RESEARCH ARTICLE

From Traditional Governance to Digital Governance: The Road to Sustainable Development – A Case Study of Condor Electronics in Algeria

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Abstract

The study aims to determine the impact of the dimensions of digital governance (digital participation, digital transparency, digital accountability, digital auditing) on the dimensions of sustainable development. The descriptive-analytical method was adopted, and the study model was constructed based on theoretical and field studies—both Arab and foreign—related to the study's topic. A case study was conducted in the fieldwork segment by selecting Condor Electronics in Algeria. A questionnaire was specifically prepared for this purpose and distributed to a sample of 70 employees. The data collected were statistically analyzed and processed using the statistical program (SPSS, v27). The study reached several conclusions, the most notable of which is the existence of an effect of digital governance dimensions on the dimensions of sustainable development as a whole. The study also recommended the necessity of recognizing the importance of implementing digital governance, as it can influence the achievement of sustainable development dimensions.

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1 Introduction

Progress toward enhancing the dimensions and objectives of sustainable development constitutes a complex challenge at the national level, given its integrated, interconnected, and intergenerational nature. This necessitates that governments rethink their organization, structure, and methods of operation. However, in practical application, governments face significant obstacles in overcoming traditional approaches, which have effectively failed to meet the demands of development and sustainability. This has led to the need to intensify efforts in search of a more suitable new approach.

Achieving the Sustainable Development Goals (SDGs) by 2030 requires a comprehensive transformation in how governments address the increasing challenges of development. It calls for rethinking the role of governments in the digital era and how they interact with society and the private sector. This must include their ability, in the context of digital transformation, to manage public affairs and respond effectively and seriously to the needs of their communities, as well as how to deliver services and manage development and the economy in a sustainable manner.

Digital governance is one of the responses to the digital transformation witnessed by institutions and organizations in the modern era. The importance of digital data and information has increased in communication and transactions, and digital government approaches now have the potential to accelerate the achievement of sustainable development goals and ensure that no one is left behind.

Problem Statement:

Accordingly, we pose the following research problem:

Does digital governance contribute to achieving the dimensions of sustainable development?

Research Hypotheses:

To answer the problem and achieve the study's objectives, the following main hypothesis was formulated:

There is no statistically significant effect of the dimensions of digital governance in promoting the dimensions of sustainable development at Condor Electronics at a significance level of ($\alpha \leq 0.05$).

Study Objectives:

The primary aim of this study is to highlight the contribution of the dimensions of digital governance in achieving the dimensions of sustainable development by confirming or refuting this effect.

This main objective branches into several sub-objectives, including:

– Providing a theoretical framework defining the concepts of digital governance and sustainable development, along with their respective dimensions.

– Attempting to identify the effect of implementing digital governance on achieving the dimensions of sustainable development in the institution under study.

– Attempting to present recommendations and suggestions based on the study's results to help highlight the impact of digital governance dimensions in achieving sustainable development dimensions.

2 A Knowledge-Based Introduction to Digital Governance

2.1 The Concept of Digital Governance

Before discussing digital governance, it is important to understand that the term consists of two components. We must first define the term governance, which is defined as:

"The exercise of political, economic, and administrative authority in managing the affairs of the state at all levels. Governance represents the mechanisms, processes, relationships, and institutions through which individuals and groups can express their interests, exercise their rights, fulfill their obligations, and resolve their differences: (smail, 2007). "

As for digitalization, it refers to the application of modern technology to achieve transparency, enable traceability of value chains, and serve customers and society in a more responsible and sustainable way, while making decisions based on data.

Accordingly, the concept of digital governance can be defined as: The use of information and communication technology (ICT) by public sectors to improve the delivery of information and services, encourage citizen

participation in decision-making processes, and enhance the effectiveness, accountability, and transparency of government. (Ayachi, 2015)

It is also defined as: A system for control, oversight, and decision-making within the context of digital technology and information, aimed at directing and supervising the use of digital technology, achieving institutional objectives, enhancing transparency and accountability, reducing risks, and ensuring legal compliance. (Haja, 2023)

2.2 The Importance of Digital Governance:

The main benefits of digital governance can be summarized as follows: (Belkacem Boufateh, 2021)

- **Speed:** Digital governance facilitates task completion in a short time. Smartphones and online services enable the instant transfer of large volumes of data globally, which means that digital governance can accelerate service delivery and allow businesses and individuals to access information more quickly than in the past.
- **Cost Reduction:** Digital governance helps reduce expenses. Traditional methods involving written messages, paper records, and manual processes consume significant time, effort, and money. Replacing these with information technology and internet-based solutions can save substantial costs.
- **Transparency:** It contributes to making all business functions more transparent and clear. Transparency also allows citizens to access any information they need, whenever they want, with a simple click or touch.
- **Enhanced Communication:** Implementing digital governance can strengthen communication between the government and the business sector. This especially benefits entrepreneurs and startups, as it enables them to communicate effectively and compete with large corporations for investments or contracts. In this way, digital governance helps reduce monopolies and creates space for everyone.
- **Trust Building:** Digital governance helps build trust between governments and citizens, which is a key factor in good governance. It seeks to use strategies based on technology and the internet to engage citizens in general.
- **Operational Efficiency:** Digital governance aims to enhance overall operational efficiency. By using modern technologies, tasks and services can be executed more quickly and effectively, saving time and effort, which can then be redirected toward more beneficial activities.
- **Corruption Reduction:** One of the hallmarks of the digital age is the dominance of visibility, where everything is accessible and known to all. This means that corruption has fewer places to hide.
- **Accountability:** A natural consequence of transparency is accountability. Governments can be held accountable when mistakes are made. Digital governance indirectly improves performance, as the awareness that government actions are under public scrutiny pushes for continuous improvement.

2.3 Dimensions of Digital Governance

Several scholars and researchers agree on the key dimensions of digital governance, each of which is defined as follows: (Ahed Abdelkader Abu Ata, 2023)

- **Digital Participation:** This refers to enabling all stakeholders and concerned parties to participate in decision-making processes and express their opinions. It is achieved by facilitating access to information through the use of information and communication technology (ICT), allowing them to present their ideas and suggestions.
- **Digital Transparency:** This means clarity without ambiguity, allowing the public and stakeholders to know the truth without concealment or deception. It involves the institution's commitment to openly sharing and disclosing information about its activities and operations through ICT tools and modern technologies.
- **Digital Accountability:** This is the mechanism through which individuals and organizations are held responsible for actions and decisions related to the use of digital technologies and data. It assures stakeholders that activities are being conducted in the public interest.
- **Digital Auditing:** This refers to the activity of verifying that the organization's processes are aligned with established standards. Effective auditing requires active participation from stakeholders and uses modern information and communication technologies to obtain information quickly, with minimal effort and cost.

3. The Conceptual Framework of Sustainable Development

3.1 The Concept of Sustainable Development:

The concept of sustainable development has been defined in various ways by different researchers and authors. Among the most cited definitions:

Sustainable development is defined as *development that meets the needs of the present generations while preserving the future and the needs of coming generations, taking into account the protection of the environment and natural resource.* (P. Widloecher, 2009)

The World Bank defines sustainable development as: *"A process concerned with achieving intergenerational equity, ensuring that future generations have access to the same developmental opportunities as current ones, by maintaining or increasing overall capital over time. "* (Al-Buraid, 2015)

Considering the numerous definitions, it is clear that sustainable development spans several domains. A report issued by the World Resources Institute (WRI)—a U.S.-based organization concerned with promoting sustainability—summarized ten widely used definitions of sustainable development and classified them into four categories: economic, social, environmental, and technological. These are summarized as follows. (Abdelghani, 2012–2013):

- **Economic Perspective:** In developed countries, sustainable development implies reducing energy and resource consumption. In developing countries, it involves mobilizing resources to raise living standards and reduce poverty.
- **Social and Human Perspective:** It involves striving for population growth stabilization and improving healthcare and educational services, particularly in rural areas.
- **Environmental Perspective:** It refers to the protection of natural resources and the optimal use of agricultural land and water resources.
- **Technological Perspective:** It involves transitioning society toward clean industries that use environmentally friendly technologies, minimize the emission of harmful gases, and reduce substances that damage the ozone layer and contribute to global warming.

3.2 Goals for Sustainable Development As stated in the United Nations 2030 Agenda

Adopted under the resolution "Transforming our world: the 2030 Agenda for Sustainable Development," the 2030 Agenda for Sustainable Development came out of the 70th session of the United Nations General Assembly in 2015.

As it lays a thorough action plan for people, the earth, and prosperity, this agenda reflects the most aspirational global agreement the United Nations has ever attained.

Defined as seventeen (17) Sustainable Development Goals (SDGs), these developmental goals—or global challenges—were compiled as follows to "save the world" (Nations, 2024) :

Goal 01- No Poverty: Finish poverty in all its manifestations wherever.

Goal 02- Zero Hunger: Finish hunger, attain food security and better nutrition, and support environmentally friendly farming.

Goal 03- Promote well-being for all at all ages and guarantee healthy life by means of this.

Goal 04- Guarantee inclusive and fair quality education as well as encouragement of lifelong learning possibilities for all.

Goal 05- Aim for gender equality and empower every female and girl.

Goal 06- Sanitation and Clean Water: Verify availability and sustainable management of water and sanitation for everyone.

Goal 07- Guarantee of affordable, dependable, sustainable, modern energy for all depends on ensuring access to these.

Goal 08- Promote steady, inclusive, sustainable economic growth, full and productive employment, and good work for all by means of decent work and economic development.

Goal 09- Industry, Innovation and Infrastructure: Create strong infrastructure, advance inclusive and sustainable industrialization, and encourage invention.

Goal 10- Reducing inequalities both inside and between nations

Goal 11- Make cities and human communities inclusive, safe, strong, and sustainable by design.

Goal 12- Promote sustainable consumption and production to guarantee such trends.

Goal 13- Acknowledging current agreements under the UNFCCC, take quick action to counteract climate change and its effects.

Goal 14- Sustainable development depends on the oceans, seas, and marine resources being conserved and used sustainably.

Goal 15- Manage forests sustainably, fight desertification, stop and reverse land degradation, protect, restore, and promote sustainable use of terrestrial ecosystems, so halting the loss of biodiversity.

Goal 16 - Promote peaceful and inclusive societies for sustainable development, give access to justice for all, and establish strong, responsible, and inclusive institutions.

Goal 17- Strengthen the tools of implementation and revive the worldwide cooperation for sustainable development by means of partnerships for the goals.

Figure showing the seventeen (17) Sustainable Development Goals follows:

Figure 1. The 17 Sustainable Development Goals – 2030 Agenda

Source: United Nations, on the official website: https://news.un.org/ar/story/2015/09/236642

4. Digital Governance as One of the Pillars for Promoting the 2030 Sustainable Development Goals

4.1 Digitalization as a Means to Achieve the 2030 Agenda and Sustainable Development Goals

Digitalization and Information and Communication Technologies (ICT) play an undeniable role in accelerating progress in the implementation of the United Nations' seventeen Sustainable Development Goals (SDGs), given their positive contribution to reducing transaction costs, improving service delivery, diversifying revenue sources, and preserving and sustaining natural resources.

The United Nations has promoted an expanded vision of digitalization and the digital economy as enabling factors relevant to achieving the SDGs. The international organization also identified science, technology, and innovation—alongside development financing—as one of the two main means of implementation for achieving the SDGs by 2030.

Among the clear examples of the impact of digitalization on economic and social development in developing countries are mobile payment systems, which provide easy access to financial services for poor and marginalized populations. In India, innovations such as the *Unified Payments Interface* have successfully facilitated the integration of the poor into the digital economy.

Therefore, technology, knowledge, and the digital economy contribute to achieving the Sustainable Development Goals and can support the implementation of each of the seventeen SDGs, including healthcare, agriculture, poverty and hunger reduction, the creation of new jobs, mitigation of climate change effects, improvement of energy consumption efficiency, and making cities and communities more sustainable. (Mahmoud, 2022).

Among the Sustainable Development Goals for 2030, there are four main goals—specifically Goal 4, Goal 5, Goal 9, and Goal 17—that directly focus on the central role of digitalization and ICT in achieving sustainable development.

Below is a table illustrating these goals that are directly related to digitalization and information and communication technologies:

Board 1. Key Sustainable Development Goals Related to Digitalization and Information Technology

Goal	Target
Goal 4: Quality Education	Target 4.b: A significant rise in the number of scholarships available to developing nations for higher education, especially to least developed countries, small island developing States, African countries including vocational training and programs in technical, engineering, and scientific fields in developed countries and other developing countries.
Goal 5: Gender Equality	Target 5.b: Improve the use of enabling technology—in particular, information and communications technology—to help to empower women.

Goal 9: Industry, Innovation and Infrastructure	Target 9.c: Try to give least developed nations universal and reasonably priced access to the Internet and greatly expand access to information and communications technology.
Goal 17: Partnerships for the Goals	Target 17.8: By 2017 completely operationalize the technological bank and innovation, science, and technology building capacity mechanism for the least developed countries; also improve the implementation of enabling technology, especially technology for communication and information.

Source: (Velden, 2018)

4.2 Digital Governance and the 2030 Sustainable Development Goals

Digital governance represents a fundamental transformation in the ways governments conduct their affairs, aiming to keep pace with the tremendous advancements led by the private sector in the field of electronic services—delivering services and completing a large volume of transactions with clients via computers and the internet. Many countries have come to realize the importance of digital governance for sustainable development, as its primary objective is essentially the achievement of human development. Contemporary development thought presents human development as an entry point for sustainable development, which draws its sustainability from developing all individuals' capacities and empowering them to utilize and expand their potential.

The concept of sustainable development does not view the individual merely as a resource, a labor force, or a production factor, but rather as a moral being with the capacity for creativity and participation in community life. Implementing digital governance will lead to directing and managing economic and social development efforts, improving core social services such as healthcare and education, and building the necessary social and economic infrastructure for launching development processes and ensuring their sustainability. (S Maimouna Rezoug, 2023).

Governments, in collaboration with the private sector and civil society, will play a central role in implementing the 2030 Sustainable Development Goals. They must work to realize the principles and objectives of the agenda across public institutions at the local, national, regional, and international levels. This specifically means ensuring that the goals of eradicating poverty and "leaving no one behind" guide all institutions, social influencers, public policies, and services provided to the public.

Today, digital government is considered a powerful developmental tool capable of applying all guiding principles for achieving the SDGs, by building societies that uphold peace, justice, and fairness for all. This can only happen through the presence of effective and accountable institutions that respond to everyone's needs. Capacity-building and innovation stimulation will be necessary at all levels—particularly in the fields of ICT and digital governance—to promote policy integration, improve public institutional accountability, and implement digital participation for more inclusive communities. This ensures that public services are delivered equitably and efficiently to all, especially to the poorest and most vulnerable groups (Aquaro, 2024).

Undoubtedly, focusing on digital governance—by encouraging the use of communication technologies and information systems—can enhance economic growth and sustainable development, positively impacting the development of the social environment by enabling humans to control nature and achieve productive efficiency. Sustainable development does not view humans as mere resources, but as ethical beings with the power of innovation and positive participation in utilizing their environment.

The application of digital governance helps consolidate the principles of good governance, which are based on equality, justice, rule of law, and participation. It also contributes to combating financial and administrative corruption, bribery, and other negative social phenomena. Moreover, it improves and simplifies the quality of services provided by allowing access through a single portal, establishing networks and systems connecting various government bodies, and providing the IT infrastructure necessary as a foundational pillar for achieving economic development. This is clearly seen in developed countries that have achieved significant economic growth by adopting digital governance, with Singapore being a prime example of this approach (Sahnouni Mostafa, 2021)

5. Field Study

5.1 Introduction to the Institution Under Study

Condor Company is an Algerian enterprise specialized in the manufacturing of electronic and electrical devices. It is considered one of the leading companies in this field in Algeria and the region. Condor was established in 2002 and operates under the Benhamadi Group. Its share capital is estimated at 4,277,000,000 DZD. In addition to producing a wide range of electronic products, the company also has six productive business units, which are as follows:

- Refrigerator Business Unit

- Cooking Appliances and Metal Processing Business Unit
- Air Conditioning, Heating, and Laundry Business Unit
- Plastic Processing Business Unit
- Polystyrene Business Unit
- Solar Energy and Lighting Business Unit

As of December 31, 2022, the company employs approximately 3,814 workers, including 3,544 males and 270 females, distributed across all of the company's production units according to the needs of each department.

5.2 Study Methodology

In order to cover the various theoretical and practical aspects of the subject, answer the research question, and test the validity of the hypothesis, the researcher relied on the descriptive-analytical approach to address and define the different intellectual and conceptual dimensions related to the study topic. This approach aimed to comprehensively understand the topic and analyze the components on which it is based. For the applied part of the study, a questionnaire was used as the data collection tool, and the data was analyzed statistically using the SPSS software.

5.3 Study Sample

Selecting an appropriate study sample is of great importance in scientific research, especially in terms of its impact on the study and its results, as a well-chosen sample can accurately represent the broader population. The study targeted individuals who are almost permanently present within the company's main units and administrative structures—specifically, experienced and qualified executives and employees with extensive knowledge of information and data related to the company. The focus was placed on this group because they are consistently present within the company's operational environment.

5.4 Study Tool

The present study relied on the questionnaire as the primary tool for collecting the necessary data, specifically designed for this purpose. The questionnaire is considered one of the most suitable and appropriate tools for the nature of this study. It was developed based on several previous Arab and international studies and was divided into the following sections:

- **Section One:** Pertains to the personal data of the sample members, including (gender, age, academic qualification, job position, and years of experience).
- **Section Two:** Pertains to the independent variable of the study, which is the dimensions of digital governance (digital participation, digital transparency, digital accountability, digital auditing).
- **Section Three:** Pertains to the dependent variable of the study, which is the dimensions of sustainable development (economic, social, environmental, and technological dimensions).

The five-point Likert scale guided the formulation of the questions; the scores shown in the following table reflect this distribution:

Table 2. Arithmetic Mean Values and Availability Degree According to the Five-Point Likert Scale

Reference Mean	4.21 – 5	3.41 – 4.20	2.61 – 3.40	1.81 – 2.60	1 – 1.80
Weight	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Evaluation	High		Medium	Low	

Source: Prepared by the researcher based on previous studies.

5.5 Validity and Reliability

5.5.1 Construct Validity

The calculation of the Pearson correlation coefficient among the total score of every dimension inside a section and the total score of the section as a whole, the researcher performed a construct validity test for the study tool. It follows that the questionnaire has great construct validity if the correlation coefficient is strong and statistically significant.

Table 3. Construct Validity Test of the Questionnaire

Correlation Relationship		Correlation Coefficient (r)	Significance Level
Digital Governance Axis	Digital Participation Dimension	0.74	0
	Digital Transparency Dimension	0.75	0
	Digital Accountability Dimension	0.75	0
	Digital Auditing Dimension	0.82	0
Sustainable	Economic Dimension	0.92	0

Development Axis	Social Dimension	0.92	0
	Environmental Dimension	0.93	0
	Technological Dimension	0.94	0

Source: Made by the researcher using SPSS v27 outputs.

From Table (03), it is evident that all correlation coefficients are statistically significant, ranging between 0.74 and 0.94, indicating a strong and positive correlation between the overall Digital Governance section and its four dimensions, as well as between the Sustainable Development section and its four dimensions. Therefore, the questionnaire demonstrates high construct validity and is indeed suitable for measuring what it was designed to measure.

5.5.2 Instrument Reliability

The reliability and stability associated with the measurement—that is, the results the questionnaire should produce when used on the same sample under the same conditions—define its dependability. Using the Cronbach's Alpha coefficient helped one evaluate the dependability of the instrument. This coefficient runs from 0 to 1; the lowest permissible value is 0.7.

Table 4. Cronbach's Alpha Coefficients for Measuring Instrument Reliability

Axis	Number of paragraphs	Reliability (Cronbach's Alpha)
Digital Participation	5	0.913
Digital Transparency	5	0.868
Digital Accountability	5	0.87
Digital Auditing	5	0.896
Axis One: Dimensions of Digital Governance	**20**	**0.923**
Economic Dimension	5	0.941
Social Dimension	5	0.897
Environmental Dimension	5	0.915
Technological Dimension	5	0.953
Axis Two: Dimensions of Sustainable Development	**20**	**0.973**
Total Questionnaire	**40**	**0.955**

Source: Made by the researcher using SPSS v27 outputs.

With Table (04) the Cronbach's Alpha value for the whole questionnaire is 0.955, which is regarded as rather high. Moreover, respectively, the Cronbach's Alpha values for the two main questionnaire sections are 0.923 and 0.973. The Alpha values for the four dimensions of digital governance fell between 0.868 and 0.913; for the four dimensions of sustainable development, the values fell between 0.897 and 0.953.

These findings show that the questionnaire is rather dependable and can be boldly applied in the field of the research.

5.6 Analysis of Sample Characteristics

The characteristics and traits of the study's sample units can be described as follows:

5.6.1 Distribution of Sample Members by Gender Variable:

The following table shows the distribution of the study sample according to gender:

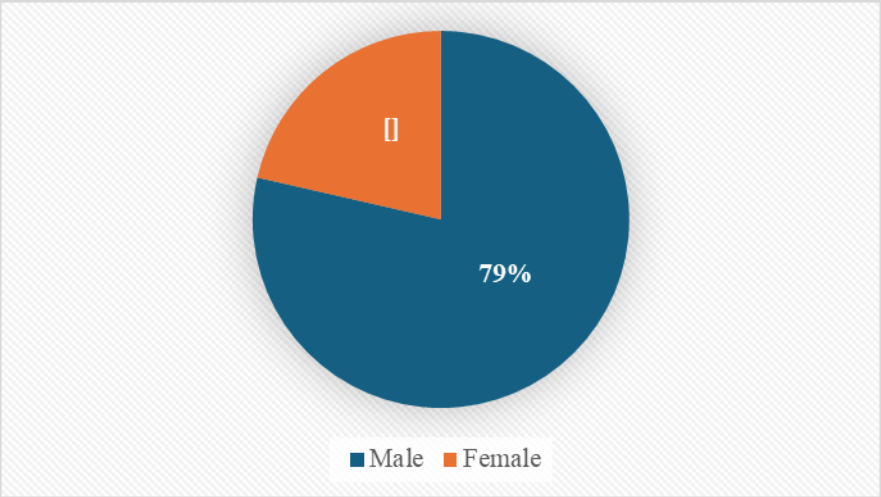
Table 5. Distribution of Study Sample by Gender Variable

Variable	Frequency	Percentage
Male	55	78.60%
Female	15	21.40%
Total	70	100%

Source: Prepared by the student based on SPSS v27 outputs.

The following figure illustrates the distribution of the study sample by gender:

Figure 2. Distribution of Study Sample by Gender Variable



Source: Made by the researcher using company data.

From the above table and figure, it is observed that the majority of the sample consists of males, representing 78.6%, while 21.4% of the sample are females. This indicates a degree of diversity within the study sample.

It also suggests that most workers in the institution under study are male. This can be explained by the nature of the company's activities, which primarily involve the production and assembly of household electrical and electronic appliances. These activities are sometimes physically demanding, involve long working hours, and include technical, service, and professional roles that are generally more suitable for men and require physical effort—unlike roles typically filled by women.

5.6.2 Distribution of Sample Members by Age Variable:

The following table presents the distribution of the study sample according to the age variable:

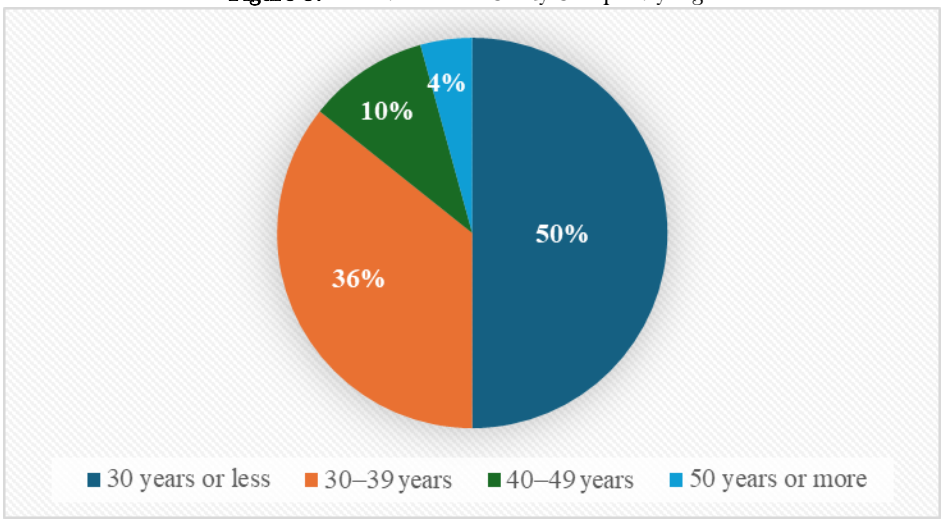
Table 6. Distribution of Study Sample by Age

	Variable	Frequency	Percentage
Age	30 years or less	35	50%
	30–39 years	25	35.70%
	40–49 years	7	10%
	50 years or more	3	4.30%
	Total	70	100%

Source: Prepared by the student based on SPSS v27 outputs.

The following figure shows the distribution of the study sample by age:

Figure 3. Distribution of Study Sample by Age



Source: Made by the researcher using company data.

From the table and figure above, it is observed that the majority of the sample members are under 30 years old, with a representation rate of 50%. This is followed by the age group 30–39 years, representing 35.7% of the sample.

In third place is the 40–49 years age group, with a representation of 10%, and finally, the 50+ years category comes last, with a representation of 4.3%.

This indicates that most employees are young, which reflects the general economic trend of investing in young talent capable of adding value to the institution. The aim is to benefit from dynamic, creative, and development-oriented youth competencies.

These results can also be interpreted to mean that the institution seeks to combine youth with experience, encouraging interaction between different age groups. This approach contributes positively to balanced performance, knowledge transfer, and the formation of a generation capable of taking leadership in the future.

5.6.3 Distribution of Sample Members by Educational Qualification

The following table presents the distribution of the study sample according to the educational qualification variable:

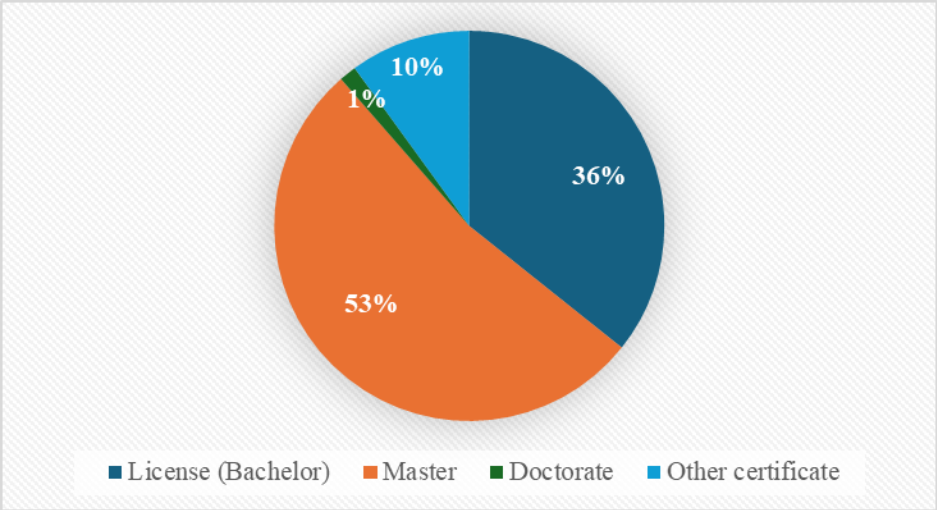
Table 7. Distribution of Study Sample by Educational Qualification

Statement	Variable	Frequency	Percentage
Academic Degree	License (Bachelor)	25	35.71%
	Master	37	52.86%
	Doctorate	1	1.43%
	Other certificate	7	10%
	Total	70	100%

Source: Prepared by the student based on SPSS v27 outputs.

The following figure shows the distribution of the study sample by educational qualification:

Figure 4. Distribution of Study Sample by Educational Qualification



Source: Made by the researcher using company data.

From the above table and figure, we observe that the majority of the sample consists of individuals holding a Master's degree, representing 52.86% of the sample. They are followed by those with a Bachelor's degree (Licence) at 35.71%. At the bottom of the ranking are those with a PhD, representing 1.43%, while 10% of the sample hold other qualifications.

This reflects a recruitment policy focused on attracting and employing university-level talent with high levels of knowledge and strong capabilities for learning and continuous development. This is consistent with the nature of jobs and activities within the company, especially given its strong connection to modern technology and digital transformation.

5.6.4 Distribution of Sample Members by Job Position:

The following table presents the distribution of the study sample according to the job position variable:

Table 8. Distribution of Study Sample by Job Position

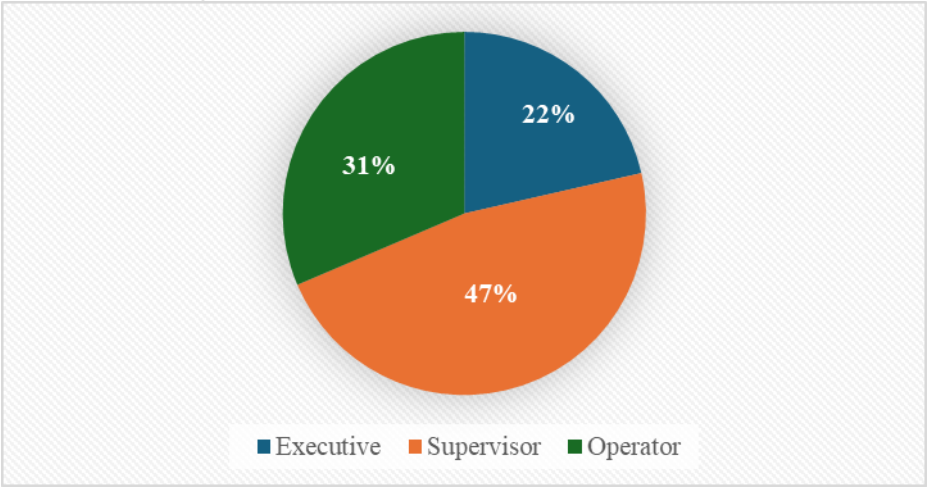
Statement	Variable	Frequency	Percentage
Job Position	Executive	15	21.43%

	Supervisor	33	47.14%
	Operator	22	31.43%
	Total	70	100%

Source: Prepared by the student based on SPSS v27 outputs.

The following figure shows the distribution of the study sample by job position:

Figure 5. Distribution of Study Sample by Job Position



Source: Made by the researcher using company data.

From the table and figure above, it is observed that the majority of the sample consists of skilled support staff (Agents de maîtrise), representing 47.14% of the total. They are followed by operational agents (Agents d'exécution) at 31.43%, and finally, executive-level employees (Cadres) represent 21.43%.

These proportions reflect a balanced organizational structure, where roles and responsibilities are distributed in a manner that supports efficient functioning across various levels of the institution.

5.6.5 Distribution of Sample Members by Professional Experience

The following table presents the distribution of the study sample according to the professional experience variable:

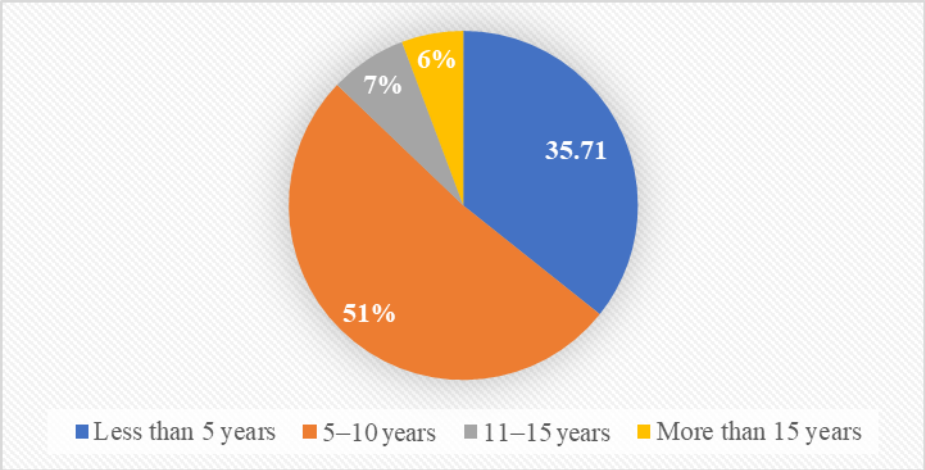
Table 9. Distribution of Study Sample by Professional Experience

Statement	Variable	Frequency	Percentage
Professional Experience	Less than 5 years	25	35.71%
	5–10 years	36	51.43%
	11–15 years	5	7.14%
	More than 15 years	4	5.72%
	Total	70	100%

Source: Prepared by the student based on SPSS v27 outputs.

The following figure shows the distribution of the study sample by professional experience:

Figure 6. Distribution of Study Sample by Professional Experience



Source: Made by the researcher using company data.

From the table and figure above, it is evident that the majority of the sample consists of employees with 5 to 10 years of experience, representing 51.43% of the sample. They are followed by those with less than 5 years of experience, representing 35.71%, then those with 11 to 15 years of experience at 7.14%, and finally, those with more than 15 years of experience, representing 5.72%.

This distribution reflects a healthy mix of varying levels of experience, indicating that the institution values its staff and fosters employment stability. It also demonstrates the employees' responsibility and accumulated experience, which positively impacts the institution's management and operational efficiency.

5.7 Analysis of the Results of the Questionnaire Axis and Dimensions

5.7.1 Analysis of the Results of the Digital Governance Dimensions Axis

The results concerning the dimensions of the digital governance axis are summarized in the table that follows:

Table 10. The Digital Governance Axis Dimensions: Means and Standard Deviations Calculated

Dimension	Mean	Std. Deviation	Direction	Overall Level
Digital Participation	4.07	0.63	Agree	High
Digital Transparency	4.15	0.46	Agree	High
Digital Accountability	3.98	0.55	Agree	High
Digital Auditing	4.14	0.51	Agree	High
Digital Governance Dimensions	4.08	0.46	Agree	High

Source: Made by the researcher using SPSS v27 outputs

Based on the respondents' answers to the axis questions shown in the table above, it was found that the digital governance dimensions axis received an "Agree" rating, with an arithmetic mean of 4.08 and a standard deviation of 0.46.

The four dimensions—digital participation, digital transparency, digital accountability, and digital auditing—also received an "Agree" rating, with arithmetic means of 4.07, 4.15, 3.98, and 4.14, and standard deviations of 0.63, 0.46, 0.55, and 0.51, respectively.

5.7.2 Analysis of the Results of the Sustainable Development Dimensions Axis

The following table presents a summary of the results related to the dimensions of the sustainable development axis:

Table 11. The Sustainable Development Axis Dimensions: Means and Standard Deviations Calculated

Dimension	Mean	Std. Deviation	Direction	Overall Level
Economic Dimension	3.95	0.78	Agree	High
Social Dimension	3.79	0.72	Agree	High
Environmental Dimension	3.71	0.75	Agree	High
Technological Dimension	3.96	0.82	Agree	High
Sustainable Development Dimensions	3.85	0.44	Agree	High

Source: Made by the researcher using SPSS v27 outputs

Based on the respondents' answers shown in Table (11) above, the sustainable development dimensions axis recorded an arithmetic mean of 3.85 with a standard deviation of 0.44, indicating an "Agree" response trend.
The arithmetic mean values for the four sustainable development dimensions—economic, social, environmental, and technological—ranged between 3.71 and 3.96, with standard deviations between 0.72 and 0.82, also reflecting an Agree trend.
This indicates that the targeted sample unanimously agrees on the presence of sustainable development dimensions within the institution.

5.8 Testing the Study Hypotheses

This section involves testing the main hypothesis of the study along with the four sub-hypotheses. It allows us to determine whether these hypotheses can be confirmed or rejected. To analyze the hypotheses, we used the **multiple linear regression model**, which is appropriate for this study. The model is represented as:

$$Yi = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta k Xk + ui$$

Where:

- **Yi** represents the dependent variable
- $\mathbf{X_1 \ldots Xk}$ are the values of the independent variables
- β_0 is the constant term (representing the minimum value of the dependent variable *Y* when the independent variables are zero)
- $\beta_1 \ldots \beta k$ are the regression coefficients
- β_1 = the slope of the relationship between Y and X_1
- **ui** is the random error term, representing the difference between the actual values of the dependent variable and the values predicted by the model

The following table shows the outcomes of the multiple linear regression study of the digital governance aspects on the dimensions of sustainable development:

Table 12. Findings from a Multiple Linear Regression Study on Digital Governance Factors Along the SDGs

Dependent Variable: Sustainable Development Dimensions	Independent Variables	R^2	F Value	F Sig.	Regression Coefficients	T Value	T Sig.
	Digital Participation	0.437	5.054	0.01	0.388	2.337	0.023
	Digital Transparency				0.389	2.275	0.026
	Digital Accountability				0.12	0.724	0.471
	Digital Auditing				0.365	2.14	0.036

Source: Made by the researcher using SPSS v27 outputs

From Table (12), we find that the coefficient of determination (R^2) is 0.437, meaning that the effect of the sub-dimensions of digital governance can be ascribed to 43.7% of the variance and explanatory changes in the axis of sustainable development. The remaining percentage results from other factors not included into the study model.
The calculated F-value is 5.054 with a significance level of 0.01, which is less than the threshold of 0.05, confirming the statistical significance of the overall effect.
Additionally, the table shows:

- The significance level for the effect of digital participation on sustainable development is 0.023, which is statistically significant ($p < 0.05$), indicating that it affects the sustainable development axis when considered together with the other explanatory variables.
- The significance level for the effect of digital transparency is 0.026, also statistically significant, indicating a similar effect.
- The significance level for digital accountability is 0.471, which is not statistically significant, meaning it does not significantly influence the sustainable development axis in combination with the other variables.
- The significance level for digital auditing is 0.036, which is statistically significant, indicating that it has an impact on the sustainable development axis along with the other explanatory variables.

Accordingly, the multiple linear regression equation is as follows:

$$Y = 1.828 + 0.388X_2 + 0.389X_3 + 0.365X_4 + 0.643$$

Where:

- **0.643** is the random error (ui)
- $\beta_0 = 1.828$ (the constant value)
- **Y** = Sustainable Development Dimensions

- X_1 = Digital Participation Dimension
- X_2 = Digital Transparency Dimension
- X_3 = Digital Accountability Dimension *(not included in the equation due to insignificance)*
- X_4 = DIGITAL AUDITING DIMENSION

6. Study Results

The main hypothesis states:

"There is no statistically significant effect of the dimensions of digital governance in enhancing the dimensions of sustainable development in the institution under study at a significance level ($\alpha \leq 0.05$)."

Based on the results related to the main hypothesis, which concerns the role of digital governance dimensions in enhancing sustainable development dimensions, it is clear that there is a positive correlation between the digital governance dimensions axis and the sustainable development dimensions axis. Looking at the regression coefficients for digital participation, digital transparency, and digital auditing, with impact coefficients of 0.388, 0.389, and 0.365 respectively, all of which are positive, this indicates a positive linear relationship between the two axes. Any variation in the independent variables will lead to a change in the same direction for the dependent variable. This implies that the institution demonstrates a reasonable level of commitment to implementing digital governance dimensions. The obtained results can be interpreted as follows:

- Digital participation in Condor plays a major role in enhancing the sustainable development dimensions. This refers to involving employees, customers, and the local community in digital processes and decision-making, through the use of tools and techniques such as digital platforms, participatory applications, and accessible electronic communication channels. These tools enable stakeholder interaction and encourage engagement in sustainability initiatives that raise awareness and support environmental and social objectives. This confirms that top management strategically prioritizes digital participation, aligning well with the Sustainable Development Goals (SDGs).
- Commitment to digital transparency can have a direct effect on the institution's reputation, both locally and internationally. Transparent institutions enjoy a better market reputation. This aligns with SDG 16: "Peace, Justice, and Strong Institutions", which supports just, inclusive, and strong institutions. Condor has adopted clear policies and procedures for publishing information transparently, and it utilizes modern and advanced technologies for data management to ensure information credibility and data quality.
- There is an effect of digital auditing in reinforcing the sustainable development dimensions, attributed to a robust digital infrastructure, top management commitment, and employee training in auditing and management control. This dimension contributes to improved operational efficiency, reduced environmental impact, enhanced transparency, compliance, and risk mitigation. Notably, the quality and competence of external auditors and their use of the latest technologies in their duties further strengthen this effect.
- The digital accountability dimension was weak within Condor. This may be due to an organizational culture that does not place significant emphasis on digital accountability, as well as a lack of awareness among employees and management of its importance in achieving sustainable institutional goals. It also indicates the absence of precise indicators to measure digital accountability outcomes and their impact on operations, alongside a lack of clarity in digital responsibility assessment mechanisms.

This was confirmed by the multiple linear regression equation of the four independent variables and their collective influence on the sustainable development dimensions. The effect of digital participation, digital transparency, and digital auditing was individually significant, meaning these variables are capable of influencing sustainable development dimensions alongside other explanatory variables. On the other hand, digital accountability showed no clear individual impact.

6.1 Study Recommendations

- Condor can further enhance digital participation by developing interactive platforms that enable employees, customers, and stakeholders to actively participate in decision-making and idea-sharing.
- Encourage digital creativity and innovation by launching competitions or initiatives that motivate employees to present innovative ideas using digital tools.
- Work on reinforcing a culture of digital accountability within the institution by organizing employee training workshops on the importance of digital accountability and how to apply it in a digital environment. This includes launching internal awareness campaigns and designing effective digital accountability mechanisms.
- Promote open data publishing as a means to enhance transparency, allowing stakeholders to access information related to the company's performance and strategies.

– Invest in developing technologies like artificial intelligence and big data analytics to increase digital efficiency while upgrading the digital infrastructure of the institution to support several digital dimensions.
– Establish strategic partnerships by collaborating with external entities such as universities, research centers, and international organizations to exchange expertise and best practices in digital transformation and sustainable development.
– To ensure the continuity of success, Condor can strengthen digital auditing by continuously investing in technology, training staff, and integrating digital systems. This includes improving data quality and employing advanced technologies to monitor performance and reduce risks.

7. CONCLUSION

Through the study and analysis, it was found that digital governance is a fundamental tool for promoting sustainable development, as it offers opportunities to improve institutional performance, raise transparency levels, and facilitate data-driven decision-making. The results confirmed a strong relationship between several dimensions of digital governance—such as the use of technology to improve services and enhance community partnerships—and achieving sustainable development dimensions. This includes, for example, promoting social justice, improving education quality, and efficiently utilizing natural resources.
Therefore, it can be concluded that achieving sustainable development through digital governance requires an integrated approach that strengthens impactful dimensions and addresses underperforming ones by providing the necessary support in terms of policies, infrastructure, and human resources. Future research is recommended to delve deeper into understanding the limiting factors affecting certain digital governance dimensions and to work on improving them. In doing so, the full potential of digital governance can be harnessed to advance sustainable development toward a more prosperous and resilient future.

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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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