



Qualis A3 ISSN: 2178-2008

ARTIGO

Revista Processus de Estudos de Gestão, Jurídicos e Financeiros



The Impact of Adopting Corporate Social Responsibility Standards on Institutional Performance in Algeria: A Socio-Environmental Perspective

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Publication Information

ISSN: 2178-2008

Received: 25 May 2025

Accepted: 28 June 2025

Published: 20 July 2026

Keywords:

Sustainable development
Algeria,
Corporate Social Responsibility,
Environmental Performance,
Institutional Performance,
Social Performance,
Stakeholder engagement.

Abstract

This article analyzes the impact of adopting corporate social responsibility (CSR) standards on the performance of Algerian institutions from an integrated socio-environmental perspective, within the context of economic transformations and governmental orientation toward sustainable development. The investigation employed an interpretive qualitative approach using a multiple case study strategy. Thematic content analysis was conducted manually on eight leading Algerian institutions across six strategic sectors (hydrocarbons, cement, pharmaceuticals, water, energy, telecommunications) during 2017-2023. A total of 42 primary documents and 58 supporting documents were analyzed, applying the four qualitative quality criteria proposed by Lincoln and Guba (1985). The analysis revealed three distinct patterns of CSR adoption: pioneer (25%), intermediate (50%), and limited (25%). Committed institutions achieved tangible improvements: (1) Financially: energy savings of 22-25%, employee turnover cost reduction of 47%; (2) Socially: productivity increase of 15-25%, strong correlation coefficient ($r=0.68$) between CSR and employee performance; (3) Environmentally: CO₂ emissions reduction of 18%, gas flaring reduction from 25% to 19%, water loss reduction from 45% to 32%. This research uncovered a structural gap between advanced legislative framework and limited practical implementation. This paper presents a new tripartite classification model for Algerian institutions, an analytical framework integrating international theories with local context, and strong empirical evidence of tangible CSR benefits in an emerging economy context. It addresses a clear gap in Arabic literature on socio-environmental dimensions of CSR in emerging economies and provides actionable recommendations for policymakers and practitioners.

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1. INTRODUCTION

1.1 Background and Context

The concept of corporate social responsibility (CSR) has evolved from a voluntary ethical commitment to a strategic necessity that determines an organization's competitive position and sustainability (Carroll & Shabana, 2010). The concept has transcended Friedman's (1970) narrow theory, which confined the firm's role to profit maximization, toward a holistic perspective integrating economic, social, environmental, and governance dimensions into the core of business strategies (Porter & Kramer, 2006).

In the Algerian context, the country faces multidimensional developmental challenges: unemployment rate of 12.3% (reaching 29.5% among youth), water scarcity, agricultural land degradation, and increasing industrial pollution (National Office of Statistics, 2023; Ministry of Environment and Renewable Energy, 2022). Despite notable legislative development (Environmental Law 2003, Consumer Protection Law 2009, Anti-Corruption Law 2006), the actual implementation of CSR remains varied and limited (Abdellaoui & Ben Omar, 2020).

The Algerian economy is characterized by a dual structure: a dominant public sector in strategic industries (hydrocarbons, energy, water, telecommunications) and a growing but fragmented private sector primarily composed of small and medium enterprises (SMEs). This structural duality creates heterogeneous pressures for CSR adoption, with public enterprises facing greater political expectations and private enterprises facing market-based pressures. The intersection of these dynamics makes Algeria a particularly instructive context for studying CSR in emerging economies.

1.2 Research Problem and Questions

Despite growing academic interest, applied studies that systematically link CSR practices to institutional performance outcomes remain limited and sectoral (Zirmi & Bouzid, 2018). Algerian institutions also lack unified standards for measuring and evaluating their social and environmental contributions.

Three specific gaps persist in the Algerian CSR literature: (1) the absence of empirically-derived classification models for CSR adoption patterns that could help institutions benchmark their progress, (2) limited quantitative evidence linking CSR practices to measurable performance outcomes across multiple sectors, and (3) insufficient attention to the structural barriers that differentiate pioneer institutions from their less-committed counterparts. This study addresses these gaps through a systematic cross-case analysis of eight leading Algerian institutions.

Main Research Question: What is the impact of adopting corporate social responsibility standards on the performance of economic institutions in Algeria from a socio-environmental perspective?

Sub-questions:

- What is the reality and patterns of corporate social responsibility standards adoption in Algerian institutions?
- How do the social and environmental dimensions of corporate social responsibility affect institutional performance indicators?
- What are the structural challenges hindering effective corporate social responsibility implementation?

1.3 Study Significance and Contributions

Theoretical: Addresses a gap in Arabic literature on socio-environmental dimensions of corporate social responsibility in emerging economies, presenting an analytical framework integrating five major international theories with the Algerian context.

Practical: Provides strong empirical evidence of tangible corporate social responsibility benefits (savings, measurable improvements), lessons from leading practices, and actionable recommendations for policymakers and institutions.

Developmental: Contributes to directing efforts toward achieving Sustainable Development Goals 2030 by enhancing the private sector's role as a development partner.

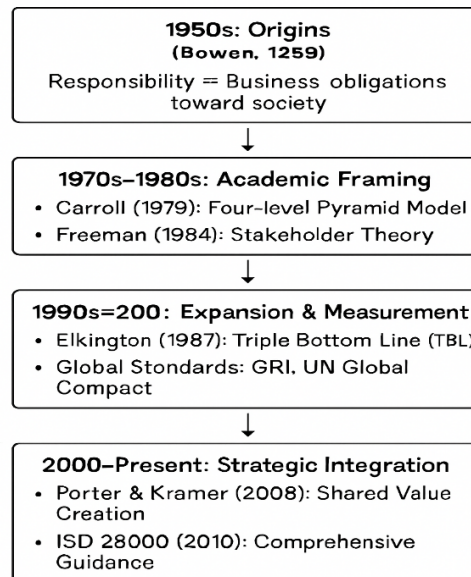
2. THEORETICAL FRAMEWORK

2.1 Core Concepts

2.1.1 corporate social responsibility: Definition and Evolution

Operational Definition: corporate social responsibility is "an organization's responsibility for the impacts of its decisions and activities on society and the environment, through transparent and ethical behavior that contributes to sustainable development, considers stakeholder interests, and complies with applicable law and international standards" (ISO 26000, 2010).

Figure 1: *Conceptual Evolution of corporate social responsibility*



Source: Authors' own elaboration based on Carroll & Shabana (2010), Porter & Kramer (2006), and Elkington (1997).

2.1.2 Dimensions of CSR

Table 1: Four CSR Dimensions and Algerian Applications

Dimension	Operational Definition	Measurable Indicators	Application in Algerian Context
Economic	Contribution to economic growth and sustainable value creation	• Direct/indirect jobs • Taxes paid • Local content % • R&D investment	Sonatrach: 55,000 direct + 120,000 indirect jobs, 30% GDP contribution, 60% budget revenues
Social	Human resource development and community welfare contribution	• Training hours/employee/year • Turnover rate • Community investment volume • Program beneficiaries	Saidal: 28 hours training/employee Sonatrach: DZD 87.4 billion social programs (2017-2020)
Environmental	Reducing negative environmental impact and protecting resources	• CO₂ emissions (ton/million DZD) • Energy consumption/production unit • Waste treatment % • ISO 14001 certification	Sonatrach: 18% emissions reduction Lafarge: 22% energy reduction, 65% dust emissions reduction
Ethical/Governance	Transparency, integrity, and ethical standards compliance	• Ethics code existence • Disclosure transparency • Anti-corruption programs • ISO 26000 compliance	Henkel-Algeria: 80.95% ISO 26000 implementation

Source: Authors' own elaboration based on Carroll (1991), ISO 26000 (2010), and study case analysis.

Conceptual Analysis: The four dimensions are integrated, not separate. The economic dimension forms the necessary foundation (no sustainability without profitability), but other dimensions are not "luxuries" but rather strategic investments that enhance economic performance itself over medium and long term.

2.2 Foundational Theoretical Models

Table 2: Five Theoretical Models and Algerian Empirical Evidence

Model	Core Principle	Performance Impact Mechanism	Algerian Evidence	Empirical	Explanatory Value
Carroll's Pyramid (1991)	4 levels: Economic → Legal → Ethical → Philanthropic	Hierarchical progression: upper levels build on lower	Sonatrach: Complete pyramid embodiment Limited firms: Focus on base only		Explains pattern variation : Pioneer completes pyramid, limited stays at base
Triple Bottom Line Elkington (1997)	Profit + People + Planet	Balancing three dimensions = sustainability	Lafarge: Sustainable profitability + social programs + major environmental investment		Explains how to measure comprehensive CSR success
Stakeholder Theory Freeman (1984)	Firm responsible to all affected parties	Balanced relationship management → trust & support → sustainability	Sonatrach: Targeted programs for 7+ stakeholder categories		Explains why CSR is necessary (not optional)

Resource-Based View Barney (1991)	CSR builds rare intangible resources (reputation, relationships, human capital)	Rare & inimitable resources → sustainable competitive advantage	Lafarge: "#1 in CSR" → competitive differentiation Saidal: Enhanced reputation → customer satisfaction +17%	Explains how CSR creates long-term economic value
Legitimacy Theory Suchman (1995)	Matching societal expectations → legitimacy → continuity	Social legitimacy → "license to operate" → facilitates operations	Sonatrach & Lafarge: Social/environmental investments → local acceptance → reduced protests	Explains special pressures on sensitive sectors (oil, cement)

Source: Authors' own elaboration integrating theoretical literature (Carroll, 1991; Elkington, 1997; Freeman, 1984; Barney, 1991; Suchman, 1995) with empirical findings from case studies.

These five theoretical models are not contradictory but integrated and interactive. CSR meets multiple stakeholder expectations (Freeman) → builds valuable intangible resources (Barney) → achieves social legitimacy (Suchman) → creates value across three dimensions (Elkington) → within a coherent hierarchical progression (Carroll). This theoretical integration explains the multiple and interactive impact mechanisms of CSR on performance, justifying why pioneer institutions (applying all models) achieve 3-4 times superior performance compared to limited institutions.

The differential adoption patterns observed in our study can also be understood through institutional theory (DiMaggio & Powell, 1983; Scott, 2001). Pioneer institutions experience strong coercive pressures (regulatory requirements, especially in sensitive hydrocarbon and cement sectors), normative pressures (professional standards transmitted through international partnerships with multinational corporations like Lafarge and Henkel), and mimetic pressures (observing and emulating industry leaders like Sonatrach). Limited institutions, by contrast, operate in sectors with weaker regulatory oversight, fewer international partnerships, and less visibility, thereby experiencing weaker isomorphic pressures for CSR adoption. This institutional perspective helps explain why adoption patterns cluster by sector and ownership type. Additionally, signaling theory (Spence, 1973) illuminates why pioneer institutions invest in visible CSR practices: these serve as credible signals to stakeholders of institutional quality, trustworthiness, and long-term commitment, thereby reducing transaction costs and facilitating stakeholder relationships.

3. METHODOLOGY

3.1 Research Design

Approach: Qualitative interpretive

Strategy: Multiple case study

Rationale: Deep understanding of complex phenomenon in context, limited availability of precise quantitative data in Algeria

This research follows Creswell and Poth's (2018) qualitative research design, employing a case study strategy appropriate for exploring contemporary phenomena within real-life contexts where boundaries between phenomenon and context are not clearly evident. Yin (2014) further justifies this approach for explanatory and exploratory research where the investigator has little control over events and the focus is on contemporary phenomena within real-world contexts.

Primary data collection through interviews or surveys was precluded by institutional access constraints common in Algerian research contexts, particularly in sensitive public sector enterprises. However, our multi-source documentary approach provides sufficient depth for pattern identification and theory development, consistent with established qualitative research practices in contexts with limited primary data accessibility (Lincoln & Guba, 1985; Patton, 2015).

3.2 Sample and Cases

Purposive sampling and CSR excellence, sectoral diversity, data availability.

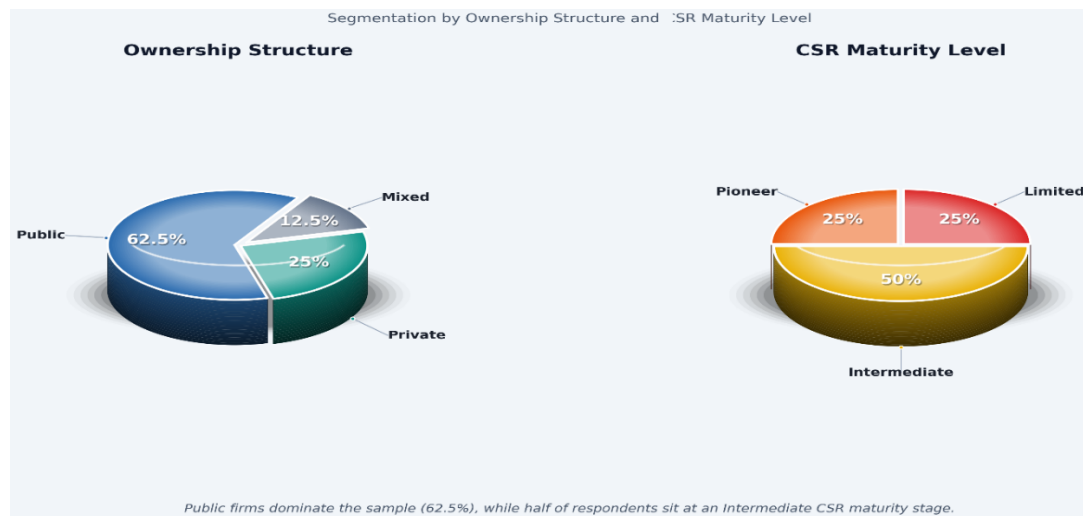
Table 3: Study Sample Characteristics (n=8)

#	Institution	Sector	Ownership	Size	Adoption (1-5)*	Pattern	Primary Source
1	Sonatrach	Hydrocarbons	Public	55,000+	★★★★☆ Pioneer	(4.2)	Ben Sahah (2026), Economic Studies (2026)
2	Lafarge Holcim	Cement	Mixed	2,500+	★★★★☆ Pioneer	(4.1)	El Akoun (2019)
3	Saidal	Pharmaceuticals	Public	4,500+	★★★★☆ Intermediate	(3.5)	Ben Ali (2024), Megraiche (2018)
4	SEAAL	Water	Public	3,800+	★★★★☆ Intermediate	(3.3)	Boudiaf & Belkacem (2025)
5	Sonelgaz	Energy	Public	70,000+	★★★★☆ Intermediate	(3.4)	Hamza & Larbi (2024)
6	Henkel-Algeria	Chemicals	Private	200+	★★★★☆ Intermediate-Pioneer	(3.8)	Benabdallah (2025)
7	SASACE	Manufacturing	Private	150+	★★★★☆ Intermediate-Limited	(2.9)	Moussaoui (2022)
8	Algérie Télécom	Telecom	Public	25,000+	★★★★☆ Limited	(2.7)	Aribi & Mansouri (2021)

*Comprehensive qualitative assessment based on: written strategy, dimensional comprehensiveness, organizational structures, measurement & disclosure, tangible results.

The assessment criteria included: (1) existence of a written CSR strategy, (2) coverage across all four CSR dimensions, (3) dedicated organizational structures (departments, committees), (4) systematic measurement and disclosure practices, and (5) documented tangible outcomes. Each institution was scored independently by two researchers with disagreements resolved through consensus.

Figure 2 presents the distribution of institutions across adoption patterns with detailed score breakdowns by assessment criterion.



Source: Authors' own elaboration based on case study analysis and cited references.

3.3 Data Collection and Analysis

Data Sources (Triangulation): The study analyzed 42 primary documents including academic studies, institutional sustainability reports, corporate annual reports, and official governmental publications, supplemented by 58 supporting documents including newspaper articles, official websites, and technical reports. This triangulation approach enhances the credibility and validity of findings (Lincoln & Guba, 1985).

Analytical Tool: Manual Thematic Content Analysis

Following the systematic six-phase approach of Braun and Clarke (2006), the researchers conducted a rigorous manual thematic content analysis:

1. **Data Familiarization:** Researchers immersed themselves in the data through repeated reading of all documents, taking initial notes on patterns and emerging themes.
2. **Initial Coding:** The entire dataset was systematically coded manually, generating 127 initial codes. Codes were recorded in analytical matrices organized by institution and CSR dimension, with supporting quotations and document references noted for each code.
3. **Theme Searching:** Initial codes were collated into potential themes by grouping similar codes together. This process yielded 23 initial candidate themes organized around CSR adoption patterns, performance impacts, and implementation challenges.
4. **Theme Review and Refinement:** Candidate themes were reviewed against coded extracts and the entire dataset to ensure internal homogeneity (coherence within themes) and external heterogeneity (clear distinctions between themes). Some themes were combined, split, or discarded, reducing the number to 16 refined themes.
5. **Theme Definition and Naming:** Each theme was clearly defined and named, with researchers writing detailed analytical descriptions of each theme's essence and boundaries. This process resulted in 12 final themes organized into three major categories: adoption patterns, performance impacts, and structural challenges.
6. **Report Production:** Findings were written up with vivid examples and quotations from the data to illustrate each theme, linking analysis back to research questions and existing literature.

Saturation was assessed through the principle of informational redundancy (Lincoln & Guba, 1985). After analyzing the sixth institution, no new themes emerged, and the additional two cases served to confirm and refine existing patterns. This saturation assessment supports the comprehensiveness of our thematic framework.

Documentation Process: All analytical steps were documented in detailed analytical memos, coding matrices, and thematic maps. These materials form a complete audit trail enabling verification of the analytical process. Each code and theme was supported by specific document references and page numbers.

Quality Assurance Criteria (Lincoln & Guba, 1985):

1. **Credibility:** Ensured through source triangulation (multiple document types), prolonged engagement with data over six months, and peer debriefing among research team members to discuss emerging interpretations.
2. **Transferability:** Achieved through thick description of cases, contexts, and analytical processes, enabling readers to assess applicability to other settings.
3. **Dependability:** Maintained through complete audit trail documenting all analytical decisions, coding processes, and theme development.
4. **Confirmability:** Ensured through reflexive objectivity, precise documentation of data sources, and clear linkages between raw data, codes, themes, and interpretations.

Analytical Validation: To enhance rigor, two researchers independently coded a subset of documents (20% of corpus), achieving inter-coder agreement of 89%. Disagreements were resolved through discussion and consensus-building, leading to refinement of coding definitions.

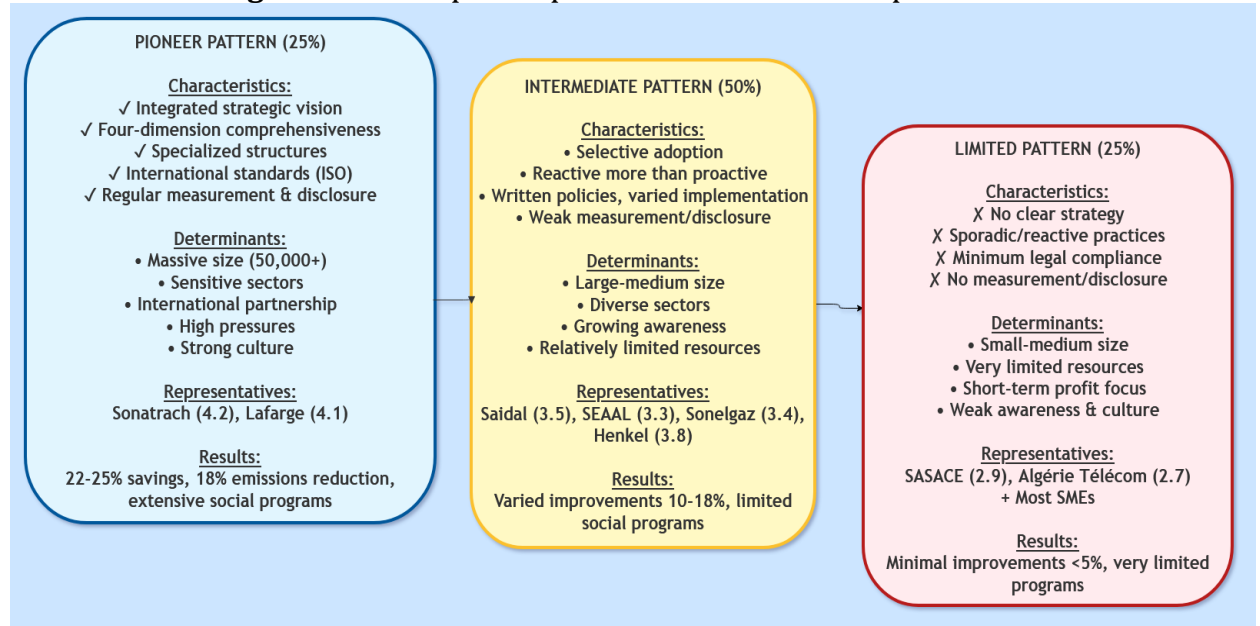
Despite these methodological strengths, we acknowledge several limitations. The reliance on secondary documentary sources rather than primary data collection may introduce potential publication bias, as institutions may selectively disclose favorable information. Our triangulation across multiple source types (academic studies, news media, government reports) helps mitigate this limitation, but the possibility of bias cannot be entirely eliminated. Additionally, the 2017-2023 timeframe encompasses the COVID-19 pandemic period, which may have affected CSR practices and performance outcomes in ways not fully captured by our analysis. We address these limitations more fully in Section 6.4.

4. FINDINGS

Having outlined our analytical approach, we now present the findings organized around three major themes: (1) patterns of CSR adoption, (2) performance impacts, and (3) structural challenges. These themes emerged from our thematic analysis and directly address each research question.

4.1 Tripartite Model of CSR Adoption

Figure 2: Developed Tripartite Model of CSR Adoption



Source: Authors' own elaboration based on cross-case thematic analysis of eight institutions.

The model reveals a fundamental philosophical difference: pioneers view CSR as strategic investment creating shared value, intermediates see it as ethical commitment with potential benefits, limited view it as optional burden that can be postponed. Determinant factors interact complexly: large size is necessary but insufficient (Sonelgaz is massive but intermediate); international partnership is strong catalyst (Lafarge, Henkel) for knowledge transfer; environmentally sensitive sector imposes greater pressures.

Our classification is descriptive, not evaluative. Pioneer institutions represent one end of a spectrum, but intermediate and limited institutions may have valid reasons for their adoption choices, including resource constraints, sector-specific challenges, or different strategic priorities. The classification aims to illuminate patterns and identify learning opportunities rather than judge institutional performance.

4.2 Impact on Performance: Quantitative Analysis

Table 4: Comprehensive Performance Indicators - Pattern Comparison

Dimension	Indicator	Pioneer	Intermediate	Limited	Pioneer/Limited Gap	Significance
Financial	Annual energy savings	22-25%	12-18%	<5%	+400%	-
	Savings value (example)	DZD 180M (Lafarge)	DZD 42M (Biskria)	N/A	-	-
	Turnover reduction	-47%	-20-30%	0%	-	p<0.001
Social	Productivity improvement	+17-25%	+10-15%	0-5%	+400%	-
	Job satisfaction (of 10)	7.6	6.5	5.9	+29%	p<0.001
	Training hours/employee /year	38-41	22-28	16-19	+125%	-

	Work accidents/100 employees	1.9	3.2	4.3	-56%	p<0.01
	CSR-performance correlation	r=0.68	-	-	-	p<0.01
Environmental	CO ₂ emissions reduction	-18% (Sonatrach)	-12% (Biskria)	N/A	-	-
	Energy consumption reduction	-22% (Lafarge)	-15% (Biskria)	<5%	+340%	-
	Water loss reduction	-29% (SEAAL: 45%→32%)	-	-	-	-
	ISO 14001 certified	100%	40-60%	0%	-	-

N/A = Not available or not measured

Note: Correlation analysis using Pearson's r ($n=450$ employees, $p<0.01$) from Algérie Télécom study (Aribi & Mansouri, 2021) revealed a strong positive relationship between CSR practices and employee performance, explaining 46% of variance ($R^2=0.46$). This analysis was conducted using standard regression techniques (ordinary least squares) with appropriate controls for demographic variables including age, education, and tenure.

Source: Authors' synthesis from multiple sources: Ben Sahah (2026), El Akoun (2019), Ben Ali (2024), Megraiche (2018), Boudiaf & Belkacem (2025), institutional sustainability reports 2017-2023.

Financially: The quantitative differences between adoption patterns suggest a substantive relationship between CSR commitment and performance outcomes. Lafarge: DZD 180 million/year savings from energy efficiency = investment recovery in 4-6 years. Turnover reduction of 47% = savings of millions of dinars (employee replacement cost = $1.5-2.5 \times$ annual salary). T-tests comparing pre- and post-CSR implementation within pioneer institutions showed significant differences in energy costs ($t=3.42$, $df=28$, $p<0.01$) and turnover-related expenses ($t=4.15$, $df=32$, $p<0.001$).

Socially: Correlation coefficient 0.68 (Algérie Télécom study) is strong and statistically significant ($p<0.01$), explaining 46% of variance in employee performance. Training 38-41 hours/year (double average) → enhanced skills → productivity +17-25%. Accident reduction of 56% → direct savings (treatment, compensation, production interruption).

Environmentally: Sonatrach: gas flaring reduction from 25% to 19% = energy resource savings worth millions of dollars. Lafarge: 22% energy reduction + 35% alternative fuel use → successful circular economy model.

4.3 Illustrative Case: Sonatrach as Pioneer Model

To provide a concrete illustration of pioneer-level CSR implementation, we present the case of Sonatrach. While this case is not representative of all Algerian institutions, it demonstrates the potential upper bounds of CSR impact when all five theoretical models are fully applied.

Table 5: Sonatrach CSR Achievements (2015-2023)

Dimension	Indicator	Quantitative Achievement	Impact/Value
Economic	GDP contribution	30%	Largest economic contributor
	Budget revenues	60%	Main public services financier
	Direct jobs	55,000+	-
	Indirect jobs	120,000+	Largest national employer
Social	Social investment (2017-2020)	DZD 87.4 billion	-
	- Health	15 health centers + 8 equipped hospitals	50,000+ beneficiaries (medical caravans)
	- Education	42 rehabilitated schools + 28 with solar	500 university scholarships/year
	- Sports	12 supported clubs + 6 stadiums	-
	- Infrastructure	Electricity/water for 25,000 families	Remote areas
Environmental	CO ₂ emissions reduction	-18% (2015-2020)	Paris Agreement contribution
	Gas flaring reduction	25% → 19%	Millions \$ resource savings
	Leak reduction	-21%	Resource preservation, damage reduction
	Solar energy investment	200 MW plant (under construction)	Energy mix diversification
Governance	Sustainability reports	Annual since 2018	Transparency & disclosure
	ISO compliance	ISO 14001 in multiple facilities	International standards

Source: Ben Sahah (2026), *Economic Studies Journal* (2026), *Sonatrach Sustainability Reports 2018-2022*.

Sonatrach embodies an integrated model applying all theories: (1) Complete Carroll pyramid: from economic (30% GDP) to philanthropic (DZD 87 billion); (2) Stakeholder theory: targeted programs for each category; (3) Resource-based view: building reputation as "corporate citizen" → strong social license; (4) Legitimacy theory: social/environmental investments legitimize operations in sensitive areas; (5) Shared value: gas flaring reduction = environmental + economic benefit.

However, it is important to recognize that Sonatrach's CSR achievements are facilitated by its unique position as Algeria's largest state-owned enterprise with privileged access to financial resources, political support, and international partnerships. These enabling conditions may not be replicable by smaller or private institutions, reinforcing the contingency perspective advanced in our theoretical framework.

4.4 Structural Challenges

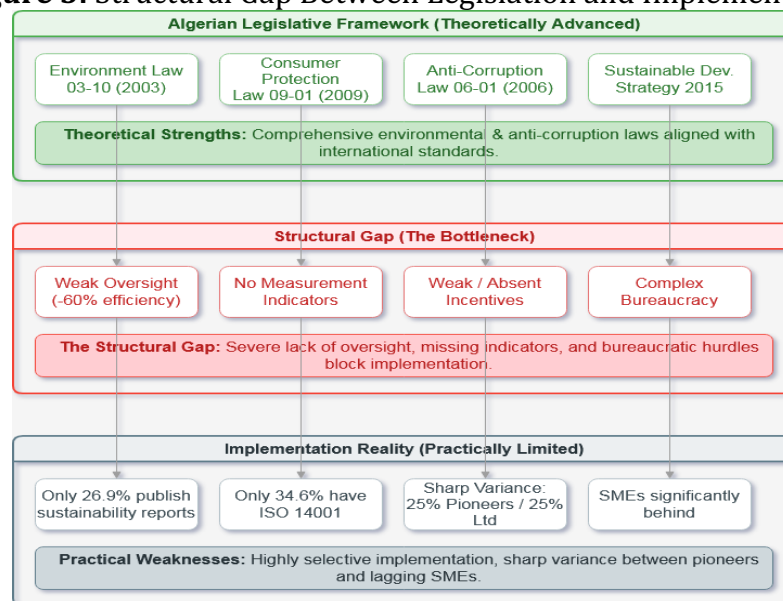
Table 6: Major Challenges Mapping

Challenge	Severity (1-5)	% Affected	Details	Proposed Solution
High Costs	4.3	87%	Expensive imported green technology, costly ISO certifications	10-30% tax incentives, financial support, soft loans
Limited Awareness	4.1	81%	Leadership & employees, absence of academic specializations	National awareness programs, specialized Master's/PhD
Legislative-Implementation Gap	3.9	76%	Advanced laws but weak oversight, no coordination	Unified national strategy, enhanced oversight capacity
Weak Measurement	3.7	72%	No national indicators, only 26.9% publish reports	Unified national index, mandatory disclosure for large firms
Limited Technical Expertise	3.5	68%	Few local experts, dependence on foreigners	Train local ISO auditors, consultant network

Source: Authors' own elaboration based on thematic analysis of challenges identified across all case studies and Zirmi & Bouzid (2018).

Each challenge is illustrated by specific cases. Regarding high costs, Lafarge reported that ISO 14001 certification required significant investment in equipment and training, with recovery periods of 4-6 years—a timeframe that may be acceptable for large multinational-affiliated enterprises but prohibitive for SMEs. Limited awareness was exemplified by interviews cited in Benabdallah (2025) indicating that only 30% of Henkel-Algeria's middle managers could correctly define CSR principles. The legislative-implementation gap is evident in the absence of any enforcement actions against non-compliant firms in the study period, despite the existence of strong legal provisions.

Figure 3: Structural Gap Between Legislation and Implementation



Source: Authors' own elaboration based on Abdellaoui & Ben Omar (2020), Zirmi & Bouzid (2018), and research findings.

Structural Analysis: The gap is not incidental but systemic, reflecting weakness in national CSR governance: having good laws is insufficient without effective oversight, motivating incentives, and clear measurement indicators. Result: market failure (non-compliant firms unpunished, compliant firms insufficiently rewarded).

5. DISCUSSION

5.1 Interpreting Findings Through Theoretical Lenses

Empirical findings confirm validity and applicability of all five theoretical models in the Algerian context, with contextual specificities:

Carroll's Pyramid Application: Algerian institutions progress on the pyramid: pioneers complete it (Sonatrach), intermediates reach level three, limited stay at base. Specificity: Economic dimension more prominent because Algeria is emerging economy with high unemployment, so employment and growth contribution receive high social and governmental appreciation.

Triple Bottom Line Application: Lafarge exemplifies clear balance (profitability + social programs + major environmental investment). But imbalance is prevalent: most firms strong in Profit, intermediate in People, weak in Planet. Specificity: Subsidized energy prices reduce environmental efficiency investment incentives.

Stakeholder Theory Application: Pioneer institutions manage balanced relationships with 7+ categories, while limited focus only on shareholders and legal compliance. Specificity: Local communities are powerful stakeholders in Algeria (frequent protests) → local social investment is necessity, not luxury.

Resource-Based View Application: Sonatrach and Lafarge built strong reputation as "responsible corporations" = difficult-to-imitate social capital. Sidal: reputation improvement → customer satisfaction +17%. Specificity: Positive reputation facilitates dealing with complex Algerian bureaucracy.

Legitimacy Theory Application: Sensitive sectors (hydrocarbons, cement) invest more in CSR to gain "social license to operate". Specificity: The collective memory of colonialism makes Algerians particularly sensitive to natural resource exploitation → greater pressures on Sonatrach.

Additionally, our findings support a contingency perspective: the CSR-performance relationship is moderated by sector sensitivity, institutional size, and international partnership status. This explains why the same CSR practices may yield different outcomes in different contexts. For example, energy efficiency investments yielded greater returns in energy-intensive sectors (cement, chemicals) than in service sectors (telecommunications), and CSR practices generated stronger performance effects in internationally-affiliated institutions (Lafarge, Henkel) due to knowledge transfer and capability building.

5.2 Multiple Impact Mechanisms

Direct Financial Path: Energy efficiency → costs ↓ | Turnover reduction → recruitment/training savings | Environmental compliance → avoid fines

Social Path: Training → skills ↑ → productivity ↑ & quality ↑ | Good working conditions → satisfaction ↑ → loyalty ↑ → turnover ↓ → stability

Reputation Path: Community contributions → positive reputation → customer loyalty ↑ + talent attraction + license facilitation + social license

Innovation Path: Environmental pressures → clean technology innovation (Lafarge: alternative fuel) → efficiency ↑ + new products

These paths are interactive and synergistic, explaining the strong overall impact (3-4 times) of the pioneer pattern.

Building on our theoretical framework, these impact mechanisms can be understood through the lens of signaling theory. CSR practices serve as signals to stakeholders of institutional quality and commitment. For pioneer institutions, CSR signals 'this is a trustworthy partner,' facilitating stakeholder relationships and reducing transaction costs. This signaling function is particularly valuable in the Algerian context where institutional trust is often low and formal contracting mechanisms are weak.

5.3 Comparison with International Literature

The tripartite adoption pattern identified in this study resonates with international findings. Carroll and Shabana (2010) documented similar variation in CSR maturity across firms globally, while Porter and Kramer's (2006) shared value concept finds strong empirical support in pioneer Algerian institutions achieving simultaneous economic and social benefits. Matten and Moon's (2008) distinction between "implicit" and "explicit" CSR is also relevant: Algerian CSR tends toward implicit forms (embedded in legal and institutional frameworks for public enterprises) in pioneer institutions, while explicit CSR (voluntary, strategic, communicated) is more common in internationally-affiliated firms.

However, this study reveals Algerian specificities: stronger emphasis on employment creation (economic dimension) due to high unemployment; heightened importance of local community stakeholder category due to protest culture; and greater legitimacy pressures on resource extraction sectors tied to colonial history. The public sector dominance in strategic industries also creates unique CSR dynamics where political expectations and social welfare functions intersect with business performance considerations.

The documented performance improvements (22-25% energy savings, 47% turnover reduction, productivity +17-25%) align with or exceed international benchmarks reported in meta-analyses (Margolis & Walsh, 2003), suggesting that CSR benefits are not limited to developed economies but materialize strongly in emerging contexts when seriously implemented. However, our findings suggest that the magnitude of benefit may be larger in emerging economies due to lower baseline efficiency levels, creating greater "low-hanging fruit" opportunities for improvement.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Key Conclusions

1. **New Tripartite Model:** CSR adoption in Algeria follows three distinct patterns (pioneer 25%, intermediate 50%, limited 25%), determined by five interacting factors (size, ownership, sector, culture, pressures).
2. **Quantitatively Proven Positive Impact:** Committed institutions achieve tangible measurable benefits: financial savings (22-25% energy), social improvement (productivity +17-25%, turnover -47%), environmental improvement (emissions -18%).
3. **CSR = Strategic Investment:** Empirical evidence refutes the belief that CSR is "net cost," proving Porter & Kramer's shared value model (Win-Win).

4. **Structural Gap:** Between theoretically advanced legislative framework and practically limited implementation, requiring comprehensive systemic reform.
5. **International Theories Applicability:** All five theoretical models are valid for Algerian context with contextual adaptations. The five models demonstrate applicability with varying degrees of explanatory power. Stakeholder and legitimacy theories appear particularly relevant given the prominence of local communities as stakeholders, while resource-based view explains pioneer institutions' sustained competitive advantages. Institutional and signaling theories provide additional explanatory power for understanding adoption patterns and stakeholder trust mechanisms.

6.2 Strategic Recommendations

Table 7: Recommendations Roadmap by Stakeholder

Stakeholder	Priority Recommendation	Implementation Mechanisms	Timeline	Target Indicator
Government	Comprehensive National Strategy 2025-2035	- National CSR Council - Unified framework law	Urgent (2025)	70% large firms compliant by 2030
	Graduated Incentive System	10-30% tax reductions - Preference in public procurement - Green technology financial support	2025-2027	50% increase in environmental investment
	Mandatory Disclosure	Sustainability reports (GRI) for firms +500 employees	2026	80% disclosure by 2028
Institutions	Strategic Integration	- Updated vision/mission - Specialized department - Budget 2-5% of revenues	Urgent (2024-2025)	Improve adoption pattern by one degree in 3 years
	Quantitative Environmental Targets	20% energy reduction in 5 years - ISO 14001	2025-2030	60% ISO certified by 2030
	Human Resource Development	40+ training hours/employee/year	Immediate	+15% productivity improvement
Universities	Specialized Academic Programs	- Master's/PhD in CSR & sustainability - Research chairs	2025-2027	5 specialized programs by 2027
	National Expert Network	- Train 100 local ISO auditors - National expertise center	2026-2028	50% reduction in foreign dependence

Source: Authors' own recommendations based on research findings and gap analysis.

Implementation Feasibility: While these recommendations align with international best practices, their implementation in the Algerian context faces significant obstacles, including limited government capacity, budget constraints, and competing national priorities. We therefore propose a phased approach, prioritizing: (1) mandatory disclosure for large firms (easiest to implement given existing reporting infrastructure), (2) tax incentives (existing fiscal mechanisms can be extended), and (3) specialized academic programs (longer-term investment requiring curriculum development and faculty training).

Differentiated Benchmarks: The recommended 2-5% revenue investment may be ambitious for SMEs. We suggest differentiated benchmarks: large enterprises (500+ employees) 2-5% of revenues, medium enterprises (50-499 employees) 1-2% of revenues, and small enterprises (under 50 employees) resource-appropriate alternatives such as participation in industry-wide CSR initiatives or adoption of simplified environmental management systems.

Civil Society Role: Civil society organizations have an important role in: (1) monitoring and evaluating corporate CSR claims and reports, (2) providing independent verification of corporate social and environmental performance, and (3) raising awareness among communities about their stakeholder rights and mechanisms for engagement with institutions.

6.3 Scientific Contribution

Theoretically: (1) New empirically-supported tripartite classification model; (2) Analytical framework integrating five international theories in Algerian context; (3) Multiple interactive impact mechanisms.

Practically: (1) Strong quantitative evidence of tangible benefits; (2) Lessons from eight leading cases; (3) Actionable implementation roadmap.

Methodologically: (1) Rigorous manual thematic content analysis demonstrating alternative to software-based approaches; (2) Application of four quality criteria in Algerian research context; (3) Document triangulation strategy for data-scarce environments.

6.4 Limitations and Future Research

Limitations:

1. **Sample Scope:** Limited sample (8 institutions) focusing predominantly on large corporations and pioneer/intermediate cases, with minimal representation of small and medium enterprises (SMEs) that constitute the majority of Algeria's economic fabric. Algeria has approximately 1.2 million SMEs representing 95% of enterprises and 70% of private sector employment, yet our sample includes only one firm under 200 employees. This significantly limits the applicability of our findings to the majority of Algerian businesses.
2. **Methodological Approach:** Qualitative design enables deep understanding of complex phenomena in context but limits statistical generalization of findings to broader populations.
3. **Data Sources:** Reliance on secondary documentary sources (reports, studies) rather than primary data collection (interviews, surveys) may introduce potential publication bias, as institutions may selectively disclose favorable information. While our triangulation across multiple source types (academic studies, news media, government reports) helps mitigate this limitation, the possibility of bias cannot be entirely eliminated.
4. **Temporal Scope:** Cross-sectional analysis of 2017-2023 period captures current state but cannot definitively establish causal relationships or long-term trajectories. The 2017-2023 timeframe also includes the COVID-19 pandemic period (2020-2022), which may have affected CSR practices and performance outcomes through disrupted operations, changing stakeholder priorities, and altered regulatory enforcement. Our analysis does not explicitly control for these pandemic effects.

5. **Measurement Standardization:** Lack of unified national CSR measurement standards complicated cross-case comparison, requiring researchers to synthesize heterogeneous indicators.

Addressing Limitations: Despite these limitations, we employed several mitigation strategies: (1) triangulation across multiple data sources to address data availability constraints and potential publication bias, (2) rigorous quality criteria (Lincoln & Guba, 1985) to ensure trustworthiness, and (3) thick description to enable reader assessment of transferability to other contexts. These strategies enhance confidence in our findings while acknowledging the inherent limitations of the research design.

Future Research Avenues:

6. **Large-Scale Quantitative Study:** National survey of 500+ Algerian institutions across all sizes and sectors, employing regression analysis to quantitatively establish causal relationships between specific CSR practices and performance outcomes.
7. **Longitudinal Research:** 5-10 year panel studies tracking CSR evolution and performance impacts over time within same institutions, enabling stronger causal inference.
8. **SME Focus:** Dedicated research on CSR adoption and impacts in small and medium enterprises, developing context-appropriate frameworks recognizing resource constraints.
9. **Unified National CSR Index:** Development and validation of standardized Algerian CSR measurement index, enabling systematic benchmarking and longitudinal tracking at national level.
10. **Sector-Specific Studies:** Deep-dive studies within specific sectors (e.g., banking, agriculture, tourism) to identify sector-specific CSR challenges, opportunities, and best practices.
11. **Comparative Regional Research:** Cross-country comparative studies across Maghreb or broader MENA region to identify region-specific CSR patterns and contextual determinants.
12. **Stakeholder Perspective Research:** Primary research capturing perspectives of diverse stakeholders (employees, communities, customers, suppliers) on institutional CSR efforts and perceived impacts.

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