

Comparative Analysis of Organizational DNA Dimensions and Their Influence on Social Sustainability Performance: Evidence from the Egyptian Steel Industry

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ABSTRACT

The growing emphasis on corporate sustainability has intensified the need to understand the internal organizational mechanisms that drive social sustainability outcomes. While previous studies have examined Organizational DNA as a holistic construct, limited attention has been devoted to investigating the relative influence of its individual dimensions on Social Sustainability Performance (SSP). This study addresses this gap by examining and comparing the effects of four Organizational DNA dimensions—Decision Rights, Information, Motivators, and Organizational Structure—within the context of the Egyptian private steel industry.

Using data collected from 553 employees across major private steel companies in Egypt, the study employs Structural Equation Modeling (PLS-SEM) to evaluate the direct and indirect effects of Organizational DNA dimensions on SSP. Green Training is incorporated as a complementary organizational mechanism to better understand how internal organizational capabilities are translated into sustainability outcomes.

The findings reveal substantial differences among Organizational DNA dimensions. Organizational Structure emerged as the strongest predictor of Social Sustainability Performance, followed by Motivators and Decision Rights. In contrast, Information demonstrated no significant direct effect on SSP but exhibited a significant indirect effect through Green Training. The results suggest that sustainability performance is influenced not only by organizational resources and policies but also by the configuration of internal organizational systems that enable employee engagement, knowledge application, and sustainability-oriented behaviors.

This study contributes to organizational behavior and sustainability literature by providing a comparative ranking of Organizational DNA dimensions and identifying the most influential organizational levers for enhancing social sustainability performance in industrial organizations. The findings offer practical guidance for managers and policymakers seeking to accelerate sustainability transformation through organizational design and human resource development initiatives.

Keywords: Organizational DNA; Social Sustainability Performance; Green Training; Organizational Structure; Sustainability Management; Steel Industry; Egypt

INTRODUCTION

Sustainability has evolved from a peripheral corporate concern into a strategic imperative for organizations operating in increasingly complex and socially demanding environments. While environmental sustainability has traditionally received significant scholarly and managerial attention, social sustainability has recently emerged as an equally important dimension of long-term organizational success. Social Sustainability Performance (SSP) reflects an organization's ability to create positive outcomes for employees, communities, and other stakeholders through responsible practices, equitable policies, employee well-being initiatives, and meaningful social engagement.

Recent studies suggest that sustainability has evolved beyond environmental compliance to become a strategic organizational capability that influences long-term competitiveness, stakeholder relationships, and organizational resilience. Sustainable Human Resource Management (S-HRM) has emerged as a critical mechanism through which organizations integrate sustainability objectives into employee behavior, organizational culture, and business operations (Aust et al., 2020; Ehnert et al., 2023). Moreover, the growing emphasis on Environmental, Social, and Governance (ESG) practices has reinforced the importance of internal organizational systems in achieving sustainable performance outcomes (Silva et al., 2023).

Industrial organizations, particularly those operating within resource-intensive sectors such as steel manufacturing, face increasing pressure from governments, investors, customers, and society to demonstrate responsible social performance. These pressures extend beyond regulatory compliance and require organizations to embed sustainability principles into their internal systems, organizational culture, and management practices. Consequently, understanding the organizational factors that drive SSP has become an important area of academic inquiry.

One emerging framework for understanding organizational effectiveness is Organizational DNA. Originally developed by Neilson and colleagues, Organizational DNA describes the underlying organizational characteristics that shape behavior, decision-making processes, communication patterns, and organizational performance. The framework consists of four core dimensions: Decision Rights, Information, Motivators, and Organizational Structure. Together, these dimensions form the internal architecture that influences how organizations respond to challenges and implement strategic initiatives.

Although previous research has demonstrated positive relationships between Organizational DNA and organizational performance outcomes, existing studies have largely treated Organizational DNA as a unified construct. As a result, limited knowledge exists regarding the relative importance of individual Organizational DNA dimensions and their specific contributions to sustainability-related outcomes. This limitation is particularly important because organizations often face resource constraints and must determine which organizational interventions are most effective for improving sustainability performance.

Furthermore, the literature on social sustainability within heavy industrial sectors remains relatively underdeveloped, particularly within emerging economies. Most existing sustainability research has focused on environmental performance or has been conducted in developed countries and emerging Asian economies. Comparatively little empirical evidence exists regarding the drivers of social sustainability performance in African industrial contexts, including Egypt.

To address these gaps, the present study adopts a comparative perspective by examining the individual effects of Organizational DNA dimensions on Social Sustainability Performance within Egypt's private steel industry. Rather than viewing Organizational DNA as a single organizational capability, the study investigates whether some dimensions exert stronger influences than others and identifies the organizational mechanisms most critical for achieving sustainability objectives.

The study is guided by the following research questions:

RQ1: Which Organizational DNA dimension exerts the strongest influence on Social Sustainability Performance?

RQ2: Are there significant differences among Decision Rights, Information, Motivators, and Organizational Structure in predicting SSP?

RQ3: What managerial implications emerge from ranking Organizational DNA dimensions according to their relative influence on sustainability outcomes?

By answering these questions, the study contributes to sustainability and organizational behavior literature in three important ways. First, it advances Organizational DNA theory by decomposing the construct into its constituent dimensions and examining their comparative effects. Second, it extends sustainability research into the underexplored context of the Egyptian steel industry. Third, it provides managers with evidence-based guidance regarding which organizational systems should be prioritized to maximize social sustainability outcomes.

The findings of this study are expected to provide valuable insights for both scholars and practitioners by highlighting the organizational factors that most effectively enhance social sustainability performance. In doing so, the research supports the development of more targeted managerial strategies and contributes to the broader discourse on sustainable organizational development in emerging industrial economies.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Organizational DNA and Social Sustainability Performance

Organizational DNA represents the underlying organizational architecture that shapes how decisions are made, how information is communicated, how employees are motivated, and how organizational structures support strategic objectives. Introduced by Neilson et al. (2005), the Organizational DNA framework suggests that organizational effectiveness is determined by the interaction of four fundamental dimensions: Decision Rights, Information, Motivators, and Organizational Structure.

The relationship between organizational capabilities and sustainability performance has received increasing scholarly attention in recent years. Researchers have emphasized that sustainability-oriented outcomes are strongly influenced by internal organizational resources, management systems, and human capital development practices. In particular, Green Human Resource Management and sustainability-oriented training initiatives have been identified as critical drivers of organizational sustainability performance (Khan et al., 2021; Jabbour et al., 2022). Furthermore, organizations that successfully integrate learning, knowledge sharing, and employee development into their strategic priorities are more likely to achieve sustainable competitive advantages (Yong et al., 2020).

Recent studies have increasingly emphasized the importance of internal organizational capabilities in achieving sustainability objectives. Sustainability performance is no longer viewed solely as a consequence of external pressures or regulatory compliance. Instead, researchers argue that internal organizational systems, leadership practices, and employee development mechanisms significantly influence sustainability outcomes.

Social Sustainability Performance (SSP) refers to an organization's ability to generate positive social outcomes for employees, communities, and stakeholders through responsible management practices, employee well-being initiatives, organizational justice, diversity, equity, inclusion, and corporate social responsibility activities. Achieving SSP requires organizations to establish internal systems that encourage responsible behavior and facilitate sustainability-oriented decision-making.

From an Organizational DNA perspective, sustainability outcomes emerge from the alignment of organizational structures, communication systems, incentive mechanisms, and decision-making processes. Organizations characterized by transparent information sharing, empowered employees, supportive structures, and aligned motivational systems are more likely to integrate sustainability into their daily operations and strategic priorities.

Although previous studies have confirmed the positive relationship between Organizational DNA and organizational performance, limited empirical research has investigated the relative importance of individual Organizational DNA dimensions in driving social sustainability outcomes. Consequently, an important theoretical question remains unanswered: Which Organizational DNA dimension contributes most significantly to Social Sustainability Performance.

Decision Rights and Social Sustainability Performance

Decision Rights refer to the allocation of authority and responsibility within an organization. They determine who makes decisions, how decisions are made, and the extent to which employees participate in organizational processes.

Organizations that distribute decision-making authority effectively often demonstrate greater flexibility, employee engagement, and responsiveness to stakeholder concerns. Empowered employees are more likely to identify sustainability-related opportunities, participate in social initiatives, and contribute to organizational improvement efforts.

Previous studies have suggested that decentralized decision-making structures promote organizational learning and increase employee commitment to sustainability objectives. When employees possess sufficient authority to address workplace issues and implement improvements, organizations become more capable of achieving social sustainability goals.

Accordingly, the following hypothesis is proposed:

H1: Decision Rights positively influence Social Sustainability Performance.

Information and Social Sustainability Performance

Information represents the communication systems, knowledge-sharing mechanisms, and transparency practices that support organizational functioning. Effective information systems facilitate coordination, knowledge transfer, performance monitoring, and organizational learning.

Transparency and information accessibility are particularly important for sustainability initiatives because they enable employees to understand organizational priorities, monitor sustainability performance, and coordinate sustainability-related activities.

However, the effectiveness of information depends largely on employees' ability to interpret and utilize available knowledge. Information alone may not necessarily generate sustainable behavior unless it is transformed into practical competencies and organizational actions.

Nevertheless, organizations with strong information systems are generally expected to achieve superior sustainability outcomes due to enhanced coordination and organizational awareness.

Therefore:

H2: Information positively influences Social Sustainability Performance.

Motivators and Social Sustainability Performance

Motivators encompass both financial and non-financial incentives designed to influence employee behavior and align individual objectives with organizational goals.

Motivation plays a central role in sustainability implementation because sustainability initiatives often require employees to adopt behaviors that extend beyond routine job requirements. Incentive systems encourage employees to participate in sustainability programs, support organizational change, and contribute to social responsibility initiatives.

According to motivation theory, employees are more likely to engage in sustainability-oriented behaviors when reward systems recognize and reinforce desired actions. Consequently, organizations that integrate sustainability objectives into their motivational systems are expected to achieve stronger sustainability performance.

Accordingly:

H3: Motivators positively influence Social Sustainability Performance.

Organizational Structure and Social Sustainability Performance

Organizational Structure refers to the formal arrangement of roles, responsibilities, reporting relationships, and coordination mechanisms within an organization.

Among the dimensions of Organizational DNA, structure represents the foundation through which organizational strategies are translated into operational practices. Organizational structures influence communication patterns, resource allocation, learning opportunities, and employee collaboration.

Adaptive organizational structures facilitate sustainability implementation by reducing bureaucratic barriers, enhancing cross-functional cooperation, and supporting organizational learning. In contrast, rigid structures may hinder innovation and delay sustainability-related initiatives.

The Resource-Based View suggests that organizational structures can become strategic capabilities that enable organizations to achieve superior performance outcomes. Therefore, organizations possessing flexible and supportive structures are expected to demonstrate stronger social sustainability performance.

Accordingly:

H4: Organizational Structure positively influences Social Sustainability Performance.

Research Gap and Conceptual Contribution

A review of the literature reveals three important gaps.

First, most Organizational DNA studies examine the construct as a unified organizational capability rather than evaluating the relative contribution of its individual dimensions.

Second, limited empirical evidence exists regarding Organizational DNA within sustainability research, particularly concerning Social Sustainability Performance.

Third, research examining Organizational DNA in African industrial contexts remains scarce despite the growing importance of sustainability in emerging economies.

This study addresses these gaps by adopting a comparative perspective that evaluates and ranks the relative influence of Organizational DNA dimensions on Social Sustainability Performance within the Egyptian steel industry. By identifying the most influential organizational drivers of sustainability, the study contributes both theoretically and practically to organizational behavior and sustainability management literature.

Despite the growing body of literature on Organizational DNA and sustainability, existing studies have largely examined Organizational DNA as a unified organizational construct. Consequently, little is known about the relative importance of its individual dimensions in driving sustainability outcomes. Furthermore, empirical evidence from heavy industrial sectors within emerging economies remains limited. To address these gaps, the present study adopts a comparative perspective and develops a ranking framework that evaluates the relative influence of Decision Rights, Information, Motivators, and Organizational Structure on Social Sustainability

Performance within the Egyptian private steel industry. This approach provides a more nuanced understanding of the organizational mechanisms that contribute to sustainability success.

Table 1. Literature Gap Analysis

Study	Context	Main Focus	Organizational DNA Treated As	Sustainability Dimension	Research Gap
Neilson et al. (2005)	Global Organizations	Organizational Effectiveness	Overall Construct	Not Examined	No sustainability focus
Al-Moaz & Shahein (2019)	Egyptian Organizations	Organizational Performance	Overall Construct	Not Examined	No comparison among dimensions
Elsanhawy & Badway (2023)	Egyptian Business Context	Organizational Outcomes	Overall Construct	Limited Sustainability Focus	No ranking of dimensions
Various Sustainability Studies	Manufacturing Sector	Sustainability Drivers	Not Examined	Environmental or Social	Organizational DNA omitted
Green HRM Studies	Industrial Organizations	Green Practices	Not Examined	Sustainability Performance	Internal organizational architecture ignored
Present Study (2026)	Egyptian Private Steel Industry	Social Sustainability Performance	Individual Dimensions	Social Sustainability	First comparative ranking of Organizational DNA dimensions

As shown in Table 1, previous studies have generally examined Organizational DNA as an aggregated organizational construct or focused on sustainability drivers without incorporating Organizational DNA dimensions. Consequently, limited empirical evidence exists regarding the relative influence of individual Organizational DNA dimensions on Social Sustainability Performance. The present study addresses this gap by adopting a comparative perspective that ranks the four Organizational DNA dimensions according to their contribution to sustainability outcomes within the Egyptian private steel industry.

Figure 1. Proposed Conceptual Framework

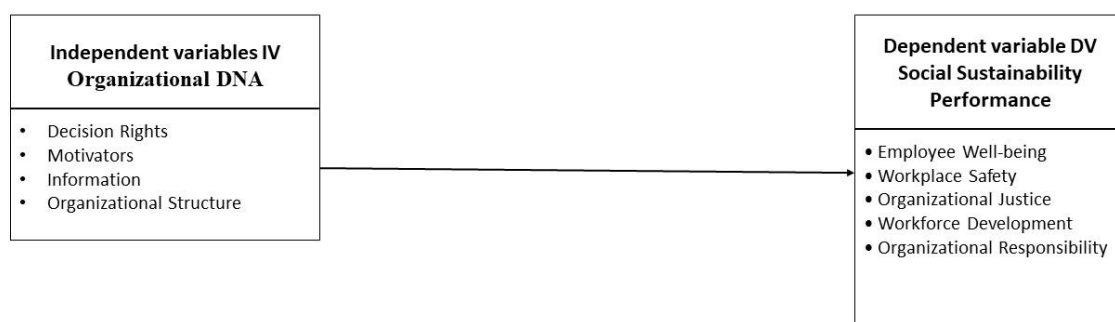


Figure 1. Proposed Conceptual Framework for Examining the Comparative Influence of Organizational DNA Dimensions on Social Sustainability Performance

Figure 1 illustrates the proposed conceptual framework of the study. The framework assumes that the four Organizational DNA dimensions—Decision Rights, Information, Motivators, and Organizational Structure—independently influence Social Sustainability Performance. The model adopts a comparative perspective to determine the relative contribution of each Organizational DNA dimension and to identify the most influential organizational drivers of sustainability performance within the Egyptian private steel industry.

Table 2. Research Hypotheses

Hypothesis	Statement
H1	Decision Rights positively influence Social Sustainability Performance.
H2	Information positively influences Social Sustainability Performance.
H3	Motivators positively influence Social Sustainability Performance.
H4	Organizational Structure positively influences Social Sustainability Performance.

Table 2 summarizes the research hypotheses developed from the theoretical foundations and prior literature. The hypotheses propose that each Organizational DNA dimension contributes positively to Social Sustainability Performance, although the magnitude of influence may vary across dimensions. The subsequent empirical analysis evaluates these relationships and identifies the relative importance of each Organizational DNA component.

RESEARCH METHODOLOGY

Research Design

This study adopts a quantitative research design to investigate the comparative influence of Organizational DNA dimensions on Social Sustainability Performance (SSP) within the Egyptian private steel industry. The quantitative approach was selected because it allows the examination of complex relationships among organizational variables and facilitates the testing of theoretically derived hypotheses using statistical techniques.

The study follows a cross-sectional research design in which data were collected from employees working in private steel manufacturing companies operating in Egypt. The research aims to evaluate the relative contribution of the four Organizational DNA dimensions—Decision Rights, Information, Motivators, and Organizational Structure—to Social Sustainability Performance.

Research Population and Sample

The target population consisted of employees working in major private steel manufacturing companies in Egypt. These organizations represent a strategically important sector characterized by significant economic contributions and increasing sustainability pressures.

Data were collected from employees occupying different managerial and operational levels to ensure comprehensive representation of organizational perspectives. A total of 553 valid responses were obtained and included in the final analysis. This sample size exceeds the minimum requirements recommended for Structural Equation Modeling and provides sufficient statistical power for hypothesis testing.

The participating respondents represented multiple functional areas, including production, operations, human resources, administration, sustainability management, and organizational development.

Data Collection Procedure

Primary data were collected through a structured questionnaire designed based on established scales identified in the literature.

The questionnaire consisted of four major sections:

- Organizational DNA Dimensions
- Green Training Practices
- Social Sustainability Performance
- Demographic Information

Respondents were asked to evaluate their perceptions using a five-point Likert scale ranging from:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

The survey was administered through direct distribution and electronic channels to ensure broad participation across the selected organizations.

Measurement of Variables

Organizational DNA

Organizational DNA was operationalized as a multidimensional construct consisting of four dimensions:

- Decision Rights (DR)
- Information (INF)
- Motivators (MOT)
- Organizational Structure (STR)

These dimensions were adapted from the Organizational DNA framework proposed by Neilson et al. (2005) and subsequent empirical studies.

Decision Rights measures the clarity and distribution of decision-making authority within the organization.

Information measures transparency, communication effectiveness, and knowledge-sharing practices.

Motivators assess the effectiveness of financial and non-financial incentive systems.

Organizational Structure evaluates the degree to which organizational arrangements facilitate coordination, flexibility, and operational effectiveness.

Social Sustainability Performance

Social Sustainability Performance (SSP) was measured using indicators reflecting:

- Employee Well-being
- Organizational Justice
- Workplace Safety
- Workforce Development
- Organizational Responsibility

These indicators capture the social dimension of sustainability and reflect the organization's ability to create positive outcomes for employees and stakeholders.

Data Analysis Techniques

Data analysis was conducted using SPSS and SmartPLS 4.

The analytical procedure consisted of several stages:

- Descriptive Statistics
- Reliability Analysis
- Convergent Validity Assessment
- Discriminant Validity Assessment
- Correlation Analysis
- Structural Equation Modeling (PLS-SEM)

Partial Least Squares Structural Equation Modeling (PLS-SEM) was selected because of its suitability for predictive research, complex models, and exploratory theory development.

Reliability and Validity Assessment

The measurement model was evaluated using established criteria recommended in the SEM literature.

Internal consistency reliability was assessed using:

- Cronbach's Alpha
- Composite Reliability (CR)

Convergent validity was evaluated using:

- Average Variance Extracted (AVE)
- Outer Loadings

Discriminant validity was assessed using:

- Heterotrait-Monotrait Ratio (HTMT)
- Fornell-Larcker Criterion

The results demonstrated satisfactory reliability and validity levels across all constructs, confirming the suitability of the measurement model for hypothesis testing.

Structural Model Assessment

Following the validation of the measurement model, the structural model was assessed using the bootstrapping procedure in SmartPLS.

The analysis focused on evaluating:

- Path Coefficients (β)
- T-values
- P-values
- Coefficient of Determination (R^2)

The explanatory power of the model was substantial. The Organizational DNA dimensions explained 64.9% of the variance in Green Training, while Organizational DNA dimensions and Green Training jointly explained 77.4% of the variance in Social Sustainability Performance.

These results indicate strong predictive capability and provide empirical support for examining the comparative influence of Organizational DNA dimensions on sustainability outcomes.

Ethical Considerations

Participation in the study was voluntary. Respondents were informed of the research purpose and assured that all responses would remain confidential and be used exclusively for academic purposes. No personal identifying information was collected, and all data were analyzed in aggregate form to ensure participant anonymity.

RESULTS AND DISCUSSION

Structural Model Results

The structural model was assessed using the bootstrapping procedure in SmartPLS 4 to examine the direct effects of Organizational DNA dimensions on Social Sustainability Performance (SSP).

The results revealed significant differences in the relative influence of Organizational DNA dimensions on SSP.

Table 3. Comparative Ranking of Organizational DNA Dimensions According to Their Total Effects on Social Sustainability Performance

Rank	Organizational DNA Dimension	β (Total Effect)	T-value	P-value	Result
1	Organizational Structure	0.329	4.532	0.000	Supported
2	Motivators	0.277	3.856	0.000	Supported
3	Decision Rights	0.273	5.265	0.000	Supported
4	Information	0.093	1.474	0.070	Weak Support

Table 3 presents the comparative ranking of Organizational DNA dimensions based on their total effects on Social Sustainability Performance. The results indicate that Organizational Structure is the most influential dimension, followed by Motivators and Decision Rights. Information exhibited the weakest overall effect and failed to demonstrate a strong direct contribution to Social Sustainability Performance. These findings suggest that organizational systems that facilitate action, coordination, and employee engagement exert a greater influence on sustainability outcomes than information-sharing mechanisms alone.

The Dominant Role of Organizational Structure

Among all Organizational DNA dimensions, Organizational Structure emerged as the strongest predictor of Social Sustainability Performance ($\beta = 0.329$).

This finding highlights the critical role of organizational architecture in enabling sustainability-oriented behavior. Effective structures facilitate coordination, accountability, communication, resource allocation, and organizational learning. Such mechanisms create an environment in which sustainability initiatives can be successfully implemented and maintained.

The result supports the Resource-Based View (RBV), which argues that internal organizational capabilities constitute strategic resources that generate superior organizational outcomes. A supportive organizational structure provides employees with the institutional framework necessary to transform sustainability objectives into operational practices.

Furthermore, industrial organizations such as steel manufacturers operate within highly complex operational environments characterized by safety requirements, environmental responsibilities, and workforce management challenges. Under such conditions, organizational structure becomes a fundamental enabler of sustainable performance.

The finding also aligns with previous organizational design literature suggesting that flexible and adaptive structures improve organizational responsiveness to stakeholder expectations and sustainability requirements.

Motivators as Drivers of Sustainability-Oriented Behavior

Motivators ranked second among Organizational DNA dimensions ($\beta = 0.277$).

This result demonstrates the importance of aligning employee incentives with organizational sustainability goals. Employees are more likely to engage in sustainability initiatives when organizational reward systems recognize and support desired behaviors.

The finding is consistent with motivational theories that emphasize the relationship between incentives and employee performance. Sustainability initiatives often require employees to adopt additional responsibilities and behaviors that extend beyond traditional job requirements. Consequently, motivational systems become essential mechanisms for encouraging employee participation in social responsibility programs.

From a practical perspective, organizations seeking to improve social sustainability performance should integrate sustainability objectives into performance appraisal systems, recognition programs, promotion criteria, and reward structures.

Decision Rights and Sustainability Performance

Decision Rights ranked third among Organizational DNA dimensions ($\beta = 0.273$).

The results suggest that empowering employees and decentralizing decision-making processes contribute positively to sustainability outcomes. Organizations that grant employees greater authority and participation opportunities create an environment where sustainability-related challenges can be identified and addressed more effectively.

Employee involvement in decision-making processes enhances ownership, accountability, and commitment to organizational objectives. These factors are particularly important for sustainability initiatives, which frequently require cross-functional collaboration and proactive problem-solving.

The findings support previous research indicating that participative management practices enhance organizational adaptability and facilitate the implementation of strategic change initiatives.

The Limited Direct Influence of Information

The most surprising finding concerns the Information dimension.

Although Information demonstrated significant positive relationships with Green Training, it did not exhibit a significant direct effect on Social Sustainability Performance.

This result suggests that information alone is insufficient to generate sustainability outcomes. Simply providing employees with information, reports, and communication channels does not automatically translate into sustainable behavior.

Instead, information must be transformed into practical knowledge, competencies, and organizational action.

This finding helps explain why the total effect of Information remained substantially lower than the effects of the other Organizational DNA dimensions.

The result also highlights the importance of organizational learning mechanisms. Information becomes valuable only when employees possess the skills and capabilities necessary to apply it effectively.

Theoretical Implications

The findings generate several important theoretical implications.

First, the study challenges the common practice of treating Organizational DNA as a single aggregated construct. The results clearly demonstrate that Organizational DNA dimensions do not contribute equally to sustainability outcomes.

Second, the study advances Organizational DNA theory by establishing a comparative ranking of Organizational DNA dimensions.

Third, the findings contribute to sustainability literature by identifying the internal organizational mechanisms that exert the greatest influence on Social Sustainability Performance.

Finally, the results reinforce the argument that sustainability performance is fundamentally an organizational capability rather than merely a compliance activity.

The findings are consistent with recent studies emphasizing the role of organizational capabilities in enhancing sustainability performance. Zhang et al. (2022) argued that internal organizational capabilities constitute critical drivers of sustainable organizational outcomes, particularly within emerging economies. The present findings extend this argument by demonstrating that organizational capabilities embedded within Organizational DNA dimensions contribute differently to Social Sustainability Performance. Furthermore, the results support the growing ESG literature, which highlights the importance of organizational systems, governance structures, and employee engagement mechanisms in achieving sustainability objectives (Silva et al., 2023).

Managerial Implications

The results provide practical guidance for managers seeking to improve sustainability performance.

Rather than investing equally across all organizational systems, managers should prioritize interventions according to their relative impact.

Based on the findings, the recommended order of managerial priorities is:

1. Strengthening Organizational Structure.
2. Aligning Motivational Systems with Sustainability Goals.
3. Expanding Employee Participation in Decision-Making.
4. Improving Information and Knowledge-Sharing Systems.

This prioritization enables organizations to allocate resources more effectively and achieve greater sustainability outcomes.

For industrial organizations operating in emerging economies, the findings suggest that sustainable transformation depends primarily on creating supportive organizational structures and motivational systems capable of embedding sustainability into everyday organizational practices.

Table 4. Managerial Priority Matrix for Enhancing Social Sustainability Performance

Priority Level	Organizational DNA Dimension	Recommended Action
High Priority	Organizational Structure	Improve organizational flexibility, coordination, and cross-functional collaboration mechanisms.
High Priority	Motivators	Align reward systems, performance evaluations, and recognition programs with sustainability objectives.
Medium Priority	Decision Rights	Increase employee participation and decentralize decision-making processes related to sustainability initiatives.
Moderate Priority	Information	Strengthen communication channels, transparency, and knowledge-sharing systems to support sustainability awareness.

Table 4 translates the empirical findings into a practical managerial framework. The matrix prioritizes organizational interventions according to their relative influence on Social Sustainability Performance. Consistent with the study findings, Organizational Structure and Motivators represent the most critical areas for managerial attention, while Decision Rights and Information remain important supporting mechanisms. This prioritization can help organizations allocate resources more effectively and maximize the impact of sustainability initiatives.

SUMMARY OF FINDINGS

The study demonstrates that Organizational DNA dimensions differ significantly in their influence on Social Sustainability Performance.

Organizational Structure emerged as the strongest predictor of sustainability outcomes, followed by Motivators and Decision Rights. Information exhibited the weakest influence and failed to produce a significant direct effect on SSP.

These findings indicate that successful sustainability transformation depends less on information availability and more on organizational systems that empower employees, align incentives, and facilitate coordinated action.

The results therefore provide strong empirical evidence that internal organizational architecture represents a critical foundation for achieving sustainable social performance within industrial organizations. Moreover, the findings emphasize that organizations seeking long-term sustainability success should focus on developing structural and behavioral mechanisms that support employee engagement, effective decision-making, and continuous organizational improvement. Such efforts can enhance the organization's ability to respond to stakeholder expectations while simultaneously strengthening its social sustainability performance.

CONCLUSION, CONTRIBUTIONS, LIMITATIONS, AND FUTURE RESEARCH

Conclusion

This study investigated the comparative influence of Organizational DNA dimensions on Social Sustainability Performance (SSP) within the Egyptian private steel industry. Unlike previous studies that examined Organizational DNA as a unified construct, the present research decomposed Organizational DNA into its four core dimensions—Decision Rights, Information, Motivators, and Organizational Structure—to determine their relative contributions to sustainability outcomes.

The findings revealed significant differences among the Organizational DNA dimensions. Organizational Structure emerged as the strongest predictor of Social Sustainability Performance, followed by Motivators and Decision Rights. In contrast, Information demonstrated the weakest overall influence and did not exert a significant direct effect on SSP. These findings indicate that organizations achieve superior sustainability outcomes not merely through information availability but through organizational systems that facilitate action, empower employees, and align organizational objectives with sustainability goals.

The study further demonstrates that sustainability performance is fundamentally rooted in organizational design and internal capabilities. Organizations that establish supportive structures, effective incentive systems, and participative decision-making environments are better positioned to achieve sustainable social outcomes and create long-term value for employees and stakeholders.

Theoretical Contributions

This study makes several important contributions to the existing literature.

First, it advances Organizational DNA theory by moving beyond the traditional treatment of Organizational DNA as a higher-order construct and examining the individual influence of each dimension. This approach provides a more nuanced understanding of how internal organizational mechanisms contribute to sustainability outcomes.

Second, the study introduces a comparative ranking framework that identifies the relative importance of Organizational DNA dimensions. The findings demonstrate that Organizational Structure, Motivators, and Decision Rights contribute differently to Social Sustainability Performance, thereby extending current theoretical understanding of organizational effectiveness and sustainability.

Third, the research contributes to the growing body of sustainability literature by integrating organizational behavior perspectives with sustainability performance outcomes. The findings support the argument that sustainability is not solely an environmental or compliance issue but also an organizational capability shaped by internal systems and management practices.

Fourth, the study expands empirical sustainability research within emerging economies, particularly in the context of Egypt's industrial sector, where evidence remains relatively limited compared to developed economies.

Practical Contributions

The findings offer several practical implications for organizational leaders, human resource professionals, and policymakers.

For organizational leaders, the results suggest that sustainability initiatives should begin with organizational design. Managers should prioritize the development of flexible organizational structures capable of facilitating communication, coordination, learning, and employee engagement.

For human resource managers, the findings emphasize the importance of aligning motivational systems with sustainability objectives. Reward systems, performance evaluations, promotion criteria, and recognition programs should incorporate sustainability-related behaviors and achievements.

The study also highlights the value of participative management practices. Organizations should empower employees by expanding decision-making authority and encouraging involvement in sustainability initiatives and organizational improvement processes.

Finally, policymakers seeking to improve sustainability performance within industrial sectors should recognize that sustainability outcomes depend not only on regulatory requirements but also on organizational capabilities that support implementation and long-term behavioral change.

Study Limitations

Despite its contributions, this study has several limitations.

First, the study employed a cross-sectional research design, which limits the ability to establish causal relationships among variables. Future studies may adopt longitudinal approaches to examine how Organizational DNA dimensions influence sustainability performance over time.

Second, the research focused exclusively on private steel manufacturing companies operating in Egypt. Consequently, the findings may not be fully generalizable to other industries, public-sector organizations, or different national contexts.

Third, the study concentrated on Social Sustainability Performance and did not examine environmental or economic sustainability dimensions. Sustainability is inherently multidimensional, and future research may benefit from adopting a broader perspective.

Fourth, the study relied on self-reported questionnaire data, which may be subject to common method bias and respondent perception effects despite the statistical procedures employed to ensure validity and reliability.

Future Research Directions

Several opportunities for future research emerge from the findings.

First, future studies should investigate the comparative influence of Organizational DNA dimensions on environmental sustainability performance and economic sustainability performance to determine whether the observed ranking remains consistent across sustainability dimensions.

Second, researchers may examine the role of additional mediating variables such as organizational culture, employee engagement, organizational commitment, sustainability leadership, and green human resource management practices.

Third, future research should replicate the study across different industrial sectors and geographical contexts to assess the generalizability of the findings.

Fourth, longitudinal studies are needed to explore how changes in Organizational DNA dimensions influence sustainability performance over time and during organizational transformation processes.

Fifth, qualitative and mixed-method studies may provide deeper insights into the mechanisms through which Organizational DNA dimensions affect organizational behavior and sustainability outcomes.

Future studies may build upon recent developments in Sustainable Human Resource Management and sustainability reporting by examining additional organizational capabilities that influence sustainability outcomes. As suggested by Ehnert et al. (2023), greater attention should be devoted to understanding how sustainability-oriented HR practices interact with organizational systems and leadership processes. Moreover, future research published within the Business Strategy and the Environment stream increasingly emphasizes the integration of ESG dimensions, organizational culture, and sustainability leadership as important determinants of long-term organizational sustainability.

Finally, future research could develop and validate an integrated Organizational Sustainability Capability Model that combines Organizational DNA, Green Training, Organizational Culture, and Sustainability Leadership into a comprehensive framework for explaining sustainability performance in industrial organizations.

Final Remarks

The findings of this study reinforce the view that sustainable organizational performance is primarily an internal organizational challenge rather than an external compliance requirement. Organizations that invest in effective structures, motivational systems, participative decision-making processes, and employee development initiatives are more likely to achieve meaningful and lasting sustainability outcomes.

As sustainability expectations continue to increase globally, organizational leaders must recognize that long-term success depends not only on what organizations seek to achieve but also on how their internal organizational systems are designed to support those objectives. In this regard, Organizational DNA represents a critical strategic resource capable of shaping the future sustainability performance of industrial organizations.

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