

THE IMPACT OF BUSINESS INTELLIGENCE SYSTEMS ON SUSTAINABLE ORGANIZATIONAL PERFORMANCE BASED ON THE MEDIATING ROLE OF COMPETITIVE ADVANTAGE IN KNOWLEDGE-BASED COMPANIES

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ABSTRACT:

This study aimed to investigate the effect of business intelligence systems on the sustainable performance of the organization based on the mediating role of competitive advantage in knowledge-based companies. The statistical population consisted of managers of knowledge-based companies in Tehran province. The research questionnaire was distributed and collected among 385 members of the statistical population as a sample. The information collected by the questionnaires was analyzed using SPSS24 and AMOS24 software using structural equation modeling. The results showed that data quality has a positive and significant effect on organizational sustainable performance. Data visualization has a positive and significant effect on organizational sustainable performance. Business intelligence management has a positive and significant effect on organizational sustainable performance. Data quality has a positive and significant effect on competitive advantage. Data visualization has a positive and significant effect on competitive advantage. Business intelligence management has a positive and significant effect on competitive advantage. Competitive advantage has a positive and significant effect on organizational sustainable performance. Competitive advantage has a positive and significant mediating role in the relationship between data quality and organizational sustainable performance. Competitive advantage has a positive mediating role in the relationship between data visualization and sustainable organizational performance. Competitive advantage has a positive mediating role in the relationship between business intelligence management and sustainable organizational performance.

Keywords: *Business Intelligence Systems, Sustainable Performance, Competitive Advantage.*

INTRODUCTION

Business intelligence, as a new generation of decision support systems, relying on advanced information technologies, has become one of the key infrastructures for improving performance outcomes in organizations. By transforming raw data into actionable insights, this field enables faster calculations, better communication, improved team performance, and seamless collaboration; therefore, in today's competitive environment, deploying business intelligence systems is not only a technological choice, but also a management imperative (Fashanu, 2021; Maaitah, 2023; Tsiu et al., 2024). Also, business intelligence helps organizations better understand their operations, optimize processes, and improve the quality of decision-making by creating coherent decision-making frameworks; A capability that ultimately leads to improved organizational performance (Ghasemaghaei, 2019; Rouhani et al., 2016; Wieder & Ossimitz, 2015).

In the existing literature, one of the important dimensions of business intelligence is its role in compressing and presenting complex data in the form of understandable and usable reports for stakeholders. Business intelligence reports are usually extracted from large data sets and, by transforming them into understandable outputs for managers, technical experts, and business partners, provide the basis for faster and more effective decision-making (Vugec et al., 2020; Jahanbakhsh et al., 2019). In the meantime, data quality and data visualization are two fundamental components; Because any weakness in the reliability, comprehensiveness, and timeliness of data or any inadequacy in the way they are displayed and interpreted can reduce the effectiveness of business intelligence systems and expose the organization to inaccurate or late decisions (Pandey et al., 2015; Belhade et al., 2020). Therefore, examining the effect of data quality and data visualization on sustainable organizational performance from a theoretical and practical perspective is completely justified and necessary. On the other hand, business

intelligence management, as a dimension beyond technical tools and infrastructure, oversees the organization's ability to effectively manage, utilize, and integrate knowledge and information resources. Studies show that the mere deployment of business intelligence systems, without appropriate management mechanisms, does not necessarily lead to value creation; Rather, it is the quality of business intelligence management that determines how data is transformed into knowledge, and how knowledge is transformed into strategic decisions and actions (Howson, 2008; Liao, 2016; Camilleri, 2020). In this regard, research emphasizes that business intelligence-based systems can create real advantage when they are linked to knowledge creation processes, organizational learning, and the needs of the competitive environment (Abusweilem & Abualoush, 2019; Foley et al., 2010). Therefore, addressing the role of business intelligence management in explaining sustainable organizational performance, especially in knowledge-intensive industries, fills an important research gap.

In addition to the direct effects of business intelligence on performance, much evidence suggests that competitive advantage can act as a key explanatory mechanism in this regard. By facilitating the generation and application of new ideas and knowledge, business intelligence helps organizations create capabilities that competitors cannot easily imitate; capabilities that are manifested in the form of speed of response, quality of service, operational agility, and decision-making accuracy (Jafari et al., 2023; Kiron, 2014; Setiawan et al., 2021). In other words, organizations first strengthen their competitive advantage by improving data quality, effectively utilizing visualization, and establishing efficient business intelligence management, and then this advantage provides the basis for improving organizational performance. Therefore, paying attention to the mediating role of competitive advantage can provide a more precise explanation of the mechanism of the impact of business intelligence components on performance.

The importance of this issue in the information and communication technology sector is twofold, because this industry is faced with rapid technological changes on the one hand and intense competitive pressure on the other. In such a context, fast, accurate, and data-based decision-making is a condition for the survival and growth of organizations (Handanel et al., 2023; Hatamlah et al., 2023). Despite the expansion of the use of business intelligence systems in this industry, many companies have not yet been able to create the capabilities necessary to fully exploit these systems, which has led to a significant gap between investment in business intelligence and the actual results obtained from it (Hatamlah et al., 2023). Therefore, a study that can clarify the link between business intelligence components, competitive advantage, and sustainable organizational performance in this context is highly necessary.

From a theoretical perspective, although the research background has emphasized the importance of business intelligence in improving decision-making, agility, and performance, there is still insufficient consensus on how the different components of this construct, including data quality, data visualization, and business intelligence management, simultaneously affect sustainable organizational performance (Azeroaul et al., 2019; Olszak, 2016; Torres et al., 2024). In addition, a significant portion of previous studies have either focused on the direct role of business intelligence or have only examined it as a general construct, with less attention paid to the disaggregated analysis of its dimensions along with the mediating role of competitive advantage (Almajali et al., 2026). As a result, there is an important theoretical gap in the literature that this study can partially address by providing a coherent conceptual model. Accordingly, the necessity of conducting the present study can be explained from three aspects: first, scientific necessity, because the present study adds to the richness of the literature on organizational performance and competitive advantage by focusing on key dimensions of business intelligence and the mediating role of competitive advantage; second, managerial necessity, because its results can help managers design effective mechanisms to improve data quality, improve visualization, and establish business intelligence management; and third, practical and strategic necessity, because in conditions of intense competition and rapid technological changes, organizations are forced to purposefully exploit business intelligence capabilities to achieve sustainable performance. Therefore, the present study can create meaningful added value both in terms of theoretical development and managerial decision-making.

THEORETICAL FOUNDATIONS AND RESEARCH BACKGROUND

Business intelligence systems are a set of processes, technologies, and analytical capabilities that collect, integrate, analyze, and transform the organization's scattered and raw data into usable information and insights for decision-making. By providing managers with timely access to reliable information, these systems move away from decision-making based solely on experience and intuition and pave the way for informed, predictive, and strategic decisions. In fact, the main value of business intelligence lies not only in storing large amounts of data, but also

in its ability to extract patterns, identify opportunities and threats, and support decision-making at operational, tactical, and strategic levels. From this perspective, business intelligence can improve the quality of decision-making, coordination between units, and the effectiveness of organizational processes; factors that are essential for maintaining and sustaining organizational performance in a competitive environment (Foley & Guillemette, 2010; Wieder & Ossimitz, 2015).

The effectiveness of business intelligence systems in improving the sustainable performance of the organization depends on capabilities such as data quality, data visualization, and business intelligence management. Data quality includes the accuracy, completeness, timeliness, consistency, and reliability of information, and any weakness in these characteristics can lead to errors in management decisions. Also, data visualization through the presentation of complex information in the form of charts, dashboards and interactive reports facilitates a faster understanding of the organization's status, detection of trends and identification of performance deviations. In addition, business intelligence management ensures the effective use of information by aligning data infrastructure, human capabilities, analytical processes and strategic objectives. Therefore, when an organization can integrate high-quality data with appropriate analytical tools and management mechanisms, the likelihood of continuous improvement of its decisions and performance increases (Ghasemaghahi, 2019; Olszak, 2016).

Competitive advantage refers to the ability of a company to create more value than competitors, provide differentiated products or services, reduce costs, respond faster to market needs and maintain a superior position in the industry. Business intelligence systems strengthen a company's competitive capabilities by analyzing customer behavior, forecasting demand, monitoring environmental changes, optimizing pricing, managing inventory, and identifying innovative opportunities. In other words, business intelligence helps companies take proactive and strategic actions based on data-driven evidence rather than reacting passively to market developments. This capability increases organizational agility, innovation, speed of response, and quality of resource allocation, ultimately leading to a distinctive position that is difficult for competitors to imitate (Torres et al., 2018; Rouhani et al., 2016).

Accordingly, competitive advantage can be the mechanism explaining the impact of business intelligence systems on the sustainable performance of the organization. In other words, investing in business intelligence systems and tools does not necessarily lead to sustainable performance improvement directly, but will create value when the resulting information and analytical capabilities are converted into advantages such as innovation, agility, differentiation, cost reduction, and effective market responsiveness. A company that can gain more accurate knowledge of customers, competitors, and market trends through business intelligence will be able to design more efficient strategies and maintain and improve its financial and non-financial performance in the long term. Therefore, examining the mediating role of competitive advantage provides a deeper understanding of the business intelligence value chain to sustainable organizational performance, especially in companies operating in dynamic and competitive environments (Vugec et al., 2020; Torres et al., 2018).

Al-Adnat (2026) in a study titled Sustainable Performance Based on Talent Management and Entrepreneurial Orientation in E-Business Firms: The Mediating Role of Knowledge Management Practices, using a multivariate model, examined the relationship between talent management, entrepreneurial orientation, and sustainable performance. In addition, the present study attempts to explain the role of knowledge management practices as a mediating variable in the aforementioned relationship. This study was conducted in the context of Jordan. Jordan is known as an emerging economy; a dynamic economy with productive entrepreneurial ecosystems that, while having strong profit motives, also faces socio-economic imbalances and high cost pressures due to the lack of natural resources. To conduct this research, a quantitative approach and a questionnaire-based survey design were used, and 87 e-businesses were selected as the target population. The hypothesized relationships in the research model were also analyzed using structural equation modeling and through SmartPLS 4 software. The results of the study show that talent management and entrepreneurial orientation both have a positive relationship with sustainable performance. The findings also showed that knowledge management practices partially mediate the relationship between talent management and sustainable performance as well as the relationship between entrepreneurial orientation and sustainable performance.

Al-Majali et al. (2025) in a study titled "Business Intelligence Systems and Organizational Performance: The Role of Competitive Advantage as a mediating variable" examined the role of business intelligence systems in improving organizational performance, emphasizing the mediating role of competitive advantage. The research population was companies active in the Jordanian information and communication technology industry, and data

were collected through a questionnaire distributed among 143 ICT companies. The data were analyzed using the partial least squares structural equation modeling method. The findings showed that business intelligence systems help organizations identify operational strengths and weaknesses, make more comprehensive decisions, formulate efficient business strategies, and improve performance. Also, competitive advantage plays a full mediating role in the relationship between business intelligence systems and organizational performance; meaning that the use of business intelligence systems alone does not have a significant direct effect on improved performance, but rather leads to improved performance when the capabilities obtained from it are transformed into creating and strengthening competitive advantage. Accordingly, researchers have emphasized the need to develop competitive advantage, effective coordination between business intelligence professionals, managers and cross-functional teams so that organizations can respond to market changes, outperform competitors and sustainably improve their performance.

Mobin et al. (2024) in a study titled *Greening Business: Linking Green Dynamic Capabilities, Green Innovation and Sustainable Performance* examined the impact of green dynamic capabilities and green practices on the sustainable performance of SMEs, focusing on the critical role of green value creation and green innovation. For this purpose, a random sample of 245 respondents working in small and medium-sized enterprises in Pakistan was selected and PLS-SEM was used to analyze the data. The findings of this study showed that green dynamic capabilities and green practices are positively related to green value co-creation and green innovation, respectively. In addition, it was also found that green innovation plays an important role in improving the sustainable performance of SMEs. The results also revealed that green value co-creation significantly mediates the relationship between green dynamic capabilities and green practices with green innovation. Finally, technological disruption was found to be a critical factor in strengthening the link between green innovation and sustainable performance. This study provides insights for SMEs to understand the importance of incorporating green innovation and green value creation into their business strategies to enhance sustainable performance. Kumar et al. (2024) conducted a study titled *Do Green Banking Practices Improve the Sustainability Performance of Banking Institutions? The Mediating Role of Green Finance*. This study aimed to investigate the mediating role of green finance in the relationship between green banking practices and sustainable performance of banking institutions in developing economies. The authors conducted an empirical study using Partial Least Squares Structural Equation Modeling (PLS-SEM) on a representative sample of 414 bank employees working in the National Capital Region of India. The results of the study confirm that employees, senior management, operations, and policy-related practices significantly affect the green finance performance and sustainability performance of banks. In contrast, customer-related practices insignificantly affect the sustainability performance of banks. Furthermore, green finance significantly affects the sustainability performance of banking institutions.

Liu et al. (2021) in their study titled *The Impact of Operational Flexibility on Firms' Performance During the COVID-19 Outbreak: Evidence from China* examined the impact of firm-level operational flexibility on stock performance during the COVID-19 outbreak in China. The results showed that firm-level operational flexibility is significantly positively correlated with the cumulative abnormal stock returns that occurred during the pandemic, and this positive relationship is more evident in companies in provinces most affected by the epidemic. This positive relationship is also more evident in companies with relatively fewer fixed assets.

RESEARCH HYPOTHESES

The main objective of investigating the impact of business intelligence systems on the sustainable performance of the organization is based on the mediating role of competitive advantage in knowledge-based companies. Accordingly, in order to achieve the aforementioned goal, the research hypotheses were designed as follows:

H1: Data quality has a significant effect on organizational sustainable performance.

H2: Data visualization has a significant effect on organizational sustainable performance.

H3: Business intelligence management has a significant effect on organizational sustainable performance.

H4: Data quality has a significant effect on competitive advantage.

H5: Data visualization has a significant effect on competitive advantage.

H6: Business intelligence management has a significant effect on competitive advantage.

H7: Competitive advantage has a significant effect on organizational sustainable performance.

H8: Competitive advantage plays a mediating role in the relationship between data quality and organizational sustainable performance.

H9: Competitive advantage plays a mediating role in the relationship between data visualization and organizational sustainable performance.

H10: Competitive advantage plays a mediating role in the relationship between business intelligence management and organizational sustainable performance.
The conceptual model of the research is as follows:

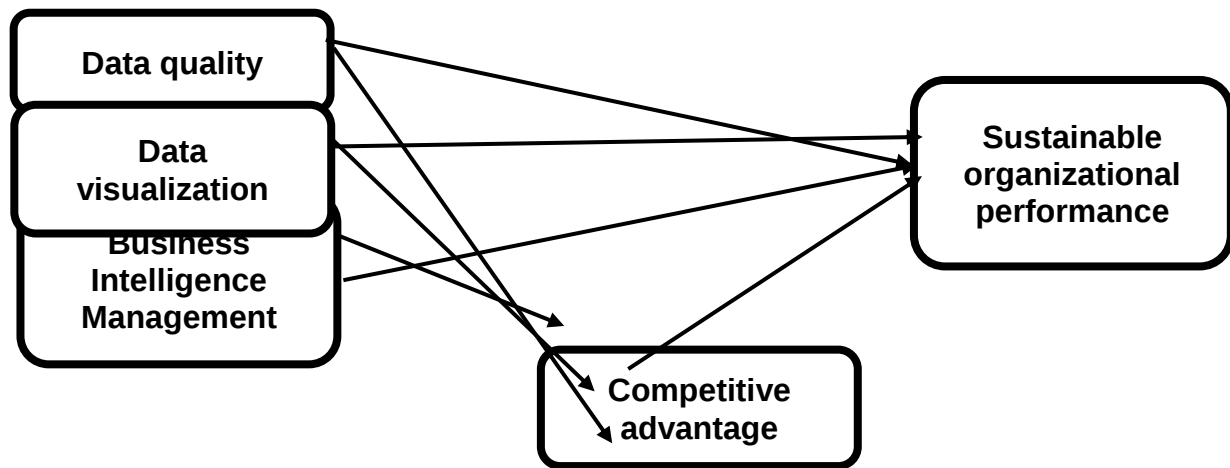


Figure (1): conceptual model of research

RESEARCH METHODOLOGY

The current research is practical in terms of its purpose and survey in terms of data collection method. Also, according to the purpose of the research to examine the relationships between data quality variables, data visualization, business intelligence management, competitive advantage and sustainable organizational performance, it is classified as descriptive-correlational research. Structural equation modeling approach was used to test the conceptual model and research hypotheses. This approach provides the possibility of simultaneous investigation of direct and indirect relationships between latent and manifest variables; In such a way that the relationships between structures are estimated and tested based on correlation or covariance matrices and in the form of a set of regression equations. Information related to theoretical foundations, research background and conceptual framework development was collected through the study of library resources including books, scientific articles, databases, reliable websites and other relevant documents. Therefore, the theoretical part of the research is based on the library method. On the other hand, the data needed to test the hypotheses and analyze the relationships between the variables were collected through the distribution of questionnaires among the sample members; Therefore, the experimental part of the research has a field and survey nature.

The statistical population of the research was made up of all managers of knowledge-based companies based in Tehran province. Due to the uncertainty of the exact number of members of the statistical population, the sample size was determined by using the Karjesi and Morgan table and considering the conventional sample size for large communities, 384 people. To select the respondents, a simple random sampling method was used so that all members of the society have an equal opportunity to be included in the sample. In order to compensate for incomplete or unreturned questionnaires, 400 questionnaires were distributed, and finally, 385 questionnaires were received in full and used in statistical analysis.

The main tool of data collection in this research was a standard questionnaire adapted from the research of Al-Majali et al. (2025). The items of the questionnaire were adjusted according to the research constructs, and the respondents indicated their agreement or disagreement with each of the items based on a five-point Likert scale, from "completely disagree" to "completely agree". In order to check the reliability of the research tool, Cronbach's alpha coefficient was used using SPSS software. Cronbach's alpha coefficient shows the internal consistency of the items related to each structure, and the value of 0.70 is considered as the minimum acceptable level of reliability in

behavioral and management science research. The results showed that the value of Cronbach's alpha coefficient of all research variables is more than 0.70; Therefore, the questionnaire has good reliability. The results of Cronbach's alpha coefficients of research variables are presented in Table1.

Table 1: Reliability results of the questionnaire

Cronbach's alpha coefficient	Questions	Questionnaire
0.855	4-1	Data Quality
0.923	8-5	Data Visualization
0.895	12-9	Business Intelligence Management
0.945	16-13	Competitive Advantage
0.889	20-17	Organizational Sustainability
0.975	20-1	Total Questionnaire

Research findings

The present study uses descriptive statistics and inferential statistics methods to analyze the information collected from the statistical sample. In fact, first, using SPSS software, each variable was described in the form of tables and statistical indicators, and then, to analyze the data, test the hypotheses, and in general, to generalize the results from the sample to the statistical population, the structural equation modeling method was used using Amos 24 software. Table 2 shows the results of descriptive statistics of the research variables.

Table 2: Descriptive statistics of research variables

Number	The highest amount	The smallest amount	Elongation	Skewness	Standard deviation	Average	Variable
385	5.00	1.67	0.393	-0.055	0.590	3.340	Data Quality
385	5.00	1.50	0.023	-0.351	0.572	3.409	Data Visualization
385	5.00	1.25	-0.041	-0.370	0.632	3.543	Business Intelligence Management
385	5.00	1.50	0.608	-0.309	0.654	3.316	Competitive Advantage
385	5.00	1.50	0.425	-0.225	0.578	3.475	Organizational Sustainability

Since the skewness and kurtosis of all variables are in the range of -2 and +2, all variables have a normal distribution. Therefore, parametric techniques are used to examine the research hypotheses. The conceptual model of the research was mentioned in the previous sections. Before fitting the structural model, it is necessary to examine whether the 20 items observed in the questionnaire (including the questionnaire questions) reflect the 5 dimensions or concepts (research variables) including data quality, data visualization, business intelligence management, competitive advantage, and sustainable organizational performance in a desirable way? The overall fit of the measurement model is determined by confirmatory factor analysis (CFA). The next figure shows the measurement model for this study.

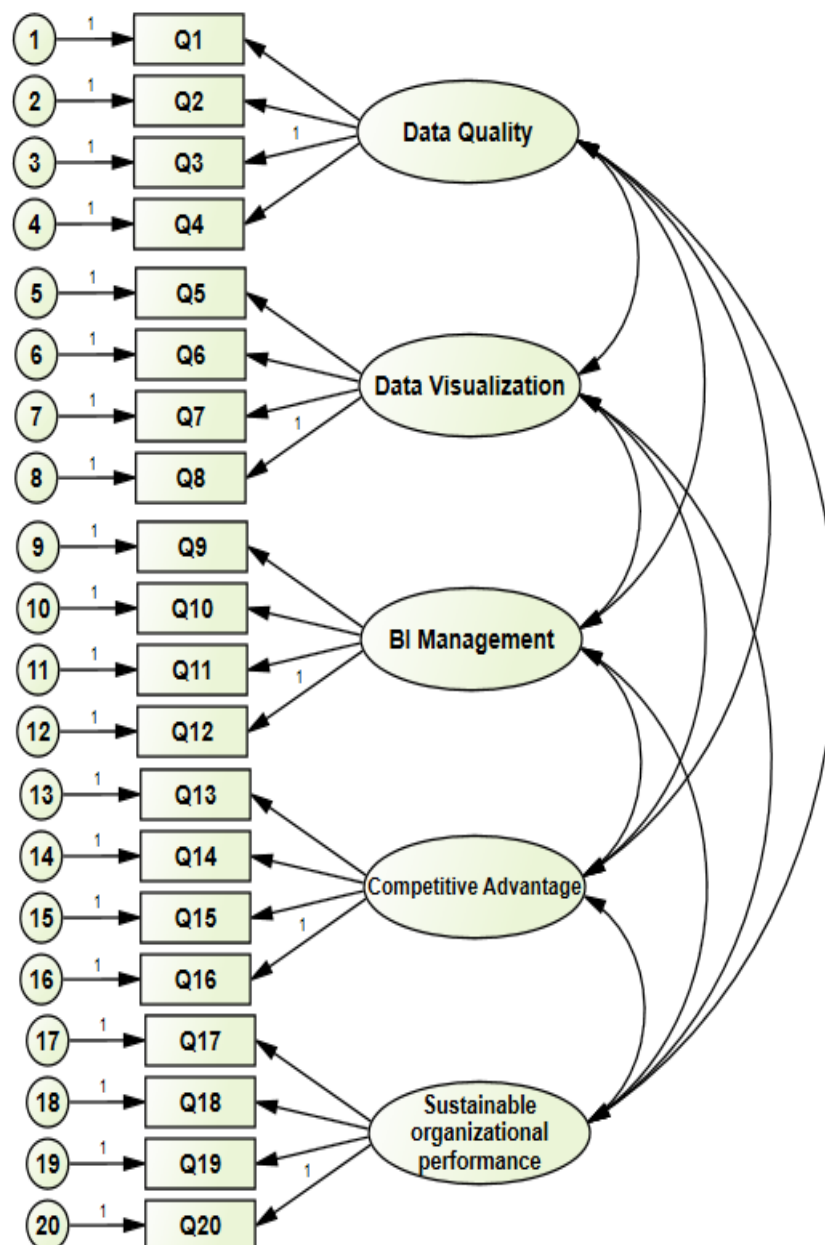


Figure 2: Factor Analysis Model

After running the above model, some corrections were suggested by the software, which improved the model. The corrections suggested by the software were in the form of releasing the covariance between a number of error terms. The measurement model with its corrections can be seen in the following figure.

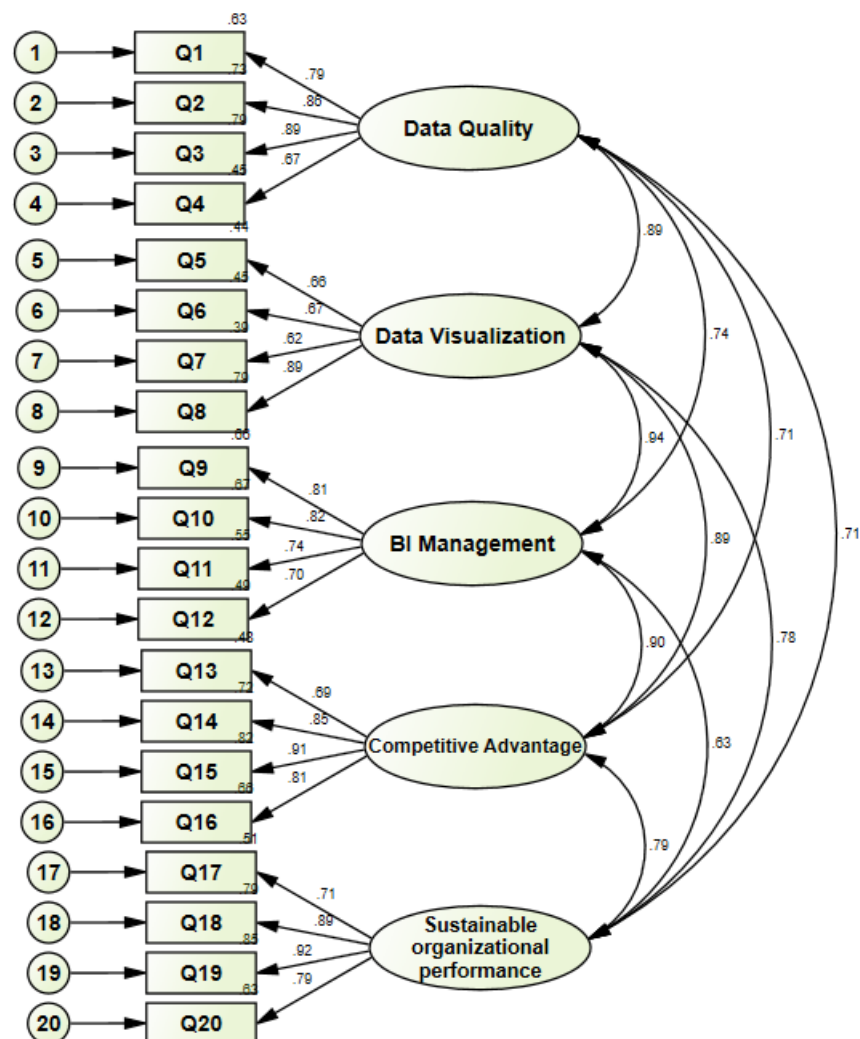


Figure 3: Factor analysis model with standardized coefficients

Before testing the hypotheses, it is necessary to ensure the validity and accuracy of the measurement models of the research variables so that structural relationships can be examined later. For this purpose, fit indices are used, which are shown in Table 3.

Table 3: Model fit indices

RMSEA	NFI	CFI	TLI	IFI	GFI	CIMIN <i>df</i>	Fitness Indicators
0.023	0.911	0.925	0.977	0.945	0.923	3.852	Pattern
Smaller than 0.05	More than 0.9	More than 0.9	More than 0.9	More than 0.9	More than 0.9	5 تا 1	Original Pattern

As can be seen in the table above, all the indices are within the desired range. Therefore, the suitability of the confirmatory factor analysis model in fitting the collected data is confirmed. In this section, the structural model of the research is fitted to examine the alignment. The analysis model of the first hypothesis is shown in Figure 3 in the standard mode.

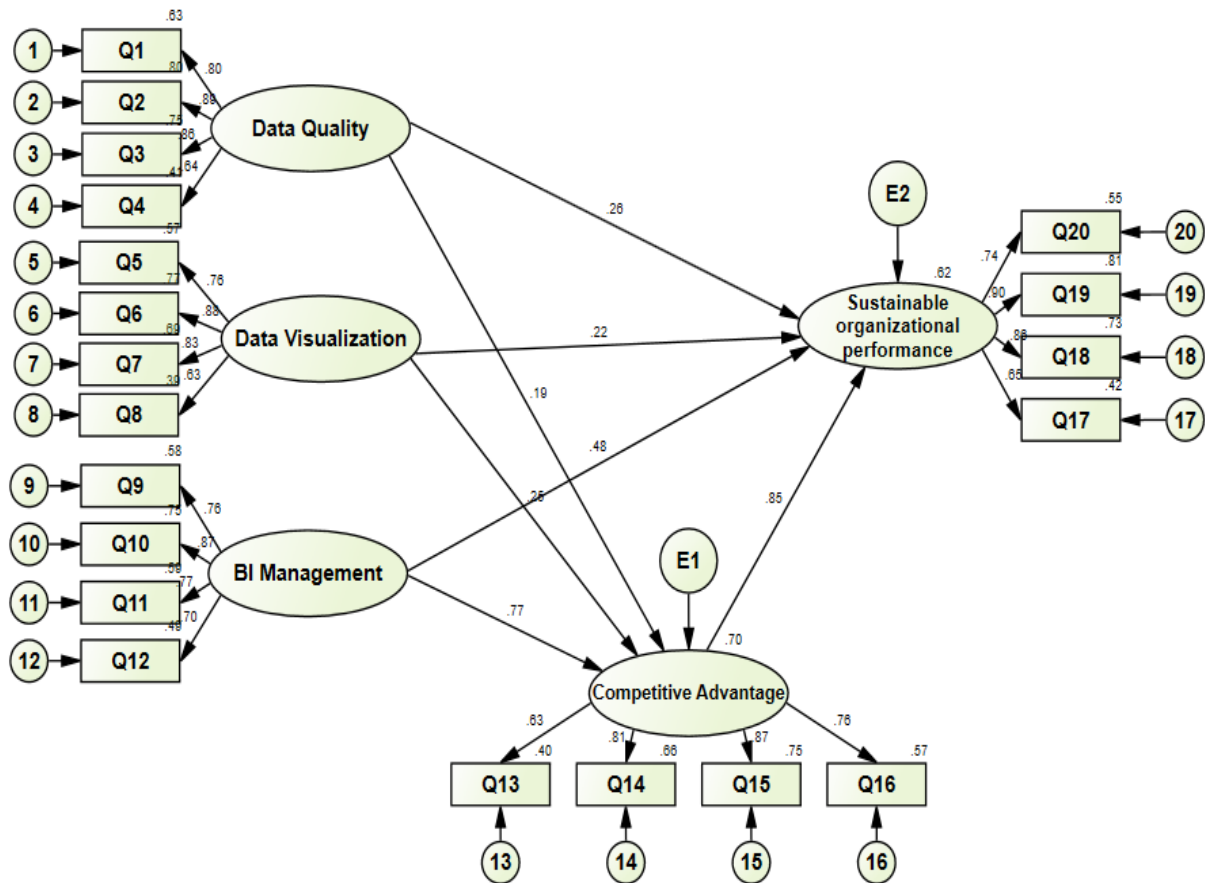


Figure 4: Structural model of the research in standard mode

Table 4: Results of path analysis of hypotheses

p-value	t-statistic	Standard deviation	Standardized coefficient	Path Analysis
0.000	4.610	0.035	0.161	Data Quality→Competitive Advantage
0.000	5.682	0.056	0.186	Data Visualization→Competitive Advantage
0.000	11.640	0.079	0.252	Business Intelligence Management→Competitive Advantage
0.000	4.039	0.061	0.774	Data Visualization→Organizational Sustainability

0.000	5.234	0.038	0.221	Data Quality→Organizational Sustainability
0.000	4.574	0.111	0.260	Business Intelligence Management→Organizational Sustainability
0.000	7.183	0.106	0.481	Competitive Advantage→Organizational Sustainability

The first hypothesis stated that “data quality has a significant effect on organizational sustainable performance”. According to the results of the path analysis table, the standardized coefficient of the data quality path and organizational sustainable performance is equal to 0.221 and the t-statistic value is equal to 5.334. Also, the significance level of this path (p-value) is equal to 0.000 and less than 0.05. Therefore, it can be concluded that data quality has a positive and significant effect on organizational sustainable performance and with 95% confidence, the first hypothesis of the research is confirmed. The second hypothesis stated that “data visualization has a significant effect on organizational sustainable performance”. According to the path analysis table, the standardized coefficient of the data visualization path and organizational sustainable performance is reported to be equal to 0.774 and its t-statistic is 4.039. The p-value of this path is equal to 0.000 and less than 0.05. As a result, data visualization has a positive and significant effect on organizational sustainable performance, and the second hypothesis is confirmed at a 95% confidence level. The third hypothesis stated that “business intelligence management has a significant effect on organizational sustainable performance.” Based on the results, the standardized coefficient of the path between business intelligence management and organizational sustainable performance is 0.260 and its t-statistic is 4.574. The significance level of this effect is 0.000 and is less than 0.05. Thus, business intelligence management has a positive and significant effect on organizational sustainable performance, and the third hypothesis of the research is accepted at a 95% confidence level. The fourth hypothesis stated that “data quality has a significant effect on competitive advantage.” According to the table, the standardized coefficient of the path between data quality and competitive advantage is 0.161 and the corresponding t-statistic is 4.610. The p-value of this path is reported to be 0.000, which is less than 0.05. Therefore, data quality has a positive and significant effect on competitive advantage, and the fourth hypothesis is accepted with a confidence level of 95%. The fifth hypothesis stated that “data visualization has a significant effect on competitive advantage.” The results show that the standardized coefficient of the data visualization path and competitive advantage is 0.186 and its t-statistic is 5.682. The p-value of this path is also 0.000 and less than 0.05. Accordingly, data visualization has a positive and significant effect on competitive advantage, and the fifth hypothesis is confirmed at a confidence level of 95%. The sixth hypothesis stated that “business intelligence management has a significant effect on competitive advantage.” According to the path analysis table, the standardized coefficient of the business intelligence management path and competitive advantage is reported to be 0.252 and the t-statistic is 11.640. The significance level of this effect is 0.000 and less than 0.05. Therefore, business intelligence management has a positive and highly significant effect on competitive advantage, and the sixth hypothesis of the study is accepted at a 95% confidence level. The eighth hypothesis of the study states that competitive advantage plays a mediating role in the relationship between data quality and organizational sustainable performance. Based on the results of the path analysis table, the standardized coefficient of the data quality path on competitive advantage is 0.161 and its t-statistic is 4.610. Also, the standardized coefficient of the competitive advantage path on organizational sustainable performance is reported to be 0.481 and its t-statistic is 7.183. Since the significance value of both paths is less than 0.05, it can be concluded that both direct relationships are statistically significant. Also, the amount of the indirect effect of data quality on organizational sustainable performance through competitive advantage is obtained as the product of the two aforementioned coefficients, i.e. 0.077. To examine the significance of this indirect effect more closely, the Sobel test was used, the results of which showed that the Sobel statistic is significant at the 0.05 level of error; therefore, competitive advantage plays a significant mediating role in the relationship between data quality and organizational sustainable performance, and the eighth hypothesis of the study is confirmed. The ninth hypothesis of the study emphasizes the mediating role of competitive advantage in the relationship between data visualization and organizational sustainable performance. According to the results of the path analysis table, the standardized coefficient of the data visualization path on competitive advantage is equal to 0.186 and its t-statistic is 5.682. Also, the standardized

coefficient of the competitive advantage path on organizational sustainable performance is equal to 0.481 and its t-statistic is 7.183. Given that the significance level of both paths is reported to be less than 0.05, both direct relationships are statistically significant. In addition, the indirect effect of data visualization on organizational sustainable performance through competitive advantage is calculated as 0.089 from the product of the above coefficients. In order to test the significance of this indirect effect, a Sobel test was performed, the results of which showed that the mediation effect is significant at the 0.05 error level; as a result, competitive advantage has a significant mediating role in the relationship between data visualization and organizational sustainable performance, and the ninth hypothesis of the study is confirmed. The tenth hypothesis of the study states that competitive advantage has a mediating role in the relationship between business intelligence management and organizational sustainable performance. The results of the path analysis table show that the standardized coefficient of the path of business intelligence management on competitive advantage is 0.252 and its t-statistic is 11.640. Also, the standardized coefficient of the path of competitive advantage on organizational sustainable performance is reported to be 0.481 and its t-statistic is 7.183. Since the significance level of both paths is less than 0.05, both direct paths are statistically significant. Also, the indirect effect of business intelligence management on organizational sustainable performance through competitive advantage is obtained equal to 0.121. To evaluate the significance of this indirect effect, the Sobel test was used and the results showed that the mediating effect is significant at the 0.05 error level. Therefore, competitive advantage has a significant mediating role in the relationship between business intelligence management and organizational sustainable performance and the tenth hypothesis of the research is also confirmed.

CONCLUSION

The present study It is also helpful in promoting the long-term financial stability of the organization, especially in assessing and reporting transparently on tax quality and various dimensions of corporate governance. Given the quantitative nature of this research, future research can use mixed methods, especially qualitative studies such as data-driven theory or phenomenology, to discover more detailed behavioral and cognitive mechanisms behind the impact of business intelligence on competitive advantage; this is especially important in the case of managerial decision-making and behavioral finance. It is also suggested that future studies use multi-criteria analytical techniques such as interpretive structural modeling (ISM), cross-matrix structural analysis (MICMAC), or DEMATEL to identify the causal hierarchy between business intelligence system variables and sustainable performance dimensions in more depth. In addition, examining the effect of behavioral moderator variables such as job satisfaction or meritocracy on the relationships in the model can greatly contribute to expanding the theoretical richness of the research. It is suggested that future research should examine the role of risk factors such as stock price crash risk and business continuity management in the context of sustainable performance driven by business intelligence. Also, from a technology perspective, it is necessary to study the direct and indirect effects of emerging technologies such as blockchain and AI on corporate governance and tax quality in the context of sustainable performance, especially considering the variables related to AI-based auditing. Also, conducting comparative studies across industries or comparing with countries in the region can test the generalizability of the present theoretical model and provide important insights into structural differences in the use of business intelligence to achieve sustainability.

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