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The contribution of social responsibility in promoting sustainable environmental development

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Abstract---This study aims to examine the impact of corporate social responsibility on sustainable environmental development in major industrial complexes in Algeria. To achieve this objective, 125 questionnaires were distributed to a random sample of financial and accounting managers in large industrial units representing these complexes and their branches. A total of 98 valid questionnaires were collected for analysis using the statistical software SPSS.25, based on the descriptive analytical method. The study found a statistically significant impact of social responsibility on sustainable environmental development, also known as the ecological (environmental) dimension, at a significance level of 0.05. Specifically, a one-unit increase in the practice of social responsibility by these industrial complexes leads to a 63.3% increase in their contribution to achieving sustainable environmental development.

Keywords---Social Responsibility, Sustainable Development, Environmental Dimension, Industrial Complexes, Algeria.

1 Introduction

The emergence of enterprises in their various forms has marked a major turning point in the course of global economic activity. These entities have become significant economic powers, controlling capital and even dominating entire societies transcending their primary economic purpose to encompass the social dimension by influencing both human and environmental resources. This development has resulted in both positive and negative effects on the environment, humanity, and society.

Consequently, the study of topics and concepts linking business organizations to communities—beyond mere commercial relationships and focusing instead on the nature and scope of their mutual impact has garnered increasing attention at professional, academic, local, and global levels. It is from this perspective that we decided to study both corporate social responsibility and sustainable development, and to explore their theoretical and practical interrelationship.

To that end, we formulated the following main research question:

"To what extent does social responsibility contribute to achieving sustainable environmental development in major industrial complexes in Algeria?"

As a preliminary answer to our research problem, we propose the following hypothesis:

"The implementation of social responsibility in major industrial complexes in Algeria contributes to achieving sustainable environmental development."

SECTION ONE: SOCIAL RESPONSIBILITY AND SUSTAINABLE DEVELOPMENT

Emergence and Definition of Social Responsibility:

Most references link the actual emergence of social responsibility or at least the beginnings of the significant increase in interest in it to the Industrial Revolution (1870), and the resulting growth in industrial enterprises and the dominance of the private sector and market economy. These developments brought about negative practices by employers, foremost among them the exploitation of the working class, including children and women (e.g., poor working conditions, low wages, long working hours, etc.), as well as the depletion of natural resources.

These actions were primarily driven by the sole pursuit of production and profit (the company's self-interest only). In response, a counterforce emerged, opposing this neglect and disregard for ethical, environmental, and social aspects in corporate activity, and called for responsiveness to the needs of stakeholders beyond shareholders. Thus, the concept of corporate social responsibility gradually developed. (Jabbari, 2020-2021, p. 55).

Among the definitions presented for the concept of corporate social responsibility (CSR), we find the definition by the United Nations, specifically from the United Nations Conference on Trade and Development (UNCTAD, 1964), which considers

CSR as a commitment by business organizations to a set of globally agreed-upon values and principles within the framework of public policies. These promote a spirit of global citizenship in the organizations' fulfillment of their responsibilities or in claiming their rights. They also support human rights, ensure comfortable working conditions for employees, and protect the environment (Zawia, 2021, pp. 189-190).

The European Commission (2002) defined corporate social responsibility in the European Union's Green Paper (Al-Osaimi, 2015, p. 10) as a voluntary process through which companies integrate social and environmental concerns into their business operations and in their interactions with stakeholders (Meseguer-Sánchez, Gálvez-Sánchez, López-Martínez, & Molina-Moreno, 2021, p. 02).

According to Drucker Peter (1992), the principle of social responsibility is that any company must bear responsibility for the (negative) impacts it causes to any stakeholder (environment, customers, employees, society, financial and civil organizations, etc.) as a result of conducting its regular business (Drucker, 1992, p. 99). This definition aligns with the one proposed by James E. Post, William C. Frederick, and Keith Davis in their book *Business and Society: Corporate Strategy, Public Policy* (Belhamel, 2015-2016, p. 11), also published in 1992.

Paul Samuelson adopts a similar definition and adds that companies should not focus solely on their management, owners, and profit-making (Belhamel, 2015-2016, p. 11), but should instead be compelled to operate in a manner that serves the interests and concerns of both internal and external stakeholders. He views the concept of social responsibility as encompassing both economic and social dimensions.

According to José Milton de Sousa Filho and others (2010), CSR is a form of management that defines and regulates the relationship between companies and stakeholders based on transparency and ethics. It aligns company objectives and activities with areas of sustainable community development, such as preserving biodiversity and environmental resources, protecting future generations' cultures, and mitigating social problems (Filho, Wanderley, Gómez, & Farache, 2010, p. 296).

Researchers consider CSR to be a process or a set of diverse and comprehensive voluntary initiatives that go beyond legal and economic obligations, aiming to address and respond to all stakeholder issues and needs from every aspect both in the present and the future.

Fields of Social Responsibility:

Dividing the fields of social responsibility according to stakeholders is considered the most comprehensive and inclusive approach. From a standpoint of fairness and justice, companies are obliged to pay attention to and engage in social responsibility activities toward all stakeholders as necessary, according to priority and feasibility, without favoring or neglecting any party (Mercier, 2001, p. 10). Below is a brief explanation of these stakeholders: (Gray, 2002, p. 693)

1. Employees / Human Resource Development: This field includes everything related to the company's efforts to provide a suitable work environment and

improve the conditions of employees at all levelsupper, middle, and lower managementwhether through legal requirements or company initiatives. This also includes both material and moral aspects, during and outside of working hours. These responsibilities fall under social responsibility toward human resources(Al-Jali Dukhan, 2002, p. 34)

2. Environment / Natural Resources and Environmental Contributions: This includes activities aimed at protecting and preserving the environment and nature from negative impacts, especially those caused by the company's operations (such as in the chemical, oil, pharmaceutical sectors). Key concerns include pollution of water, air, and soil (Dhamdhamah, Mohamed, & Slimani, 2020, p. 49).(Dhamdhamah, Mohamed, & Slimani, 2020, p. 49)

3. Consumer Protection (Product/Service Quality Improvement):This involves activities directed at clients, aimed at improving products and gaining customer satisfaction and loyalty. Achieving this requires establishing good and trustworthy relationships and serving customers' social interests (Sheqrani, 2018-2019, p. 46)

4. Community / Public Contributions: This field covers activities that serve the community as a whole and not just specific groups. It often refers to the local community—those living near the company's operations and affected directly or indirectly by its activities(Dhamdhamah, Mohamed, & Slimani, 2020, p. 49)

5. Suppliers (Distributors / Vendors): CSR in this area revolves around implementing agreements between suppliers and companies with transparency, fairness, and trust. It also includes improving work systems, providing training for suppliers, and forming long-term contracts that benefit both parties (Al-Ghalibi & Al-Amiri, 2008, p. 81)

6. Shareholders (Owners): Shareholders are the primary stakeholders. CSR toward them is the traditional responsibility of companies and involves generating satisfactory profits, managing acceptable risks, enhancing share value and company assets, ensuring legal and ethical integrity, involving shareholders in decision-making, and granting them oversight and access to full information (Bouhazem, Hamelat, & Himouri, 2017, p. 08)

7. Government: CSR toward the government includes complying with laws and regulations, paying taxes and fees, representing the country positively abroad, and assisting the government in fulfilling its responsibilities (Cherifi & Haji, 2012, p. 04)

8. Competitors: CSR among competing companies involves adhering to fair competition rules and avoiding harm to rivals, such as by poaching their workers or clients through unethical means. The market should operate efficiently, with transparent and rapid information exchange, and without abnormal profits or burdens (Nadji & Nadji, 2017, p. 102)

9. Minorities and People with Special Needs: Although they fall under previously mentioned stakeholders, they can be treated as a separate group. CSR toward them includes promoting tolerance, equality, and opportunity, protecting the rights of women, mothers, children, the elderly, retirees, and encouraging inclusion and support for the disabled through specialized associations (Mokaddem & Zairi, 2013, pp. 177-178)

10. Pressure Groups: These are NGOs active locally and internationallysuch as the media, environmental and consumer protection groups, labor unionsthat raise public awareness and challenge harmful corporate practices (e.g., abuse of power, labor exploitation, unfair competition, pollution, misinformation,

immorality). They call for transparency and accountability in corporate behavior. Examples include Amnesty International, Greenpeace, Doctors Without Borders, WWF, and ATTAC (Al-Khaza'ah, 2018-2019, p. 25)

Emergence of the Concept of Sustainable Development:

The establishment of the World Commission on Environment and Development in 1983, led by Norwegian Prime Minister Gro Harlem Brundtland, marked a pivotal moment. The Commission presented the results of its work in a report published in 1987 under the title "Our Common Future", also known as the Brundtland Report. This report identified human needs and sought to provide a scientific context and interpretation of the concept of development, emphasizing the interconnection between environmental, economic, and social dimensions. It also addressed and critiqued the environmental conditions that had led to widespread poverty among large segments of the global population. Many attribute the emergence of the concept of sustainable development to this report, rather than to the earlier Stockholm Conference of 1972 (Zarbitah & Baghreche, 2022, p. 181)

Among the definitions given for this concept, **the International Council for Local Environmental Initiatives (ICLEI)** defines sustainable development as development that provides essential services (economic, social, environmental) to all inhabitants within a specific area without compromising the continuity of the natural and social systems on which it depends, regardless of the resources used to provide those services (Hadidi & Oum El-Kheir, 2020, pp. 67-68)

The Organisation for Economic Co-operation and Development (OECD) defines sustainable development as a series of processes aimed at maximizing human well-being for current generations without endangering the same for future generations (Hadidi & Oum El-Kheir, 2020, pp. 67-68)

According to **Mohammad DelwarHussa** and colleagues, sustainable development is a vague and highly flexible concept. They argue that it is more appropriate to grant it a broad scope, encompassing countless ideas—to the extent that it has been likened to a "Trojan horse of words," meaning a term so empty that it can be filled at will by different users to carry their own meanings and intentions, interpreting it according to various goals and approaches (Delwar, Mohd, & Bhuiyan, 2016, p. 338)

In summary, sustainable development has many definitions that converge on certain key points: it is development that seeks to meet current human needs across all economic and social sectors (consumption and food, employment, education, health, etc.) without neglecting the fair share of resources (water, land, air, forest wealth, animal resources, etc.) owed to future generations. This is achievable only through the rational use of resources to avoid their depletion and waste, and by integrating environmental considerations into both local and international development plans.

On this basis, sustainable development is defined by its capacity for continuity and its balance among economic, social, and environmental dimensions.

Goals of Sustainable Development:

The overarching goal is to ensure long-term stability in the environmental and economic spheres by creating harmony and integration between economic, social, and environmental concerns, and incorporating them into every part of the decision-making process (Faucheux, 2017, p. 09).

The Sustainable Development Goals (SDGs) were officially adopted in the 2030 Agenda for Sustainable Development on September 25, 2015. The following figure illustrates these goals (Faucheux, 2017, p. 09):



Figure (1): United Nations Sustainable Development Goals by 2030.

Source: Claus StigPedersena, The UN Sustainable Development Goals (SDGs) th CIRP Life Cycle Engineering (LCE) Conference are a great gift to business!, th CIRP Life Cycle Engineering (LCE) Conference, Published by Elsevier B.V, Vol.69, Copenhagen, Denmark, PP : 21-24, 30 April – 2 May 2018, P: 21, Available on the electronic

link:<https://reader.elsevier.com/reader/sd/pii/S2212827118300040?token=B49B8C9CEE67EB963CB6A32C704D8903AB3E45698D0D2B3413EDC401CB32068EFACC102512EC2D67591E74455522C6B6&originRegion=eu-west-1&originCreation=20230430163449>, viewing date: 04/30/2023, 21:41.

And these 17 goals are as follows:(Al-Awnia, 2021, p. 239)

1. End poverty in all its forms everywhere;
2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture;
3. Ensure healthy lives and promote well-being for all at all ages;
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all;
5. Achieve gender equality and empower all women and girls;
6. Ensure availability and sustainable management of water and sanitation for all;
7. Ensure access to affordable, reliable, sustainable, and modern energy for all;
8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all;
9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation;
10. Reduce inequality within and among countries;
11. Make cities and human settlements inclusive, safe, resilient, and sustainable;
12. Ensure sustainable consumption and production patterns (Responsible Consumption and Production);
13. Take urgent action to combat climate change and its impacts;

14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development;
15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss;
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels;
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Sustainable Environmental Development:

Also referred to as the environmental dimension of sustainable development, this ecological aspect aims to outline the strategies that must be adhered to in order to protect the ecosystem and ensure the continuity of its various functions, which constitute some of the most important resources used in economic activities (Harris, 2000, p. 06). This involves preserving biodiversity, achieving optimal management of natural capital, stabilizing the atmosphere, avoiding the depletion of natural resources, directing investments toward renewable resources, and minimizing the exploitation of resources especially non-renewable ones.

It also includes the use of recyclable and treatable materials, controlling industrial waste, and adopting equipment that reduces pollution and environmental harm. Indeed, the limits of the economy are ultimately determined by the boundaries of the environment.

Thus, the environmental dimension of sustainable development is generally based on several key aspects, including: the protection of natural resources, the preservation of biodiversity, climate protection from global warming, and the conservation of water resources (Moatasem, 2015, pp. 57-58)

The Relationship Between Corporate Social Responsibility and Sustainable Development:

It can be said that there is a strong convergence and significant similarity between the concepts of sustainable development and social responsibility, to the extent that distinguishing between them becomes quite difficult. While sustainable development refers to the integration of economic, social, and environmental dimensions at the global level, corporate social responsibility involves incorporating economic, social, and environmental concerns into business operations. CSR represents a form of contribution to sustainable development and is one of its key instruments. Many of the requirements of sustainable development are found in CSR practices, and vice versa (Mokaddem, 2013-2014, p. 95).

In this regard, the World Business Council for Sustainable Development views corporate social responsibility as a means through which companies fulfill their commitments to the pressing issues raised by sustainable development. The European Union considers CSR a natural outcome of sustainable development, representing the contribution of companies to development (Jassas, 2020, p. 253)

As for the difference between the two concepts, it lies in the fact that sustainable development involves multiple stakeholders such as the state, the business sector, civil society, citizens, consumers, and other active parties and it cannot be achieved without their combined efforts. The key actors within society who bear responsibility for contributing to sustainable development in a given country include (Yekhlef, 2012-2013, pp. 81-82): the individual, the family, the community, the government, the private sector, companies and institutions, and the legislative authority (the judiciary).

On the other hand, the topic of social responsibility is typically discussed at the level of the business sector or at the level of each stakeholder individually—for example, the social responsibility of individuals, universities, or other major groups that may be linked to fulfilling their social responsibilities (Karrai, 2019-2020, p. 14).

Section Two: Study Methodology

Research Method and Data Collection Tools:

This study relied on a descriptive and analytical approach to establish the core theoretical concepts related to corporate social responsibility and sustainable development, drawing upon various sources such as books, dissertations, articles, and conferences. For the fieldwork, a questionnaire was used as the main research tool to achieve the desired objectives. The data collected were statistically analyzed using the Statistical Package for the Social Sciences (SPSS.25). The questionnaire, which targeted financial and accounting managers, was divided into three parts: the first part included personal and job-related information along with the characteristics of the institutions under study; the second part consisted of seven statements under the title "Corporate Social Responsibility"; and the third part comprised six statements under the title "Sustainable Environmental Development." Both sections were developed based on a five-point Likert scale.

Study Population and Sample:

The study focused on major industrial complexes in Algeria, as listed on the official website of the Ministry of Industry and Pharmaceutical Production (Production, 2024). These complexes were chosen due to their predominantly industrial activities and their significant role as representatives of the industrial sector in Algeria. A total of 11 industrial groups were included in the study: SAIDAL (Pharmaceutical Industry and Medicine Manufacturing Group), DIVINDUS (Holding Company for Local Industries), ACS (Holding Company for Chemical Specialties), AGM (Holding Company for Mechanical Industries), ELEC (Holding Company for Electronics, Home Appliances, and Electrical Industries), AGRODIV (Holding Company for Food Industries), IMETAL (Holding Company for Iron and Steel Industry), GICA (Algerian Cement Industrial Group), FERROVIAL (Public Economic Enterprise for Railway Equipment and Supplies Manufacturing), GETEX (Holding Company for Textile and Leather Industries), and MADAR (Holding Company for Asset and Resource Management and Development).

The study targeted these industrial complexes along with their affiliated branches and units, which totaled approximately 309 economic units. However, to ensure

that the sample included only Algerian entities, the focus was narrowed down to large-scale, publicly owned units with an industrial character. As a result, the final number of eligible units was reduced to approximately 125. From this population, a probabilistic (random) sample was drawn, and its size was calculated using **Richard Geiger's** sample size formula.

$$n = \frac{\left(\frac{z}{d}\right)^2 \times (0.50)^2}{1 + \frac{1}{N} \left[\left(\frac{z}{d}\right)^2 \times (0.50)^2 - 1\right]}$$

Where:

- **n**: Sample size
- **d**: Margin of error
- **N**: Population size, which equals one hundred and twenty-five (125) units
- **Z**: Standard score corresponding to a significance level of 0.95, which equals 1.96

The equation yielded a sample size of $n = 94$ units, meaning 94 industrial economic units or in other words, 94 financial and accounting managers. However, we received 98 completed responses to our questionnaire, resulting in a response rate of 78.40%. This sample size is considered sufficient to represent our statistical population, which in this case consists of the major industrial complexes in Algeria.

Questionnaire Reliability:

Questionnaire reliability refers to the consistency of results and their stability over time if the questionnaire were to be re-administered to the same sample under the same conditions within a specific period. It was measured using **Cronbach's Alpha coefficient**, and the following table presents the reliability coefficients of the study instrument.

Table (01): Cronbach's Alpha Coefficient for Measuring the Reliability of the Study Instrument

Sections	Number of Statements	Section Reliability
Corporate Social Responsibility	07	0,871
Sustainable Environmental Development	06	0,915
Questionnaire as a Whole	13	0,843

Source: Prepared by the researchers based on the outputs of SPSS.25.

It is evident from the table that the overall reliability coefficient of the questionnaire is high, reaching 0.843 for the total of thirteen (13) statements. The reliability coefficient was 0.871 for the variable Corporate Social Responsibility and 0.915 for the variable Sustainable Environmental Development. All values exceed the acceptable threshold of 0.70, indicating that the questionnaire has a

very high level of reliability and can be confidently used for the field application of the study.

Questionnaire Validity:

The validity of the study instrument (the questionnaire) refers to the extent to which the questionnaire statements actually measure what they are intended to measure. There are various types or methods to assess validity, one of which is internal consistency validity. The following table presents the correlation coefficients between each item within a section and the total score of the corresponding section:

Table (02): Significance Level and Correlation Coefficients Between Each Item Score and the Total Score of Its Related Section

Sustainable Environmental Development				Corporate Social Responsibility			
/	Significance Value	Correlation Coefficient	Section Items	/	Significance Value	Correlation Coefficient	Section Items
Sig	0,000	0,612**	8t	Sig	0,000	0,668**	1t
Sig	0,000	0,694**	9t	Sig	0,000	0,625**	2t
Sig	0,000	0,770**	10t	Sig	0,000	0,610**	3t
Sig	0,000	0,601**	11t	Sig	0,000	0,615**	4t
Sig	0,000	0,544**	12t	Sig	0,000	0,548**	5t
Sig	0,000	0,574**	13t	Sig	0,000	0,643**	6t
				Sig	0,000	0,377**	7t
**. The correlation is significant at the 0.01 level.							
*. The correlation is significant at the 0.05 level.							

Source: Prepared by the researchers based on the outputs of SPSS.25.

It is clear from the table that the correlation values between the items and the average of their corresponding dimensions ranged from weak to very strong, varying between 0.475 (minimum) and 0.797 (maximum), all statistically significant at the 0.05 significance level. Accordingly, the items show consistency with their respective dimensions, confirming that they possess validity and are indeed suitable for measuring what they were intended to measure.

Normality Test of Data Distribution:

The Shapiro-Wilk test was used to determine the nature of the collected data. The results of the test are presented in the following table:

Table (03): Normality Test of the Study Instrument

Significance Level (Sig.)	Degrees of Freedom ()	Test Statistic (Statistiques)
0,051	98	0,109

Source: Prepared by the researchers based on the outputs of SPSS.25.

From the table above, it appears that the Shapiro-Wilk value for the study instrument (the questionnaire as a whole) is 0.109, with a significance level of 0.051, which is greater than the significance threshold of 0.05. Therefore, we accept the null hypothesis (H_0), which indicates that the data follow a normal distribution when the significance level is greater than 0.05. This means that the study data follow a normal distribution, allowing us to perform parametric tests to address the research problem.

Analysis of the Study Sample's Opinions:

In this section, we present the analysis results related to the opinions of the study sample concerning our questionnaire. This is done by examining the mean and standard deviation of each item in order to determine its ranking and direction, as well as the overall direction of the variable, according to the evaluative scale of the five-point Likert scale, as follows:

Table (03-2): Analysis of the Study Sample's Opinions on the Variable of Corporate Social Responsibility

Rank	Direction	Standard Deviation	Mean	Statement Number
3	High	1,025	3,86	01
4	High	0,966	3,64	02
6	High	1,185	3,44	03
5	High	1,038	3,50	04
1	High	0,885	4,02	05
1	High	1,035	4,02	06
2	High	0,859	3,94	07
-	High	0,58917	3,7741	Section Mean

Source: Prepared by the researchers based on the outputs of SPSS.25.

The table shows that the overall trend in the opinions of the study sample is positive regarding the adoption of corporate social responsibility practices in the industrial institutions under study. This is reflected in an overall mean of 3.7741, which exceeds the neutral value of 3, with a standard deviation of 0.58917. All items in this section recorded a high level or positive direction (agreement) according to the five-point Likert scale, as they fall within the range of 3.40–4.19. Statements 05 and 06 ranked first, indicating that the institutions under study, in practicing their social responsibility, primarily comply with laws, regulations, and prevailing ethical standards in all of their dealings and activities.

Statement 07 ranked second, confirming that the industrial institutions in question have a dedicated function with financial and human resources responsible for planning, organizing, and managing social and environmental programs and stakeholder relationships.

Statement 01 came third, pointing to the institutions' interest in addressing the objectives of primary stakeholders involved in their operations, such as

shareholders (owners), employees, customers, suppliers, investors, financiers, and government bodies.

In fourth place was statement 02, referring to the institutions' attention to the objectives of secondary stakeholders, such as the public, associations, civil society, media, and others.

Statement 04 ranked fifth, revealing the institutions' involvement in charitable activities and projects.

Finally, statement 03 ranked sixth, indicating that the institutions under study generate sufficient economic profits to cover all their obligations toward various internal and external stakeholders.

It is evident from the analysis of this section that the institutions under study adopt and practice corporate social responsibility to a high degree, to the extent that they have dedicated functions, departments, and resources allocated for this purpose. However, based on the ranking of the items, these institutions appear to prioritize matters related to law and ethics, likely due to their association with obligations, societal judgment, and moral imperatives issues where violations often provoke responses either from the state (through legal and punitive measures) or from civil society and the public through protest and opposition.

The results also confirmed that these institutions place greater emphasis on primary stakeholders than on secondary ones. As previously mentioned, this may be due to the legal protection and contractual relationships that typically exist with primary stakeholders, which involve specific rights and obligations. Another possible reason is that the industrial institutions under study may not be generating sufficient profits to allow them to give equal or greater attention to secondary or external stakeholders compared to primary or internal stakeholders.

Table (03-3): Analysis of the Study Sample's Opinions on the Environmental Dimension of Sustainable Development

Rank	Direction	Standard Deviation	Mean	Statement Number
1	High	0,620	3,87	93
1	High	0,713	3,87	94
3	High	0,897	3,76	95
2	High	0,707	3,93	96
4	High	0,817	3,69	97
5	High	0,737	3,74	98
-	High	0,52279	3,8095	Mean

Source: Prepared by the researchers based on the outputs of SPSS.25.

The table shows that the overall mean was 3.8095, with a standard deviation of 0.52279, indicating that the general trend in the opinions of the study sample was high. Accordingly, the institutions under study do, in fact, contribute to achieving sustainable environmental development in Algeria.

As for the individual items:

- **Statements 08 and 09** ranked first, showing that the institutions aim to rationalize the use and consumption of natural resources without excess or waste, and reduce the consumption of polluting and environmentally harmful resources.

- **Statement 11** ranked second, indicating efforts to preserve the components of the ecosystem (water, air, soil, animals, plants, etc.).
- **Statement 10** ranked third, referring to the search for and use of renewable and eco-friendly resources.
- **Statement 12** ranked fourth, highlighting the institutions' efforts to maintain biodiversity (plant, animal, or other forms) to prevent extinction.
- **Statement 13** ranked fifth, indicating that the institutions work on recycling waste, treating it, and managing industrial residues.

Hypothesis Testing:

The hypothesis under investigation states that:

"The implementation of social responsibility in major industrial complexes in Algeria contributes to achieving sustainable environmental development."

This hypothesis was tested using simple linear regression.

We accept the null hypothesis (H_0) and reject the alternative hypothesis (H_1) if the significance level (Sig.) is greater than the significance threshold ($\alpha = 0.05$).

Conversely, we reject H_0 and accept H_1 if the significance level (Sig.) is less than or equal to $\alpha = 0.05$.

Defined hypotheses:

H0: The implementation of social responsibility in major industrial complexes in Algeria does not contribute to achieving sustainable environmental development.

H1: The implementation of social responsibility in major industrial complexes in Algeria contributes to achieving sustainable environmental development.

The following table presents the results of this test:

Table (03-4): Results of the Simple Linear Regression Analysis (Between Social Responsibility and Sustainable Development)

Social Responsibility						Sustainable Development
Sig. Value	F-Value	Constant	Regression Coefficient	Coefficient of Determination (R^2)	Correlation Coefficient	
0,000	14,286	2,537	0,633	0,7921	0,890	

Source: Prepared by the researchers based on the outputs of SPSS.25.

From the table above, which presents the results of the simple linear regression analysis between the variable social responsibility and the variable sustainable development, we observe that the correlation coefficient (R) reached 0.890, indicating a strong and positive correlation between social responsibility and sustainable development.

The coefficient of determination (R^2) was 0.7921, meaning that 79.21% of the variations in sustainable development within the institutions under study are explained by their practice of social responsibility. This is a high explanatory value, reflecting the effectiveness and accuracy in selecting the study's independent variable.

The regression coefficient (slope) was 0.633, which means that a one-unit increase in the implementation of social responsibility in the institutions leads to

an increase in their contribution to sustainable development by 0.633 units. Moreover, the calculated F-value was 14.286 with a significance level (Sig.) of 0.000, which is less than the threshold of 0.05. Therefore, we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1), concluding that the implementation of social responsibility in the institutions under study significantly contributes to achieving sustainable environmental development. Thus, the simple linear regression equation takes the following form:

$$Y = 0,633X + 2,537$$

Where:

- Y: The dependent variable, which is sustainable development
- X: The independent variable, social responsibility
- 0.633: The slope or regression coefficient (a);

this means that a one-unit increase in the implementation of social responsibility in the institutions under study leads to an increase of 0.633 units in their contribution to sustainable development.

- 2.537: The intercept or constant value (b)

Conclusion

Corporate social responsibility and sustainable development form a deeply integrated and, one could argue, nearly identical combination. Social responsibility represents a dimension—or perhaps the most significant extension—of sustainable development, seeking to apply its principles within the business sector, which is one of the most critical stakeholder groups. Previously, sustainable development was considered the exclusive responsibility of governments; however, social responsibility has extended this duty to other actors, particularly business organizations. In this sense, social responsibility can be described as the practical application of sustainable development within the organization.

Furthermore, both social responsibility and sustainable development are concepts designed to serve the interests of all parties without exception. Contrary to the belief that these frameworks aim to shift benefits from one group to another, they are in fact complementary, harmonious, and cooperative in pursuing diverse objectives, generating added value, and ensuring its sustainability within societies composed of various stakeholder groups.

The main findings of the study can be summarized as follows:

- Social responsibility can be viewed as a concept that embodies sustainable development at the micro level (business sector); thus, it serves as one of the key tools for implementing sustainable development.
- Based on the respondents' answers, major industrial complexes in Algeria adopt and implement social responsibility at a high level, with a mean score of **3.7741** and a standard deviation of **0.58917**. However, they prioritize legal and ethical aspects over charitable (voluntary) and economic activities. They also focus more on primary stakeholders than on secondary ones placing greater emphasis on socially sanctioned or legally protected groups whose support is essential to their operations.

- The results indicate that these industrial complexes significantly contribute to sustainable environmental development, with a high average score of **3.8095** and a standard deviation of **0.52279**.
- There is a strong positive correlation between the variables of social responsibility and sustainable development in Algeria's major industrial complexes, with a correlation coefficient (**R**) of **0.896**.
- There is also a strong positive correlation between social responsibility and **sustainable environmental development**, specifically, with a correlation coefficient (**R**) of **0.890**.
- The implementation of social responsibility in major industrial complexes in Algeria contributes significantly to achieving sustainable environmental development. A statistically significant effect was confirmed at a **0.05 significance level**, where a one-unit increase in the application of social responsibility results in an increase of **0.633** units in contribution to sustainable development.

In light of the above, the study recommends the following:

- Algerian institutions should place greater emphasis on social responsibility, particularly on issues and demands related to **charitable and ethical aspects**, as well as those directed toward **secondary stakeholders** in their operations.
- The Algerian government should not overlook the importance of **integrating the business sector** into the process of achieving sustainable development. It must adopt appropriate **approaches, plans, and strategies** that encourage and support this integration.

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