the Year $COGTINV$ Inventory turnover for company name for year Board Number of board members for company name for year $ESTQ_{it}$ Number of board members required for company name for year $NESTQt$ Number of non-mandatory board members for company name for year TAX Income tax rate in the entire economy for the year $UNEM$ unemployment rate for the year Set the ratio of government expenditure to total GDP for the year OIL oil revenues for the year INF inflation rate for the year $log(EXC)$ the natural logarithm of the exchange rate in the informal market for the year ($log(GDP)$ the logarithm of GDP for year (log (GDP logarithm of gross domestic product per capita for the year $MTGDP$ is the ratio of liquidity to gross domestic product for the year) is the residual of the regression model for the company name in the year.

In the above template, UNEM TAX variables

$log(GDP) log\ EXC\ INFOIL\ GSi$ variables are related to $MTGDP_{it} log(GDPP)$ space and it is necessary to test the assumptions of the presence of these variables in the model.

As mentioned earlier, in this study, the logistic regression model or logit is used. Instead of predicting whether an event will occur or not, logit analysis predicts the probability of an event occurring. In this way, the dependent variable can include a range of values between zero and one. In order to limit the relationship between independent variables and dependent variable between zero and one. The analysis uses an assumed S-shaped relationship. This relation guarantees that the probability of the event never exceeds one. Traditional linear regression models cannot match such a relationship, while the logit model predicts the rank of each member of the sample by assigning weights

to independent variables. This rank is used to determine the probability of membership in a certain group of financial fraud or financial health. The probability of success or failure or any other dual quality rating in this model 8 is calculated using the following cumulative distribution function.

$$p_i = E(Y = 1|X_i) = (1/1 + e^{-Z}) = (1/(1 + e^{-a-\sum_{i=1}^{k} b_i X_i})) \quad \text{(model 8)}$$

In this model; Success probability of occurrence = 1): independent variables a and b are also model estimation parameters. Probability is always a number between zero and one. If 2 moves towards negative infinity, P tends towards zero. If 2 tends to positive infinity, P tends to the number one. When 2 is equal to zero, the resulting probability is equal to 0.5. The dependent form of model 8 can be expressed in the form of model 9 with a simple mathematical operation.

$$L\left[p_i/(1-p_i)\right] = Z = a + \sum_{i=1}^{k} b_i X_i \quad \text{(model 9)}$$

model 9 is known as the general equation of logit regression and can be estimated. The logarithm of the ratio of the probability of fraud to its non-fraud is LP (-(1)). The independent variables (X) also include the independent variables affecting the financial fraud of the investigated companies. In the conditional logit model, the coefficients only show the direction of influence. Evaluating the effect of changing each of the independent variables (X) on the probability of financial fraud (1) = EY); For such evaluation, it should be derived from the cumulative distribution function (model 2) with respect to this case, the following function is obtained, which is known as the final effect or marginal effect function.

$$\frac{\partial p_i}{\partial X_j} = \left(\frac{e^{a+\sum_{i=1}^{k} b_i X_i}}{\left(1 + e^{a+\sum_{i=1}^{k} b_i X_i}\right)^2} \right) b_j \quad \text{(model 10)}$$

2.4 Research background

Based on the researcher's investigation, no research has been done directly in relation to the subject under investigation, but the research that has examined some of the variables of the research subject can be mentioned briefly as follows.

2.4.1 The internal background of the research

Aali et al. [1] in research identified individual, behavioural and structural factors derived from ethics. The results of the quantitative part in the form of a structural equation model showed that the effects of individual, behavioural and structural factors, considering ethics, have a significant impact on financial reporting. In research, Tavakoli et al. [42] identified and used business intelligence in customer relationship management, which provides a new basis for creating a competitive advantage. In addition to introducing business intelligence and customer relationship management, this research describes the goals, advantages and tools of business intelligence in customer relationship management, and by considering the success factors of these systems, a unified model for the success of the organization has been presented to the organization in connection with customers, as well as customers' satisfaction with products or services, and improving and exploiting customer loyalty. Mallah Rakavandi and Jafar Tarokh [24] studied the application of business intelligence in predicting the price of domestically manufactured cars using neural fuzzy systems. The research results showed that four algorithms were implemented on the data and predicted the time series. Seyedin Boroujeni and Hosseinpour [37] research investigated the effect of transformational leadership style on adaptive performance with the mediating role of business intelligence in the employees and personnel of non-profit schools in the 2nd education district of Ahvaz in the academic year 2016-1395. The information collected from the questionnaires has been analyzed using correlation analysis and path analysis of structural equations to check the research hypotheses. The results showed that business intelligence has a significant positive effect on the adaptive performance of non-profit schools in the 2nd education district of Ahvaz. Goldoust et al. [18] showed in research that moral perception does not have a direct relationship with moral judgment regarding the types of warnings investigated in this research, but moral intelligence moderates this relationship to a considerable extent. In addition, moral judgment has a significant effect on all kinds of warnings, and moral intelligence can also play a positive moderating role in this.

2.4.2 Foreign background of the research

Puaschunder [29] conducted research titled ethical decision-making under social uncertainty. The results of this research showed that giving moral and fair opportunities to improve social status can help to fill legal gaps and make society members go beyond their legal and legal obligations. Calders et al. [7], with emphasis on the role of ethical moderation and the ethical decision-making process, examine the effects of individual ethical orientation, independence threat, and moral severity on the ethical decision-making process of auditors using Jones's model on ethical decision making in Malaysia. The results of this research show that moral severity moderates the relationship between auditors' ethical orientation and auditor's self-interest threat to auditors' ethical decision-making. Scott and Marshall [36], conducted a research called a qualitative study on the ethical decision-making process. They presented a model regarding the development process of ethical decision-making and believed that this model shows the nature of the human institution, the steps of intervention between ethical awareness and ethical/immoral decision results. Also, they believed that their model represents the process of developing moral decision-making skills. Zeni et al. [45] conducted a research titled Making "Sense" of ethical decision making. This research introduces a series of cognitive biases and metacognitive strategies and explores their effects on managers' ethical decision-making using a sense-making model. The influence of biases and strategies at each stage of the sense-making model is used to identify ways in which managers can improve ethical decision-making. In research, El-Cheikh [14] examined the factors affecting the ethical awareness and ethical judgment of auditors working in Lebanon. The results of this study show that the size of auditors' institutions and education is the most effective factor in auditors' moral sensitivity. Other factors such as age, gender, and length of work experience have less effect on auditors' ethical sensitivity.

2.5 Research question

In the mentioned research, they investigated the business intelligence and ethics model and ethics decisions which are used in this study, but the main innovation of the upcoming research is the design of the business intelligence model in terms of ethical decision-making in accounting businesses, which despite many searches In the domestic and foreign scientific database, no model was found in this regard. In this research, a mixed approach was used for modelling, during which the basic model is obtained using the foundation data theory method, and the fit of the model is examined using structural equation modelling. In fact, this research seeks to provide a native model of decision-making based on ethics for these organizations. Therefore, the upcoming research will seek a comprehensive and clear answer to the following main questions:

What are the action strategies of business intelligence in accounting businesses considering ethical decision-making?

What are the implications of business intelligence in accounting businesses considering ethical decision-making?

3 Research methodology

In terms of ontology, the present research is based on the paradigm of pragmatism, and in terms of epistemology, it includes both the domains of objectivity and subjectivity. Also, in this research, in terms of methodology or methodology, the combined research method will be used, which includes both quantitative methods (positivism) and qualitative methods (interpretation) in the research process.

The current research is considered applied research in terms of addressing the issue of identifying the organization's ethical decision-making. The descriptive research method is used in the design of the ethical decision-making model as well as in designing and explaining the development model of ethical decision-making. Descriptive research includes a set of methods whose purpose is to describe the conditions or phenomena under investigation. Descriptive or non-experimental research includes five categories: survey, correlational, post-event, action research and case study. In terms of descriptive typology, the present research is one of the survey research. In survey research, the aim is to investigate the distribution of the characteristics of a society, and the researcher examines the research variables by selecting a suitable and representative sample of the society.

The present research is a method (qualitative-quantitative) with a mixed approach. Because in the conceptual model design phase, it will use a qualitative approach and in the model explanation phase, it will use a quantitative approach. Also, this research is an inductive and exploratory-applied study. Because it seeks to provide a new model in the field of ethical decision-making by managers and this model can be used for voluntary organizations and non-governmental organizations.

3.1 How to collect information

Based on this, the current research is based on two stages: in the first stage, the researcher tries to extract categories, concepts, and extract types of business intelligence models in terms of ethical decision-making and presents his proposed model. In the second stage, the preliminary model of the research is surveyed by experts using the survey method to verify the final model by considering the conditions. Finally, at this stage, the researcher has tested the approved model in the target community.

3.2 Population and statistical sample

The statistical population of the current research was different from each other based on the two phases mentioned in the previous parts and were as follows:

The first statistical population of this research was selected from experts and professors familiar with business intelligence using purposeful sampling and snowball methods. In fact, experts familiar with business intelligence included managers of government organizations such as banks, tax affairs organizations and university professors. First, by consulting the advisors and consultants, the first person in the research sample who was familiar with the field of business intelligence and was an expert in this matter was identified. In this way, after the first person is determined by the snowball method, in such a way that the first expert person related to the subject is selected based on the preliminary investigations, and after completing the interview with the first person, he or she is requested to be the decision-making person or other expert persons. They can have an opinion in the field of business intelligence model in terms of ethical decision-making and contribute to the richness of the research model. This process continued until the theoretical saturation of the researcher was reached. In fact, after the interview, the obtained answers were arranged in specified codes and different answers were not given to the questions. In other words, the research reached theoretical saturation. Finally, seven people were selected as samples in the first stage, two of them were bank managers, two were managers of the tax affairs organization, and three were university professors. In the second phase of the research, which is the objective of the quantitative approach and the test of the theory produced in the first phase, the statistical population of the research includes all managers of accounting and auditing companies and audit institutions that are members of the Iranian Society of Official Accountants and authorized by the Securities and Exchange Organization. The number of the research sample was determined using the formula of unlimited societies, which resulted in 276 people. In this way, using the random sampling method, the final samples were selected and based on their opinion, the final model was developed.

3.3 Definition of variables and research model

In this research, to check the validity of the research, two methods of participant feedback and receiving the opinions of colleagues have been used. Thus, to receive feedback from the participants, 5 of the interviewees were asked to express their opinions about the concepts and dimensions in the interviews. Also, to get the opinions of colleagues, 2 people who are experts in the field of business intelligence models in terms of ethical decision-making have been used. To ensure the reliability of the interviews, two methods of retesting and double coding were used. To calculate the retest reliability among the conducted interviews, some sample interviews were selected and the specified codes were compared in two time intervals for each of the interviews. The codes that were similar in two time intervals are marked as agreement and the codes that are not similar are marked as non-agreement.

It should be noted that this research was carried out in the following two general phases:

Phase 1: Designing a business intelligence model in terms of ethical decision-making in accounting businesses based on the qualitative methodology of the foundation's data theory.

Phase 2: fitting and explaining the model designed in the previous phase using the structural equation modeling method.

In fact, the research steps are as follows:

1. Identifying and extracting the components of the business intelligence model in terms of ethical decision-making in the research background:
   At the beginning, the components in the organization were identified and the business intelligence model in terms of ethical decision-making that was necessary for the managers of the organization and was extracted from sources, studies and documents.

2. Interviews with managers of accounting companies:
   In this part, in order to identify the business intelligence model in terms of ethical decision-making necessary for accounting companies, an interview with managers was conducted, which is explained in detail in the next steps.
3. Validation of the model through the Delphi panel:
   In this part, after identifying the business intelligence model in terms of necessary ethical decision-making, the appropriate business intelligence model in terms of ethical decision-making was selected using the Delphi method.
4. Transforming the model in the form of a questionnaire to get the final opinion of the relevant community
5. Performing statistical analysis
6. Presentation of the final template
7. Making suggestions

After collecting data by questionnaires that were organized based on hypotheses based on research literature, these data were arranged using Spss, Excel and Export choice software, and then using the structural equation model to design the business intelligence model with In terms of ethical decision-making, they were identified and related tests were conducted on them. Due to this, PLS structural equation solving software was used.

4 Research findings

In this part, first, the descriptive statistics of the research sample are stated. Then the inferential statistics have been discussed.

4.1 Analysis of respondents' demographic characteristics

Since it is not possible to obtain basic information from the raw data collected; The first thing that is necessary after collecting the data is to summarize the data and discover the facts from them. Therefore, this type of data should be shown in summary tables and the number of observations in each group.

The chart depicts the age group of the respondents. Observations show that 50% were in the age group of 26-35 years, 37% in the age group of 36-45 years, 10% in the age group of 46-55 years, and 3% in the age group of 56 years and above.

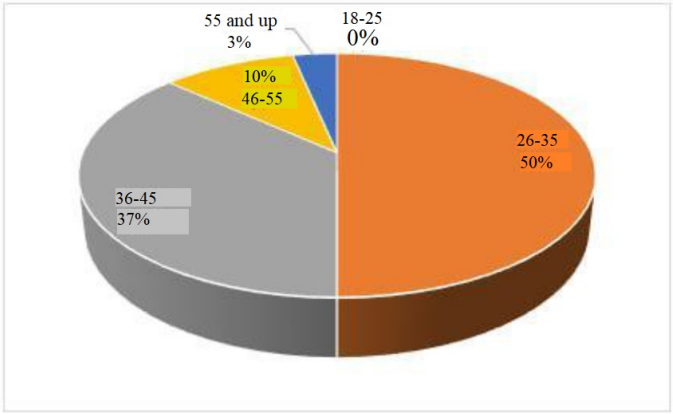

Figure 1: Age group of respondents

Figure 2 depicts the gender of the respondents. This graph shows that 30% of the respondents were women and 70% were men.

Chart 3 depicts the educational qualifications of the respondents. This graph shows that 43% of the respondents have a master's degree and 57% of them have a doctorate or higher.

The chart depicts the work experience of 44 respondents. This graph shows that 30% of the respondents have a work experience of 1-5 years, 23% have a work experience of 10-6 years, 7% have a work experience of 11-15 years, 17% have a work experience of 15-20 years and 23% They have a work experience of 20 years or more.

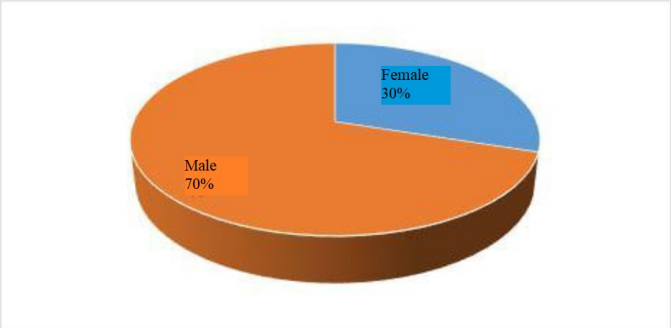

Figure 2: The age group of the respondents

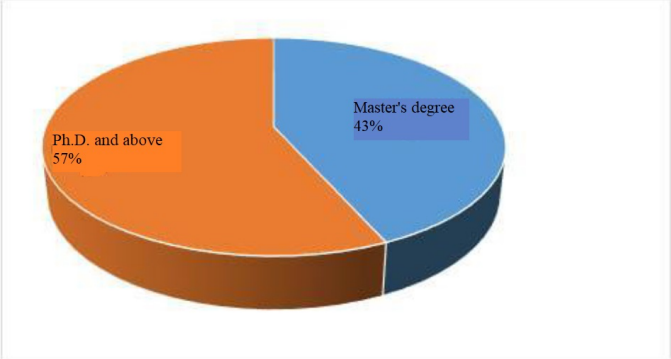

Figure 3: The chart of educational qualifications of the respondents

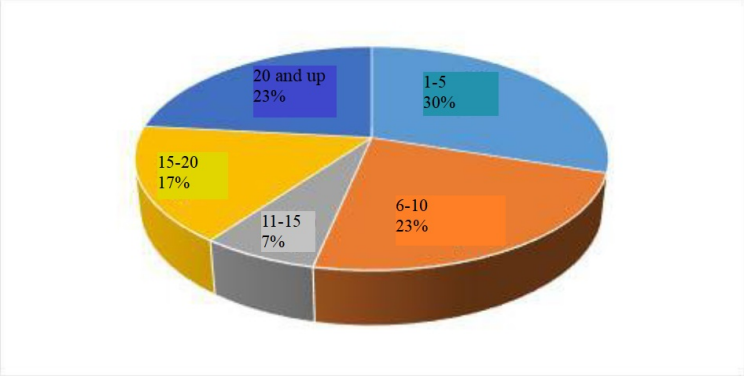

Figure 4: Chart of respondents' work experience

4.2 Inferential statistics

Coding steps in Grounded Theory include the following.

1. First step: open coding: this step of the Foundation's data theory method is done immediately after the interview. In other words, after each interview, the researcher starts to find concepts and choose suitable labels for them and combine related concepts.
2. Second step: Axial coding: the researcher selects one of the classes as the central class and investigates it under the title of central phenomenon in the center of the process and determines the relationship of other classes with it.
3. The third step: selective coding: the process of selecting the main category regularly and systematically with other categories, validating the relationships and filling the empty spaces with categories that need to be modified and expanded.

In general, in the second and third steps, the components are conceptually levelled, and then, in the form of a template, the subcategory is related to the main category, and as a result, the theory is designed.

First step: open coding.

Open coding as the first stage of grounded theory analysis is the process of breaking data into separate parts to process concepts and classify them. In this stage of coding, first, the text of the recorded interviews was carefully read and reviewed several times. The researcher reviewed the data line by line and word by word, identified the main concepts and sentences in each line or paragraph and coded each sentence. Coding was done using the participant's words or in the form of arguments made by the researcher according to the concepts in the data. In the open coding stage, a preliminary classification of codes was made and similar codes were placed together based on characteristics and dimensions. Immediately after conducting the first interview, the interview text was transcribed line by line by the researcher and every coded sentence was opened. Therefore, at this stage, according to the research questions, the interviewees were asked questions related to the design of the business intelligence model in terms of ethical decision-making in accounting businesses, and the components and indicators of their measurement were asked.

Axial and selective coding: Axial coding is the second stage of analysis in grounded data theorizing. The purpose of this stage is to establish the relationship between the generated classes (in the open coding stage). It is based on the paradigm model and helps the theorist to carry out the theory process with ease. The basis of the communication process in coding is based on the expansion of one of the classes. Therefore, in the second step of this research, based on the data obtained from the study of upstream documents and interviews and their categorization, the components of the business intelligence model are identified in terms of ethical decision-making in accounting businesses.

The business intelligence action strategies in accounting businesses considering ethical decision-making have been as follows:

Constant attention to diversity and innovation in services

Agility and flexibility to use opportunities in the environment

Forecasting demand before providing services

Service quality assurance

Focusing strategic plans on marketing

Extensive use of consultants and experts outside the offices

Agility and flexibility to take advantage of environmental opportunities

The consequences of business intelligence in accounting businesses considering ethical decision-making have been as follows:

Achieving organizational goals

Doing things right

Optimal use of organizational resources

Coordination of results with the set goals

Reduce mistakes and rework

Increase data reliability

Data accuracy to improve decision making

Increasing data accessibility

Having a systematic and standard structure

Before performing the analysis of structural equations, the normality of the variables extracted from the previous step was checked using the Kolmogorov-Smirnov test, and the results indicate that the research variables are not normal. This test examines the normality of the data according to the following assumptions.

H_0 : The data has a normal distribution.

H_1 : The data does not have a normal distribution.

Judging according to the Kolmogorov-Smirnov test table, if the significance level for all variables is greater than 0.05, the data distribution is normal. The table below shows the results of this test.

Table 1: The first stage of open coding

interview questions	Initial code extraction	Designing a business intelligence model in terms of ethical decision-making in account businesses
• Managers' support • Employee participation • Consultants support • Effective data management • Infrastructure improvement • Training of troops • Organization size • Organizational Culture • Organizational Structure • Possibilities • Knowledge and experience	What are the ethical decision-making causal conditions of business intelligence when considering accounting businesses?	
• Detailed review of all information • Continuous adaptation of organizational structure and work methods • The existence of a coordinating center for information classification and analysis • Detailed review of all collected information using information management techniques • The existence of a coordinating center for information analysis	What are the ethical decision-making background conditions of business intelligence with consideration to accounting businesses?	
• Benchmarking competitors • Government and laws and government support • The stakeholders of the business intelligence system • Continuous modeling of leading companies • Speed • Customers' way of thinking • Criticisms and opinions of customers	How is the intervening terms of business intelligence in accounting businesses by considering ethical decision making	
• Attention to diversity and innovation • Agility and flexibility to use opportunities in the environment • Forecasting demand before providing services • Guarantee the quality of services • Focusing strategic plans on marketing • Extensive use of consultants and experts outside the ministries • Agility and flexibility to use environmental opportunities	What are the action strategies of business intelligence in accounting businesses by considering ethical decision making?	
• Fulfillment of organizational goals • Doing things right • Optimal use of organizational resources • Coordinating the results with the set goals • Reducing mistakes and rework • Increasing data reliability • Data accuracy in order to improve decision-making • Increasing data accessibility • Having a systematic and standard structure • Increasing data processing capabilities	What are the implications of business intelligence in accounting businesses by considering ethical decision making?	

Table 2: Axial coding

Code extraction in the second step	Interview questions
• Senior management support • Employee participation • Consultants support • Effective management of organization data • Improving the infrastructure of the organization • Training the forces on improving the performance of the system • Organization size • Organizational Culture • Organizational Structure	What are the causal conditions of business intelligence in accounting businesses considering ethical decision making?
• Detailed review of all collected data and control of their validity through at least one other source • Continuous adaptation of organizational structure and work methods in offices with new business conditions • The existence of a coordinating center for receiving, summarizing, classification and analysis of information • Detailed review of all information collected and their credit control through at least one other source • Use of information management techniques to analyze the performance of offices • The existence of a coordinating center for receiving, summarizing, classification and analysis of information	What are the background conditions of business intelligence in accounting businesses considering ethical decision making?
• Benchmarking competitors • Government and laws and government support • The stakeholders of the business intelligence system • Continuous modeling of leading companies • In the accounting industry and comparing your performance with them • The superiority of the speed of action in providing services to gain customers over competitors • Full knowledge of the way of thinking of the main and important customers • The sensitivity of showing offices to criticisms and opinions of your customers	How are the intervening conditions of business intelligence in accounting businesses considering ethical decision-making?
• Constant attention to diversity and innovation in services • Agility and flexibility to use opportunities in the environment • Forecasting demand before providing services • Guarantee the quality of services • Focusing strategic plans on marketing • Extensive use of consultants and experts outside the ministries • Agility and flexibility to use environmental opportunities	What are the action strategies of business intelligence in accounting businesses considering ethical decision making?
• Fulfillment of organizational goals • Doing things right • Optimal use of organizational resources • Coordinating the results with the set goals • Reducing mistakes and rework • Increasing data reliability • Data accuracy in order to improve decision-making • Increasing data accessibility • Having a systematic and standard structure • Increasing data processing capabilities	What are the implications of business intelligence in accounting businesses considering ethical decision making?

Table 3: Data normality test

Result	Possibility	statistics	symbol	under the criteria	Criterion
abnormal	.000c	0.290323	q1	Senior management support	
abnormal	.000c	0.233154	q2	Employee participation	
abnormal	.000c	0.296321	q3	Consultant support	
abnormal	.000c	0.26758	q4	Effective management of organization data	
abnormal	.000c	0.278506	q5	Improving the infrastructure of the organization	Causal conditions
abnormal	.000c	0.211367	q6	Training the forces to improve system performance	
abnormal	.000c	0.281872	q7	Organization size	
abnormal	.000c	0.203068	q8	Organizational Culture	
abnormal	.000c	0.297989	q9	Organizational Structure	
abnormal	.000c	0.268678	q10	scrutinizing all information collected and verifying its validity through at least one other source	
abnormal	.000c	0.291163	q11	Continuous adaptation of organizational structure and work methods in offices with new business conditions	Background conditions
abnormal	.000c	0.285031	q12	The existence of a coordinating center for receiving, summarizing, categorizing and analyzing information	
abnormal	.000c	0.25987	q13	scrutinizing all information collected and verifying its validity through at least one other source	
abnormal	.000c	0.234888	q14	Using information management techniques to analyze office performance	
abnormal	.000c	0.219082	q15	The existence of a coordinating center for receiving, summarizing, categorizing and analyzing information	
abnormal	.000c	0.295435	q16	Benchmarking competitors	
abnormal	.000c	0.230313	q17	Government and laws and government support	
abnormal	.000c	0.24999	q18	Business intelligence system stakeholders	
abnormal	.000c	0.357481	q19	Continuous modeling of leading companies	
abnormal	.000c	0.278072	q20	in the accounting industry and compare your performance with them	interferer
abnormal	.000c	0.200695	q21	The superiority of the speed of action in providing services to	
abnormal	.000c	0.251585	q22	Gain customers over competitors	
abnormal	.000c	0.295435	q23	Complete knowledge of the way of thinking of the main and important customers	
abnormal	.000c	0.240297	q24	sensitivity showing offices to	
abnormal	.000c	0.260936	q25	Criticisms and opinions of your customers	
abnormal	.000c	0.200189	q26	Constant attention to diversity and innovation in services	
abnormal	.000c	0.446938	q27	Agility and flexibility to use opportunities in the environment	Strategy
abnormal	.000c	0.181855	q28	Forecasting demand before providing services	
abnormal	.000c	0.30398	q29	Service quality assurance	
abnormal	.000c	0.236193	q30	Focusing strategic plans on marketing	
abnormal	.000c	0.315328	q31	Extensive use of consultants and experts outside the offices	
abnormal	.000c	0.221238	q32	Agility and flexibility to take advantage of environmental opportunities	
abnormal	.000c	0.251208	q33	Achieving organizational goals	
abnormal	.000c	0.270203	q34	Doing things right	
abnormal	.000c	0.218247	q35	Optimal use of organizational resources	
abnormal	.000c	0.360131	q36	Coordination of results with the set goals	
abnormal	.000c	0.255371	q37	Reduce mistakes and rework	The consequence of business intelligence
abnormal	.000c	0.228679	q38	Increase data reliability	
abnormal	.000c	0.309819	q39	Data accuracy to improve decision making	
abnormal	.000c	0.310654	q40	Increasing data accessibility	
abnormal	.000c	0.290983	q41	Having a systematic and standard structure	
abnormal	.000c	0.257847	q42	Increase the ability to process data	

The business intelligence action strategies in accounting businesses considering ethical decision-making have been as follows:

- Constant attention to diversity and innovation in services
- Agility and flexibility to use opportunities in the environment
- Forecasting demand before providing services

- Service quality assurance
- Focusing strategic plans on marketing
- Extensive use of consultants and experts outside the offices
- Agility and flexibility to take advantage of environmental opportunities

The consequences of business intelligence in accounting businesses considering ethical decision-making have been as follows:

- Achieving organizational goals
- Doing things right
- Optimal use of organizational resources
- Coordination of results with the set goals
- Reduce mistakes and rework
- Increase data reliability
- Data accuracy to improve decision making
- Increasing data accessibility
- Having a systematic and standard structure

Before performing the analysis of structural equations, the normality of the variables extracted from the previous step was checked using the Kolmogorov-Smirnov test, and the results indicate that the research variables are not normal.

This test examines the normality of the data according to the following assumptions.

H_0 : The data has a normal distribution.

H_1 : The data does not have a normal distribution.

Judging according to the Kolmogorov-Smirnov test table, if the significance level for all variables is greater than 0.05, the data distribution is normal. The table 3 shows the results of this test. As can be seen, the significance level is less than 0.05 and indicates the non-normality of the research variables. Therefore, due to the robustness of the partial least squares approach to the non-normality of the data [33], the partial least squares method is used for investigation. Therefore, due to the robustness of the partial least squares approach to the non-normality of the data [33], the partial least squares method was used for investigation. According to this, in this research, the regression model of structural equations -The partial least squares method is used, therefore, the effect of other indirect and experimental factors was considered as a disturbance term of the model and was removed. Therefore, the first conceptual model of the research is as figure 5.

The preliminary estimate shows that in the causal context, factors q2, q5, q7 are removed from the estimated model, because they do not have the necessary reliability. In contextual relationships, factors q12, q13 and q14 were removed from the investigated model. In relation to the intervention factors, q16, q17, q19, q21 were removed from the studied model. In relation to the strategies, factors q25, q27, q30, q31, q32 were removed from the studied model. In relation to the consequences of factors such as q34 to q37 They were removed due to lack of reliability. Therefore, factors that did not have validity were removed.

Next, the quality of the estimated model was investigated. For this purpose, the blindfolding test is used. In this test, the model's ability to predict the dependent variable is checked. The following figure shows the results of this test. Validity check index and shared validity check index or cross-validity show that the estimated model has quality and can be checked and analyzed.

Table 4 shows the composite validity of research constructs. The estimated statistic of more than 0.7 indicates the combined validity of the structures. Considering that for all constructs, this statistic is more than 0.7, the result shows composite validity.

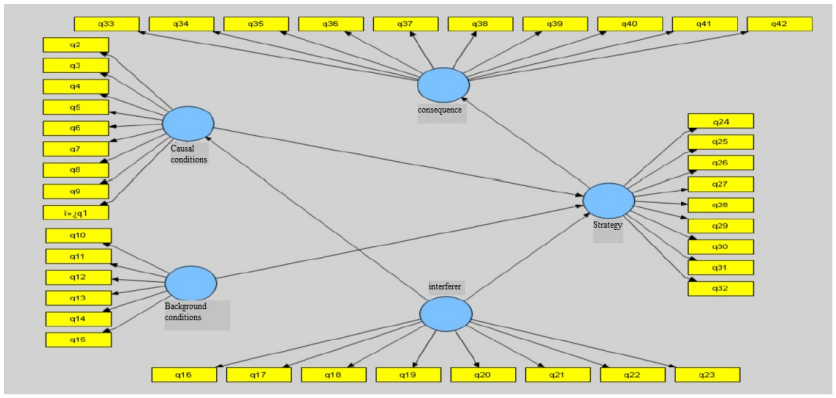

Figure 5: Basic conceptual model (manifest and hidden variables)

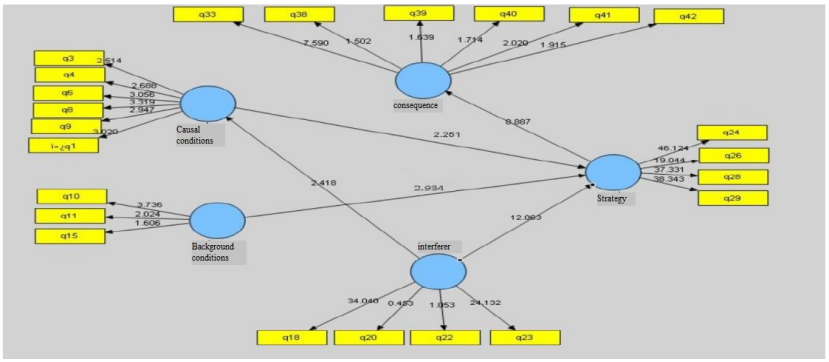

Figure 6: Structural equation model of t statistic

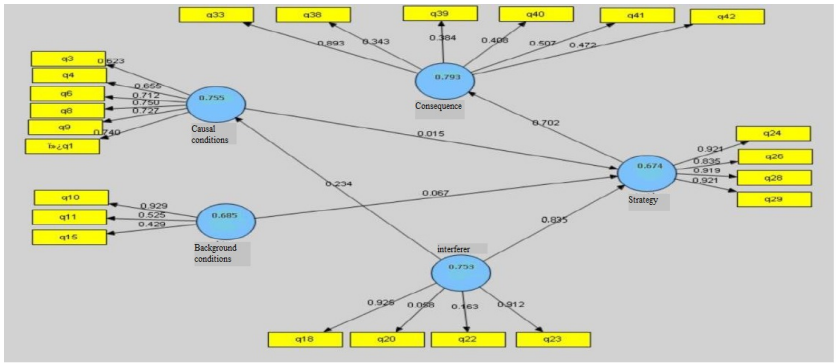

Figure 7: Research model with coefficient

Table 4: Examining the composite validity of the constructs

Result	Structures
0.80956	Causal conditions of business intelligence
0.741242	Background conditions of business intelligence
0.793834	Intervening terms of business intelligence
0.729093	**Business intelligence action strategies
0.784791	**Consequence of decision

Finally, according to the main innovation of the upcoming research, the design of the business intelligence model in terms of ethical decision-making. It can be said that organizations in terms of structure, culture and type of workforce, are different from other organizations. In terms of ethical decision-making, they can be effective in the consequences and the way business intelligence responds. Although so far none of the internal research has addressed the topic of business intelligence model design in terms of ethical decision-making, but the mixed approach to modelling applied

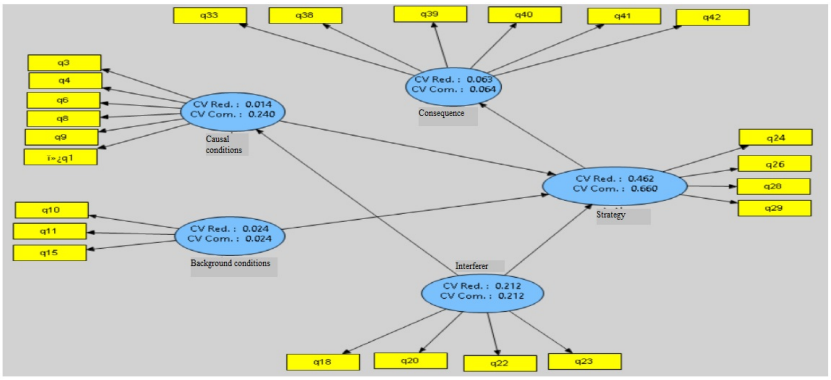

Figure 8: Checking the quality of the estimated model

using the data theory method of the primary model foundation shows that the designer Business intelligence model in terms of ethical decision making. It can clearly measure the effect of auditors' ethical decision-making in the organization and its effect on the design of business intelligence. Therefore, according to the research results, the research model will be as follows:

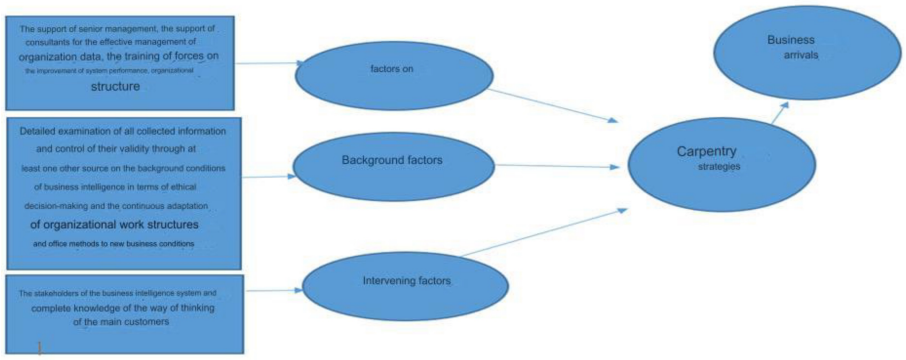

Figure 9: Implications of business intelligence

5 Conclusion and discussion

Today, various units of the public and government sector, such as banks, the Department of Economic and Financial Affairs, and hospitals due to many interactions with natural and legal persons, have a wealth of raw data. These seemingly simple data have financial value and reporting from various dimensions, but what makes the use of this data difficult is the time-consuming and high manpower spent in the process of collecting, classifying and summarizing information and preparing reports. For this reason, the use of business intelligence in the public and government sectors is very important and fundamental. On the other hand, along with the use of business intelligence, considering ethics in reports is a human and spiritual matter. Therefore, it is essential to examine business intelligence by considering the category of ethics. Based on the results obtained in this research and by the underlying theory, the causal conditions of business intelligence including ethical decision-making include the support of senior managers, the participation of employees, the support of consultants, the effective management of organization data, the improvement of the organization's infrastructure, and the training of forces on improvement. System performance, organization size, organization culture and organization structure were identified. Then, using the method of structural equations, the results show that there is a positive and significant relationship between the causal conditions of business intelligence, including ethical decision-making on strategies and consequences. Also, the observations show that the support of senior management, the support of consultants, the effective management of the organization's data, the training of the forces on improving the system performance, and the organizational structure are among the sub-criteria affecting the causal conditions of business intelligence.

The results of this study in examining the causal conditions affecting business intelligence in terms of ethical decision-making are in line with the studies of Jamshidpour et al. [21], Motahari and Davoudi [25] and Tavakoli et al.

[42] were consistent.

Therefore, considering ethical decision-making, the causal factors include the support of senior management, the support of consultants, the effective management of organization data, the training of forces on improving system performance, and the organizational structure. In general, human resources include the support of managers and the support of consultants and the training of employees to strengthen and improve performance. An act of moral virtue or moral vice is called to support emotional states, hence the support of senior managers in business intelligence has been one of the causal factors of ethical decision-making in the design of business intelligence. According to Kashora [22], managers are prioritized as the key drivers of business intelligence. Managers can strengthen performance by manipulating the company's profitability, changing the market share, reacting quickly to opportunities and threats, as well as considering the challenges of implementing business strategy and purchasing challenges. According to Jaekel and Luhn [20], the value chain of business intelligence is based on data that shows facts related to events and events, these data become information that enables people to react to events. Then this information becomes knowledge and enables appropriate and active actions in front of the events. Therefore, the effective management of the organization's data will improve the performance of the system.

In general, the employees in the work environment in the organization are continuously interacting with others and special conditions force them to emotional reactions. The skill of emotional reactions and taking ethical patterns in interaction is possible through professional ethics. Therefore, the causal factors can be related to the organization and its human resources. In general, the institutionalization of ethical patterns in interpersonal interaction in the organization includes the support of senior management, the support of consultants, the effective management of the organization's data and the training of the forces are effective causal factors in the design of the business intelligence model. Managers and employees of government organizations to carry out their organizational affairs, in addition to organizational and legal standards, need a set of moral and value guidelines to help them in organizational behaviours and actions and a kind of coordination and unity in moving towards the desired collective and make the public available to them. The background conditions of business intelligence including ethical decision-making include the careful review of all collected information and their validity control through at least one other source, the continuous adaptation of the organizational structure and work methods in offices to new business conditions, the existence of a coordinating center to receive, Summarizing, categorizing and analyzing information, carefully checking all collected information and checking its validity through at least one other source, using information management techniques to analyze the performance of offices and having a coordinating center for receiving, summarizing, categorizing and analyzing information. have been. The background conditions of business intelligence have had a significant effect on the results of the company. The final factors of the final conditions of business intelligence, including ethical decision-making, were finally using the model of structural equations as follows. By examining the structural equations, the results show that the two factors of careful examination of all collected information and control of their validity through at least one other source on the background conditions of business intelligence in terms of ethical decision-making and continuous adaptation of the organizational structure and work methods in Offices with new business conditions are effective on the background conditions of business intelligence in terms of ethical decision-making on the design of business intelligence. This result was in line with the study of Mallah Rakavandi and Jafar Tarokh [24], Seyedin Boroujeni and Hosseinpour [37], Basu [6], Richards et al. [32] and Darrough and Stoughton [12].

As the results show, careful review of all collected information and control of their validity through at least one other source has an effective role in the underlying causes of business intelligence. Information depicts the behaviour and trends of the organization, and through the control of information and its validity, it causes the formation of business intelligence. Therefore, knowledge of the competitors' situation, knowledge of the market situation, technological and technical knowledge, and strategic and social knowledge are received from the information, which is effective in the design of business intelligence in terms of ethical decision-making. The formation of business intelligence in the organization creates new conditions in the organization that require adaptation of the organizational structure and methods of doing work in the organization. Considering this and fluctuations in Iran's structure, ethical decisions will adapt the organizational structure according to the new conditions. Examining the intervening conditions shows that the intervening factors of business intelligence include benchmarking of competitors, government and government laws and support, business intelligence system beneficiaries, continuous modelling of leading companies in the accounting industry and comparing their performance with them, the superiority of the speed of action In providing services to customers compared to competitors, full knowledge of the main and important customers' way of thinking, the sensitivity of the offices to the criticisms and opinions of their customers have been. The intervention conditions of business intelligence have had a significant effect on the results of the company. As a result, the evaluation of the system of equations shows that the factors of the stakeholders of the business intelligence system and complete knowledge of the way of thinking of the main and important customers are effective on the intervention conditions

of business intelligence in terms of ethical decision-making. In similar research conducted by Elyasiani [15] in large engineering organizations and in interviews with stakeholders of business and intelligence systems, including project managers, end users, main stakeholders of the project, internal and external consultants, and also in other similar researches in the past That it was done by Elyasiani et al. [15], Wang et al. [43] and Chen [9] and William and Elson [44] and Frank and Goyal [16] regarding other information technologies. Some ethical factors such as the detailed organizational perspective of the stakeholders and the spirit of teamwork have been introduced as influencing factors on the quality of the system. Therefore, the ethical decisions of stakeholders have been effective in performance, and this result is in line with the results of the above study. Also, the results of the research are in line with the study of Nikoumram et al. [26]. One of the reasons for establishing business intelligence systems is to identify the needs of stakeholders and satisfy their needs. The mismatch between the needs of the beneficiaries and the final intelligence created from the process is considered the most important factor in the unwillingness of the beneficiaries to use the achievements of technological intelligence. On the other hand, considering that the values of a person can be defined as a set of abstract ideals that give shape and direction to his thoughts and actions, therefore, what is in the mind of the customers of the collection causes the increase of customers and the formation of the business intelligence system. According to Sweeney et al., [41], interested individuals and groups can have a direct effect on the organization, and they are individuals or groups that are directly or indirectly affected when the organization seeks to achieve its goals. Providing information about the company's environment such as the sector in which the company operates, customers, competitors and market procedures are effective in improving relationships. Also, providing and equipping sales representatives with sufficient knowledge of customers so that they can meet the needs of their customers, as well as tracking the level of customer satisfaction have been effective on business efficiency and identifying market trends. Because according to Saxena [35] description of what happened focuses on identifying procedures or patterns in previous events and actions or classifying customers based on their past purchase behavior. Therefore, the behaviour of customers and their way of thinking also has a meaningful effect on the performance of organizations.

Business intelligence action strategies including ethical decision-making include constant attention to diversity and innovation in services, agility and flexibility to use environmental opportunities, predicting demand before providing services, guaranteeing service quality, focusing strategic plans on marketing, extensive use of consultants and Experts outside the departments are agile and flexible to use environmental opportunities. Therefore, showing offices sensitively, constant attention to diversity and innovation, forecasting demand before providing services and guaranteeing service quality have a significant impact on business intelligence strategies in terms of ethical decision-making. This result is consistent with the study of Sadeghi De Cheshmeh et al. [34], Dabagh and Jasbi [11]. Therefore, the active behaviours of individuals and organizations that generally seem unethical, unconventional and breaking the law, and creating the ability to analyze the conditions and prevent the occurrence of such reactions causes the impact of business intelligence action by considering ethical decision-making. Considering the sensitive effect of showing offices, constant attention to diversity and innovation, forecasting demand before providing services and guaranteeing the quality of services, it can be said that these factors have a significant impact on business intelligence strategies in terms of ethical decision-making in the action of business intelligence. Attention should be paid to the organization because these factors change. The results of the research show that causal, background and intervention factors have a significant impact on business intelligence strategies through sensitively showing offices, constant attention to diversity and innovation, forecasting demand before providing services and guaranteeing service quality. In that way, business intelligence strategies can be achieved. By using the background theory of achieving organizational goals, doing things right, optimal use of organizational resources, coordinating results with set goals, reducing mistakes and rework, increasing data reliability, and data accuracy to improve decision making, increasing data accessibility, Having a systematic and standard structure increases the ability to process data. Observations of structural equations show that the realization of organizational goals, having a systematic and standard structure on the consequences of business intelligence in terms of ethical decision-making and increasing data processing capability are the most important factors in business intelligence. From the consequences of business intelligence, we can mention the realization of organizational goals, having a systematic and standard structure on the consequences of business intelligence in terms of ethical decision-making, and increasing the ability to process data.

5.1 Suggestions from the research results

1. Based on the obtained results, it is suggested to identify the effect of this factor in the design of the attention model and the consequences of such supports in line with the design of business intelligence. Because sometimes improper support will change the action of business intelligence in the organization and may cause undue damage to the organization, and also the right support can be constructive.
2. Also, the support of consultants is one of the factors affecting the design of business intelligence in terms of ethical decision-making, so it is recommended to pay attention to the effect of this factor in the direction of the

design of business intelligence. Because the support of consultants to improve the actions and consequences of business intelligence makes the organization reach the goals and vision of the organization faster.

3. The effective management of the organization's data is the main need of every business, so it is suggested to try to identify, classify and assess the needs of this data in line with management and research and development in the organization. Training and development of human resources is one of the most effective reasons for the design of business intelligence. Therefore, the importance of the role of forces in the design of business intelligence, and the use of methods such as the design and support of an integrated human resources system can be considered in the design of business intelligence.
4. In general, paying attention to the causal conditions of business intelligence in terms of ethical decision-making has an impact on strategies, so these factors cause the sensitivity of offices, diversity and innovation in services and demand forecasting. Therefore, in the design of business intelligence, it is suggested to pay attention to the factors of support of senior managers, support of consultants, data management of the organization and training of the forces, because these ethical decisions, due to these goals, cause the sensitivity of offices, diversity and innovation in services and demand forecasting, and as a result, strategies change the way business intelligence works.
5. Considering the economic and structural situation, as well as the application of business intelligence in Iran and its related regulations, a detailed review of all collected information and control of its validity through at least one other source can cause coherence, maintain the record of information and maintain it, as well as cause More market, competitors and products will be identified, so it is suggested to use a strong support system to maintain and improve the business intelligence system.
6. Considering the huge amount of information available in the public and government sectors and the need to use this data correctly and based on ethics and to present a fair report of the manager based on this information, it is suggested that the managers of the public sector, such as senior managers of banks as well as managers of public affairs organizations, use the model presented in this research practically in presenting their reports.

5.2 Suggestions for future researchers

1. Based on the results obtained from this research, it is suggested to other researchers and students to examine ethical judgments in the design of business intelligence in future research.
2. They can also compare the factors affecting the design of business intelligence with regard to the formation of a unified information system and the design of business intelligence with regard to the stakeholders.
3. Also, a research on ethical decision-making and its impact on the performance of organizations with regard to the business intelligence system can also be effective in order to clarify business intelligence in organizations.
4. Regarding the ethical use of information and data available in the public sector, students and researchers are suggested to use the model presented in this research as an example and practical in a bank in a province or the tax affairs organization of a city. or the province specifically to check and benchmark so that finally, in the future, a final approved model will be presented in all government and public centers.

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