



Managerial Capacity, Organizational Change and the Effectiveness of EU Cohesion Policy Projects: A Data Envelopment Analysis and Institutional Modeling Approach

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Introduction

The absorption and effective utilization of European Structural and Investment Funds (ESIF) constitute a central pillar of regional development policy within the European Union. Particularly in cohesion countries, where public investment is heavily dependent on EU co-financing, the performance of implementing bodies directly affects growth trajectories, structural transformation, and territorial convergence. Despite substantial financial allocations under successive programming periods—including the 2021–2027 framework—persistent implementation delays, decommitment risks, and uneven regional outcomes indicate that absorption capacity remains structurally constrained.

This paper investigates the relationship between managerial capacity and the effectiveness of co-financed projects implemented under the Greek Partnership Agreement (ESPA). Moving beyond purely procedural explanations, the study conceptualizes absorption performance as an outcome of deeper organizational, institutional, and strategic dynamics. While administrative complexity and regulatory burden are often cited as primary barriers, international and domestic evidence suggests that managerial structures, leadership practices, organizational culture, and human capital capabilities critically shape project outcomes (Burnes, 2009; Balogun & Hope Hailey, 2008).

Theoretical Framework: Absorption as Strategic and Organizational Change

The core argument of the paper is that low absorption is not merely a technical failure but a manifestation of incomplete strategic and organizational change. Drawing on classical and contemporary change theory, the study frames absorption capacity as a transformation process affecting structures, routines, and institutional assumptions.

Lewin's (1951) field theory and force-field analysis provide a foundational lens, suggesting that institutional performance depends on the balance between driving forces (e.g., political pressure, developmental urgency, EU conditionality) and restraining forces (organizational inertia, risk aversion, fragmentation of competences). Schein (1996; 2010) further emphasizes that change requires not only “disconfirming information” but also psychological safety and leadership alignment. In public organizations managing co-financed projects, the absence of such enabling conditions often results in compliance-oriented behavior rather than performance-oriented transformation.

Strategic change theory (Balogun & Hope Hailey, 2008) complements this perspective by distinguishing between structural redesign, capability development, and transition management. From this standpoint, absorption performance reflects the coherence between strategic priorities, organizational design (Galbraith, 1977), human resource systems (Mabey & Salaman, 1995), and cultural attributes (Deal & Kennedy, 1982; Peters & Waterman, 1982). Consequently, improving absorption rates requires multi-level institutional reform rather than incremental procedural adjustments.

Methodological Approach

To empirically examine these relationships, the study adopts a mixed quantitative and modeling strategy centered on Data Envelopment Analysis (DEA). DEA is a non-parametric linear programming technique that evaluates the relative efficiency of comparable Decision Making Units (DMUs) by estimating an efficiency frontier (Charnes, Cooper & Rhodes, 1978; Thanassoulis, 1999). Unlike conventional ratio-based indicators, DEA accommodates multiple inputs and outputs without requiring predefined weights, making it particularly suitable for non-profit-oriented public organizations (Ramanathan, 2003).

In the present study, DMUs correspond to implementing bodies responsible for managing ESPA projects. Inputs include administrative capacity indicators (staff expertise, project management experience, procedural workload, digitalization level), governance variables (organizational structure, centralization, interdepartmental coordination), and resource characteristics (budget size, technical support). Outputs include absorption rates, implementation timeliness, financial execution ratios, and selected developmental impact indicators.

Efficiency is defined, following Charnes et al. (1978), as the maximum ratio of weighted outputs to weighted inputs under the constraint that no DMU exceeds unity. The CCR model (constant returns to scale) is employed as a baseline specification, with robustness checks using alternative returns-to-scale assumptions. Efficiency scores range between 0 and 1, with frontier units representing best practice.

To explore determinants of efficiency variation, DEA scores are subsequently integrated into regression and hierarchical logit models. The hierarchical specification captures interdependencies between higher-level institutional variables (e.g., leadership quality, cultural orientation) and lower-level operational factors (e.g., procurement delays, monitoring systems). This modeling approach acknowledges that managerial capacity is multidimensional and structurally embedded.

In addition, the study develops an extended depiction model in which sectoral or functional clusters (e.g., procurement, financial management, technical supervision) influence overall efficiency with differentiated weights. Optimization techniques—including constrained maximization and Lagrangian multipliers—are applied where data availability permits, in order to identify combinations of managerial factors that maximize efficiency under institutional constraints.

Expected Contributions

The study contributes to regional science literature in three ways.

First, it integrates efficiency measurement with organizational change theory, bridging quantitative operational research methods with institutional analysis. While DEA has been widely used in banking, transport, and public services (Thanassoulis, 1999), its application to EU fund management bodies remains limited.

Second, it reinterprets absorption performance as a systemic organizational outcome rather than a narrow financial indicator. By incorporating human capital, governance structure, and cultural dimensions into the input space, the model captures the broader determinants of institutional effectiveness.

Third, the paper proposes a multi-level reform framework linking:

- (a) strategic reprioritization and alignment with regional development goals;
- (b) structural redesign toward more project-oriented and less fragmented organizational forms (Galbraith, 1977);
- (c) investment in skills and organizational learning (Mabey & Salaman, 1995);
- (d) cultural transformation toward accountability and adaptive learning (Schein, 2010); and
- (e) systematic transition management and leadership coherence (Balogun & Hope Hailey, 2008).

By identifying the structural drivers of efficiency, the research provides policy-relevant insights for improving the implementation of Cohesion Policy, particularly in regions characterized by persistent absorption challenges. The analytical framework is transferable to other EU member states and to non-profit public organizations facing multi-level governance complexity.

Ultimately, the paper argues that sustainable improvement in fund absorption requires a shift from compliance-based administration to capability-based governance. The combination of DEA-based benchmarking and organizational modeling offers a rigorous and actionable tool for diagnosing institutional bottlenecks and designing targeted reform interventions.

References

- Balogun, J., & Hope Hailey, V. (2008). *Exploring Strategic Change* (3rd ed.). Harlow: Pearson Education.
- Burnes, B. (2009). *Managing Change: A Strategic Approach to Organisational Dynamics* (5th ed.). Harlow: Prentice Hall.
- Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European Journal of Operational Research*, 2(6), 429–444.
- Deal, T., & Kennedy, A. (1982). *Corporate Cultures: The Rites and Rituals of Corporate Life*. Reading, MA: Addison-Wesley.
- Galbraith, J. (1977). *Organization Design*. Reading, MA: Addison-Wesley.
- Lewin, K. (1951). *Field Theory in Social Science*. New York: Harper & Row.
- Mabey, C., & Salaman, G. (1995). *Strategic Human Resource Management*. Oxford: Blackwell.
- Peters, T., & Waterman, R. (1982). *In Search of Excellence*. New York: Harper & Row.
- Ramanathan, R. (2003). *An Introduction to Data Envelopment Analysis: A Tool for Performance Measurement*. New Delhi: Sage Publications.
- Schein, E. (1996). Kurt Lewin's change theory in the field and classroom. *Systems Practice*, 9(1), 27–47.
- Schein, E. (2010). *Organizational Culture and Leadership* (4th ed.). San Francisco: Jossey-Bass.
- Thanassoulis, E. (1999). Data envelopment analysis and its use in banking. *Interfaces*, 29(3), 1–13.