Information Technology's Role in Enhancing Performance Efficiency: Applying the Sustainable Balanced Scorecard in Algerian Joint Stock Companies (A Case Study of IRRIGOUT Company in Mascara) "

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Abstract:

This study aims to identify the impact of information technology in improving performance efficiency in Algerian joint stock companies, through the application of the sustainable balanced scorecard for IRRIGOUT in the state of Mascara. The study found that information technology plays an effective and influential role in improving the overall performance efficiency of IRRIGOUT, through its contribution to enhancing operational, financial, social and environmental dimensions, in addition to supporting learning and growth within the company, as the study recommends the need to modernize the appropriate digital infrastructure in addition to adopting the sustainable balanced scorecard model as an effective tool to measure and improve performance at various levels in the Algerian business environment.

Keywords: *Information Technology, Performance, Sustainable Balanced Scorecard, Joint Stock Companies*

Jel Classification Codes : *O3 ; M01 ; Q01.*

Résumé :

Cette étude vise à identifier l'impact des technologies de l'information dans l'amélioration de l'efficacité des performances des sociétés anonymes algériennes, à travers l'application du tableau de bord équilibré durable pour IRRIGOUT dans l'État de Mascara. L'étude a révélé que les technologies de l'information jouent un rôle efficace et influent dans l'amélioration de la performance globale d'IRRIGOUT, grâce à leur contribution à l'amélioration des dimensions opérationnelles, financières, sociales et environnementales, en plus de soutenir l'apprentissage et la croissance au sein de l'entreprise, car l'étude recommande la nécessité de moderniser l'infrastructure numérique appropriée en plus d'adopter le modèle de tableau de bord équilibré durable en tant qu'outil efficace pour mesurer et améliorer la performance à différents niveaux dans l'environnement des affaires algérien.

Mots clés **:** Technologie de l'information, performance, tableau de bord prospectif durable, sociétés par actions

Jel Classification Codes *O3 ; M01 ; Q01.*

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I. Introduction

Information technology plays a vital role in various economic institutions because of its contribution to achieving outstanding performance, strengthening its relationship with its customers and ensuring its survival in light of the intensification of competition between institutions in the international market, and this applies to the shareholding institutions in Algeria, which in turn seek to keep pace with the development in this technology, which confirms the need to keep pace with rapid technological changes by applying appropriate systems and technologies that contribute to maximizing their resources, and in this context the Sustainable Balanced Scorecard has emerged as an effective strategic tool to help companies measure and improve their performance in a comprehensive manner.

This scorecard is not limited to financial goals, but expands to include other important aspects such as customer satisfaction, innovation, and sustainable development. In this context, integrating IT with the Sustainable Balanced Scorecard is a strategic step that enables companies to leverage technology to enhance their ability to achieve their goals in a balanced and sustainable manner

Therefore, this article aims to study the role of information technology in enhancing the efficiency of organizational performance through the application of the Sustainable Balanced Scorecard, by analyzing the case of IRRIGOUT in the state of Mascara as a model for an Algerian joint stock company. It also seeks to highlight the extent of the company's adoption of IT dimensions and the implications of this on its overall performance, focusing on the strategic and organizational aspects that can enhance the effectiveness of this approach, in light of the challenges facing Algerian institutions in their path towards modernization and digital transformation. In light of the above, this study attempts to answer the following question:

What is the impact of information technology on improving the overall performance of the Algerian joint stock company IRRIGOUT?

Hypotheses of the study: In order to answer the above question, the main hypothesis of the study was formulated:

There is a statistically significant role of information technology on the overall performance of the Algerian joint stock company IRRIGOUT

From the main hypothesis, the following set of hypotheses are derived:

- ✓ There is a statistically significant effect of information technology on the financial dimension of the Algerian joint stock company IRRIGOUT
- ✓ There is a statistically significant effect of information technology on the internal operations dimension on the Algerian joint stock company IRRIGOUT

- ✓ There is a statistically significant effect of IT on the customer dimension of the Algerian joint stock company IRRIGOUT
- ✓ There is a statistically significant effect of IT on the learning and growth dimensions for Algerian joint stock company IRRIGOUT
- ✓ There is a statistically significant effect of IT on the social and environmental dimensions of the Algerian joint stock company IRRIGOUT

Importance of the study:

The importance of our study lies in the importance of the subject of the study, which is information technology as a key pillar in enhancing the effectiveness and efficiency of administrative and operational processes, and the use of the sustainable balanced scorecard is a modern tool to measure the integrated performance between financial and non-financial aspects, including sustainability factors, which has become an urgent necessity in the current business environment. Given the applied study on IRRIGOUT in Mascara, it provides a practical example of how these technological and managerial tools can be activated to improve organizational performance and achieve sustainable development

Objectives of the study: Through this study, we aim to:

- Highlighting the reality of Algerian joint stock companies and their level of information technology, and the extent to which their managers are aware of the role of this modern technology and its actual uses to raise the overall performance.
- Evaluate the effectiveness of the application of the sustainable balanced scorecard in measuring and improving the performance of joint stock companies.
- Exploring the relationship between the use of information technology and achieving sustainability in organizational performance.
- Reaching conclusions and proposing some recommendations to attract the attention of decision makers to the importance of using information technology as it has a great role in achieving excellence in the overall performance of joint stock companies.

II. Theoretical literature:

II.1 Information technology content

In the past few decades, the world has been radically transformed by rapid advances in information technology (IT), the understanding of which is critical in today's digital age. Skills and knowledge related to this field have become an essential part of personal and professional competence in all sectors alike. Before we dive into the exact definitions of IT, let's reflect on the impact it has had on

our daily lives and how it has become an integral part of our societal infrastructure. Thanks to IT, we can instantly communicate across continents, access vast amounts of information at the click of a button, conduct online financial transactions securely and easily, and analyze data to rationalize decisions.

Information technology is defined as the body of scientific, technological and engineering knowledge, methods and arts necessary to transform inputs into outputs (Al-Arabi, 2013, p.322) This definition reflects a broad understanding of information technology, not only through tools and techniques, but also through the knowledge and innovation that goes into the process of transforming data into useful information.

It is also defined as the hardware, software, tools, means, methods, and programming systems that the organization needs to achieve its goals and help it in recording, recording, storing, processing, using, and retrieving information that is used by information systems, whether visual, auditory, or written, which facilitates operations for the beneficiary, whether individuals or institutions (Saleh & Ben Talhia, 2019, p.268) Through this definition, it is clear that information technology is not just a set of technical tools, but an integrated system that supports all aspects of information management in the organization and achieving organizational goals more effectively.

As a comprehensive definition, information technology expresses all advanced technologies used in the process of transforming data in its various forms into information that is easy to use by beneficiaries in all fields. Information technology consists of two aspects, the first is physical, represented by computer equipment, automatic control and communication technology, and the second is mental, consisting of software engineering and artificial intelligence.

Technological transformation is not only about digitizing data but also about evolving legacy platforms to create an IT environment that is agile and adaptable to the changing needs of organizations. Currently, governments and organizations around the world are adopting digital transformation strategies based on cloud computing. This technology relies on shifting processing and storage space from local hardware to what is known as the cloud, which is a server accessed via the Internet, enabling faster service delivery and spurring economic development (neghmouchi & maizi, 2021).

II.2 Sustainable Balanced Scorecard

The Sustainable Balanced Scorecard is an evolution of the traditional Balanced Scorecard model, aiming to achieve a comprehensive balance between

financial, environmental and social dimensions. In the modern business world, sustainability is increasingly recognized as a critical factor in the success of organizations. The Sustainable Balanced Scorecard seeks to integrate an organization's strategic objectives with sustainability criteria, providing an integrated framework that helps achieve balanced performance in a way that supports sustainable development.

The idea of the balanced scorecard dates back to 1987, when it appeared in **Kaplan Johnson's** book entitled **relevant loss**. This approach emerged as a major trend to counter the criticisms of traditional budgeting and performance evaluation. In the early 1990s, interest in using the balanced scorecard to measure organizational performance began when the **Nolan Norton** Foundation decided to sponsor a year-long study prepared by the global consulting firm **KPMG** on evaluating the performance of some multinational organizations (boutiba & akacem, 2021, p.128)

The Balanced Scorecard is a management system that aims to help owners and managers translate the vision and strategies of their companies into a set of interconnected strategic goals and measurements (mekimah, 2019, p.32)

Kaplan and **Norton** defined the Balanced Scorecard as "a system that provides a coherent set of ideas, principles, and a holistic path map for organizations to track the translation of their strategic vision within an interconnected set of performance measures that are used not only for business metrics, but to connect strategy to business, and to help individual coordination, organization, and overall goal achievement (bekhira & kara, 2022, p.107)

The Balanced Scorecard integrates financial and non-financial goals, enabling organizations to balance short- and long-term goals and support data-driven decision-making. This tool allows managers to track performance across different levels and drive continuous improvement. The Balanced Scorecard was developed as a tool to monitor the performance of organizations from a broader perspective, based on the idea that the success of organizations is not only based on return on investment and profits, but also includes other important long-term factors, such as customer satisfaction, innovation, adaptability to change and sustainable growth (Janati & Chaker, 2017, p.4425)

It also helps organizations measure performance from four key aspects: finance, customers, internal processes, learning and growth:

- ***Financial dimension***

This dimension aims to evaluate the financial performance of the organization and measures the profitability of the strategy and ensure the achievement of the required financial returns, because achieving profits is the main driver of the strategic initiatives practiced by the organization (zoui & Satouh , 2022, p.1027) relying on a set of financial indicators such as revenue, profits, return on investment (ROI), and cash flow.

- ***The customer dimension:***

The modern approach views the customer as the reason for the organization's existence and the basis for its survival, as its requirements and needs have been placed at the heart of its strategy. This dimension looks at how to create value for customers in order to reach the set financial goals, and the

organization's performance is measured by indicators such as customer satisfaction, customer retention rate, market share, and quality assessments. (karaoui, 2022, p.279)

- ***Internal processes:***

This dimension aims to improve the efficiency and effectiveness of internal processes to ensure the delivery of high-quality products and services through indicators such as process efficiency, product quality, cycle time, and defects (Slimani & Djaadi, 2021, p.266)

- ***Learning and growth dimension:***

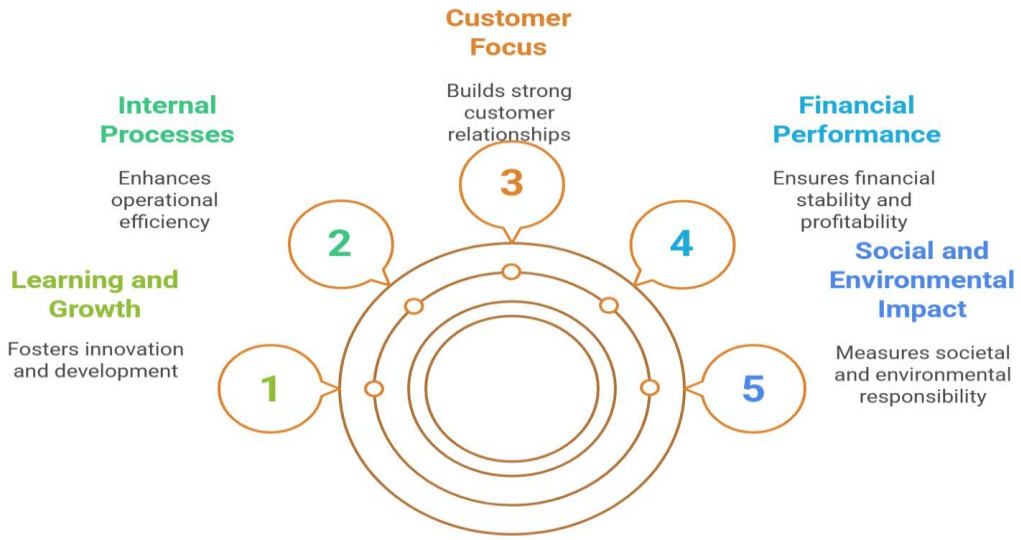
This dimension aims to strengthen organizational capabilities and employee development to ensure innovation and long-term sustainability based on indicators such as employee satisfaction, training and development, innovation, and skills growth. It also focuses on the infrastructure an organization needs to achieve sustainable growth, including human capital, technology, and organizational culture. (Kaplan, Norton, & David, 1993, p.58)

In the last decade, BSC has undergone a shift to a sustainability concept that ensures the integration of financial and non-financial dimensions with sustainable development goals and social and environmental responsibility. (kaouther & kouachi, 2020, p.94)

In 2002, modifications to this system were introduced. There were multiple opinions on how to introduce and integrate the environmental and social dimensions into the balanced scorecard. The concept of sustainability reflects the response of organizations to current environmental, social and economic challenges, and emphasizes the comprehensive integration of sustainability and digital transformation to achieve superior organizational performance in the modern era (Tuğçe, 2016, p80)

The following figure illustrates the dimensions of the Sustainable Balanced Scorecard:

Fig. (01): Dimensions of the Sustainable Balanced Scorecard



Source: (Ahmed, 2019, p.956)

III. *Fieldwork*

III.1 Description of the Study Sample and Research Instrument:

-Presentation of the Study Institution: IRRIGOUT is a private joint-stock company established in 2008, headquartered in the industrial zone of Khebsia, Mascara Province. The company employs 999 workers and boasts a long-standing history of experience and excellence in the fields of public works, hydraulics, and construction. Since its founding, the company has continuously strived to deliver the highest levels of quality and excellence in every project it undertakes.

***-Study Methodology*:** Given the nature and objectives of the study, the descriptive-analytical method was adopted, as it is the most appropriate approach for analyzing the relationships between the study variables and understanding the phenomena under investigation through both quantitative and qualitative data.

-Study Population and Sample: The study population consists of all employees of the IRRIGOUT company. A random sample of 35 employees was selected to adequately represent the population and provide reasonably generalizable results.
Study instrument: To achieve the objectives of the study and collect data related to its variables, the questionnaire was used as the main instrument, as it was designed to include questions that measure the dimensions of IT and performance efficiency, in addition to questions related to the demographic characteristics of the sample members. A five-point Likert scale was used to accurately measure the respondents' attitudes and opinions, while the data was analyzed using SPSS version 26, in order to statistically process the results and extract indicators that support the testing of the study's hypotheses

III.2 Validity and reliability of research variables

Cronbach's alpha coefficients were used to assess the reliability of the questionnaire, and the results were as shown in the following table:

Table (01): Cronbach's alpha coefficients

Variables	Number of questions	Alpha Cronbach
IT Dimensions	22	0.737
Performance Dimensions (Sustainable Balanced Scorecard)	30	0.740
All previous themes	52	0.895

Source: Prepared by the researchers using SPSS-26

It is clear from the **table (01)** that the values of the stability coefficients are high for each of the previous axes, as well as for the stability coefficient for the total axes together, where the value of the stability coefficient was > **0.7**, and therefore, if the questionnaire is redistributed to another sample from the same community with the same size, the results obtained will be close to the results obtained through the first sample.

III.2 Descriptive analysis of the sample's responses to the study variables

Table (02): Descriptive analysis of (IT)

Dimensions	Mean	S. D	level	Ranking
Human Resources	3.88	0.678	High	01
Hardware	3.47	0.834	High	02
Data & Software	3.44	1.04	High	04
Communications & Networking	3.44	0.793	High	03
Information Technology	3.56	0.846	**High**	

Source: Prepared by the researchers using SPSS-26

From the results in the table above, it can be seen that all dimensions of IT are at a high level, as the overall arithmetic mean of the level of employee responses reached **(3.56)**, which indicates that **IRRIGOUT** has effectively adopted IT across its various components. This positive trend reflects the organization's interest in investing in this area, whether through the development and training of human resources, or by enhancing the technological infrastructure, including hardware, software and databases, as well as the development of communication systems and networks.

These results are an indication of the organization's awareness of the importance of information technology in supporting its performance and improving its operational efficiency.

Table (03): Descriptive analysis of Overall performance

Dimensions	Mean	S. D	level	Ranking
Financial Dimension	2.91	0.752	Medium	04
Internal Operations	3.78	0.362	Medium	01

Customers	2.96	0.432	Medium	03
Learning and Growth	3.08	0.234	Medium	02
Social and Environmental Dimension	2.89	0.481	Medium	05
Overall Performance	**3.12**	**0.452**	**Medium**	

Source: Prepared by the researchers using SPSS-26

From the results shown in the table, it is clear that the assessment IRRIGOUT's overall performance according to the dimensions of the balanced scorecard came at an average level with an arithmetic mean of **(3.12)**, which indicates an acceptable degree of interest in those dimensions, with a relative disparity in focus between the different dimensions.

The internal operations dimension recorded the highest arithmetic mean **(3.78)** with a high rating, which indicates the company's great focus on improving its internal processes and operational efficiency. Based on the above, it can be said that IRRIGOUT shows a positive trend towards developing its organizational performance, but this trend needs more balance and comprehensiveness, especially in the dimensions related to sustainability, customer satisfaction, and enhancing human capital

III.3. Hypothesis testing

- Testing the main hypothesis

"There is a statistically significant role of information technology on the overall performance of the Algerian joint stock company IRRIGOUT at a significance level of 0.05", and relying on the simple regression test, we conclude the following table:

Table (04): Results of the simple regression analysis to test the first hypothesis

	B	T	Sig	R	R^2
Constant	0.393	1.269	0.213	0.839	0.704
overall performance	0.765	8.850	0.000		

Source: Prepared by the researchers using SPSS-26

From **Table 04**, we notice that the value of the regression coefficient **(B = 0.765)**, which indicates that information technology has a statistically significant

effect on the overall performance of IRRIGOUT, every one unit increase in information technology corresponds to an increase in overall performance by **0.765** units.

Also, the value of the test of **T =8.850** at the level of significance **(Sig = 0.000)**, which is less than **0.05**, which confirms the significance of the effect statistically, and the correlation coefficient **R = 0.839**, which confirms that there is a positive relationship between information technology and overall performance. The correlation coefficient **R = 0.839**, which confirms the existence of a positive relationship between IT and overall performance, while the coefficient of determination is **R^2=0.704**, which indicates that IT explains **70.4%** of the changes in overall performance in IRRIGOUT.

Accordingly, the regression equation can be formulated as follows:

Y = 0.765X + 3.393

Thus, the main hypothesis is accepted, which states that there is a positive significant effect of information technology on overall performance at IRRIGOUT

- Testing the first hypothesis:

"There is a statistically significant effect of information technology on the financial dimension of the Algerian joint stock company IRRIGOUT at a significance level of 0.05", and relying on the simple regression test, we conclude the following table:

Table (05): Results of the simple regression analysis to test the first hypothesis

	B	T	Sig	R	R^2
Constant	1.550	2.590	0.014	0.370	0.137
Financial Dimension	0.382	2.290	0.029		

Source: Prepared by the researchers using SPSS-26

Table (05) shows that there is a weak direct effect of IT on the financial dimension in IRRIGOUT, where the positive regression coefficient value **(0.382)** indicates a direct positive relationship between the two variables, meaning that the high level of IT application contributes 38.2% to the improvement of the financial dimension (a one unit increase in the IT leads to 0,382 unit increase in financial dimension). The coefficient of determination is **(0.137)**, which means that IT explains only about **13.7%** of the changes in the financial dimension, which indicates that this effect is still limited.

The value of the T-test amounted to **(2.290)** with a significance level of **(0.029**), which is less than the nominal significance **level (0.05)**, which confirms the existence of statistical significance for this effect, and therefore the

relationship between IT and the financial dimension is significant. Based on the above, the regression equation model can be formulated as follows:

Y = 0.382X + 1.550

Accordingly, the null hypothesis is rejected and the alternative hypothesis is accepted which states that there is a statistically significant effect of IT on the financial dimension in IRRIGOUT, reflecting the positive role of IT in enhancing the financial performance of the organization under study.

- Testing the Second hypothesis:

"There is a statistically significant effect of information technology on the internal operations dimension of the Algerian joint stock company IRRIGOUT at a significance level of 0.05", and based on the simple regression test, we conclude the following table:

Table (06): Results of the simple regression analysis to test the Second hypothesis

	B	T	Sig	R	R^2
Constant	0.528	0,684	0.498	0.567	0.322
Internal Operations	0.852	3.959	0.000		

Source: Prepared by the researchers using SPSS-26

It can be seen from Table 06 that there is a moderately strong direct impact of information technology on the dimension of internal processes in IRRIGOUT, as evidenced by the positive regression coefficient value **(0.852)**, which indicates that enhancing the use of information technology leads to a significant improvement in the efficiency and effectiveness of internal processes within the company.

The value of the correlation coefficient of **(0.567)** indicates a moderately strong correlation between the two variables, while the value of the coefficient of determination reached **(0.322)**, which means that information technology explains about **32.2%** of the changes in the dimension of internal processes, which is a significant percentage that reflects the contribution of this variable in improving internal operational performance.

The t-test reached a value of **(3.959)** with a significance level of **(0.000)**, which is significantly lower than the nominal significance level (0.05), indicating that this effect is statistically significant. Therefore, the regression equation model can be formulated as follows: **Y = 0.852X + 0.528**

Based on the above, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that there is a statistically significant effect of information technology on internal process dimension in IRRIGOUT, which highlights the pivotal role that information technology plays in supporting the efficiency of operational procedures within the organization under study

- Testing the Third hypothesis:

"There is a statistically significant effect of information technology on customer dimension for the Algerian joint stock company IRRIGOUT at a significance level of 0.05 " Based on the simple regression test, we conclude the following table:

Table (07): Results of the simple regression analysis to test the Third hypothesis

	B	T	Sig	R	R^2
Constant	1.956	2.739	0.010	0.268	0.072
customer	0.319	1.599	0.119		

Source: Prepared by the researchers using SPSS-26

The results of the regression analysis show that there is a weak direct relationship between IT and customer dimension in IRRIGOUT, as evidenced by the positive value of the regression coefficient **(B = 0.319)**, which indicates that the improvement in IT adoption is matched by a slight improvement in customer satisfaction or CRM.

However, this relationship is not statistically significant, as evidenced by the value of the significance level **(Sig = 0.119)**, which exceeds the nominal level of significance **(0.05)**, which means that the detected effect may be due to chance and cannot be statistically generalized. Also, the T-test I value of **(1.599)** did not exceed the critical value required to consider the effect significant.

On the other hand, the correlation coefficient (**R**) is **0.268**, indicating a weak relationship, while the" coefficient of determination (R^2) is **0.072**. This means that information technology explains only 7.2% of the changes in the customer dimension, a weak percentage that does not reflect a significant effect.
Accordingly, the regression equation can be formulated as follows: **Y = 0.319X + 1.956**

Based on the previous results, the null hypothesis is accepted and the alternative hypothesis is rejected, which means that there is no statistically significant effect between information technology and customer dimension in IRRIGOUT and therefore, information technology has a weak effect or insufficient effect in improving the relationship with customers within the organization under study, which may require a reconsideration of the mechanisms used in this aspect

- Testing the Fourth hypothesis:

"There is a statistically significant effect between information technology and the learning and growth dimension of the Algerian joint stock company RRIGOUT at a significance level of 0.05," and based on the simple regression test we conclude the following table:

Table (08): Results of the simple regression analysis to test the Fourth hypothesis

	B	T	Sig	R	R^2
Constant	-2.094	-2.430	0.021	0.729	0.531
learning and growth	1.471	6.119	0.000		

Source: Prepared by the researchers using SPSS-26

The results of the regression analysis indicate that there is a strong and statistically significant direct relationship between information technology and the learning and growth dimension in IRRIGOUT, as evidenced by the positive value of the regression coefficient **(B = 1.471)**, which indicates that information technology contributes directly to enhancing the learning and growth processes within the organization. The value of T = 6.119 indicates the strength of the relationship, as it exceeds the critical value required for significance, indicating the significance of this effect.

The significance level **(Sig = 0)** is much lower than **0.05**, which supports the acceptance of the alternative hypothesis and confirms that this effect is statistically significant. The coefficient of determination **R^2 = 0.531** showed that IT explains **53.1%** of the changes in the learning and growth dimension, which is a relatively high percentage that reflects a significant and effective effect. Therefore, the regression equation can be formulated as follow: **Y = 1.471X - 2.094**

Based on the above, the null hypothesis is rejected and the alternative hypothesis is accepted, which means that information technology has a positive and statistically significant impact on the learning and growth dimension at IRRIGOUT and this highlights the vital role that this technology plays in supporting professional development, knowledge transfer, and capacity building within the organization under study

- Testing the Fifth hypothesis:

There is a statistically significant effect of information technology on the social and environmental dimension of the Algerian joint stock company IRRIGOUT at a significance level of 0.05, and based on the simple regression test, we conclude the following table:

Table (09): Results of the simple regression analysis to test the Fifth hypothesis

	B	T	Sig	R	R^2
Constant	0.26	0.038	0.970	0.584	0.341
Social and environmental	0.803	4.135	0.000		

Source: Prepared by the researchers using SPSS-26

Table (09) shows that there is a moderate direct effect between IT and the social and environmental dimension in IRRIGOUT, as indicated by the value of

the regression coefficient of **(0.803)**, which indicates that IT contributes positively to enhancing the social and environmental performance of the organization. The value of **(T) = (4.135)** indicates a strong statistical significance of this effect, as the calculated significance level **(0.000)** is significantly lower than the nominal value (0.05). This effect is also supported by the correlation coefficient **(R= 0.584)** which reflects a moderate correlation between the two variables, while the coefficient of determination **(R^2 =0.341)** indicates that IT explains 34.1% of the changes in the social and environmental dimension.

Based on the results, the simple linear regression equation can be formulated as follows**: Y = 0.803X + 0.26**

Based on these results, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that there is a statistically significant effect between IT and the social and environmental dimension, which indicates the role of IT in supporting environmental and social aspects within the dimensions of sustainable organizational performance

IV. Conclusion

This study concludes that information technology (IT) plays an important role in supporting and improving performance efficiency within organizations, especially when integrated into strategic measurement frameworks such as the Sustainable Balanced Scorecard. Through the case study of IRRIGOUT in Camp, it was found that the organization has positively adopted various dimensions of IT, which contributed to improving its overall performance, especially in the dimensions of internal processes, learning and growth. These results confirm that investing in IT is no longer an option but a strategic necessity for organizations wishing to modernize and adapt to the requirements of digital transformation in the Algerian business environment in order to achieve effective performance

***Results**:*

- The results of the study showed that IRRIGOUT is highly dependent on information technology in its various dimensions, reflecting a strategic orientation towards digital transformation and enhancing organizational performance.
- There was a statistically significant relationship between IT and overall organizational performance, with a correlation coefficient of (0.839), indicating that investing in digital infrastructure effectively contributes to improving performance.
- The strongest relationships between IT and the dimensions of the balanced scorecard are learning and growth and internal processes, reflecting the vital role that IT plays in supporting human resources and enhancing operational efficiency
- The financial dimension recorded a significant but relatively weak relationship, indicating that the direct financial impact of IT is still

limited.

- There was no statistically significant effect of IT on the customer dimension, which highlights the organization's poor use of digital technologies in enhancing the customer experience and interaction with customers.
- The study emphasized the need to strengthen the integration between IT and all strategic dimensions of performance to ensure comprehensive and sustainable results at the organizational level.

Recommendations:

- The need to direct IT strategies in line with the overall goals of the organization in order to ensure integration between organizational and technical aspects.
- Encourage continuous training and development programs for human resources in order to enhance their ability to adapt to continuous technological changes.
- Adopt a sustainable approach to the use of information technology that takes into account the social and environmental dimensions within the organizational performance goals.
- Encourage continuous training and training programs for human resources in order to enhance their readiness to adapt to continuous technological developments.
- Adopting a sustainable approach to the use of information technology, taking into account the social and environmental dimensions within the organizational performance goals.

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