STRATEGIC ALLIANCES IN THE AGE OF ECOSYSTEM COMPETITION: RETHINKING COLLABORATION, COOPETITION, AND VALUE CO-CREATION

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Abstract

Strategic alliances have been considered by various authors as important tools through which firms have looked to access the complementary resources, improve on innovation and reach more markets. Nonetheless, the rising environmental turbulence, digitization and the factor of ecosystem-based competition have thwarted the traditional alliance model that dwells on dyadic collaboration and transacting efficiency. This paper conceptualizes strategic alliances as dynamic ecosystems and introduces the Alliance Ecosystem Model (AEM), which highlights three interdependent pillars: relational ambidexterity, resource fluidity, and strategic resilience. Relational ambidexterity highlights the capability of the alliance partners to cope with cooperation and competition, that is, coopetition to create value in alliance, and also protect competitive interests. Resource fluidity underlines the flexible re-application of knowledge, technologies and capabilities to partners and platforms so that alliances can be adaptive in rapidly shifting environments. Strategic resilience as the ability to support alliances to survive a disruption, shocks, and recover collectively to a state that can restore long-term competitiveness.

The article contributes to the theoretical discussion by changing the unit of analysis to that of the ecosystem instead of bilateral relationships collaborating with the searching dynamic capabilities theory, paradox theory, and service-dominant logic. It also demonstrates managerial and policy ramifications of adopting alliances not as fixed contractual platforms but co-creation, innovatory and resiliency-conceptualising platforms in flux. Recommended avenues of future research are also suggested such as the empirical operationalization of relational ambidexterity, network-level research of resource mobility, and cross-industry evaluations of resilience performance. Through reframing alliances, based on the AEM, this research will make a contribution to theory and practice by re-positioning alliances as flexible, teamwork infrastructures that support sustained competitive advantages in environments that are complex and uncertain.

Introduction

Digitalization and globalization as well as increased environmental turbulence have deeply transformed the twenty-first century competitive environment. Companies are increasingly appreciating that it is not possible to maintain competitive advantage by merely accumulating internal resources or uni-lateral market action. Rather, the inter-organizational cooperation in a form of a strategic alliance has emerged as a focal strategy option. Alliances are no longer peripheral activities; they are core vehicles for innovation, market access, and resilience (Lavie, Haunschild, & Khanna, 2021). Strategic alliances, broadly defined as voluntary, long-term, and often contractual relationships between firms aimed at resource sharing and joint value creation, have moved from being optional to becoming essential in industries ranging from pharmaceuticals to digital platforms (Gulati, Wohlgezogen, & Zhelyazkov, 2022).

Historically, scholarship has viewed alliances as dyadic agreements between firms designed to reduce transaction costs, mitigate risks, or pool complementary resources (Dyer, Kale, & Singh, 2018). Although useful, such framing is likely to underrate the dynamic, ecosystemic, and behavioral aspects of alliances in the new environment. The traditional focus on contract governance, opportunism mitigation, and resource complementarity does not fully capture the reality of alliances in settings characterized by technological disruption, environmental uncertainty, and the rise of platform-based competition (Jacobides, Cennamo, & Gawer, 2018). For example, alliances in the digital economy often involve multiple players—including competitors—who co-create and co-capture value through joint ecosystems, making traditional dyadic perspectives insufficient (Adner, 2021).

The evolvent character of competition demands the evolution of the concept of alliances through the way to think about it. Increasingly, firms are no longer competing as isolated entities but as members of broader ecosystems, where the locus of advantage lies in the configuration of interdependent relationships (Shipilov & Gawer, 2020). In this context, strategic alliances are more than mere bilateral arrangements, which are in-built sources of ecosystem orchestration. This raises critical questions: How can firms manage the dual tension of cooperation and competition (coopetition) within alliances? What can alliances do to make them flexible in turbulent environments? How can alliances make contributions to not only short-term earnings, but to long-term resilience and sustained value-co-creation?

Based on this understanding, the paper contends that these questions cannot be answered without reframing the alliances in terms of three inter-linked dimensions relational ambidexterity, resource fluidity and strategic resilience. Relational ambidexterity captures the ability of alliance partners to simultaneously collaborate and compete, building on the emerging literature on coopetition and ambidextrous leadership (Bouncken, Fredrich, & Kraus, 2020). Resource fluidity refers to the capacity of alliances to flexibly reconfigure and redeploy resources across partners as environmental demands shift, a concept linked to

dynamic capabilities theory (Teece, Peteraf, & Leih, 2016). Strategic resilience reflects the ability of alliances to absorb shocks, adapt, and sustain value creation under uncertainty, extending beyond traditional performance metrics such as efficiency or profitability (Lengnick-Hall, Beck, & Lengnick-Hall, 2021).

Collectively, these dimensions offer a conceptual framework on which alliances become the new adaptive mechanisms based on ecosystems of competitive advantage.

This conceptual paper attempts to contribute to the discussion on strategic alliances by placing the same within the context of the new era of competition, i.e. the era of ecosystem competition. In particular, this paper aims at:

1. Critically analyze conventional views of alliances and point out the weaknesses of the view in reflecting present reality.

2. Combine the perspectives on dynamic capabilities, ecosystem strategy and behavioral strategy in building a more textured conceptualization of alliances.

3. Put forward a theoretical model of alliance operation that touches on relational ambidexterity, resource fluidity and strategic resilience.

4. Provide theoretical and practical implication and future lines of research to instruct the academic people and managers within using alliances to gain competitive advantage.

This is a welcome and relevant contribution both to academia and practice. From a scholarly standpoint, alliance research remains fragmented, with significant gaps in integrating ecosystem and behavioral perspectives (Lavie, 2021; Gulati et al., 2022). From a managerial standpoint, alliances are increasingly central to value creation in industries such as digital platforms, renewable energy, and biotechnology, where no single firm can innovate or compete effectively in isolation (Adner, 2021). There is a need to understand how coalitions may be constituted and managed to create resilience and enduring benefit of course.

The rest of the paper consists of the following structure. The second section provides a review of current literature on strategic alliances, highlighting not only the timeless knowledge, but also the modern shortcoming. Section 3 gives the theoretical background behind the study which includes dynamic capabilities, and ecosystem strategy, behavioral strategy. In section 4, the framework of alliance ecosystems is established and a relationship between aspects of relational ambidexterity, resource fluidity and strategic resilience is discussed. The theoretical, managerial and policy implications of the model are discussed under Section 5 with Section 6 concluding by indicating contributions and routes of future research.

Contributing to the on-going debate on the ability of firms to intensify their competitive advantage in a landscape characterized by discontinuity, uncertainty, and complexity, this paper is relevant because it re-frames strategic alliances in the age of ecosystem competition.

2. Literature Review
2.1 Traditional Perspectives on Strategic Alliances

Strategic alliances have long been conceptualized as voluntary, inter-firm agreements designed to achieve objectives that individual firms could not accomplish independently (Dyer, Kale, & Singh, 2018). Early research on alliances drew heavily from the transaction cost economics (TCE) perspective (Williamson, 1985), which viewed alliances primarily as

governance mechanisms for mitigating opportunism and reducing transaction costs. The alliances were therefore the forms of organization in the middleway between the market and hierarchy. Contracts and monitoring became the key instruments of alliance stability and efficacy in this perspective.

Another dominant framework has been the resource-based view (RBV), which conceptualizes alliances as vehicles for accessing complementary resources and capabilities (Barney, 1991). In such a framing, alliances facilitate resource sharing and learning, and thus the competitive advantage of firms. This was later extended by the knowledge-based view, emphasizing the role of alliances in knowledge acquisition, transfer, and integration (Grant & Baden-Fuller, 2004).

A third classical perspective is the relational view of strategy (Dyer & Singh, 1998), which shifted focus from firm-level resources to inter-firm relationships. Alliance partners, under this perspective, are able to obtain relational rents-supernormal returns that are created in conjunction with joint investments in relation-specific assets, knowledge sharing, bundling of complementary resources, and coordination mechanisms through effective governance mechanisms. This school of thought focused on trust, collaboration, and governance of the relationships as key to the success of alliances.

Although these views are in essence fundamental, they usually tend to be dyadic, static and efficiency-oriented. They primarily address how alliances can mitigate risks or provide access to complementary resources, but offer limited insight into the dynamic, multi-party, and ecosystemic nature of alliances in contemporary business environments (Lavie, 2021).

2.2 Emerging Perspectives: Eco systemic and Networked Alliances

The shortcomings of the traditional perspectives have created a recent explosion of studies on alliances as part of extended ecosystems. An ecosystem perspective emphasizes that firms do not operate in isolation but are embedded within networks of interdependent actors—including competitors, suppliers, customers, and regulators—who jointly co-create and co-capture value (Adner, 2021).

The ecosystem-based partnerships become especially germane in platform economies, where the digital technologies enable relationships among various actors to be multi-sided. For instance, alliances in the automotive sector increasingly involve technology firms, software providers, and energy companies in the co-development of electric vehicles and mobility services (Jacobides, Cennamo, & Gawer, 2018). Similarly, in healthcare, alliances among pharmaceutical firms, biotech startups, and digital platforms are redefining innovation pathways (Shipilov & Gawer, 2020).

Unlike dyadic alliances, ecosystems require orchestration capabilities, where focal firms act as orchestrators to align incentives, coordinate complementarities, and manage interdependencies (Adner & Kapoor, 2016). This implies that alliances are not merely bilateral contracts but nodes in larger systems of co-creation, where competitive advantage derives from ecosystem positioning and coordination (Cennamo, 2021).

2.3 Coopetition in Alliances

Another emerging dimension of alliances is coopetition—the simultaneous pursuit of cooperation and competition among firms (Bouncken, Fredrich, & Kraus, 2020). The conventional theory was hinged on the notion that there were alliances amongst non-competitive firms where there was complementary ownership. Nonetheless, a lot of current alliances entail direct rivals, especially within technology–intensive sectors. Indicatively, Apple and Samsung have been close rivals in the smart phone market yet they have been collaborating simultaneously in the components supply chain.

Coopetition presents special challenges in governance since coopetition involves joining together with a cooperative spirit with competitive dynamics. Research suggests that effective coopetition requires relational ambidexterity—the ability to balance trust and openness with vigilance and control (Raza-Ullah, Bengtsson, & Kock, 2020). It is not enough to manage coopetition in terms of eliminating opportunism since it is also the aspect of competitive tension that brings about innovation. This is especially applicable to dynamic environments where partners need to keep innovating in a bid to save the core knowledge.

2.4 Behavioral Perspectives on Alliances

In addition to the structural and economic approaches, new studies also emphasize the behavior patterns that influence results of the alliance. Contracts and resources do not govern alliances alone but also the cognitive biases, the heuristics and even social behaviors of the managers.

For instance, bounded rationality limits managers' ability to foresee alliance contingencies, making adaptability and trust crucial (Simon, 1997; revisited by Puranam & Vanneste, 2019). Similarly, prospect theory implies that risk preferences and loss aversion influence alliance formation and dissolution (Kahneman & Tversky, 1979; re-examined by Malhotra & Lumineau, 2019). Behavioral research also shows that inter-firm trust, cultural alignment, and learning orientation strongly shape alliance performance (Kale, Singh, & Howard, 2020). More recently, microfoundational approaches to alliance research examine how individual-level decision-making, managerial cognition, and relational skills aggregate to alliance-level outcomes (Foss & Lind, 2021). This is an emphasis that alliances are not merely institutional formations, but rather social creations of partnerships that are put into practice through behavior.

2.5 Dynamic Capabilities and Alliance Adaptation

The study of alliances in the traditional literature mainly considered alliances as being fixed. Nevertheless, the current scientific studies emphasize that alliances have to dynamically respond to environmental changes. Drawing on dynamic capabilities theory (Teece, Peteraf, & Leih, 2016), scholars argue that successful alliances hinge on sensing opportunities, seizing complementarities, and reconfiguring resources.

This has led to the concept of alliance capability—a firm's ability to effectively form, manage, and reconfigure alliances (Schilke & Goerzen, 2010; extended by Schreiner, Kale, & Corsten, 2020). Such routines as selection of partners, knowledge sharing, conflict

resolution and termination of alliances fall under the alliance capability. Recent work emphasizes that in volatile contexts, alliance capability must include resource fluidity—the ability to flexibly reallocate and recombine resources across partners (Doz & Hamel, 2020).

2.6 Critiques and Gaps in the Literature

Although there has been a rich progress in alliance research, there exist a number of gaps:

1. Dyadic Bias: Much alliance research still focuses on dyadic partnerships, underestimating multi-party and ecosystem contexts (Lavie, 2021).

2. Static Assumptions: Traditional studies often assume alliances are stable, overlooking the need for continuous adaptation (Doz & Hamel, 2020).

3. Limited Integration of Behavioral Insights: While behavioral strategy is gaining traction, it is not yet fully integrated into alliance theory (Puranam & Vanneste, 2019).

4. Neglect of Resilience: Most alliance studies emphasize efficiency and innovation outcomes, with limited focus on how alliances build strategic resilience in turbulent contexts (Lengnick-Hall, Beck, & Lengnick-Hall, 2021).

2.7 Towards a New Conceptualization

The above review implies the necessity to establish more integrative model which:

Transcends dyadic and contractual approach to an ecosystem approach.

Vegis in worship, Is banished from the ways Of old magicians; his twofold science, In coopetition, is a thing of scorn; And ambidexterity to be avouched In friendship, or in love: yet oftentimes Chance favors those that never seek, Nor crafty duty, for some treatise old. Yea great ambidexterity doth win Oftentimes that which no treatise can.

and involves utilization of behavioral dynamics and structural and economic explanations.

Reports adaptability and resilience as important effects of an alliance.

This paper addresses these gaps by suggesting a conceptual model that treats strategic alliance as ecosystemic platforms of value co-creation based on three pillars, including relational ambidexterity, resource fluidity and strategic resilience.

3. Theoretical Foundations

3.1 Dynamic Capabilities Theory

The dynamic capabilities (DC) framework provides one of the most influential perspectives for understanding how firms achieve and sustain competitive advantage in rapidly changing environments (Teece, Peteraf, & Leih, 2016). Unlike the resource-based view (RBV), which emphasizes the possession of valuable, rare, inimitable, and non-substitutable resources (Barney, 1991), dynamic capabilities focus on the processes through which firms sense opportunities, seize them, and reconfigure resources to adapt to shifting conditions.

Dynamic capabilities are critical in the environment of strategic alliances as alliances are themselves vehicles of resource reconfiguration. Firms enter alliances not only to access complementary assets but also to learn, co-innovate, and enhance adaptability (Schilke, Hu, & Helfat, 2018). Alliance capability—a sub-category of dynamic capabilities—captures a

firm's ability to effectively form, manage, and reconfigure alliances over time (Schreiner, Kale, & Corsten, 2020).

Recent scholarship emphasizes that alliance success increasingly depends on resource fluidity, which refers to the flexible redeployment and recombination of resources across alliance partners (Doz & Hamel, 2020). In dynamic environments, the loss of flexibility in the alliance structure due to robustness turns into a liability, and fluid arrangements enable the partners to quickly respond to opportunities and threats. Consequently, the dynamic capabilities framework is an approach that theoretically grounds alliance contributions to competitive advantage as a dynamic and continual process of adapting and re-configuring alliances, as opposed to stagnant efficiency advantages.

3.2 Ecosystem Strategy

Even though dynamic capabilities describes how firms and alliances adjust, ecosystem strategy poses greater consideration in the basket that the alliances have settled in to. An ecosystem can be defined as a set of interdependent organizations that jointly create and capture value through both cooperation and competition (Adner, 2021). Unlike value chains, which emphasize linear flows of goods and services, ecosystems are characterized by multilateral interdependencies, complementarities, and co-evolution (Jacobides, Cennamo, & Gawer, 2018).

Under this model, strategic alliances are no longer stand-alone pairs of relationships but ecosystem points. Firms form alliances to strengthen their ecosystem position, orchestrate complementarities, and shape industry evolution (Cennamo, 2021). To take a familiar example, the platforms of Amazon, Apple, and Alibaba are designed mainly with alliance opportunities with third-party developers, suppliers, and service providers to augment their ecosystems. Similarly, in renewable energy, alliances among technology firms, energy utilities, and governments enable systemic transitions toward sustainability (Shipilov & Gawer, 2020).

This ecosystem perspective brings into play a number of valuable things to the alliance theory:

1. Orchestration: Firms often act as orchestrators, aligning the interests of diverse partners, setting standards, and coordinating complementarities (Adner & Kapoor, 2016).

2. Coopetition: Ecosystems frequently involve simultaneous collaboration and competition, requiring firms to manage paradoxical tensions (Ritala, Kraus, & Bouncken, 2021).

3. Value Co-Creation and Capture: Ecosystems highlight the dual challenge of jointly creating value while ensuring fair distribution among partners (Jacobides et al., 2018).

By placing alliances in context of ecosystems, we extend the dyadic bias of classical alliance studies and acknowledge that competitive advantage is increasingly determined by positioning and orchestration within ecosystems, rather than the advantages of firms or bilateral pairs of partners on their own.

3.3 Behavioral Strategy

The third theoretical foundation is behavioral strategy, which integrates insights from psychology, behavioral economics, and organizational theory to explain strategic decision-making (Powell, Lovallo, & Fox, 2011). Behavioral strategy directs the attention to the fact that managers are not ideal rational agents with boundless rationality but are limited by bounded rationality, cognitive biases, and social interactions.

Behavioral strategy plays an important role in alliance context since alliances are relations that are socially built on the basis of trust, perception and managerial opinion. There are few behavioral observations that are especially applicable:

1. Bounded Rationality: Managers cannot fully anticipate alliance contingencies, making adaptability and learning critical (Puranam & Vanneste, 2019).

2. Trust and Relational Governance: Alliances often rely on informal trust-based governance alongside formal contracts, which helps manage uncertainty and opportunism (Kale, Singh, & Howard, 2020).

3. Risk Perceptions and Prospect Theory: Alliance formation and termination are influenced by how managers perceive risks and losses (Malhotra & Lumineau, 2019).

4. Micro foundations: Managerial cognition, negotiation skills, and social capital significantly affect alliance outcomes (Foss & Lind, 2021).

The problem of coopetition is also clarified with the help of behavioral perspectives. Collaborating with competitors requires managing paradoxical tensions, where cognitive flexibility, openness to paradox, and relational skills become critical (Raza-Ullah, Bengtsson, & Kock, 2020). Therefore, behavioral strategy complements theory of alliance because it puts more emphasis on human and cognitive aspects of collaboration, which most structural/economic approaches ignore.

3.4 Integrating the Theoretical Foundations

Considered collectively, such three theoretical perspective as dynamic capabilities, ecosystem strategy, and behavioral strategy give a powerful basis upon which strategic alliances may be revisited in an era of ecosystem competitions.

Dynamic capabilities reveal to us that alliances help in the continual adaptations by resource fluidity and alliance capability.

Looking at the ecosystem strategy, we see the role of alliances as nodes within more general networks of interdependence, in which orchestration and coopetition are both relevant to the creation of competitive advantage.

Based on behavioral strategy we realize the significance of cognitive intelligence of the managers, trust and the ability of the manager to maintain ambidextrous relationships in controlling alliances effectively.

The synthesis of these views implies a proposal of conceptualizing alliances as ecosystems-based adaptive systems whose success depends on both the structural governance or/and resource complementarity, as well as behavior patterns, fluidity of available resources, and resilience.

This synthesis preconditions the conceptual framework of this paper, which unfolds Section 4, and it elaborates the Alliance Ecosystem Model with three central pillars namely: relational ambidexterity, resource fluidity, and strategic resilience.

4. Conceptual Framework

This section introduces the Alliance Ecosystem Model (AEM), centered on three interlinked pillars: Relational Ambidexterity, Resource Fluidity, and Strategic Resilience. Each is grounded in the theoretical foundations (dynamic capabilities, ecosystem strategy, and behavioral strategy) and addresses gaps identified in the literature. I'll also introduce conceptual propositions (since this is not empirical).

4.1 Alliance Ecosystem Model (AEM): Overview

The Alliance Ecosystem Model (AEM) conceptualizes strategic alliances as ecosystem-based adaptive mechanisms that enable firms to thrive in turbulent, digital, and highly interconnected environments. The AEM de-emphasizes the traditional contract-oriented, dyadic views to accentuate the fact that alliances succeed because:

1. Relational Ambidexterity -control of collaboration and competition between partners.
2. Resource Fluidity skirt nature of flexibly redeploying and reconfiguring resources among partners.
3. Strategic resilience - the ability to absorb shocks and adapt and endure long-term value creation.

These three pillars work with each other to help build a system in which alliances are not a fixed contract, but an active, evolving ecosystem.

Conceptual Figure (described): Imagine a triangle, with each corner representing one pillar (Relational Ambidexterity, Resource Fluidity, Strategic Resilience). The core is Alliance Ecosystem Advantage. Three pillars connected with arrows portray the pillars interdependence.

4.2 Relational Ambidexterity

Definition: Relational ambidexterity involves the ability of alliance partners to be both cooperative and competitive at the same time (coopetition), by productively dealing with paradoxical tensions.

Based on ecosystem strategy, it is expected to have a coopetition since partners are frequently competing with each other in one way or another, but they must be collaborating in another (Ritala, Kraus, & Bouncken, 2021).

Based on behavioral strategy, relational ambidexterity demands cognitive flexibility skills, trust-building skills, and paradox management skills (Raza-Ullah, Bengtsson, & Kock, 2020).

Relational ambidexterity then can be seen in dynamic capabilities as the capability to sense competitive threats as well as capture collaborative possibilities within the alliances.

Mechanisms of Relational Ambidexterity:

Trust and Vigilance: Establishing relational confidence and vigilance of the competitive risks at the same time.

Governance Balance: A mix of contractual precautions and relational processes of governance.

Orientation of Learning Orientation: Using coopetition to promote innovation and Knowledge sharing.

Proposition 1: The level of relational ambidexterity present in strategic alliances such as the combination of cooperation and competition will enable the achievement of higher innovation and long-term performance in an ecosystem situation compared to alliances focused in one dimension at the cost of the other.

4.3 Resource Fluidity

Definition: Fluidity of resource is the capacity of the partners in the alliance to resource in a flexible manner reallocation, re-combination, and redeployment of resources to achieve flexibility across organizational and eco-system borders.

Resource fluidity as the reconfiguration dynamic capability dimension allows quick response to change with components becoming fluid in nature (Teece, Peteraf, & Leih, 2016).

Based on ecosystem strategy, fluidity enables firms to donate resources on an on-demand basis to changing ecosystem requirements (Adner, 2021). In the behavioral terms, the resource fluidity is based on managers readiness to share, co-develop, and re-purpose the resources that are determined by trust and impression of equilibrium.

Resource Fluidity mechanisms:

Modular Resource Structures: To make ready assets and capabilities to be transferred easily around the alliance.

Knowledge Mobility: Making knowledge transfer and the incorporation of knowledge among partners.

Agile Governance: Engagement of an adaptive contracting and agile coordination processes.

Proposition 2: The alliance typified with more resource fluidity will have better adjustment to environmental turbulence as well as strong ability in value co-creation compared to an alliance whose resource allocation is rigid.

4.4 Strategic Resilience

Definition: Strategic resilience is the capacity of alliances to predict, absorb and adapt to shocks in the process of continuing to create value in the long run.

Resilience is continuous sensing and reconfiguration, within dynamic capabilities.

Distributed interdependencies-the ecosystem strategy gives rise to resilience as alliances enhance capability to absorb the shock collectively (Jacobides et al., 2018).

Under behavioral strategy, trust, commitment and the capacity of the partners in favoring short-term sacrifices as a means to long-term benefits reinforce resilience.

Strategic Resilience:
Redundancy and Slack: The keeping of flexible buffers between the partners.
Collective Risk Sharing: Sharing risk at the ecosystem of the alliance.
Adaptive Learning: Putting the lessons of crises into the everyday practice of alliances.
Proposition 3: Strategically resilient alliances, those that create redundancy, share risk, and adapt through learning, will be superior to alliances that are concerned with short-term efficiency alone, especially in turbulent dynamic worlds.

4.5 Interaction between the Three Pillars
The three principles of the AEM do not exclude each other:
Relational Ambidexterity and Resource Fluidity: Trust and paradox management lead to openness and resource sharing and reallocation is possible.

Resource Fluidity and Strategic Resilience:-
Fluidity of resources is a characteristic that describes resource deployment and flexibility, which can disperse as the strategic reacts to shocks responsively. This leads to resilience.
Strategic Resilience and Relational Ambidexterity Enduring Partnerships enhance the capacity to handle competitiveness pressures in the situations of crisis.
Proposition 4: The positive influence between relational ambidexterity and resource fluidity, and strategic resilience implies synergy that yields a higher order capability-alliance ecosystem advantage-enhancing firm-level, and ecosystem-level competitiveness.

4.6 Contributions of the Conceptual Model
The Alliance Ecosystem Model (AEM) has added to the literature about strategic alliance in that it:
1. Reinterpreting alliances as ecosystemetic and dynamic, at the expense of a dyadic and static stance.
2. Illuminating relational ambidexterity as an aspect of the paradoxical relationship between alliances.
3. Including the resource fluidity as an important process of alliance flexibilities.
4. Broaden the outcomes of alliance to strategic resilience and not only efficiency or innovation.
Through the combination of those insights, the model offers a conceptual guide both to academicians and practitioners trying to realise how alliances help in enhancing competitive advantage in the era of ecosystem competition.

5. Discussion
The conceptual framework created in present paper evolves the literature on the strategic alliances by re-placing it inside the greater actualities of ecosystem competition, digitalization and environmental turbulence. The focus on the aspects of relational ambidexterity, resource fluidity, and resource resilience expands current theories and provides practical advice to managers and policy makers by the Alliance Ecosystem Model

(AEM). This part talks about these contributions in three areas, which include theoretical contributions, managerial implications and policy implications.

5.1 Theoretical Contributions
5.1.1 Moving Beyond Dyadic Views of Alliances

The application of traditional methods of alliance research has tended to focus on the perspective that alliances represent a dyadic relationship between two firms. Although such a lens has been productive, its use constrains the way we can think of alliances in the situation in which competition is more and more likely to happen across a network of inter-dependent actors (Jacobides, Cennamo, & Gawer, 2018). The AEM adds by rethinking alliances as nodes in ecosystems, the value of an alliance becomes no longer a purely bilateral benefit but rather a matter of ecosystem formations and positioning.

The current shift is consistent with and builds upon the ecosystem strategy literature, which contains a similar message: Firms compete not as individuals but as systems of interdependent members (Adner, 2021). Through the adoption of this view in the research of alliances, the AEM motivates researchers to study how alliances are operating in coordinating ecosystems, balancing coopetition, and constructing collective resilience in addition to sharing resources.

5.1.2 Articulating Structural and Behavior Perspectives

The second contribution of the AEM is that the behavioral-strategic insights are incorporated into structural and economic accounts of alliances. Alliance research has tended to focus resources much on governance arrangements, contracts, and resource complementarities and insufficient attention in alliance formation on the human, cognitive and social interventions. Relational ambidexterity concept adds a behavioral aspect with the idea that managers should exercise the mental plasticity to handle paradoxical tensions between cooperation and competition (Raza-Ullah, Bengtsson, & Kock, 2020). Likewise, fluidity of resources is not only a structural property, but one that thrives on trust in managers, feels of equity and readiness to share knowledge. Therefore, the AEM offers a more detailed description of allianceslected by agreeing that the micro-foundations of behavior and the structural mechanisms effecting alliance performance are not mutually exclusive but rather interrelate.

5.1.3 Expanding Alliance Outcomes to Include Resilience

In analogy research, the outcomes are usually quantified by way of effectiveness, innovation and performance (finance) (Dyer, Kale, & Singh, 2018). The AEM conceptualizes strategic resilience as a highly important consequence of alliances especially in the turbulent environment. Alliances may endure value creation through shock-resistant risk-sharing and resilience by collectively adapting in industries disrupted by crises (e.g. pandemic, geopolitical crisis, or technological revolutions). This focus on resilience builds on dynamic capabilities theory (Teece, Peteraf, & Leih, 2016) and couples with an emerging body of research on resilience as a topic in strategy and organization studies (Lengnick-Hall, Beck,

& Lengnick-Hall, 2021). Repackaging resilience as an outcome at the level of alliances, the AEM points to the power of inter-firm coordination in reinforcing systemic contingency.

5.1.4 Theoretical Integration
The AEM therefore contributes to the alliance theory on three grounds:
1. Ecosystem integration - principal to dyadic alliances to ecosystemic positioning.
2. Behavioral integration - Binding cognition, trust and managing paradoxes into the theory of alliances.
3. Political resilience integration- scoping alliance benefits to ongoing flexibility.
In combination, these contributions create the framework on the comprehensive dynamic analysis of the way alliances operate in the modern business environment.

5.2 Managerial Implications
5.2.1 Designing for Relational Ambidexterity
Managers must recognize that alliances in ecosystem contexts are inherently paradoxical, involving both collaboration and competition. The ability to cultivate relational ambidexterity is therefore a critical managerial skill. This involves:
Balancing Trust and Control: Managers should establish trust-based relationships while maintaining contractual safeguards to protect competitive interests.
Encouraging Open Innovation: Coopetition should be framed as a driver of innovation, not merely a source of risk. For example, firms in the automotive and technology industries can simultaneously share research while differentiating in commercialization strategies.
Developing Paradox Mindsets: Training managers to embrace paradox rather than avoid it can help them navigate alliance tensions constructively.

5.2.2 Building Resource Fluidity
Managers must design alliances with flexible resource structures that can adapt to shifting conditions. This requires:
Modular Resource Design: Structuring capabilities and assets in ways that can be redeployed across multiple alliances or ecosystem contexts.
Knowledge Mobility: Establishing processes for sharing, integrating, and protecting knowledge across partners.
Agile Governance: Creating flexible contracts and adaptive coordination mechanisms that allow for resource reallocation as opportunities emerge.
Such practices enable alliances to avoid rigidity and capitalize on emerging opportunities in dynamic environments.

5.2.3 Enhancing Strategic Resilience
The AEM is proposing that resilience ought to be considered an alliance and not an afterthought by managers. Practical measures are:
Collective Risk Management: The spreading of risks among the partners via the means of either collective investing, insurance or redundancy system.

Crisis Simulation and Preparedness: Simultaneously participating in scenario planning and crisis simulation to develop the adaptive capacity.

Long-Term Orientation: A move by managers away of a short-term efficiency standpoint extends to a long-term resiliency perspective where alliances are built with the ability to withstand shocks and the creation of value.

Through incorporation of resilience in alliance governance, managers are able to set their organizations in a position to absorb the shocks without dropping the competitive advantage.

5.3 Policy Implications

Strategic alliances are not a matter that is confined to the still-room patching together of monied-persons; they influence the course of general economic and social results. The AEM has a number of implications to the regulators and policymakers:

1. Incentivizing Cross-Sector Collaborations: Governments can help foster cross-industry collaboration between firms (e.g. technology, energy, healthcare) to deal with grand challenges (e.g. climate change, universal health crises).

2. Striking a Balance: Regulators are to be extremely cautious to frame policies that facilitate coopetition but not collusion, and anti-competitive behaviors. To illustrate, the competition agencies ought to make a difference between alliances that encourage innovation and those that restrain competition in the market.

3. Encouraging Ecosystem Resilience: Policymakers can reward coalitions supporting broader-based resilience in the ecosystem, including supply chain diversification, green transitions and digital infrastructure building.

4. Promoting Knowledge Sharing: Public policy can facilitate the alliances that pre-competition leads to sharing of knowledge in areas such as biotechnology, cybersecurity, clean energy, thus fast-track innovation in the society.

Incorporating regulatory structures that best fit the realities of the alliance ecosystem, the policymakers will be able to create environments in which firms work together to thrive with healthy competition.

5.4 New Research Directions That Arise out of the Model

The AEM presents various opportunities on the way of further empirical research:

Operationalizing and Measurement of Relational Ambidexterity: What is the way to measure and operationalize related balance of cooperation and competition in alliances by researchers?

The Evaluation of Resource Fluidity Probed: What organizational forms, and governance systems facilitate high resource fluidity within alliances?

Measuring Resilience Results: What is the value of alliances on resilience at the firm level and ecosystem level and in crisis times?

Exploring Cross-Cultural Dynamics: What are the variations of relational ambidexterity by cross-cultural and institutional context?

Longitudinal Research: what are the methods of alliance change over time to maintain resilience and competitive advantage?

These questions point to the possibility of such qualitative and quantitative research that test and adjust the AEM in a variety of settings.

5.5 Discussion

The exclusion of the integration of approaches of dynamic capabilities and concept of strategic alignment with ecosystem strategy and behavioral strategy to address understanding of alliances in the light of strategic alliances is filled in by the Alliance Ecosystem Model (AEM). Not only is its focus on relational ambidexterity, resource fluidity and strategic resilience an addition to theory based discussions, it also provides insightful prescriptions that managers and policymakers can undertake. The model offers a perspective on gleaning competitive edge because it adds perspective on ecosystems-based adaptive rules using reframe alliances, to the more timely and comprehensive perspective on how firms can hone competitive edge in the face of turbulent, disruptive, and complex environments.6. Conclusion and Future Research Directions

6.1 Conclusion

This paper aimed to assess how strategic alliances could be re conceptualised as means to achieve competitive sustainability amidst environmental turbulence, digitalisation, and ecosystem-based competition. Forming the basis on the existing research in strategic management, dynamic capabilities, and theory of alliance, the paper has suggested the Alliance Ecosystem Model (AEM) that is based on three major pillars of relational ambidexterity, resource fluidity, and strategic resilience.

In a number of ways, the proposed model contributes to the research on the alliances. First, it changes the analytical perspective of understanding alliances to a dyadic to an eco-systemic perspective with the acknowledgments that alliances are nodes in larger constellations of the interdependent actors. Second, it adds a behavioral aspect to it which includes paradox management and trust in maintaining collaborative relationships in coopetition conditions circumstances. Third, it expands alliance outcomes beyond their short-term efficiency and superiority in innovation to incorporate resilience, and in doing so, emphasizes the ability of alliances to survive shocks by collectively adapting and delivering value persistence.

To managers, the AEM reiterates the need of balancing cooperation and competition, creating flexible resource allocation and incorporating resilience- building practices in governance of the alliance. In the context of policymakers, the model would indicate a need to design regulatory frameworks that would allow innovation-charged partnerships without compromising a competitive level playing field, and promoting ecosystem robustness.

At a time when disruptions, in the form of pandemics and geopolitical shocks, climate change and technological disruptions are coming ever more regularly, the AEM offers a contemporary and comprehensive theory of how to re-consider alliances as no longer a fixed bargain, but as rather a dynamic, adaptive flexibility mechanisms that are central to competitive strategy.

6.2 Future Research Directions

The theoretical ideas that the paper presents are open to various empirical investigations and theoretic refinements. It is possible to continue the AEM with the following provisions in the future:

6.2.1 How to operationalize Relational Ambidexterity

Although ample literature on ambidexterity at the organizational level exist, not much has been said of its occurrence in alliances. Future research may come up with measurement tools to capture the process of managers simultaneously seeking cooperation and competition in alliances. Further longitudinal and cross-industry research would also help to understand in which situations relational ambidexterity would be more likely to lead to better innovation and resilience outcomes.

6.2.2 Exploring Resource Fluidity in alliances

Resource fluidity is not a much explored construct in alliance studies. The potential research areas of the future enquiry would be the way in which the structures of governance, digital channels, and trust-creating systems shape the mobility of knowledge, technologies, and other resources among alliances. An industry-specific comparative case study of biotechnology, fin-tech and energy sector may indicate the contextual drivers and limitations of resource fluidity.

6.2.3 Measuring the Applications of Alliances to Resilience

A future study should focus on how the alliances contribute to resilience, both at the level of a firm, ecosystem and the society. As an example, in times of global supply chain disruptions, which multi-faceted alliance structures and governance mechanisms are most suitable in buffering against systemic shocks? The hybridization of simulation modeling, network analysis, and the survey-based research might provide profound information on the outcomes of resilience.

6.2.4 Considering the Cross-Cultural and Institutional differences

Relational ambidexterity, resource fluidity and resilience is likely to have different forms in different cultural and institutional frameworks. As an illustration, in high-trust societies, collaboration does not necessarily need to be contracted and secured as in a low-trust setting. The nature of the comparative analysis of both developed and emerging economies may reveal the role played by institutional frameworks in shaping the forces of alliance ecosystems.

6.2.5 Exploring Digital and Platform-Based Alliances

The flexibilities of the various digital platforms are becoming the infrastructure of new alliances. Future studies may examine the extent to which platform-based ecosystems, e.g. those in e-commerce, mobility, and healthcare can enable and/or inhibit relational

ambidexterity and fluidity of resources. Also, what roles do digital solutions like AI, block chain and big data analytics play in making alliances more resilient in turbulent contexts?

6.2.6 Studies that Monitor Longitudinally and Network-Based Studies
As so many alliances in the free market are dynamic in nature, the research conducted in the future must utilize longitudinal designs to determine the changes in alliances over time. It is also possible to adapt network-based methods to examine how alliances jointly influence ecosystem positioning, innovation diffusion and resilience building. Such strategies may shift alliance research on a firm-level outcome to ensemble-level dynamics.

6.3 Closing Statement
It is important to reconsider the role alliances play in providing competitive advantage since the turbulent nature of international business continues to grow. By framing alliances as ecosystemic, adaptive, and resilience-oriented tools, the Alliance Ecosystem Model (AEM) becomes the solid background on further research and practice. Not only does the framework contribute to the rich alliance theory but also provides managers and policymakers with operative steps that one can take to navigate uncertainty.

In sum, the AEM points to a paradigm pivot in focus: strategic alliances are no longer being viewed as being only resource sharing vehicles- they are now venues of concerted resilience and competitive coordination. It is important that the firms identify and accept this change in order to remain prosperous in the highly networked and distracted world.

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