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CO-OPETITION AS A STRATEGIC TOOL FOR INDUSTRIAL COMPETITIVENESS

A PROPOSAL MODEL

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Abstract
This paper investigates the strategic importance of adopting a co-opetition approach to enhance industrial competitiveness in emerging economies. It examines how firms facing resource limitations and organizational inefficiencies can achieve sustainable growth and innovation in competitive and uncertain environments. The study applies a qualitative methodology based on secondary data, using the Value Network framework and the Resource-Based View to analyze how collaboration among competitors, suppliers, and complementors can create new sources of competitive advantage. The findings show that selective partnerships foster innovation, strengthen market position, and improve supply chain resilience. The paper contributes theoretically and practically by extending co-opetition research to industrial contexts and providing actionable insights for firms and policymakers. The results highlight that co-opetition is not merely a theoretical concept but a strategic necessity for building resilient and dynamic competitiveness.
Keywords: Co-opetition, Competition, Cooperation, Industrial Competitiveness, Strategic Management.

1. INTRODUCTION

Industrial firms today face mounting pressures from globalization, rapid technological transformations, and continuous disruptions. Companies in emerging economies, particularly in the electronics and household appliances sectors, confront fierce competition from multinational corporations with advanced financial, human, and technological resources. This pressure is intensified by short product life cycles, high R&D costs, and reliance on imported components, leading to declining market share, limited innovation capacity, and weak value chain integration. Enhancing industrial competitiveness has thus become a strategic imperative.

Within this context, co-opetition has emerged as a strategic approach, combining cooperation with competitors to leverage shared resources while sustaining market rivalry. Research shows its positive impact on innovation and performance. Balanced co-opetition can maximize innovation (Park, Srivastava, and Gnyawali, 2014), while in dynamic markets, the combination of cooperation and competition tends to outperform single-mode strategies (Le Roy and Sanou, 2014).

Success factors include trust, commitment, and contextual conditions. The effectiveness of co-opetition depends on relational and environmental factors such as mutual benefit, network effects, and uncertainty (Morris et al., 2007; Ritala, 2011; Avotra et al., 2021). Evidence also shows that open innovation and joint knowledge creation mediate these benefits, especially in highly competitive environments (Lee&Roh, 2021). Variations in research design, from large-scale surveys (Zgarni&Gharbi, 2019; Xu et al., 2020) to case-based and conceptual models (Gnyawali&Park, 2009; Ritala, 2011), help explain differences in findings.

While co-opetition has been extensively studied in Asian and European contexts, its application in developing or protected markets remains underexplored, particularly within industries characterized by resource scarcity and institutional constraints. This gap highlights the need for context-sensitive research that explains how co-opetition can strengthen innovation, enhance value chain integration, and expand market opportunities in emerging industrial ecosystems. The topic is therefore both timely and relevant, as it addresses how firms can achieve sustainable competitiveness and innovation despite environmental and resource limitation.

Accordingly, this study seeks to examine how co-opetition can be operationalized as a strategic mechanism for improving innovation performance, value chain integration, and market expansion. The research aims to: (1) review the theoretical foundations and industrial applications of co-opetition; (2) identify contextual and relational factors influencing its effectiveness; and (3) propose a practical framework for firms in emerging markets.

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2. LITERATURE REVIEW

2.1 Co-opetition Strategy Concept

The co-opetition strategy terminology has sparked several theoretical debates regarding its academic legitimacy, given that the term (co-opetition) does not appear in standard dictionaries in French, English, or even specialized management and economics references (Battista et al., 2007). This has raised questions about its correct usage: should it be written as coopetition or co-opetition? Despite these terminological issues, researchers have gone beyond this barrier by positioning co-opetition as an extension of competitive models, especially because of the inability of traditional frameworks to explain the dynamics of inter-firm relationships. Conventional approaches often focused either on competition (industry structure) or on cooperation (alliances and partnerships), without combining the two.

Co-opetition emerged to bridge this gap, highlighting firms' ability to maintain dynamic combinations of cooperation and competition depending on their competitive environment (Battista et al., 2007, p. 90). It is a relatively recent concept that emphasizes the coexistence of cooperation and competition among firms at the same time (Gnyawali et al., 2006).

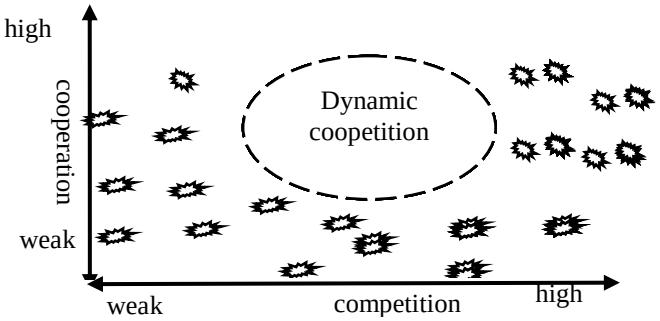

FIGURE 1. THE ARENA FOR DYNAMIC COOPETITION

Source : del-soto and Monticelli, 2017, p 69 , adapted

Many scholars trace the origin of the concept to Raymond Noorda, the former CEO of Novell, in the 1990s. However, early uses show that it appeared as early as 1913 in the oyster fishing sector and was also employed by historian Hunt in the Los Angeles Times in 1937. Its academic diffusion came with the book *Co-opetition* by Brandenburger and Nalebuff (1996), where they introduced the "value net" model, which explains cooperative and competitive inter-firm relations, This model highlights paradoxical relationships, in which firms engage simultaneously in cooperation and competition (Bengtsson & Kock, 2014). Furthermore, recent studies emphasize that the lexical ambiguity around "co-opetition" masks deeper conceptual complexity, where strategic boundaries are blurred and traditional dichotomies between rivalry and alliance dissolve. This evolving discourse invites a more nuanced conceptualisation of co-opetition as either structural, behavioural or temporal phenomena, rather than simply an oxymoron.

TABLE 1. COMPETITIVE RELATIONSHIPS MATRIX

Relations between rivals			
		Relative position within the industry	
		High	Weak
firm needs for external resources	High	**Coopetition**	cooperation
	Weak	Competition	coexistence

Source : Battista et al, 2007, p 91

The scope of co-opetition is defined by two main dimensions: cooperation and competition, making it simultaneously a set of "competitive manoeuvres" and "cooperative manoeuvres." It does not mean eliminating competition through collusion or price-fixing, but rather coordinating competitive behaviour within the industry to

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stimulate demand and create value. Bengtsson and Kock (2000) proposed a matrix to identify the appropriate timing for adopting co-opetition (Battista et al., 2007), as illustrated in Table1. In addition, scholars argue that the intensity and timing of co-opetition must be dynamically managed: firms need to evaluate when to shift from cooperation to competition and vice versa, based on resource cycles, market turbulence, and network positions. Such dynamic timing adds a temporal dimension to the static matrix presented earlier.

2.2 Theoretical Underpinnings of Coopetition Strategy

2.2.1 Cooperation and Resource-Based View (RBV)

Traditional competitive models that emphasized market positioning (Ansoff, 1965; Porter, 1985, 1996) often fell short in explaining why firms in the same industry can perform so differently. The Resource-Based View (RBV) (Wernerfelt, 1984; Barney, 1991) addresses this gap by framing the firm as a unique bundle of tangible and intangible resources such as technological know-how, reputation, organisational routines, or human capital, that determine its capacity to sustain competitive advantage.

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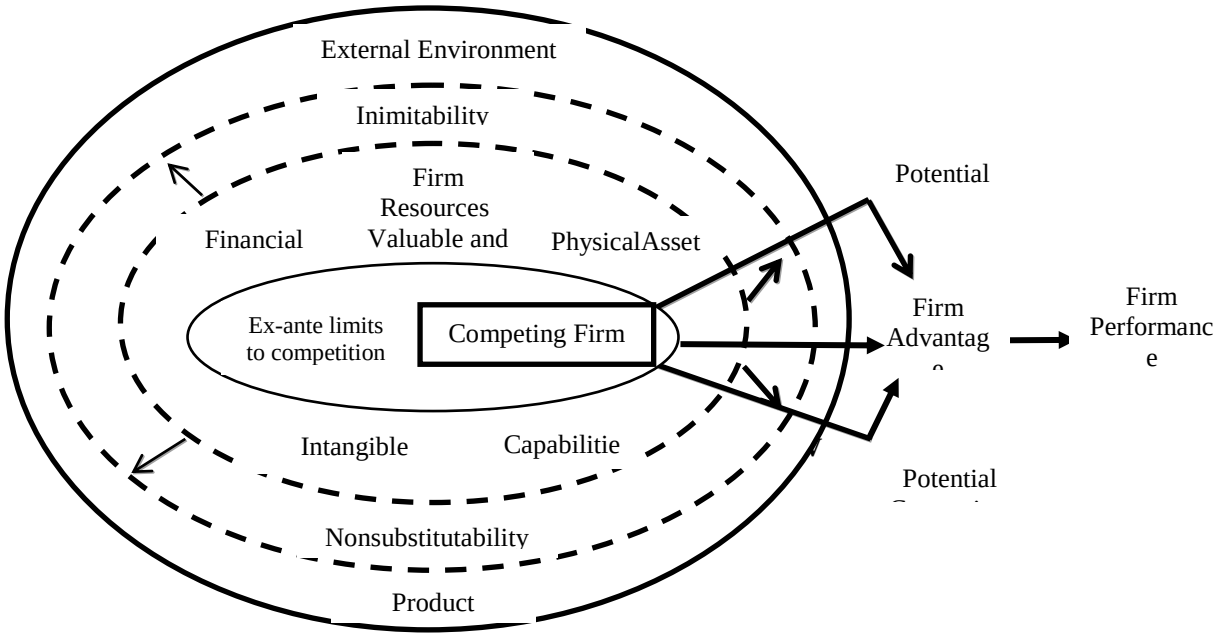

Two central RBV assumptions frame co-opetition dynamics: (1) Resource Heterogeneity: Firms in the same industry hold different strategic resources. This heterogeneity drives them to collaborate, since pooling complementary strengths can create value none could generate alone. **(**2) Resource Immobility: Certain resources (e.g., proprietary technologies, strong brands, embedded know-how) cannot be easily transferred. Thus, while firms may share selected resources in co-opetition, they retain distinct competencies that ensure competitive differentiation.

Moreover, the concept of dynamic capabilities extends RBV by emphasising not only the possession of strategic resources, but also the firm's ability to reconfigure and renew them in fast-changing environments. Within a co-opetitive setting, dynamic capabilities determine how effectively a firm engages in dual collaboration and competition, responds to partners' moves, and sustains advantage over time. In the context of co-opetition, RBV provides a crucial explanation of why and how firms collaborate with competitors. Firms enter such partnerships to access complementary resources they lack internally (e.g., specialised technologies,R&D capabilities), while simultaneously leveraging and safeguarding their unique, hard-to-imitate assets. This dual logic, sharing some resources while protecting others, lies at the heart of sustainable co-opetition. Recent empirical evidence supports this dual logic: in digital ecosystems, firms form coopetitive alliances to combine resource pools for joint innovation while simultaneously maintaining proprietary platforms. This demonstrates that the RBV logic remains central but must be enriched with ecosystem and platform thinking**.**

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In the Algerian industrial context, resource immobility is accentuated by limited technology transfer and restricted access to foreign partnerships. Firms such as ENIE operate under protectionist conditions where unique local assets , such as nationwide distribution networks and embedded technical know-how, must be safeguarded even when engaging in collaborative projects with international actors. This reinforces the RBV logic that strategic advantage lies in managing both shared and inimitable resources within co-opetitive relationships.

2.2.2 Value Networks and Coopetition : The value network is a key framework for understanding coopetition, encompassing the relationships among suppliers, distributors, competitors, and even customers to create shared value (Brandenburger&Stuart, 1996). Within value networks, competitors may collaborate in areas such as research and development or distribution while remaining competitive in marketing or pricing (Gnyawali&Park, 2009). Studies indicate that this balance between cooperation and competition enables firms to improve the overall system's performance and strategically leverage shared resources; for example, Ritala et al. (2013) highlight that collaborative value networks enhance innovation and provide opportunities for creating additional value for all participating parties, reflecting coopetition as an integrated strategy. Furthermore, the network perspective emphasises structural configurations and the roles of complementors and network orchestrators in shaping co-opetition success. Such structural factors are increasingly important in complex industrial ecosystems**.**

The Value Net model is one of the theoretical frameworks that contributed to the development of the co-opetition concept, as it emphasises that firms' relationships extend beyond suppliers and customers to also include competitors and complementors. This model shows that interaction with rivals is not necessarily a zero-sum game but can serve as a way to expand value creation before it is divided. By viewing the firm as part of an interconnected and complex network of relationships, the Value Net helps explain how co-opetition can foster innovation, improve efficiency, and open broader opportunities for market growth. In this way, competition is transformed from a direct struggle into a dynamic mechanism that combines cooperation for creating new value with competition for capturing it.

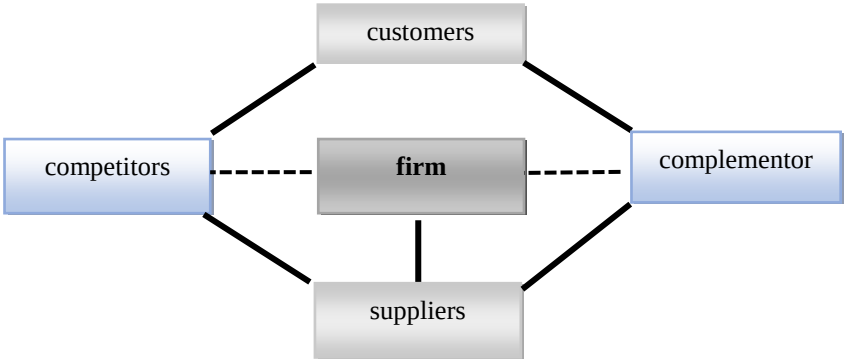

FIGURE 3. THE VALUE NET

Source : Brandenburger and Nalebuff ,1996, p16

Within emerging economies like Algeria, value networks are often fragmented and institutionally constrained. Local firms therefore rely on selective alliances with regional suppliers or public institutions to create complementarity in production and market reach. For ENIE, developing local complementors, such as component manufacturers or research centres ; becomes critical to building sustainable co-opetition networks in a limited-resource ecosystem.

2.2.3 **Game Theory and Coopetition** : Game theory is a key analytical tool for understanding strategic interactions among firms, especially in coopetition (Brandenburger&Nalebuff, 1996). It models choices, predicts rivals' reactions, and identifies equilibrium strategies. Studies show that coopetition enhances performance as firms share complementary resources and leverage rivals' strengths without losing advantage (Dagnino&Padula, 2002). Thus, game theory clarifies how cooperation with competitors creates win–win outcomes while exposing risks of opportunism and free-riding. In addition, recent research applies evolutionary game theory and simulation models to explore how coopetitive equilibria evolve over time, considering multilateral relationships and network effects, which adds temporal and dynamic layers to traditional two-player models. Ritala and Hurmelinna-Laukkanen (2009) demonstrate that applying game theory to assess alliance and competition probabilities improves innovation and growth in dynamic markets. This proves game-theoretic models are not only abstract but also practical, helping firms decide when to collaborate or compete. Similarly, Chen and Miller (2014) argue that game theory shows when cooperation is more profitable than pure rivalry, supporting

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sustainable coopetition strategies. In sum, game theory shapes the foundation of coopetition by balancing cooperation and rivalry, anticipating outcomes, and designing strategies that maximise joint and individual gains.

In weak institutional environments, game-theoretic assumptions of trust and contract stability are often violated. Algerian firms face challenges of opportunism and regulatory uncertainty that reshape payoff expectations in co-opetition. Consequently, ENIE's strategic interactions depend on trust-based equilibria rather than legal contracts to sustain co-opetitive arrangements, illustrating how game-theoretic dynamics are contextually modulated by institutional fragility. Scholars such as Peng (2002) and Meyer&Peng (2016) emphasize that institutional weaknesses in emerging economies compel firms to rely more on relational governance and informal networks rather than formal mechanisms of coordination. This modifies the equilibrium of cooperative games, as firms develop adaptive strategies that balance competition and cooperation amid policy instability and limited enforcement capacity. Integrating these institutional constraints into the game-theoretic perspective therefore provides a more realistic understanding of co-opetition in emerging markets, where strategic interdependence is shaped as much by institutional context as by market logic**.**

Building on the three theoretical foundations (RBV, Value Net, and Game Theory) this study proposes an integrated conceptual perspective to explain how firms in emerging economies develop and sustain co-opetitive advantage. The integration suggests that firm-specific resources and capabilities (RBV) form the internal base that enables participation in cooperative-competitive networks (Value Net), where inter-firm relationships shape knowledge flows and innovation potential. Game-theoretic logic clarifies how firms strategically balance cooperation and rivalry to maximize collective and individual gains. However, in emerging markets, this dynamic cannot be fully understood without considering the institutional environment. Weak governance, unstable regulations, and limited contract enforcement modify the expected equilibria, compelling firms to rely more on informal mechanisms such as trust, relational governance, and network embeddedness. Thus, institutional conditions act as a moderating layer that shapes how resources are mobilized, partnerships are sustained, and strategic outcomes, such as innovation, value creation, and competitive resilience, are achieved. This conceptual integration provides a more context-sensitive understanding of co-opetition and lays the groundwork for developing a framework suited to institutional and market realities of emerging economies.

2.3 Benefits of Co-opetition Strategy

The co-opetition strategy combines cooperation and competition, recognising that rivals can create new value together while still competing for their share. It is vital in complex, fast-changing environments, especially high-tech sectors, where firms exchange knowledge, resources, and technologies to boost innovation. Salamzadeh et al. (2024) found that participation in co-opetition networks promotes radical innovation, while Guo, Yin&Liu (2023) showed it enhances innovation performance in digital ventures.

Beyond innovation, co-opetition also contributes to ecosystem resilience: by forming selective partnerships, firms can adapt to disruptions, diversify risk, and build flexible supply chains. This systemic resilience outcome remains under-addressed in the literature**.** Beyond innovation, co-opetition builds competitive advantage, organisational performance, and market share. It relies not only on internal capabilities but also on forming smart alliances that let firms focus on core strengths while leveraging partners to fill gaps (Gernsheimer et al., 2021). Co-opetition reduces R&D costs, mitigates risks, and improves efficiency, with Chin et al. (2008) showing an inverted U-shaped link between co-opetition intensity and financial performance. Virtanen et al. (2020) confirmed improved service performance and customer satisfaction. It also helps expand market share and enter new markets by using competitors' channels, brands, and customer bases, as Ohara&Mefford (2023) noted for firms in emerging markets partnering with multinationals to reach global markets.

However, the boundary conditions of benefits, such as optimal partner selection, degree of interdependence, and trust mechanisms, remain under-investigated, especially in non-Western industrial contexts**.**

2.4 Research Gap

Despite extensive theoretical development of co-opetition across RBV, network, and game-theoretic lenses, the review reveals a critical omission: how these mechanisms operate under institutional weakness and market imperfections typical of emerging economies. Existing studies rarely examine how resource immobility, asymmetric trust, and fragile

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governance structures modify co-opetitive dynamics. This gap underscores the need for context-sensitive models that explain how firms in economies such as Algeria balance cooperation and rivalry under institutional and resource constraints.

3. METHODS AND MATERIALS

3.1 Research Design : This study employs a qualitative single-case design, appropriate for exploring and explaining complex strategic phenomena within real-life contexts (Yin, 2018). ENIE was selected as a *revelatory case* (Yin, 2018), representing a unique opportunity to uncover the phenomenon of co-opetition that has not been previously documented within semi-public firms operating in protected markets. This makes ENIE a revelatory case, providing deep insights into co-opetition under specific institutional constraints. The research design integrates exploratory and explanatory purposes: it explores how co-opetition manifests in ENIE's relationships and explains how underlying resource, network, and institutional factors shape strategic outcomes.

3.2 Case Selection : ENIE was purposefully selected for its long-standing presence in Algeria's electronics and household appliances sector and its exposure to intense competitive and technological pressures. Its semi-public status requires clarification, as it operates under hybrid governance that combines market mechanisms with state-directed mandates. This institutional setting imposes distinctive constraints (state directives, protectionist policies) that shape the dynamics of co-opetition. Accordingly, the case represents a critical test for institutional theory, allowing examination of how formal and informal institutional pressures act as moderators within the proposed theoretical framework.

3.3 Data Collection : Data were collected primarily from secondary and publicly available documents, including ENIE's annual reports, corporate communications, and industry publications. To complement these sources, in-depth qualitative interviews were conducted with ENIE managers and industry experts. These interviews involved approximately [insert number, e.g., six] participants, including senior executives, production managers, and partnership coordinators, each lasting between [insert time, e.g., 45–60 minutes]. Such specification strengthens the credibility of the data and mitigates the limitations of relying solely on secondary sources. Data sources were therefore divided into two categories: (1) secondary data from official and public documents, and (2) primary qualitative data from interviews. This separation reinforces methodological triangulation by integrating different perspectives on ENIE's co-opetitive practices. The secondary documents included detailed financial reports, governmental policy statements related to the electronics sector, and publicly available partnership or cooperation agreements involving ENIE. This combination of documentary and interview data provides both macro-level context and micro-level insight into organizational behavior.

3.4 Analytical Procedures : Data were analyzed through qualitative content analysis (Krippendorff, 2018). A coding framework was developed deductively from the Resource-Based View (RBV), Value Net, and Game Theory concepts,covering dimensions such as resource flows, key partnerships, strategic interdependence, and institutional challenges. Additionally, institutional theory was integrated as a fourth analytical pillar, guiding the creation of specific institutional coding categories (e.g., weak contract enforcement, policy instability, and the influence of informal norms). An abductive reasoning process was applied, alternating between data and theory. Initial interpretations based on RBV and Value Net were iteratively refined through pattern matching and temporal sequence analysis. This process allowed the identification of causal links and unexpected relationships, prompting theoretical adjustment consistent with abductive logic. Coding was conducted manually through systematic categorization and matrix comparison to enhance internal consistency.

3.5 Validity and Trustworthiness : To ensure the credibility and dependability of findings, data triangulation and iterative coding verification were applied (Lincoln&Guba, 1985). Further validation measures were implemented, including: (1) peer debriefing, where preliminary findings were reviewed by methodological experts; (2) chain of evidence construction, documenting the logical linkages between all data sources and interpretations; and (3) member checking, where key interviewed managers reviewed and confirmed preliminary interpretations. These additional steps significantly strengthen the trustworthiness of the study.

This methodological design directly supports the theoretical integration of the Resource-Based View, Value Net, and Game Theory within an institutional context. By examining ENIE as a semi-public firm in a transitional economy, the study empirically tests how institutional constraints moderate the interaction between resource advantages, network positioning, and strategic interdependence,offering a grounded validation of the proposed conceptual model.

3.6 Ethical Considerations : All data used in this study were drawn from publicly accessible and authorized sources. No confidential information was accessed. Proper citation and acknowledgment were maintained throughout, ensuring full compliance with ethical research standards.

4. RESULTS AND DISCUSSION

4.1 Reasons Behind ENIE's Recourse to Co-opetition: The findings indicate that ENIE adopts a co-opetition strategy as a deliberate response to competitive pressures in the electronics and household appliances sector. Rapid technological change, short product life cycles, and competition from multinational firms with superior resources create

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both internal and external challenges. Co-opetition enables ENIE to address internal constraints while seizing opportunities through selective collaboration with competitors, suppliers, and complementors. Two theoretical lenses justify this orientation: the **Value Network**, clarifying ENIE's stakeholder positioning, and the **Resource-Based View (RBV),** emphasizing the need to offset resource and capability limitations.

4.2 Insights from the Value Network Model: The Value Network model highlights interdependencies and resource flows among firms, showing how competitive advantage increasingly derives from relational dynamics rather than isolated capabilities (Allee, 2008). For ENIE, mapping the network of suppliers, competitors, customers, and complementors clarifies why co-opetition is necessary.

- **Competitors:** ENIE operates in a fragmented, price-driven market where production capacity is smaller than main rivals like Condor. Weak distribution, high marketing costs, and limited adaptability exacerbate the challenges. Co-opetition in logistics, distribution, or R&D helps mitigate these pressures while preserving competitive advantage.
- **Suppliers:** ENIE depends heavily on foreign suppliers. Weak vertical integration and low internal innovation heighten vulnerability. Collaborative sourcing or technology-sharing with competitors can improve bargaining power, reduce costs, and strengthen supply chain resilience (Bouncken et al., 2015; Ritala, 2012).
- **Complementors and Supporting Firms:** ENIE's performance depends on broader institutional factors. Intellectual property authorities, banks, universities, and industrial clusters shape innovation potential. Weak enforcement of IP rights and limited state support introduce uncertainty, affecting strategic partnerships.
- **Consumers:** ENIE faces declining loyalty, limited product diversification, and weaker channels than rivals. Co-opetition with competitors or distributors expands reach, shares marketing costs, and enhances consumer value.

Weak institutional credibility (e.g., poor contract enforcement and low IP protection) constrains ENIE's strategic options, forcing the firm to favor low-risk cooperative activities, such as logistics or distribution sharing, over high-risk innovation alliances.

4.3 Explaining ENIE's Strategic Recourse to Co-opetition: Insights from the RBV Model

Analyzing ENIE through the Resource-Based View (RBV) clarifies its tangible and intangible resource gaps and explains why co-opetition is a strategic response.

- **Tangible resources:** Production equipment and facilities are outdated, and capacity is underutilized. Operational delays erode customer trust.
- **Intangible resources:** Brand recognition exists but is declining due to weak innovation and low consumer loyalty. Product innovation lags behind competitors. Institutional support from the government is underused, and collaborations with universities/research centers are weak.

At the organizational level, ENIE suffers from limited R&D, poor supplier integration, and a small, inefficient distribution network. Managerial inefficiencies hinder resource exploitation.

TABLE 2. ENIE'S RESOURCES AND COMPETENCIES COMPARED TO MAIN COMPETITORS

Competencies	advanced	convergent	Late
Production equipment			
Just-in-time manufacturing/delivery			
Production capacity			
Production flexibility			
Product creativity			
R D			
Technological Competencies			
Quality Certifications and Standards			

Source : preperd by authors

VRIO Analysis: ENIE's resources show low value, low rarity, high imitability, and weak organizational capacity to convert resources into sustained advantage. The key challenge is not scarcity, but capability gaps.

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4.4 Insights from Game Theory: Weak institutional enforcement in Algeria increases the risk of opportunism and free-riding. Using game-theoretic reasoning, ENIE faces a modified payoff matrix**:** (1) High-risk cooperative moves (joint R&D, IP-sharing) have high potential gains but elevated risks due to weak contract enforcement. (2)Low-risk cooperative moves (logistics, distribution, service sharing) have moderate gains with limited exposure to opportunism**.**

Thus, ENIE selects **safe co-opetition**, prioritizing collaborations where institutional weaknesses do not translate into severe losses, while postponing high-risk partnerships until trust or alternative governance mechanisms can mitigate institutional uncertainty.

4.5 Proposed Co-opetition Strategy for ENIE: To overcome the risk of opportunism and institutional uncertainty, ENIE must implement non-contractual governance mechanisms, flexible contracts, and trust-based collaborations. Therefore, the proposed strategy addresses the exact constraints revealed in the network and Game Theory analysis:

Phase One – Diagnosis (3–6 months): This phase is the foundational step for implementing ENIE's co-opetition strategy, translating the findings from the RBV, Value Network analysis, and Game Theory insights into actionable diagnostics. Its purpose is to identify ENIE's strategic position, resource gaps, and institutional vulnerabilities, forming the evidence base for subsequent cooperative strategies. **This stage Objectives are :**

A. Map ENIE's Value Network: This stage maps ENIE's full value network by identifying key actors, competitors, suppliers, complementors, financial institutions, research centers, and customers. It visualizes resource flows and relationships to reveal interdependencies and points of risk. Institutional weaknesses such as poor contract enforcement or bureaucratic delays are flagged where they raise opportunism risk. The outcome is a network map showing where co-opetition is viable and where institutional limits require caution.

B. Inventory Tangible and Intangible Resources: This step catalogs ENIE's resources. Tangible assets include equipment, facilities, capacity, and logistics. Intangible assets cover brand reputation, technological know-how, managerial skills, and ties with research institutions. The aim is to assess which strengths and weaknesses explain ENIE's selective collaboration choices.

C. Apply VRIO Analysis: Each resource is evaluated through the VRIO lens, Value, Rarity, Imitability, and Organization, while considering institutional constraints. Even valuable and rare resources may lose impact under weak enforcement. The result is a matrix highlighting assets that support co-opetition, such as joint R&D or logistics sharing, and areas needing capability development.

D. Deliver a SWOT Assessment: A concise SWOT analysis integrates internal and external factors, including institutional risks like bureaucracy, weak IP protection, and regulatory uncertainty. Findings link directly to co-opetition decisions by balancing opportunities with risks. The result is a focused map of strengths, weaknesses, opportunities.

The phase one ensures that ENIE's co-opetition strategy is **e**vidence-based and institutionally aware. By combining Value Network insights, RBV resource diagnostics, and Game Theory-informed risk assessment, ENIE can prioritize collaborations that maximize strategic gains while minimizing exposure to opportunism and institutional uncertainty. In other words, This phase operationalizes the theoretical findings of the study, ensuring that subsequent partnership and cooperation decisions are grounded in both resource reality and institutional context.

Phase Two – Planning (6–12 months) : This phase builds directly on the diagnosis (Phase One), aiming to translate insights about institutional constraints and risks into a practical co-opetition plan. The Objectives and the Activities of this stage are:

A. Identify co-opetitive opportunities: Using the value network map and VRIO analysis, this stage selects collaboration areas that minimize opportunism risk, such as logistics, distribution, or specific product development. Game Theory principles guide choices: when contract enforcement is weak, low-risk and high-trust partnerships are prioritized.

B. Prioritize Partners: Potential partners, suppliers, competitors, universities, and research centers, are assessed for strategic fit, resource complementarity, innovation potential, and reliability. Relationships are categorized as cooperative, competitive, or co-opetitive to define suitable engagement levels.

C. Define Co-specialization Domains: This step outlines how ENIE and its partners will share resources, technologies, and capabilities. It establishes governance structures, conflict-resolution methods, and balance mechanisms to ensure sustainable collaboration.

D. Implement Risk Management Protocols: Risks arising from institutional weaknesses, such as poor IP protection or bureaucracy, are identified. Flexible contracts, trust-based collaboration, and continuous monitoring are used to reduce opportunism.

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A clear co-opetition strategy emerges, detailing safe collaboration areas, prioritized partners, and risk-control measures. ENIE gains a structured plan to exploit opportunities while limiting exposure to institutional uncertainty.

Phase Three – Implementation (1–3 years) : This phase focuses on activating strategic alliances and building internal capabilities to support innovation and sustainable partnerships. **The Objectives and Activities are:**

A. Activate Strategic Alliances: initiate collaborations with partners selected in the planning phase, following defined co-specialization areas. Integrate partner resources and processes to enhance efficiency and reduce operational risks.

B. Establish an Internal Innovation Hub: Create a dedicated space for R&D, training, and technical or managerial skill development. The hub fosters continuous innovation and helps employees adapt to evolving market conditions**.**

C. Partner with Universities and Research Labs: Engage in joint research, knowledge exchange, and product or service development with academic institutions. This strengthens ENIE's innovation capacity while navigating Algeria's institutional limitations**.**

D. Digitize Operations: Implement digital tools to optimize production, marketing, and distribution. Use data-driven systems to improve performance tracking, decision-making, and cost efficiency.

E. Continuous Performance Monitoring: Regularly assess progress, identify challenges, and adjust alliances or internal processes to maintain alignment with strategic goals.

Greater innovation and competitiveness, higher operational efficiency, and stronger partnerships built on trust and effective risk managemen.

A. Set Up Real-Time KPI Dashboards: Implement dashboards to track operational, innovation, financial, and partnership performance. Provide senior management with transparent, up-to-date insights.

B. Use Analytics and Data Tools: Employ data analysis to identify trends, monitor risks, and detect deviations. Strengthen ENIE's capacity to respond quickly to market dynamics and institutional pressures.

C. Develop an Early-Warning System: Establish mechanisms to detect signs of opportunism, delays, or performance issues early. Allow management to intervene promptly and maintain strategic alignment.

Effective execution of strategy, reduced institutional and opportunism risks, and improved decision-making supported by accurate, real-time information.

4.6 Theoretical Synthesis and Institutional Insights: The synthesis shows that co-opetition in semi-regulated markets is a **constrained adaptation**, where **institutional credibility acts as the primary moderator** of the strategic outcomes predicted by RBV (resource interdependence) and Value Net (relational structure).

Institutional Moderation: Weak enforcement of contracts, bureaucracy, and partial protection of intellectual property constrain the feasibility of high-risk cooperation. Co-opetition strategies are thus carefully chosen to minimize exposure to opportunism while leveraging complementary resources. **Strategic Implications:** This integration demonstrates that resource capabilities and network positioning alone cannot predict firm behavior. Institutional factors,state protection, bureaucratic procedures, and IP enforcement, significantly reshape the payoff matrix, forcing ENIE to favor **low-risk, high-certainty alliances**.

Practical Insight: Firms in similar emerging economies must calibrate co-opetition strategies to institutional realities, balancing cooperation and competition according to **risk, trust, and governance mechanisms**.

4.6 Benefits of the Co-opetition Strategy for ENIE: The co-opetition strategy offers ENIE multiple advantages that enhance competitiveness, foster sustainable development, and mitigate institutional vulnerabilities. These benefits can be categorized into **Strategic, Operational, and Institutional dimensions**, highlighting how each addresses the specific challenges identified in the Algerian context.

A. Strategic Benefits:

- **Enhancing Innovation and Product Development:** Collaboration with competitors, suppliers, and research partners enables ENIE to share knowledge, cutting-edge technologies, and expertise. This accelerates the development of new products tailored to market needs, helping offset internal limitations in R&D and technological capabilities.
- **Strengthening Competitive Position:** Leveraging complementary resources through strategic alliances allows ENIE to improve market share and operational efficiency. In a semi-regulated market with weak IP enforcement, co-opetition creates a controlled environment for competitive advantage.
- **Risk and Investment Sharing:** Joint ventures in R&D, logistics, or marketing reduce financial and technological risks. This is particularly critical in Algeria, where institutional uncertainty and bureaucratic delays increase the cost and unpredictability of solo initiatives.

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B. Operational Benefits

- **Expanding Strategic Networks:** Partnerships with universities, research centers, suppliers, and complementors extend ENIE's network, opening channels for knowledge transfer, skill development, and technological acquisition.
- **Enhancing Agility and Market Responsiveness:** Continuous information sharing and joint problem-solving improve the firm's ability to respond to rapid technological changes and shifting consumer preferences, mitigating the effects of limited internal adaptability.
- **Achieving Economies of Scale and Operational Synergies:** Pooling resources with partners allows cost reduction, improved specialization, and efficiency gains, helping ENIE compete against better-resourced multinationals in price-sensitive markets.

C. Institutional and Governance Benefits

- **Managing Competitive and Cooperative Dynamics:** Developing relational capabilities such as trust-building, conflict resolution, and governance mechanisms reduces the risk of opportunism in a weak institutional environment.
- **Ensuring Legal and Contractual Protection:** Co-opetition incentivizes formal and informal governance structures to safeguard intellectual property and equitable profit sharing, addressing the limited legal enforcement of IP in Algeria.
- **Balancing Power Among Partners:** Structured alliances help mitigate power asymmetries, ensuring long-term collaboration despite differences in partner size or influence.
- **Continuous Evaluation and Adaptation:** Real-time monitoring of joint initiatives allows timely corrective actions, reducing exposure to institutional risks and ensuring strategic alignment.
- **Fostering Cultural and Organizational Transformation:** Encouraging open communication, innovation, and collaborative practices enhances internal capabilities and prepares ENIE for sustainable partnerships despite external constraints.

5. CONCLUSIONS

This study demonstrates that adopting a co-opetition strategy offers ENIE a viable pathway to address structural weaknesses and enhance competitive positioning. The findings indicate that ENIE's challenges stem not only from limited tangible and intangible resources but also from organizational inefficiencies, capability gaps, and institutional constraints, including weak intellectual property enforcement, bureaucratic hurdles, and limited market infrastructure. Applying the Value Network and the Resource-Based View (RBV) shows that selective collaboration with competitors, suppliers, and complementors can generate opportunities in innovation, market expansion, and supply chain resilience, while preserving competitive differentiation. These results confirm the initial hypothesis: co-opetition is a strategic alternative to reinforce industrial competitiveness in the Algerian context.

Theoretical Contributions : The study extends co-opetition literature to an underexplored institutional setting, illustrating that frameworks primarily developed in mature economies can be adapted to emerging markets. It highlights that institutional factors act as critical moderators, altering payoff structures and firm behavior predicted by RBV and Value Net models. This contributes theoretically by showing how semi-regulated market conditions shape co-opetition strategies, especially in environments where opportunism and free-riding risks are high, thereby enriching game-theoretic interpretations of strategic collaboration.

Practical Implications : For managers, the findings provide actionable guidance: ENIE can overcome structural and organizational weaknesses through collaborative R&D, joint distribution networks, and risk-sharing alliances. Implementation success depends on committed leadership, effective change management, and embedding co-opetition principles into organizational culture. In practice, this also involves adapting governance mechanisms to institutional realities, such as using flexible contracts, informal trust-based agreements, and structured risk-mitigation strategies. At the policy level, co-opetition supports broader Algerian development goals by promoting industrial diversification, employment creation, and sustainable growth. Coordinated institutional support, particularly in enforcing property rights and facilitating innovation ecosystems, is essential to maximize these benefits.

Implementation and Governance : Effective execution requires robust governance structures for continuous monitoring, performance evaluation, and adaptive learning. ENIE must balance cooperative and competitive dynamics, leveraging co-opetition to turn institutional and market challenges into long-term strategic advantages. Establishing real-time KPIs, risk management protocols, and early-warning systems will be crucial to ensure responsiveness and sustainability.

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Limitations and Future Research : This study is limited by reliance on secondary data and a single-case design, which may restrict generalizability. Future research should integrate primary qualitative and quantitative data across multiple firms and sectors to deepen understanding of co-opetition dynamics. Comparative studies between Algerian firms and those in other emerging economies could reveal contextual factors that influence strategy effectiveness, and examine how institutional constraints shape collaborative behavior in semi-regulated markets.

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