

Investigating the impact of information systems and non-financial information systems on the effectiveness of organizational decision-making in petrochemical companies in Pars Special Economic Energy Zone

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Abstract

The main purpose of this research is to investigate the impact of information systems and non-financial information systems on the effectiveness of organizational decision-making in petrochemical companies in Pars Special Economic Energy Zone. The method of the current research is a descriptive analysis of the survey type and is applied in terms of purpose. The statistical population of this research includes employees and managers of industries Pars Special Economic Energy Zone. The sample size was estimated at 384 and they were selected by stratified sampling method. The research tools in this research include the internal control system quality standard questionnaire, Forn Lafatra Chagorn (2019) and the accounting information system quality questionnaire, Sudani (2012) and the Dornier non-financial information quality questionnaire (2018) and the decision-making effectiveness questionnaire of Forn Lafatra Chagorn (2019). and the Sudanese Non-Financial Performance Questionnaire (2012) which are related to the variables considered in the present research will be used to collect information and measure the variables. The validity of the questionnaires was assessed based on the opinion of experts and its reliability was also assessed based on Cronbach's alpha test. and were approved. In this research, in order to analyze the data from structural equations and especially the path analysis technique, using SMART PLS software, the identified paths of knowledge according to the conceptual model have been investigated. The findings of his research show that information systems and non-financial information systems have a significant effect on the effectiveness of organizational decision-making in petrochemical companies located in Pars Special Economic Energy Zone.

Keywords: *Accounting Information System quality, Internal control system quality, Non-financial information quality, Decision making success, Pars Special Economic Energy Zone.*

Introduction

Today, information is considered the most important source of the manager after the human factor in the organization (Barker et al., 2018). Information is the basis of all activities in any organization and it is possible to fulfill the tasks and achieve the goals of the organization only by accelerating and facilitating the flow of information and creating a strong and effective communication and information network. Managing the affairs of organizations in an efficient manner, especially in today's complex world, requires collecting and processing a large amount of diverse information that is growing at a fast pace. The quantity and quality of

information needed by managers to make decisions depends on several factors. But the characteristics of the information itself as well as the way of processing the information needed by the managers to make decisions are decisive and essential factors in this process. According to accounting information systems are considered as important organizational mechanisms that are vital for the effectiveness of management and control decisions of the organization. However, we still have studies to evaluate information and control systems and the characteristics of non-financial information and the contribution of this We have not identified the variables in the success of the company. In order to fill this gap

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in studies, this article aims to develop and evaluate a model that proves that success in decision-making and as a result non-financial performance depends on the characteristics of control and information systems and non-financial information. In addition to filling this gap in the article, this research emphasizes its application in such a way that it determines the importance of the characteristics of visible financial information and the characteristics of control and information systems for the survival of the company and its growth. Today, there is an urgent need for companies to adapt to the constantly changing business environment. These environments expose managers to voluminous data, which leads to the need to transform it into valuable information for decision making. Information systems play an important role in business management because managers and other stakeholders need information systems to produce useful and high-quality information. However, a major problem faced by financial reporting stakeholders is the need for reliable information to assist in the decision-making process (Fraser et al., 2020). which highlights the importance of considering financial information and a comprehensive set of non-financial indicators in the decision-making process, so the complementarity of financial and non-financial information has been investigated in several studies. Using a sample of mobile phone companies, it was concluded that financial information is valuable and relevant (value-related) after including non-financial information, and that the non-financial information they examine is intrinsically valuable and complementary to financial information. are In fact, non-financial information affects the manager's decision-making behavior (Fraser et al., 2020). According to research (Hella and True, 2015), the accounting information system is a computer-based system that increases the control of the organization. The accounting information system as a system that collects and processes data in terms of money in It is considered and is an important source of accounting information (Neozhi et al., 2014) which helps the management to control the financial and economic sphere of the company (Sudani, 2012). Accounting information systems are considered as important organizational mechanisms that are

vital for the effectiveness of management and control decisions of the organization. According to (Rashdi and Dargahi, 2019), the accounting information system provides financial information that is used for monitoring and Human resource management is necessary along with conservative accounting controls. This article also suggests that the quality characteristics of the accounting information system can be maintained if there is an effective and reasonable internal control system (Neozhi et al., 2014). According to international auditing standards, an internal control system should be the basis of any company's development plan and help the company to properly organize and control all its activities (Dimitri Jovich, 2015). Previous studies refer to the characteristic of the accounting information system and the characteristic of the internal control system along with its subsequent impact on the decision-making and success of the business unit (Monteiro et al., 2021). It empirically shows that the characteristics of the internal control system affect the success of decision-making directly and indirectly through the effectiveness of accounting information. Also (Monterio et al., 2021) shows that the characteristics of the internal control system have a direct effect on The feature of financial information has an indirect effect on the effectiveness of decision-making. The study (Rashdi and Dargah, 2019) proves that the accounting information system and the efficiency of internal control have a tremendous effect on the feature of financial reporting It has been concluded that both the characteristics of the internal control system and the characteristics of the accounting information system contribute to the characteristics of financial information and subsequently to the usefulness of financial information. It emphasizes the importance of non-financial information in recent years have received from organizations and schools (Ahmad and Zabari, 2016) because this causes the success of companies. However, we have yet to identify studies to evaluate information and control systems and the characteristics of non-financial information and the contribution of these variables to the success of the company. In order to fill this gap in studies, this article aims to develop and evaluate a model that proves that success in organizational decision-making and as

a result non-financial performance depends on the characteristics of control and information systems and non-financial information.

Literature Review

The effect of the quality of the internal control system on the quality of non-financial information

In traditional accounting, financial statement information was effective for evaluating companies, but accounting is changing from traditional processes and surrounding non-financial information is increasing. In recent decades, professional accountants and schools have emphasized the importance of non-financial information on decision-making. have emphasized (Tarquinio and Posadas, 2020). has examined how to define the term "non-financial information" in the articles and has come to the conclusion that the concept of non-financial information without having a common concept and a single definition and generally accepted term is still ambiguous and two-sided (Tarquinio and Posadas, , 2020). Previously, non-financial information was defined as additional information that was not disclosed in the financial statements of a company. For Upton (2001), "non-financial disclosures and measures include index scores, ratios, counts and other information that are not presented in the basic financial statements". According to Madge (2018), some organizations use partial information that evaluates and It enables comparability of information. According to (Cohen, 2008), non-financial information includes the general economic situation, technological changes in customer-oriented industries, and new products from competitors. (Barbosa et al., 2021). (Manes Rossi et al., 2018) based on their findings in non-financial information articles, they refer to a wide range of items and topics such as social and environmental policies and their impact (such as the use of energy and resources, the emission of greenhouse gases pollution, biodiversity, environmental changes, waste management, health and safety of employees, gender equality, education) and this is the main focus for accountability and transparency towards stakeholders. In fact, the interest in non-financial information has led to a wide adaptability of reporting (annual report or separate reports) provided by companies to shareholders along with financial information and non-financial

information related to the business unit's activity and social viewpoints and issues. It provides an environment. Stakeholders are interested in non-financial information because they face challenges regarding access to information considered relevant, reliable, complete and comparable (Barker & Eccles, 2018). However, there are no standardized quality attributes for non-financial information like there are for financial information. Rezaei and Tu (2019) classify non-financial information with correct, complete and timely information. In order to ensure the efficiency and effectiveness of activities and reliability of information and compliance with applicable laws, companies need adequate internal control (Fraser et al., 2020). Economic growth and the expansion of capital markets, the emergence of new technological trends, globalization, and competition, among other factors, have created the need, on the part of companies, to properly evaluate their internal control system (Silva and Sena, 2019). This topic has attracted growing interest worldwide due to economic crises and financial scandals that have occurred in recent decades. Dimitrijevic et al. (2015) says that according to international auditing standards, an internal control system should be the basis of the development plan of any company and should help it organize and properly control all its activities. Therefore, the quality of the internal control system is important for companies, that is, for the survival and sustainability of their activities in the long term, because it allows the control/analysis of the accuracy of the results of the companies (Fornelafatrachakorn, 2019). Internal control system quality refers to a set of processes that appropriately guide companies to achieve operational effectiveness and efficiency, quality in accounting information reporting, and compliance with applicable laws and regulations (Schroeder and Shepherdson, 2016). Therefore, internal control procedures improve the quality of information disclosed by the company (Baugh et al., 2021). Monteiro et al. (2021) show that there is a positive and significant relationship between the quality of the internal control system and the quality of financial information. Jokippi (2010) mentions that companies have adapted the structure of internal control systems to deal with environmental uncertainty and ensure an

effective internal control system. Therefore, if an internal control system is successfully implemented, it can promote higher quality and accuracy of financial and non-financial reporting (Bozolan and Mihkinen, 2019). Also, the quality of the internal control system increases the credibility and transparency of non-financial information (Fraser et al., 2020).

The effect of the quality of the accounting information system on the quality of non-financial information

Boljobasic and Ilgon (2015) state that the information that is considered important in making decisions is delivered by the accounting information system. Therefore, the literature also recognizes the importance of accounting information systems for the reliability and transparency of financial and non-financial information. For the main benefits of optimal use of an accounting information system in a company are related to 'better adaptation to a changing environment, better management of arm's length transactions and a high degree of competitiveness'. Accounting information systems are used by companies to automate information related to business operations. The accounting information system includes processes, procedures and systems that enable the production of accounting information resulting from the company's activity and report this information in a summary form to the internal and external stakeholders of the entity (Turner et al., 2020).). The main function of the accounting information system is to document economic events and verify their impact on the economic and financial status of the company. For Sari et al. (2018), the accounting information system should provide important information to reduce uncertainty in decisions and promote better planning and control of business activities. Baljobashik and Ilgon (2015) have stated that the information that is considered important in decision making is provided by the accounting information system. The accounting information system processes accounting transactions and provides information to interested users that they use to make effective decisions, and also helps management to carry out business activities correctly so that ultimately it can Evaluate the company's performance. Nevertheless, according to the research of Sajjadi and his colleagues

(2008), the effectiveness of the accounting information system depends on the decision makers' perception of the effectiveness of the information created by the system itself - to meet the information needs. According to Fitrios et al. (2018) and Bain et al. (2020), the quality of the accounting information system is related to the ability of the system to process financial data and produce accounting information that is useful for decision-making and thus determines the success of the company. Following this line of thinking, we define the quality of the accounting information system as follows: the ability of the system to process and convert a large amount of information into high-quality information (financial and non-financial), with a value connection with the decision-making process and with effective development and Efficient company activities. Therefore, Bain and his colleagues (2020) assume that the quality of the accounting information system results from the combination of system quality and information quality. In fact, an institution can only manage itself properly if its decisions, implementation and executive control are based on information that has quality criteria (Srivastava and Lagnathan 2016). Zysnarska Dorszak (2018) adds that the management accounting information system (MAIS) should ensure the transparency of accounting information related to corporate responsibility, which ultimately increases the credibility of corporate responsibility reporting because it improves the quality of non-financial information.

The impact of quality non-financial information on effective organizational decision making

Although financial statement information is related to value, there is evidence that shareholders also consider non-financial information in assessing the value of companies. According to Sievers and colleagues (2013), non-financial indicators can support managers' decisions. However, an important problem faced by users of financial reporting is the lack of access to reliable information to support the decision-making process. According to Aritz et al. (2017), in an organizational environment, decision-making usually requires identifying goals, gathering information, and using this information to determine the best way to do work to achieve the set goal. However, according to the

research of Shaheswarani and Abadi (2015), this process faces continuous risk because it is associated with an opportunity cost (damage due to lost opportunity). Therefore, decision making success means the ability of business decision makers to successfully manage problems (White et al. 2015). In this study, we define decision-making success as follows: the ability of companies to choose the best options or business alternatives, and use information in a way that achieves a desired goal or result. Therefore, to be successful, decision makers need information to support their choices, that is, information that has both qualitative and quantitative nature (Smith et al., 2020). Meanwhile, this author points out that collecting the maximum possible data in real time can help the decision maker to make the best choices. According to the research of Baljobashik and Ilgun (2015), the type of information that a manager needs depends on his role in the organization. On the one hand, decision-making is different in many ways and will vary depending on some aspects of the required information (i.e. the amount, complexity and accuracy of the information) and the complexity of the process required to obtain this information (Atanaso and Perera 2019).). The reason for this is that all the information that is needed is not always readily available or is not made available by companies in a timely manner, especially when this information is non-financial information. In recent years, non-financial information has received increasing attention from organizations (Ahmed and Zobari 2016). According to Laskin's research (2016), non-financial indicators can fill the existing gap in terms of information needed for decision making. According to the same author, using this type of information can help to evaluate the company correctly. Therefore, studies have suggested that non-financial information is important and that this information can determine the success of decision-making (Barker and Eccles 2018).

The impact of quality non-financial information on non-financial performance

The competitive environment increasingly creates new challenges for management. These challenges must be solved strategically to enable better performance. Chandler (1977) points out that in the early 1900s performance measurement tools were used primarily as control mechanisms.

Gracha and Camarina Matos (2017) have stated that these measurements or indicators are a set of quantifiable criteria that companies use to evaluate their performance in order to achieve their strategic and operational goals. Chu and van der Steed (2006) have emphasized that performance appraisals play an important role in the management of an organization because they translate strategy into desired behaviors and outcomes, inform these expectations, measure progress, monitor, provide feedback, and motivate employees through performance-based rewards and punishments. In the field of economic theory, management performance evaluation should include both financial and non-financial performance indicators (Saeed et al. 2003). Companies have evaluated management performance using financial measures such as return on capital employed, return on assets, net profit margin, and earnings per share (Barbosa et al. 2021). In this study, non-financial performance is the result of a company's efforts in relation to customer satisfaction and loyalty, working conditions and employee satisfaction/retention, quality of products/services, general company quality, market share, productivity, innovation, as well as environmental problems. and social (corporate social responsibility) is defined. In fact, recent researches put more emphasis on financial performance and consider measurement tools such as customer satisfaction, employee satisfaction, productivity, product quality, and market share in rewarding managers. Saeed and his colleagues (2003) have stated that contextual factors, environmental factors, and strategic plans are different among different companies, and the adoption of appropriate non-financial measurement tools can determine the performance results of these measurements. According to Banker et al. (2000), a growing number of studies suggest that because current non-financial measurement tools are better indicators of long-term financial performance than current financial measurement tools, they help managers refocus on the long-term aspects of Focus your actions. However, accurate, effective and timely evaluation of some non-financial performance indicators can be difficult (Chu and van der Steed 2006). The study of Flostrand and Strom (2006) shows that the

importance of non-financial information is associated with the size of the company and that the use of non-financial information is related to the level (extent) of non-financial information. This leads to the conclusion that companies that value non-financial information perform best. Therefore, it is predicted that companies with better financial/non-financial performance are most likely to disclose high-quality non-financial information.

The impact of organizational decision making on non-financial performance

Angworu (2018) points out that the decisions of managers have significant results for the

performance and success of the company. In fact, Patel (2015) and Foren Lafatra-Chagorne (2019) claim that effective and efficient decision-making will ultimately have a positive impact on the company's profitability (i.e. on its financial performance). According to Anguro's research (2018), managers' decisions have an impact on the performance and success of companies. In relation to the main variables of the research, researches have been conducted inside and outside the country, and the summary of the results of these researches is presented in the following table:

Table 1. research background

Researcher	Title	Findings
Zarrabi et al. (2022)	The impact of information systems and non-financial information on the success of small and medium enterprises	The results showed that information systems and non-financial information have an effect on the success of small and medium-sized companies.
Rakhshani et al. (2019)	The effect of using accounting information systems on management performance	The research results show that accounting information systems and its components have an impact on management performance.
Montero et al., (2022)	The impact of information systems and non-financial information on success	The results showed that the company showed that the quality of information and control systems (internal control and accounting) has a direct effect on the quality of non-financial information and an indirect effect on the success of decision making.
Furnalafatra chakorn, (2019)	The effect of the internal control system on the success of decision making	The experimental results show that the characteristics of the internal control system affect the success of decision-making directly and indirectly through the effectiveness of accounting information.

Based on the mentioned materials, the conceptual model of the research is examined as described in figure (1).

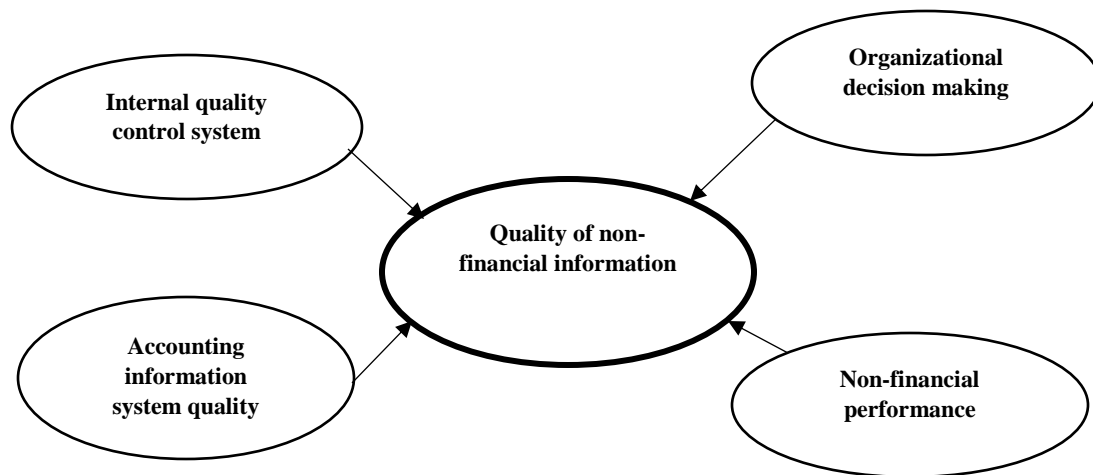


Figure 1- The conceptual model of the research (Albertina et al., 2022)

Research hypotheses

The hypotheses examined in this research are as follows:

Main hypothesis: Information systems and non-financial information systems have a significant impact on the effectiveness of organizational decision-making in petrochemical companies located in Pars Special Economic Energy Zone.

Sub-hypotheses:

The first hypothesis: the quality of the internal control system has a significant effect on the quality of non-financial information in petrochemical companies located Pars Special Economic Energy Zone.

The second hypothesis: the quality of the accounting information system has a significant effect on the quality of non-financial information in petrochemical companies located in Pars Special Economic Energy Zone.

The third hypothesis: quality non-financial information has a significant effect on the effectiveness of organizational decision-making in petrochemical companies located in Pars Special Economic Energy Zone.

The fourth hypothesis: Quality non-financial information has a significant effect on non-financial performance in petrochemical companies based in Pars Special Economic Energy Zone.

The fifth hypothesis: the effectiveness of organizational decision-making has a significant effect on non-financial performance in

petrochemical companies located in Pars Special Economic Energy Zone.

Research methodology

From a philosophical perspective, this research is an affirmative type of research. In terms of approach, it has a quantitative approach and the desired data has been collected using survey method and questionnaire tool. The statistical population of this research consists of assistants and financial managers, and Morgan's table was used for sampling, and the calculated sample number was 384 people. The type of sampling is probability sampling and stratified random sampling method. It should be noted that after applying stratified random sampling, simple random sampling method was used for sampling. Respondents in this research were selected based on 3 variables: age, education level and gender. Regarding the level of education, there were 8 people with a doctorate degree, 187 people with a master's degree, 145 people with a bachelor's degree, 20 people with an associate degree, and 24 people with a diploma or lower. In terms of gender, 263 women and 121 men were selected. Regarding the age variable, 49 people were between 25 and 30 years old, 141 people were between 31 and 35 years old, 111 people were between 36 and 40 years old, and 83 people were over 40 years old. To measure information systems and non-financial information systems, the questionnaire of Albertina et al., (2022) was used, to measure organizational decision-making,

the questionnaire of Forn Lafatra Chagorn and his colleagues (2019) was used. Considering the theoretical foundations and conceptual model of the research and Since the formal and content validity of the mentioned questionnaires were confirmed by the experts, the mentioned questionnaires were used. The reliability of data collection has been confirmed. A five-level Likert scale was used to answer the questions (completely agree, agree, have no opinion, disagree, and completely disagree) and the numbers 1 to 5 were used to score the answers. Using Morgan's table, 384 assistants and financial managers were selected as a sample. In order to collect data, questionnaires were distributed among the sample members and 384 questionnaires were returned to the researcher. In this research, the structural equation modeling technique and Smart PLS software were used to examine the relationships between hidden variables and measures (observable variables) at the same time Also, this technique has good predictive power and can fit the model well when there are a large number of constructs or indicators in the model Giri, the structural model, and the general model are evaluated according to their specific indicators. Researchers have

mentioned several reasons for using the PLS method. The most important reason for the efficiency of this method is introduced for small samples. The next reason is the abnormal data that researchers deal with in some studies. Small sample size is the best reason to use PLS. The first generation of this structural equation technique, which is implemented with software such as LeRele, Emos, and EQS, requires a large number of samples; While the PLS method has the ability to implement the model with a very small number of samples (Davari and Rezazadeh, 2013). This study follows a quantitative method to test the assumptions of the proposed model. A survey based on a questionnaire was sent to the vice presidents and managers of the companies in order to collect the necessary data.

Findings

To evaluate the relationship (correlation) between the components of "internal control system quality", "accounting information system quality", "non-financial information quality", "decision making success" and "non-financial performance". Therefore, the correlation test was used and its results are presented in the matrix below.

Table 2. Correlation matrix between research variables

Statistical index Variables	Internal quality control system	Accounting information system quality	Quality of non- financial information	Decision making success	Non- financial performance
Internal quality control system	-				
Accounting information system quality	**0.47	-			
Quality of non-financial information	**0.53	**0.49	-		
Decision making success	**0.81	**0.52	**0.73	-	
Non-financial performance	**0.55	**0.83	**0.79	**0.64	-

As it is clear from the above matrix, the sign ** indicates the existence of correlation between research variables at the 0.01 level. That is, there is a direct relationship between the components of "internal control system quality", "accounting information system quality", "non-financial information quality", "decision making success" and "non-financial performance".

- Evaluation of measurement models

- Reliability (factor loadings, Cronbach's alpha and composite reliability)

Factor loadings are calculated by calculating the correlation value of the indicators of a structure with that structure. If this value is equal to or greater than 0.4, it confirms that the variance between the structure and its indicators is the variance of the size error. The measurement of that structure is more and the reliability of that measurement model is acceptable.

The important point is that if the researcher encounters values less than 0.4 after calculating the factor loadings between the structure and its indicators, he should modify those indicators (questionnaire questions) or remove them from his research model.

In the current research, using structural equations and Smart PLS3 software, confirmatory factor analysis to investigate the effect of information systems and non-financial information systems on the effectiveness of organizational decision-making in petrochemical companies located in Pars Energy Special Economic Zone for all hypotheses and Research variables have been used.

The minimum necessary condition for confirmatory factor analysis is that the researcher has a certain presupposition about the number of factors in the model before performing the analysis, but at the same time, the researcher can include his expectations based on the relationships between variables and factors in the analysis. Also, another important use of confirmatory factor analysis is to check the fit of the model containing the questions of one variable. In this research, using Smart PLS software, confirmatory factor analysis has been used, which, unlike other methods such as Lisrel or Amos, does not have presuppositions such as

normality, and in fact, it is one of the advantages of Smart PLS software, but to do it, the coefficients must be significant. The path of the data should be normal, and if the data is not normal, only by using the coefficients of the path and the limits determined for their significance, it is possible to answer the assumptions, of course, in the present study, all the variables are normal. In this model, numbers or coefficients are divided into two categories. The first category is called measurement equations, which are the relationships between hidden variables and obvious variables. These equations are called factor loads. The second category is structural equations that examine the relationships between hidden variables and are used to test hypotheses. These coefficients are called path coefficients, according to the model in coefficient estimation mode, factor loads and path coefficients can be estimated. Based on factor loadings, the index with the highest factor load has a greater contribution to the measurement of the corresponding variable, and the index with smaller coefficients plays a smaller contribution to the measurement of the relevant construct.

Figure 2 shows the conceptual model of the research in the state of estimating the standard coefficients of the structures.

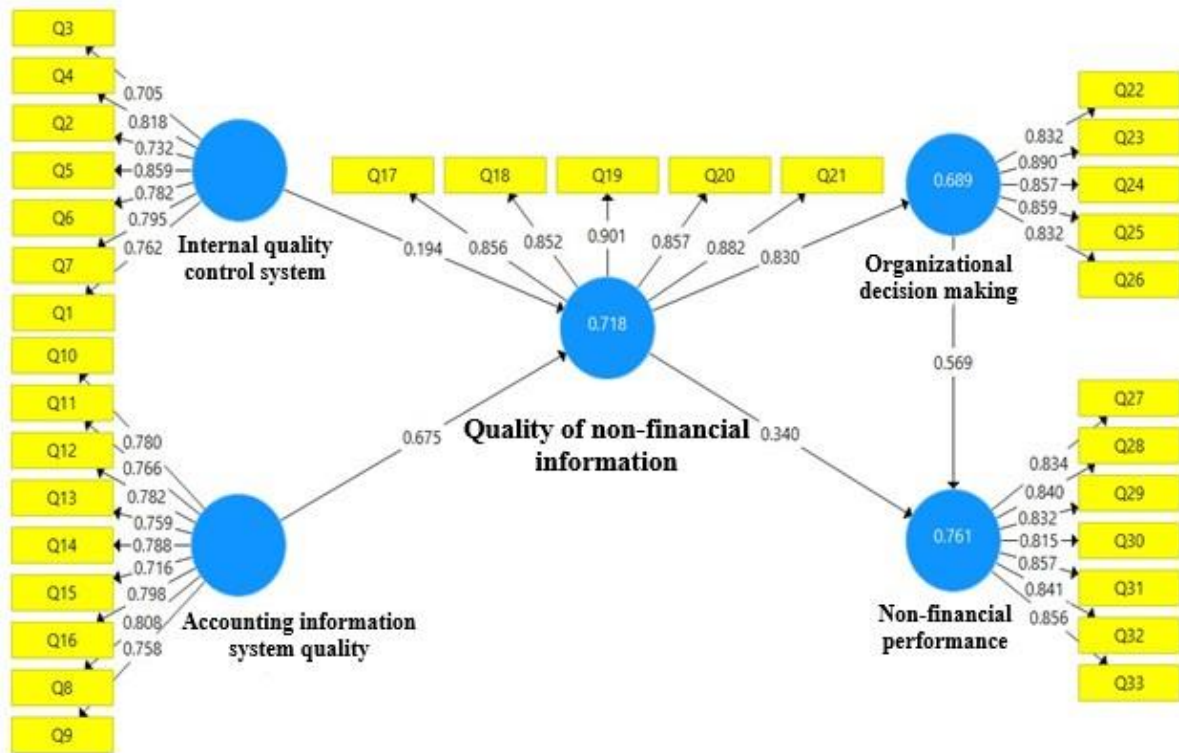


Figure 2. The research model in the standard coefficient estimation mode in the main research model

The measurement model and initial factor loadings were extracted. The strength of the relationship between the factor (latent variable) and the observable variable is shown by factor loading. Factor load is a value between zero and one. If the factor loading is less than 0.3, the relationship is considered weak and is ignored. The factor loading should be higher than 0.5 to be desirable. In factor analysis, the variables that measure a hidden variable (factor) should have a high factor load with that factor and a low factor load with other factors. To check the significance of the relationship between the variables, the t-statistic or t-value is used. Figure 4-4 shows the

research model in the significance mode of coefficients (t-value). This model actually tests all measurement equations (factor loadings) and structural equations (path coefficients) using t-statistics. According to this model, the path coefficient and factor load are significant at the 95% confidence level, if the statistical value of t is outside the range (-1.96 to +1.96) and if the statistical value of t is within this range, then the load Factor or path coefficient is not significant. The path coefficient and factor loading are significant at the 99% confidence level if the statistical value of t is outside the range (-2.58 to +2.58).

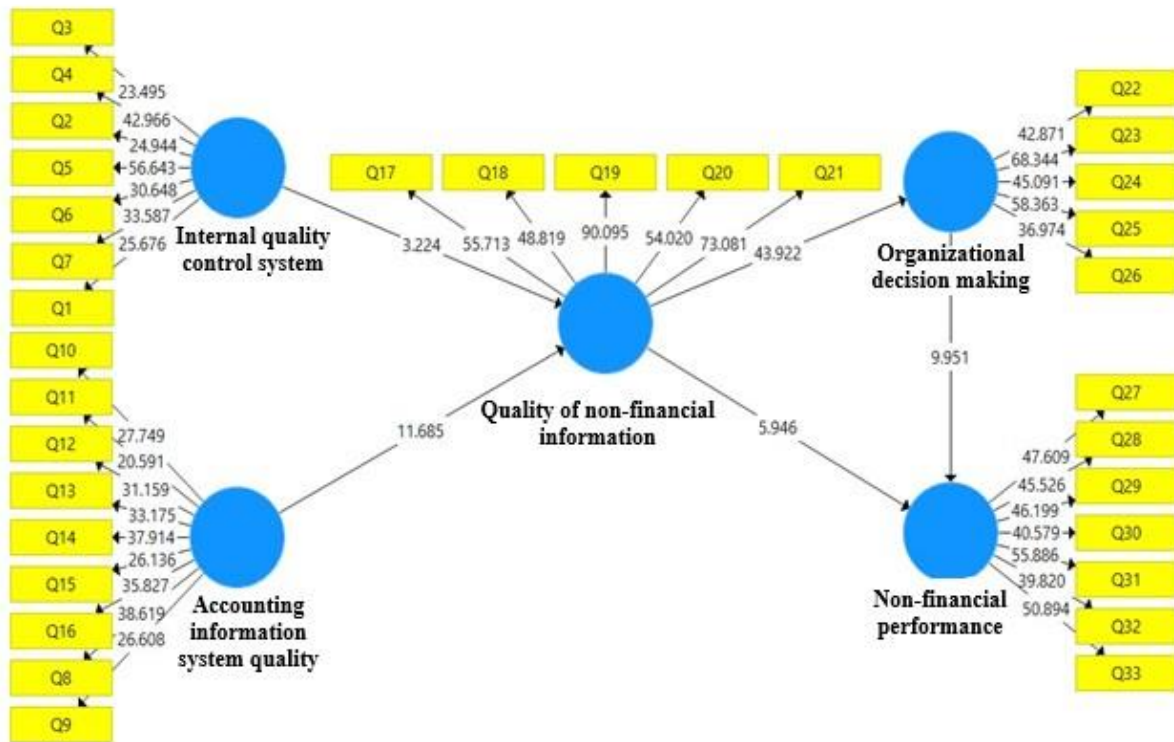


Figure 3. Significant coefficients of paths in the main research model

According to the results obtained from the t-test, all factor loadings have become significant at the 99% confidence level and have played a significant role in the measurement of their constructs. Therefore, the results of factor

loadings confirm the high validity of the model. As the coefficients of the positive path are shown and the significant values are greater than 1.96, it indicates the acceptance and confirmation of the hypotheses.

Table3. result of research hypotheses

hypotheses	Path coefficient	T	Sig	Result
Quality of internal control system → Quality of non-financial information	0.194	3.224	0.01	Accept
Quality of accounting information system → Quality of non-financial information	0.675	11.685	0.01	Accept
Quality non-financial information → Effectiveness of organizational decision making	0.830	43.922	0.01	Accept
Quality non-financial information → non-financial performance	0.340	5.946	0.01	Accept
Effectiveness of organizational decision-making → non-financial performance	0.569	9.951	0.01	Accept

Fitting the conceptual model of the research

The purpose of assessing the fit of the whole model is to determine to what extent the whole model is consistent and agree with the experimental data used. Structural equation modeling is a combination of confirmatory

analysis and multivariate regression. In this method, the overall model test includes the measurement model test (reliability and validity check) and the structural model test (path coefficient and explained variance). The advantage of structural equations over path

analysis is that this method obtains more reasonable and realistic results by targeting measurement errors (Homan, 2009). At the level of the PLS measurement model, it estimates item loadings and residual covariance. At the structural level, the path coefficients estimate the correlation between the latent variables, the explained variance, and the extracted average variance of the latent variables (AVE). T statistic is calculated for each of the routes and factor loads using the cross cut method or self-adjustment. The proper fit of the model is achieved when the path coefficient is significant, the explained variance is acceptable, and the

internal consistency is above 0.05 for each of the constructs. The acceptable values of the factor loadings also indicate the appropriate fit of the model. In addition to this, the GOF index is also an index to check the fit of the model to predict the endogenous variables. Three values of 0.01, 0.25 and 0.36 have been introduced as weak, medium and strong values for GOF, respectively (Davoudi and Rezazadeh, 2012). In the following table, the reliability coefficients, the average variance extracted, the coefficients of determination and the coefficients of determination of the research variables are given:

Table 4. Reliability coefficients, AVE, R2 and coefficient of determination of research variables

Constructs	Cronbach's alpha	composite reliability	AVE	R2
Internal quality control system	0.892	0.916	0.609	-
Accounting information system quality	0.916	0.930	0.598	-
Quality of non-financial information	0.919	0.939	0.756	0.718
Decision making success	0.907	0.931	0.730	0.689
Non-financial performance	0.930	0.943	0.705	0.761

In addition, the GOF index is also an index to check the fit of the model to predict the endogenous variables. Three values of 0.01, 0.25 and 0.36 are introduced as weak, medium and strong values for GOF, respectively.

Discussion and conclusion

In this research, the impact of information systems and non-financial information systems on the effectiveness of organizational decision-making in petrochemical companies located in Pars Energy Special Economic Zone was investigated. Accounting is an important tool for management. For Akhtar and Liu (2018), the benefits of using information provided by accounting in decision-making are obvious, and "should be used by external and internal evaluators of the company to better guide decisions". Information systems will be useful and powerful when the information provided by them is effectively used in the decision-making process (Sajadi et al., 2008). Literature shows that the success of decision making and subsequent business performance depends on several factors (Angoro, 2018; Baugh et al., 2021). In this context, the aim of this study is to develop and test a model for analyzing the dependence of

business success on the quality of the internal control system, the quality of the accounting information system, and the quality of non-financial information. Our findings indicate that a quality internal control system and a quality accounting information system contribute positively to the quality of non-financial information. Although there is no empirical evidence regarding the statistical relationship between the variables, the existing studies show that the internal control system improves the reliability of accounting information (Fraser 2020; Monterio et al. 2021). This research has provided important insights in academic studies. and helps in practical activities. From an academic perspective, our review of studies identifies the absence of studies that assess the determinants of non-financial information quality and its impact on decision-making effectiveness and non-financial performance, and thus contributes to the development of existing studies. In fact, international studies developed in the fields of accounting and decision-making mainly focus on the determinants and effects of the usefulness of financial information (e.g. Bao 2009; Nagoria and Jorg 2017; Fourn Lafatra-

Chagorne 2019; Monterio and Sepida 2021; Cassino and colleagues 2021; Monterio and Sepida et al. 2021) and the quality of financial information (e.g. Shorevarzi and Toz 2015; Fitriati and Molyani 2015; Rashidi and Darghi 2019). His colleagues are 2021 a) concentrated. This study develops (and evaluates) a model that focuses on the importance of non-financial information quality and its impact on non-financial performance. Therefore, from a practical point of view, this research is important for company managers because it provides a better understanding of the factors that contribute positively to the effectiveness and success of decision-making and non-financial performance of companies, and this proves the relevance of the value of non-financial information for the business process. does

Considering the results obtained from the findings of this research, the following practical suggestions are presented:

- Considering the importance of the quality of non-financial information and its effect on non-financial performance, therefore, from a practical point of view, it is suggested what is important for company managers and to provide a better understanding of the factors that positively contribute to the success of decision-making and non-financial performance. companies and prove the relevance of the value of non-financial information to the business process (regardless of the context).

- According to this study, we were able to reach this important conclusion that high-quality non-financial information does not directly help non-financial performance, but indirectly helps it through the mediation of decision making. Therefore, it is suggested that managers make better and more effective decisions. The quality of non-financial information will only be important to business success if it is used to help make better decisions.

- It is suggested that companies pay attention to the use of information in decision-making that the accounting information system, measurement mode and environmental attitude have an effective effect on decision evaluation.

- It is suggested that in the context of using information in decision-making, they should pay attention to the fact that the accounting information system, measurement mode and

environmental attitude have an effect on the evaluation of the effective decision. Considering that the accounting information system is a very important and effective issue in the quality of financial reporting and they work better to monitor the financial statements prepared by managers so that they can provide better performance.

- It is suggested that the managers refer to non-financial information for their decision to invest in the economic unit; Because they lead to more quality decisions for their organization.

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