

THE RELATIONAL DYNAMICS OF MULTIPARTY ALLIANCES: AN INTERDEPENDENCE-BASED VIEW

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ABSTRACT: Despite the increasing relevance of multiparty alliances, existing research remains fragmented and predominantly organized around functional purposes or structural forms, overlooking the relational dynamics among alliance partners. Such an omission prevents a systematic understanding of what fundamentally distinguishes multiparty alliances from their dyadic counterparts and how different types of multiparty alliances vary from one another. This paper addresses this gap through a systematic review of research from leading management journals published between 1990 and 2025. Adopting an interdependence-based view, we offer two main insights. First, the presence of more than two partners introduces three categorically distinct features compared to dyadic alliances: a change in membership, a change in reciprocity patterns, and the emergence of faultlines. Each of these features poses distinct challenges. Second, and more importantly, we show how pooled, sequential, and reciprocal forms of interdependence shape the emergence, evolution, and consequences of these relational features, thereby explaining systematic variations across multiparty alliances. Building on these insights, we develop an integrative framework that clarifies the distinctiveness of multiparty alliances and identifies key mechanisms and boundary conditions. This framework informs a future research agenda to redirect scholarly attention to the unique relational dynamics within and across multiparty alliances.

Keywords: Collaboration, interdependence, literature review, multiparty alliance, strategic alliance

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Multiparty alliances, also known as multi-partner collaborations (Lavie et al., 2007), multilateral alliances (Li, 2013), or alliance constellations (Lazzarini, 2007), are collaborative arrangements formed voluntarily by three or more organizations with one collective agreement aimed at achieving the strategic objectives of the partners (Das and Teng, 1998). Prominent examples include Star Alliance, which coordinates services and network connectivity among multiple airlines, and the Renault-Nissan-Mitsubishi Alliance, which reduces costs and promotes joint research and development in the automotive industry. Over the past three decades, such alliances have become increasingly prevalent across industries such as healthcare (e.g., Thiebes et al., 2023), telecommunications (e.g., Gerges-Yammine and Ter Wal, 2023), utilities (Taubeneder et al., 2024), semiconductors (e.g., Sytch et al., 2018), and finance (e.g., Zhang et al., 2017). This growth reflects intensified globalization (Gulati, 2010), increased product complexity (Gomes-Casseres, 1994), and rapid digital transformation (Schwab, 2017), which require firms to access broader pools of complementary resources and capabilities.

The increasing relevance also resonates with the growing scholarly interest in multiparty alliances as a specific organizational form to organize inter-organizational collaborations (e.g., Dorobantu et al., 2020; Fonti et al., 2017; Li et al., 2012; Malhotra et al., 2021; Meuleman et al., 2010; Zeng and Chen, 2003). While many studies treat multiparty alliances as merely a variant of generic strategic alliances (e.g., Majchrzak et al., 2015; Gomes et al., 2016), some scholars argue that they constitute a distinct organizational form, fundamentally different from the more widely studied dyadic alliances (Das, 2015). Existing research provides some insights, highlighting, for example, the heightened complexity of coordination

and decision-making (e.g., Gulati et al., 2012), the role of governance mechanisms in accommodating multiple actors with overlapping goals (Das and Teng, 2002), and the challenges associated with maintaining stability over time (e.g., Heidl et al., 2014). Collectively, these studies suggest that multiparty alliances possess distinctive characteristics that warrant dedicated theoretical attention.

However, the literature presents a fragmented and insufficient understanding of the unique features and challenges of multiparty alliances, as well as how these features vary across such alliances. Existing studies largely categorize multiparty alliances by their functional purposes (e.g., R&D consortia, loan syndicates, standard-setting bodies) or structural forms (e.g., open versus closed, net- versus chain-based). While descriptively useful, these categorizations often overlook the relational dynamics through which multiple partners coordinate activities, manage interdependence, and shape collective outcomes. Simmel's (1950) seminal work in sociology suggests that the addition of a third participant (or more) fundamentally transforms social relations, introducing new patterns of influence, stability, and potential conflict. Consistent with Simmel's view, our close reading of the multiparty alliance literature also suggests that their distinctive characteristics lie less in their stated purposes or structures than in the patterned interaction dynamics among partners. Ignoring these relational dynamics limits the explanatory and predictive power in explaining why alliances with similar functions may experience different coordination, accountability, reciprocity, or subgroup dynamics, or why alliances with different functions may face similar relational challenges. Resolving this fragmentation therefore requires a mechanism-based account that identifies relational dimensions that cut across functional and structural

categories and specifies the conditions under which they shape alliance behavior and outcomes.

Motivated by this insight, we undertake a systematic review of the literature to surface and synthesize the relational mechanisms that shape the behavior and outcomes of multiparty alliances. Surprisingly, despite the increasing scholarly interest, there has been no comprehensive review that systematically theorizes the relational distinctiveness and internal heterogeneity of multiparty alliances. We found only three reviews (one article and two book chapters) that specifically focus on them (Albers et al., 2015; Li et al., 2019; Thiebes et al., 2023), and these are either descriptive summaries or essentially conceptual works followed by a descriptive review rather than comprehensive, integrative reviews in their own right. As a result, despite offering useful definitions across the dyadic, multiparty, and portfolio perspectives on alliances, as well as covering research topics, theoretical approaches, and organizational challenges, existing reviews have not yet systematically examined the distinctive characteristics of multiparty alliances or the variations among the different categories that such alliances fall into.^[1]

Our review identifies three features that categorically characterize multiparty alliances from a relational perspective: (1) a change in membership over time, (2) a shift from restricted to generalized reciprocity, and (3) the emergence of faultlines that divide participants into subgroups. We discuss findings from the literature on why these relational features bring unique dynamics to multiparty alliances that are not present in dyadic ones. We then map these features to different types of multiparty alliances using interdependence theory (Thompson, 1967). Interdependence, which is defined as mutual reliance among actors whose

actions affect one another, emerged from the review as a foundational lens for understanding how multiparty collaboration unfolds. The main finding of our research is that different forms of interdependence (pooled, sequential, and reciprocal) shape the emergence, evolution, and consequences of the three key relational features—membership change, reciprocity shifts, and faultline formation—of multiparty alliances.

This review contributes to the strategic alliance literature by developing a relational account of multiparty alliances. It advances prior work by shifting attention from functional or structural classifications toward the interaction dynamics through which alliance partners relate to, depend on, and divide among one another. In doing so, this study clarifies why multiparty alliances constitute a distinct form of interorganizational collaboration and why they vary in their internal dynamics, even when they share seemingly similar structural or functional forms. It also sheds light on how alliance theory can be extended beyond dyadic assumptions to a more nuanced understanding of multilateral interdependence. Finally, we explain how these insights bring ample opportunities for future research.

REVIEW METHODOLOGY

We followed a systematic approach to search for all research articles on multiparty alliances published in the *Financial Times* (FT50) journal list (see **Figure 1** for an overview of the scope and method of our systematic search). The FT50 journal list is a particularly appropriate choice because the multiparty alliance is a generalized phenomenon in business, relevant across various business contexts (e.g., R&D, joint ventures, or investment syndicates), and the list covers a broad range of management disciplines, such as international

business, organization theory, and entrepreneurship. At the same time, it ensures article quality to keep our review manageable.

[Insert Figure 1 about here]

We set the search keywords to include “multi* alliance,” “multi* partnership,” “multi* collaboration,” “multi* joint venture,” “multi* R&D,” “constellation,” “syndicat*,” “consorti*,” “number of partners,” and “open innovation alliance.”^[2] We developed these search terms through an iterative process by both reading key articles in the field (e.g., Das and Teng, 2002; Lavie et al., 2007) and discussing the keywords with colleagues who have expertise in this area. We ended our iterative process when we reached saturation. We searched the Web of Science database for articles within our journal scope that contain at least one of the aforementioned search terms in the title, abstract, or author-provided keywords. We set the search window from 1990 to 2025; prior to this period, the literature on multiparty alliances is scant. Our initial search yielded 556 articles.

To ensure a comprehensive and rigorous evaluation, following the initial search, two researchers independently reviewed the titles, abstracts, and full texts of the 556 articles to decide whether each was indeed relevant to our review. Our initial inclusion criteria were broad, encompassing not only empirical studies but also conceptual papers. Our intention was to focus on research about interorganizational multiparty alliances, so we excluded studies focused solely on individual-level collaborations, such as team dynamics. We further excluded articles that addressed alliance portfolios, as these do not fit the definition of multiparty alliances (see Note 1). We also omitted studies that used multiparty alliances as a backdrop for exploring unrelated themes. Additionally, our review excluded articles centered

on dyadic relationships (within multiparty settings) or on networks, ecosystems, or platforms, as these did not align with our study's focus on multiparty alliances. Each coder performed an independent evaluation of the relevance of each article, with a high level of agreement (Cohen's Kappa = 0.82). After thorough discussions about the articles coded inconsistently, we identified a final list of 173 relevant articles that formed the basis of our review. Our search showed a significant increase in scholarly interest in multiparty alliances over time: 127 articles were published from 2008 to 2025—tripling the 46 articles published in the previous 18 years (see **Figure 2**). We summarize the descriptive statistics of our sample in **Table I**, including major topics, empirical settings, levels of analysis, theoretical perspectives, and research methods.

[Insert Figure 2 about here]

[Insert Table I about here]

Our analysis of the data began with iteratively developing an extensive coding scheme guided by our research aim, which involved reading articles and conducting actual coding until the items in the coding scheme (see **Table II**) reached saturation. Specifically, we coded both factual information that could be noted down without much ambiguity (including type of alliance, research method, topic of interest, level of analysis, theoretical lens, and key variables) and other information relevant to our review that needed interpretation and refinement from the researchers (including key differences between multiparty alliances and dyadic ones, key differences between multiparty alliances and other networks, motivations for initiating or joining an alliance, key findings, and other observations). Following this coding

scheme, we read each article in our database in detail and added relevant information to a spreadsheet, which provided the final data.

[Insert Table II about here]

We next inductively analyzed the compiled information in two stages. In the first stage, we used the coding item “differences from dyadic alliances” to derive both gradual and categorical differences that characterize multiparty alliances. After several rounds of iteration, we settled on three categorical differences that strike a balance between coverage and parsimony: (1) a change in membership over time, (2) a shift from restricted to generalized reciprocity, and (3) the emergence of faultlines that divide participants into subgroups.^[3]

In the second stage, we examined how the theoretical relevance of these three categorical features varied across different types of multiparty alliances. Specifically, we grouped the reviewed articles according to each of the three categorical distinctions and then analyzed the contextual information coded under “type of alliance,” “industry,” and “topic of interest.” This comparative analysis enabled us to identify boundary conditions under which each categorical feature becomes particularly salient. This stage of the review was both inductive and integrative, requiring a degree of theoretical abstraction to move beyond descriptive patterns. Our comparison revealed that function- or structure-based categorizations are descriptively useful but insufficient for explaining systematic variation across multiparty alliances. To address this limitation, interdependence emerged from our analysis as a foundational lens for examining such variation. We now turn to an in-depth presentation of the key findings, highlighting the distinctive relational characteristics of multiparty alliances.

THE UNIQUE FEATURES OF MULTIPARTY ALLIANCES

The defining difference between multiparty and dyadic alliances lies solely in the number of participants involved in a collective agreement. Moving beyond this definitional feature, however, our review highlights that the transition from two to multiple partners introduces further differences. Through an integrative synthesis of existing research, we delineate between gradual (degree-based) and categorical (kind-based) differences that separate multiparty alliances from their dyadic counterparts, and we summarize the key theoretical insights associated with each (see **Table III** for a detailed summary of these insights). Although both forms of difference carry significant theoretical implications, our primary emphasis is on three categorical distinctions, as these fundamentally characterize multiparty alliances as a distinct organizational phenomenon. Our review indicates that each categorical difference has unique implications for alliance performance, each of which we will discuss further.

[Insert Table III about here]

Gradual differences

Our review shows that increasing the number of alliance partners from two to more heightens the complexity of many key issues pertaining to dyadic settings. Complementary resources continue to matter substantially for both partner selection and alliance performance in multiparty alliances, but these resources exhibit a much higher level of diversity since more parties now contribute to the common resource pool (Bertrand and Lumineau, 2016; Liu and Maula, 2016; Santamaria et al., 2010). At the same time, a greater number of partners also heightens collaborative challenges, including conflicts of interest among members (Hopp and

Lukas, 2014; Lioukas and Reuer, 2020; Mannak et al., 2019) and complex coordination channels (Ching et al., 1992; Mishra et al., 2015; Roehrich et al., 2023). These challenges exacerbate problems of defective behavior (Taubeneder et al., 2024), ultimately leading to relationship instability or even dissolution (Bakker, 2016; Rosenzweig et al., 2011). Overall, research indicates that many of the challenges present in dyadic alliances become even more pronounced in multiparty alliances. There are also, however, categorical differences that capture the distinctive features of multiparty alliances.

Categorical difference #1: Changes in membership

The first categorical difference concerns the composition of entities within the alliance. In dyadic alliances, the two partners simultaneously form the alliance and remain fixed, with no new entrants beyond the formation stage. In contrast, members of multiparty alliances do not have to join simultaneously (Bakker, 2016), and a member exiting the alliance does not necessarily terminate the whole collaboration (Olk and Young, 1997). As a result, multiparty alliances often undergo changes in their composition, and partner selection processes extend beyond the initial formation of the alliance. For instance, Star Alliance, a global airline alliance, was formed through a gradual process of member airlines joining over time. While its founding members, such as Air Canada, Lufthansa, and Thai Airways, joined in 1997, All Nippon Airways joined in 1999, Austrian Airlines joined in 2000, and South African Airways joined in 2006, to name a few.

Several studies show that the evolving membership of multiparty alliances grants participating firms the flexibility to proactively choose to be one of the leading firms that initiate the alliance or to join later as a participant (Pichler and Wilhelm, 2001; Xia et al.,

2023). The decision to be a leader or follower is critical because studies provide consistent evidence that the benefits participants gain can depend on their entry order into the alliance. Lavie et al. (2007) show that although participating in the Wi-Fi Alliance is beneficial overall for a firm's performance, early and late participants exhibit higher levels of productivity than intermediate entrants. Zhao et al. (2007) model the behavior of standard-setting consortia in e-business and find that all firms' payoffs from standard adoption increase with the intrinsic value of the standard, but developers' (i.e., leaders') benefits increase faster than those of passive adopters (i.e., followers). Therefore, the firms can choose either to capture preemption benefits by being a founding member of the alliance or to join later, based on the anticipated trajectories of alliance performance and their private value capturing (Zhelyazkov and Tatarynowicz, 2021).

Categorical difference #2: Change in reciprocity patterns

The second notable characteristic that sets multiparty alliances apart is the prevalence of generalized reciprocity, which replaces the restrictive reciprocity found in dyadic alliances as the primary form of social exchange (Das and Teng, 2002; Li et al., 2012). Restrictive reciprocity occurs when one party has an exchange relationship with a specific partner, leading them to expect direct reciprocation of resources and goodwill, ultimately providing mutual benefits. In contrast, a key feature of generalized reciprocity is "the lack of one-to-one correspondence between the giver and the receiver" (Das and Teng, 2002, p. 448). When three or more organizations are involved in an alliance, contributions may not yield direct returns from a specific party; instead, benefits are shared among all collaborators, illustrating the broader reciprocity within the alliance. The literature provides evidence that such a shift in

reciprocity patterns brings about additional collaborative frictions and governance challenges and intensifies existing transactional risks, all of which have a substantial bearing on alliance performance outcomes.

In restricted reciprocities, any negative consequences of uncooperative behavior are solely borne by the other party. In contrast, in generalized reciprocity, the effects of one party's behavior extend to all participants in the alliance (Gong et al., 2007). As Zeng and Chen (2003) show, this diluted impact can encourage opportunism, as participants perceive fewer consequences for their behavior. The shift in reciprocity patterns also highlights the issue of ambiguous accountability. In dyadic alliances, since exchanges are restricted to two parties, defects are easily identified and attributed. In multiparty alliances, conversely, it may be difficult to perceive who has behaved opportunistically (Li et al., 2012). As a result, retaliatory behavior, such as reciprocal uncooperative actions or social sanctions (e.g., sharing negative experiences about a partner with others), often lacks clear targets (Li, 2013).

For the above reasons, the positive returns of cooperation in multiparty alliances are weakened, uncooperative behavior is less likely to be observed and identified, and actors responsible for such behavior are less likely to be punished (Fonti et al., 2017; García-Canal et al., 2003; Lioukas and Reuer, 2020). This makes the anticipated outcomes of cooperation more ambiguous (De Clercq et al., 2008), which in turn discourages cooperative behavior and increases the risk of opportunism (Lumineau and Oliveira, 2018).

Categorical difference #3: The emergence of faultlines

The third unique feature of multiparty alliances that emerged from our review is the potential formation of faultlines. Faultlines are divisive lines that separate individuals into subgroups

according to individual characteristics (Blau, 1977). The concept of faultlines originated in social psychology and was later applied at the level of interfirm relationships (e.g., Heidl et al., 2014). These faultlines may arise due to the diversity of characteristics or the uneven distribution of prior relationships among participants. As a result, informal boundaries emerge, dividing a group of firms into cohesive subgroups and introducing behavioral dynamics distinct from those observed in dyadic relationships (Zhang and Guler, 2020). Research on faultlines in management studies has received significantly less attention than the previous two features, with a unanimously negative view of its effect on alliance outcomes.

Faultlines in multiparty alliances can create coordination difficulties across subgroups. Because of the strong ties among members in a subgroup and their weaker connections with others in a multiparty alliance, subgroup members often develop close bonds through familiar routines that were either established before the alliance or formed during it. This hinders the development of generalized social exchange and broad-based trust (Das and Teng, 2002; Lumineau et al., 2023). These divisions often lead to ineffective inter-group communication (Thatcher and Patel, 2012), making timely agreement more difficult as alliance size increases (Zhang et al., 2017).

Beyond coordination difficulties, faultlines can also create political tensions across subgroups that significantly distort the decision-making of participating firms. Studies in our review suggest that the existence of faultlines may lead to inferior partner selection in multiparty alliances. A change in partners inevitably reshapes relationships, the distribution of power, and commitment among incumbent firms, and several studies show that both a new member's entry decision and their subsequent behavior are shaped by the collective

characteristics of the incumbents as a group (e.g., De Clercq et al., 2008; Meuleman et al., 2010; Xia et al., 2023). Zhang and Guler (2020) illustrate that when subgroups form, members tend to evaluate potential newcomers based on their impact on the power dynamics in the alliance. Conversely, newcomers evaluate the double-edged effects of power disparities among incumbents to inform their decision of entry, weighing the benefits of future investment opportunities against the negative perception of a lack of trust (Gray et al., 2023). As a result of the above potential hazards, as shown by Heidl et al. (2014), the existence and evolution of faultlines increase instability and may ultimately lead to alliance dissolution.

DIFFERENTIATING MULTIPARTY ALLIANCES – AN INTERDEPENDENCE VIEW

In the previous section, we reviewed research on the three unique features of multiparty alliances—changes in membership, changes in reciprocity patterns, and the emergence of faultlines. We further observed throughout the review that the relevance of each of the three features varies markedly across different multiparty alliances. By relevance, we mean the extent to which a given feature is likely to manifest in a particular type of multiparty alliance in ways that clarify, extend, or challenge existing theory, fill conceptual gaps, or otherwise shape how scholars understand and explain alliance dynamics. For illustration, among the various contexts in which multiparty alliances occur (e.g., R&D alliances, learning alliances, comarketing alliances), 64% of the reviewed articles studying changes in memberships draw on the investment syndicate context. Similarly, 37% of studies on changes in reciprocity patterns occur in the R&D alliance context, significantly more than in other contexts. This uneven distribution suggests substantial variation across multiparty alliances. In this section,

we integrate existing studies to identify critical boundary conditions under which each of the three features is most salient. We start by briefly reviewing existing typologies of multiparty alliances and then propose another useful conceptual distinction from a relational perspective.

Existing typologies of multiparty alliances

Existing research on multiparty alliances mostly categorizes them by functional purpose. For instance, venture capital (VC) collaborations aimed at co-investing are labeled as VC syndicates (Sorenson and Stuart, 2008; Zhang et al., 2024), while alliances for financial coordination are classified as loan syndicates (Ivashina, 2009; Zhang et al., 2024) and collaborations for joint technological advancement are termed R&D alliances (Nishimura and Okamuro, 2018; Santamaria et al., 2010). Other types include standard-setting alliances (Fiedler et al., 2023; Leiponen, 2008), co-marketing alliances (Chennamaneni and Desiraju, 2011), and underwriting syndicates (Narayanan et al., 2004). These functional labels reflect the focal objectives that initially bring organizations together and often guide researchers' assumptions about coordination structures, governance arrangements, and expected outcomes.

In addition to functional classifications, some studies propose typologies based on more nuanced structural features. Das and Teng (2002) distinguish collaborations by generalized reciprocity types (net- versus chain-based) and exchange horizons (short- versus long-term), which results in a two-by-two structural typology. Pisano and Verganti (2008) categorize collaborations based on governance structure (hierarchical versus flat) and participation (closed versus open), yielding four innovation network types: closed hierarchical, open hierarchical, closed flat, and open flat. This highlights how control and access shape the structure and dynamics of collaborative arrangements.

We argue that existing typologies of multiparty alliances focusing on functional objectives or structural features primarily describe what alliances do or how they are organized, not how partners relate to and interact with each other. These categorizations thus remain largely descriptive and fail to capture the substance of exchange and the dynamics of interaction among alliance partners to which the three relational features pertain. Functional classifications implicitly assume that alliances pursuing the same goal share similar properties, but this assumption oversimplifies the heterogeneity within categories. For example, two R&D consortia may both aim at technological advancement yet still differ significantly—one sharing proprietary knowledge for product development, whereas the other shares pre-competitive knowledge for basic research that is not yet clearly commercialized (e.g., the IBM–Samsung–GlobalFoundries Common Platform joint development alliance versus SEMATECH). These variations, which affect appropriation concerns and interaction dynamics, remain unaddressed. Similarly, structural typologies emphasize alliance architecture but overlook whether alliances exchange tangible or intangible resources and whether contributions are decomposable or closely coupled, key factors shaping interdependence and risks. This lacuna prevents us from understanding why alliances with similar goals or structures may behave differently.

To address these gaps, we inductively analyzed the articles in our database to develop a relational approach for characterizing and classifying multiparty alliances. Through an iterative process of moving back and forth between the data and existing theory, we progressively converged on interdependence as the key underlying relational lens explaining variance in interactions and behavior across different multiparty alliances. Interdependence

refers to the extent to which the actions, decisions, or outputs of one party affect and are affected by those of another (Thompson, 1967). It has been a subject of widespread study in dyadic alliance studies because it fundamentally shapes the nature of interactions and exchanges among participants (e.g., Cui et al., 2018; Dyer and Singh, 1998; Inkpen and Tsang, 2007). In multiparty alliances, interdependence becomes even more important because multiple stakeholders lead to much more complex exchange relationships. Changes in one participant's contributions can have cascading effects on the entire alliance, requiring adaptive strategies that are less prevalent in dyadic settings. We draw on Thompson's (1967) foundational work to categorize multiparty alliances into pooled, sequential, and reciprocal interdependence, arranged in increasing levels of magnitude. In doing so, we move from observational attributes to theoretical mechanisms to differentiate among multiparty alliances. The interdependence-based lens shows that although some multiparty alliances seem different in terms of surface features such as function and structure, they are nonetheless similar in terms of the nature of interactions.

Multiparty alliances with pooled interdependence

Pooled interdependence occurs when multiple parties contribute resources to a common goal without the need for direct interaction or coordination (Thompson, 1967). In our database, examples of multiparty alliances with pooled interdependence include VC syndicates, bank loan syndicates, standard-setting bodies, and loose R&D collaborations with modular projects (e.g., De Clercq et al., 2008; Delmas and Montes-Sancho, 2010; Dorobantu et al., 2020; Xia et al., 2023; Zhao et al., 2007). In such alliances, the resources exchanged tend to be highly tangible, such as funds and modular project deliverables. Each party operates independently

while sharing collective output, and such interdependence typically does not require parties to make substantial relationship-specific investments. The COVAX^[4] Initiative exemplifies a typical multiparty alliance with pooled interdependence. COVAX, co-led by Gavi, the Vaccine Alliance, CEPI, WHO, and UNICEF, launched in April 2020 to develop, manufacture, and deliver COVID-19 vaccines among participating countries. Member countries contribute funds or resources independently toward the shared goal, and contributions are standardized (e.g., financial input).

In such settings, partners' contributions are additively separable and may be routed through standardized interfaces (e.g., pro-rata capital commitments, modular work packages). A change of membership hence does not require reconfiguring tightly coupled tasks or reestablishing tacit routines, but typically involves reallocating quotas. As a result, a change in membership can be accommodated with limited cost to the collective output. Additionally, because participants' contributions are modular, the lead organization can efficiently aggregate inputs from different parties without requiring full consensus. This structure thus tolerates the entries and exits of alliance members, as long as the leader remains in place. Hence, a change in membership is more relevant in multiparty alliances with pooled interdependence than in those with sequential or reciprocal interdependence. In our database of reviewed articles, a change in membership is most common in investment syndicates (e.g., De Clercq et al., 2008; Dorobantu et al., 2020; Xia et al., 2023) and standard-setting bodies (e.g., Delmas and Montes-Sancho, 2010; Zhao et al., 2007).

On the other hand, in the setting of pooled interdependence, as contributions are made independently without significant interaction, reciprocity is less vital. This is because partners

do not rely on sequential exchanges or mutual adjustment; instead, contribution metrics are more observable than in other types of multiparty alliances. As a result, free-riding behavior is easy to detect and deter. For instance, under-contribution will show up as a shortfall against a target or a missing module. In these settings, generalized reciprocity does not raise severe hazards and is less relevant than in other types of multiparty alliances.

Finally, with respect to faultlines, subgroups can form around differences in goals, prior relationships, status, or roles, weakening trust and cohesion (Carton and Cummings, 2012). However, pooled interdependence implies that members contribute autonomously to a shared goal without requiring direct coordination; thus, although faultlines may erode trust and cohesion (e.g., Thatcher and Patel, 2012), they do not immediately disrupt alliances. Since members operate with relative independence, such multiparty alliances can persist despite internal conflict, at least in the short term (Zhang and Guler, 2020). Over time, however, the cumulative effect of mistrust and divergent subgroups may gradually degrade contribution and alliance performance, ultimately leading to dissolution (Heidl et al., 2014).

Multiparty alliances with sequential interdependence

Sequential interdependence involves a linear relationship where the output of one party serves as the input for another, necessitating careful coordination to ensure smooth transitions and processes (Thompson, 1967). This category includes, for example, certain supply chain alliances where multiple suppliers and buyers collaborate under a shared governance arrangement (Taubeneder et al., 2022, 2024) and joint development agreements with sequential inputs (e.g., pharmaceutical partnerships, aircraft manufacturing partnerships). In these alliances, the resources exchanged may still be tangible, but because of the sequential

interdependence, parties often need to make substantial relationship-specific investments. For example, suppliers need to develop knowledge regarding manufacturers' requirements and customize a dedicated production setup for the outputs.

The Boeing 787 Dreamliner exemplifies a typical multiparty alliance with sequential interdependence, where production relies on a linear, stage-specific collaboration among multiple partners responsible for designing and manufacturing large, integrated modules. Critical components flow unidirectionally: Mitsubishi Heavy Industries (Japan) manufactures wings, Alenia Aermacchi (Italy) produces fuselage sections, and Spirit AeroSystems (USA) assembles them before final integration by Boeing. A disruption at any stage—such as the 2013 battery failures from GS Yuasa (Japan), which grounded the fleet—halts downstream operations, demonstrating the alliance's vulnerability to bottlenecks (e.g., Goldman, 2024). This structure demands rigid coordination, as replacing a specialized supplier (e.g., carbon-fiber wing producers) could cause costly requalification delays.

In such a setting, changes in membership can disrupt the linear flow, especially when departing partners occupy bottleneck roles or hold stage-specific know-how. Compared to pooled interdependent multiparty alliances, where contributions are modular, the exit or entry of a member in sequential interdependent multiparty alliances can force a reorganization of the entire workflow (Gulati and Singh, 1998). In addition, a relatively higher level of specified investment further increases replacement costs (Williamson, 1985), discouraging frequent turnover. Such constraints lead to stabilization mechanisms, including longer contract terms and staggered exit clauses (Argyres and Mayer, 2007; Reuer and Ariño, 2007),

which result in lower membership volatility than in pooled interdependent multiparty alliances.

In contrast, a change in reciprocity gains more relevance in multiparty alliances with sequential rather than pooled interdependence. As partners depend on one another in a specific order of contributions, each participant's output directly influences the next, making mutual adjustment essential for the alliance's success (Gulati and Singh, 1998). As a result, specialized investments can motivate certain hold-up behavior (Williamson, 1985). At the same time, compared to reciprocal interdependence, it is fairly easy to locate points of failure along the linear task chain in an alliance with sequential interdependence, and the accountability is relatively clear. Therefore, the transactional hazards arising from generalized reciprocity (e.g., vague accountability and easier free-riding behaviors) tend to be more manageable than in reciprocal interdependence. Hence, we suggest that while a change from restricted to generalized reciprocity does bring problems to multiparty alliances with sequential interdependence, their severity remains moderate.

The destabilizing effects of faultlines become more pronounced in multiparty alliances associated with sequential interdependence. Unlike pooled interdependence, sequential interdependence gives rise to vulnerabilities at critical handoff points. When faultlines emerge and create divisions, coordination breaks down as mistrust or conflicts lead to delays, resource withholding, or even obstruction (Das and Teng, 2000; Li and Hambrick, 2005; Oliveira and Lumineau, 2019a). Thus, while faultlines in multiparty alliances with pooled interdependence may permit gradual decay, their impact under sequential interdependence

tends to be both quicker and more severe since the structure's inherent linear interdependence converts subgroup conflicts into systemic failure.

Multiparty alliances with reciprocal interdependence

Lastly, reciprocal interdependence reflects a more complex relationship where parties are mutually dependent and actively influence each other's outputs, requiring close collaboration and communication to achieve shared objectives (Thompson, 1967). Typical multiparty alliances with reciprocal interdependence include R&D consortia for technological innovation (Branstetter and Sakakibara, 2002), coalitions for operational efficiency (e.g., airline alliances and blockchain consortia, Hacker et al., 2023), and temporary multi-organizational collaborations established to deliver complex projects (Sergeeva and Roehrich, 2018). In such alliances, parties closely exchange intangible resources, such as tacit technological knowledge and experience (Roehrich et al., 2024). Since such resources reside mainly in emergent collaborative routines, they are typically non-contractible (Dyer and Singh, 1998). Furthermore, due to reciprocal impacts on each other, parties often need to make substantial relationship-specific investments (Poppo and Zenger, 2002).

The Hyperledger blockchain consortium exemplifies a multiparty alliance with reciprocal interdependence. Members like IBM, Intel, and JP Morgan work closely to co-develop enterprise-grade, permissioned blockchain frameworks and tools through continuous mutual collaboration. Each member firm contributes specialized expertise, creating a tightly coupled system where outputs depend on iterative feedback across partners.

In such a setting, adding or losing a member can reshape the web of mutual interdependence; for instance, replacing a collaborator in a complex R&D consortium can

disrupt delicate ecosystems of trust and shared interpretive schema. In the Hyperledger blockchain consortium, for example, adding a new member (e.g., a cloud provider like AWS) reshapes interdependence by introducing new integration demands (e.g., adapting consensus algorithms for AWS infrastructure). On the other hand, losing a key player (e.g., Intel exiting) disrupts critical links (e.g., hardware-backed trust mechanisms), forcing the alliance to incur high replacement costs due to the need for deep, alliance-specific investments. Three mechanisms explain this. First, the highly intangible nature of the exchanged resource means that critical collaboration protocols reside in established interorganizational relationships. Second, substantial relationship-specific investments create high replacement costs. Third, mutually dependent work demands a high level of repeated interaction. Additionally, in this type of multiparty alliance, leadership is usually distributed. Decision-making tends to be more democratic because all parties are interconnected, and achieving consensus is often necessary for progress. Changes can trigger extensive reconfiguration of the structure. As a result, many reciprocal interdependent multiparty alliances tend to either maintain their original membership or dissolve rather than replace members, leading to changes of membership being less relevant in such alliances.

In contrast, because resources are typically non-contractible and tailored to the specific needs of the relationship, social exchange rules gain more importance. In multiparty alliances with reciprocal interdependence, a shift toward generalized reciprocity—where contributions are not directly repaid—introduces two risks: first, the combination of opaque contribution attribution and high asset specificity creates moral hazards, since members cannot easily verify or sanction free-riding (Holmström, 1982; Williamson, 1985); second, tacit

coordination and diffused responsibility weaken individual members' incentive to contribute (Gong et al., 2007). The combination of these two issues can further encourage members to take advantage of reduced accountability and free ride more under a generalized reciprocity regime. Therefore, changes in reciprocity are particularly relevant in multiparty alliances with reciprocal interdependence.

Finally, unlike pooled or sequential interdependence, reciprocal interdependence requires high levels of timely coordination, rich information sharing, and adaptive responsiveness. As faultlines develop, possibly fracturing a multiparty alliance into subgroups, the very mechanisms enabling coordination and cooperation—trust, shared interpretive schema, and frequent interactions—are compromised (Lau and Murnighan, 2005). Subgroups are then likely to engage in defensive routines (Argyris, 1990), such as withholding critical information, shirking needed contributions, or vetoing proposals from other subgroups, thereby paralyzing joint problem-solving. Faultlines in reciprocal interdependent multiparty alliances can foster “us versus them” dynamics and communication breakdowns that derail complex tasks. As a result, faultlines are especially consequential in reciprocal independent multiparty alliances: they can rapidly hamper both governance and operations and are often difficult to reverse without interventions that rebuild integrative routines.

We summarize these arguments in **Table IV**. *Ceteris paribus*, a change in membership is most relevant for multiparty alliances with pooled interdependence, moderately relevant for those with sequential interdependence, and least relevant for those with reciprocal interdependence. Conversely, changes in reciprocity patterns reverse this order, becoming increasingly relevant for pooled, sequential, and reciprocal interdependence, in that order. The

emergence of faultlines is pertinent in all types of multiparty alliances, with the greatest negative impacts, and thus the highest relevance, observed in those characterized by sequential and reciprocal interdependence. Note that such comparisons occur across types. We also acknowledge that even within the same category (e.g., reciprocal interdependence), the intensity of reciprocity arguably differs between, for example, Star Alliance and complex project alliances. Although both types require continuous mutual adjustment among partners, the temporal boundedness and goal specificity of project alliances make membership changes particularly consequential for coordination stability, whereas in ongoing structures such as airline alliances, modular substitutability mitigates this effect.

[Insert Table IV about here]

Our review leads to an integrative framework providing a relational account of multiparty alliances (see **Figure 3** for a visual illustration). This framework identifies three core features—membership changes, reciprocity shifts, and faultline emergence—and shows how their relevance varies across alliances characterized by pooled, sequential, or reciprocal interdependence. We now turn to the broader implications of this framework for theory, practice, and future research directions.

[Insert Figure 3 about here]

DISCUSSION

Theoretical contributions

In this study, we shift the conversation on multiparty alliances from a focus on functional or structural distinctions to an examination of the relational features and underlying processes that explain their distinctive dynamics. By foregrounding interdependence as a differentiating

condition, we show that the defining features of multiparty alliances are not uniformly consequential but instead vary systematically across alliance types. These findings advance the strategic alliance and general management literature in three ways.

First, it substantiates the prior perspective that multiparty alliances are a distinct collaborative form by further articulating membership dynamics, reciprocity patterns, and subgroup formation as specific unique relational features. By doing so, it clarifies the ontological boundaries of multiparty alliances, thus explaining the basis on which they can be treated as distinct forms of interorganizational collaboration rather than merely more complex variants of dyadic alliances. This allows us to redirect scholarly attention to further study multiparty alliances as a unique phenomenon, ensuring that future research grounds its assumptions in a clearer understanding of what multiparty alliances are, rather than conflating them with dyadic alliances.

Second, by mapping these relational features onto pooled, sequential, and reciprocal interdependence, we identify boundary conditions that explain why multiparty alliances vary so markedly in their internal dynamics. We show that alliances that appear similar in function or structure may differ fundamentally in their coordination challenges, accountability problems, and subgroup dynamics, depending on the nature of participants' interdependence. We also show that multiparty alliances that seem different on the surface—based on their goals and structures—often share important underlying similarities. This perspective moves the literature beyond establishing that multiparty alliances differ from dyadic ones and toward explaining when and why specific challenges emerge.

Third, beyond advancing alliance research, the study also contributes to broader management scholarship by reconsidering how organizations coordinate and govern interdependence. Much of the existing theory implicitly relies on dyadic exchange as the basic unit of analysis. As firms increasingly operate within dense webs of interdependence that cannot be decomposed into bilateral ties, theories rooted in dyadic assumptions risk overlooking the distinctive multilateral coordination and coalition dynamics that shape competitive advantage. Our review offers a conceptual foundation for understanding how firms create, coordinate, and capture value in multilateral settings. In doing so, it helps extend management theory beyond bilateral assumptions toward a more nuanced account of organizing under conditions of multilateral interdependence, thereby speaking directly to core concerns of general management scholarship regarding the evolving boundaries, architectures, and governance of the firm.

Managerial implications

This review informs managers by providing a diagnostic lens for designing and governing multiparty alliances. Instead of treating all multiparty alliances as similarly complex, managers can use our framework to identify the alliance's dominant form of interdependence—pooled, sequential, or reciprocal—and anticipate which relational challenges are most likely to arise. For pooled alliances, the framework directs attention to membership governance, contribution visibility, and entry–exit rules. For sequential alliances, it highlights the need to manage handoff points, bottlenecks, partner-specific investments, and contingency arrangements. For reciprocal alliances, it alerts managers to the importance of trust, shared routines, collective accountability, and mechanisms for preventing generalized

reciprocity from turning into free riding. Taken together, our study helps managers allocate governance attention selectively rather than uniformly. By linking interdependence types to membership change, reciprocity patterns, and faultline formation, it enables managers to design governance arrangements that fit the alliance's actual relational architecture beyond its surface-level purpose or formal structure.

Limitations

Several limitations should be acknowledged. First, although the interdependence lens offers a useful relational classification of multiparty alliances, the three categories—pooled, sequential, and reciprocal—may be analytically cleaner than they are empirically distinct. Many real-world alliances combine multiple forms of interdependence simultaneously or evolve from one form to another over time, making classification contingent and dynamic. Second, our framework emphasizes three categorical features—membership change, generalized reciprocity, and faultlines—but other salient dimensions, such as power asymmetry, institutional heterogeneity, technological uncertainty, and governance form, may condition their effects. Third, the reviewed literature is unevenly distributed across contexts, with some settings, such as investment syndicates and R&D consortia, receiving disproportionate scholarly attention. This may limit the generalizability of our conclusions to less-studied forms of multiparty collaboration. We now turn to discussing the opportunities for future research to further our understanding of this important phenomenon.

OPPORTUNITIES FOR FUTURE RESEARCH

Research direction #1: Exploring inherent trade-offs in multiparty alliances

The unique features of multiparty alliances bring both new challenges and new benefits, yet our review shows that prior studies typically focus on the challenges while overlooking potential benefits. Moving beyond merely cataloguing these challenges, future research should theorize the trade-offs they create at different levels of analysis. Multiparty alliances do not simply add complexity to dyadic alliance processes; they shift the focal theoretical problem from managing bilateral exchange to managing alliance-level systems of adaptation, redistribution, and subgroup formation. This shift raises questions about when firm-level benefits come at the expense of alliance-level stability, when alliance-level flexibility enhances or undermines individual members' value capture, and how these tensions evolve over time. We propose several research directions to investigate both aspects of each of the three categorical differences, to provide a balanced perspective and a more realistic picture of the unique features of multiparty alliances (see **Table V** for a summary).

[Insert Table V about here]

Prior work regarding *changes of membership* has focused primarily on firm-level outcomes, while much less is known about how such changes affect the broader structure, dynamics, and performance of alliances. This imbalance suggests a need to refocus inquiry from the entering or exiting firm alone to the alliance as a changing collective system. For example, the literature has yet to investigate the adaptation costs associated with such changes. Frequent shifts in membership can disrupt established dynamics and necessitate time-consuming adjustments in roles, processes, and interdependence. These adaptation costs

can strain resources and complicate collaboration, potentially undermining an alliance's overall effectiveness and cohesion. Analytically, this implies that membership change should be theorized not only as a selection event but also as a reconfiguration process that redistributes roles, dependencies, and bargaining positions among incumbents. This presents a valuable opportunity to explore how shifts in membership disrupt coordination routines, governance structures, or trust patterns, and ultimately impact multiparty alliances' stability and adaptability. On the other hand, multiparty alliances are also likely to develop an inherent structural resilience that may enable them to withstand membership changes. Such resilience is likely to be beneficial by offering flexibility for the alliance to adjust its resource pool based on its needs as a whole in different situations (e.g., a VC syndicate needing more funds; an R&D alliance needing different resources in response to exogenous technological disruptions). The coexistence of adaptation costs and potential flexibility thus calls for further research to study the conditions when the benefits exceed or fall short of the downsides.

Our review shows that prior studies have provided good knowledge regarding the challenges posed by *changes in reciprocity* (e.g., Fonti et al., 2017; Lioukas and Reuer, 2020). We propose that scholars also examine the contingencies under which such a change is likely to be beneficial. For instance, since generalized reciprocity encourages participants to openly share information and expertise, it is likely to facilitate broader learning among alliance members. Here, learning occurs not through direct channels restricted to two parties but through exposure to different ideas, approaches, and practices, enriching the learning experience and promoting innovative thinking (Fiedler et al., 2023). This perspective redirects future research from asking whether generalized reciprocity increases opportunism to asking

how indirect contribution-return cycles alter members' perceptions of fairness, obligation, and value capture. It also raises the possibility that generalized reciprocity may be costly at the dyadic level but beneficial at the alliance level if it enables knowledge spillovers, collective problem solving, or system-wide innovation. One notable constraint to advancing this line of research is that we currently lack both a strong conceptual understanding and an empirical operationalization of how generalized reciprocity varies across alliances. For example, while reciprocity in R&D consortia may primarily take a generalized form, in loan syndicates, restricted and generalized reciprocity may coexist. Future research should develop clearer conceptual frameworks and more refined measurement approaches to trace changes in reciprocity patterns over time.

The emergence of faultlines is arguably the most understudied feature of multiparty alliances. We still have a very limited understanding of why and how faultlines form as a multiparty alliance evolves. For example, latent faultlines do not always materialize into activated subgroups. Future research should examine the conditions under which this shift occurs, turning faultlines from potential threats into genuine hazards for alliance outcomes. More analytically, faultlines direct attention to a meso-level of alliance theory: the subgroup. While this level of analysis is largely absent from dyadic alliance research, it can be central to explain why multiparty alliances do not behave simply as collections of independent firms. Subgroups often act as carriers of shared interpretations, political interests, and coordination routines, therefore mediating the relationship between individual members and the alliance as a whole. In addition, the emergence of faultlines is not necessarily always hazardous. Literature on team dynamics suggests that faultlines can be functional when subgroups form

based on knowledge or tasks as opposed to identities and social categories (e.g., Carton and Cummings, 2013; Gibson and Vermeulen, 2003). In multiparty alliances, such functional faultlines among members may be equally plausible. For instance, alliances that span sectors or geographies may benefit from subgroup identity when tasks require differentiated expertise. Future work should distinguish between divisive faultlines that fragment cooperation and functional faultlines that enable specialization, representation, or parallel problem solving.

Finally, we note that the literature has mainly approached the categorical differences associated with multiparty alliances by focusing on the number of partners, paying limited attention to their composition. This suggests another important analytical shift: from treating “multiple partners” as a numerical condition to theorizing partner composition as a source of heterogeneous relational mechanisms. There are rich opportunities to examine how variation in member characteristics—such as size, sector, and resource endowments—affects the dynamics of multiparty alliances in terms of the three categorical differences. For example, future studies can build on Bertrand and Lumineau (2016) to examine how different forms of member diversity—such as variety in experience, separation in values, and disparity in power—affect coordination, control, and stability in multiparty alliances. Their distinction between variety, separation, and disparity highlights how variation in members may both impede and facilitate generalized reciprocity, since heterogeneity among members is likely to affect coordination challenges and power asymmetries within multiparty alliances.

Research direction #2: Governing the challenges of multiparty alliances

A balanced view of multiparty alliances highlights the need for governance mechanisms that mitigate hazards while preserving advantages. This is a promising research direction because governance in multiparty alliances entails managing complexity, balancing diverse interests, and fostering cooperation among multiple parties. However, existing research related to the governance of multiparty alliances has primarily addressed gradual differences, emphasizing the difficulty of fully codifying formal agreements in multiparty settings (Gong et al., 2007; Keil and Müller, 2020; Lioukas and Reuer, 2020) and the complementary role of relational governance mechanisms such as trust, norms, and social sanctions (Das and Teng, 2002; García-Canal et al., 2003). In contrast, governance responses to hazards arising from categorical differences remain underdeveloped. This gap suggests that future research should extend beyond asking whether multiparty alliances require “more” governance than dyadic alliances and instead theorize how governance must change when the object of governance shifts from a bilateral relationship to a multilateral system. In such systems, governance mechanisms must not only control opportunism between partners but also coordinate adaptation among changing members, regulate indirect reciprocity, and manage subgroup formation. This shift has important theoretical implications: it broadens alliance governance from a problem of safeguarding exchange to a problem of designing and continuously recalibrating collective order. We see two interrelated avenues for advancing this agenda.

First, due to the inherent complexity of multiparty alliances, a single governance mechanism is unlikely to be sufficient. Future research should examine how hybrid governance configurations—combining formal contracts with relational and network-based

mechanisms—are designed and adapted to address challenges from membership changes, shifting reciprocity patterns, and emerging faultlines. The key analytical question is therefore not only which governance mechanism is present, but which mechanism governs which categorical hazard, at which level of analysis, and at what point in the alliance’s evolution. An exemplary study by Oliveira and Lumineau (2017) shows how the interplay between contracts and integrators shapes coordination trajectories in project-based multiparty alliances, thereby mitigating misalignment and fostering collaboration. We encourage particular attention to how configurations of different mechanisms evolve following alliance-level shocks (e.g., member exits or strategic reorientation) and whether adaptive governance capabilities enhance the resilience and long-term performance of multiparty alliances.

Second, due to the increased number of participants, some structural features—such as the level of concentration, the percentage of core versus peripheral participants, or the number of structural holes—become unique design choices of multiparty alliances not present in dyadic relationships (Davis, 2016). For example, the degree to which influence is centralized or dispersed (Lin et al., 2012; Sufi, 2007) may shape how alliances manage divergence and subgroup dynamics, highlighting the trade-offs associated with the emergence of faultlines. Some exemplary studies offer useful starting points: Ranganathan et al. (2018) argue that concentrated structures can create de facto leadership and facilitate consensus, while Taubeneder et al. (2024) find that centralized actors may mitigate coopetition tensions through steering committees or incentive schemes. Future studies should build on these insights to clarify when, for example, orchestrators or lead firms stabilize multiparty alliances and when centralization instead reinforces power asymmetries.

Research direction #3: Unpacking the mechanisms of interdependence in multiparty alliances

Our review explains how pooled, sequential, and reciprocal interdependence differentially shape membership changes, reciprocity shifts, and faultline dynamics. Future research could build on this framework to further examine the micro-processes through which these effects unfold. Doing so would move research beyond using interdependence as a structural descriptor and toward theorizing it as a mechanism that influences how alliance members interpret, experience, and respond to multiparty collaboration. This analytical shift is important because the very same formal alliance structure may generate different outcomes depending on how interdependence is perceived, enacted, and reinforced over time. Thus, future research should ask not only what type of interdependence characterizes a multiparty alliance, but how that interdependence translates into cognition, interaction, and evolutionary trajectories. In particular, we encourage scholars to investigate the cognitive and temporal dynamics through which interdependence is enacted in practice.

First, interdependence may shape the cognitive frames through which partners interpret fairness, contributions, and obligations. Different forms of interdependence not only describe how members' activities are linked but also influence how members evaluate what each party contributes and what each party owes to others. For example, under reciprocal interdependence, repeated mutual adjustment may heighten sensitivity to perceived imbalance, even when objective contributions are difficult to measure. Future studies could examine how subjective fairness perceptions, attribution biases, and sensemaking processes mediate the relationship between interdependence structure and reciprocity norms. Such

inquiry would illuminate why similar structural conditions sometimes generate divergent relational outcomes.

Second, scholars could investigate the temporal dynamics through which relational features escalate or stabilize over time under different types of interdependence (Oliveira and Lumineau, 2019b). For example, small coordination failures in reciprocal systems may compound through iterative interactions, gradually amplifying mistrust and activating latent faultlines. In sequential systems, isolated disruptions at bottleneck positions may trigger cascading breakdowns. This temporal perspective suggests that interdependence affects not only the probability of disruption but also the pathway through which disruption spreads. Future research can therefore use interdependence to theorize different escalation logics in multiparty alliances. Longitudinal research could examine relevant feedback loops and path dependencies that connect interdependence structures to alliance evolution, resilience, and dissolution.

Research direction #4: Revisiting classic alliance questions in multiparty alliances

The findings of our integrative review suggest that, because multiparty alliances involve unique features, they represent at least a partially different phenomenon from dyadic alliances. This invites scholars to revisit important classic research questions that have previously been studied only in dyadic settings, thereby moving the field toward a more comprehensive view of strategic alliances. Such revisiting can reveal whether existing theories are dyad-specific or whether they can be extended to explain more complex forms of interorganizational collaboration. We identify two such questions.

First, scholars can revisit the classic question of a firm's resource-sourcing approach by extending the comparison of dyadic alliances versus acquisitions to include multiparty alliances as an alternative mechanism. They can ask, for example, what major trade-offs influence the choice among a dyadic alliance, multiparty alliance, or acquisition. This reframing changes the theoretical comparison. Rather than positioning alliances only between markets and hierarchies, researchers can ask when firms choose a multilateral mode of resource access that provides broader resource variety but also introduces collective governance costs, diffuse accountability, and potential subgroup politics. Multiparty alliances may therefore represent not merely an intermediate governance form but a distinct sourcing mode suited to situations in which value depends on recombining distributed, complementary, and evolving resources across several organizations. One could approach this question from different theories of the firm (Santos and Eisenhardt, 2005). For instance, from the transaction cost economics perspective, issues of transaction costs involve navigating the intricate relationships and potential opportunism among different parties in multiparty alliances. Conversely, from the resource dependence theory perspective, multiparty alliances introduce fundamentally different power structures and resource dependences than simpler two-party arrangements, making the management of shifting power balances a key strategic consideration. Examining this alternative can provide fresh insights into how firms make strategic decisions about accessing and leveraging resources, offering a richer framework for the study of interorganizational collaboration.

Second, researchers can reexamine learning and capability development in alliances. Much of the literature conceptualizes interorganizational learning as a bilateral process of

knowledge transfer and absorption. In multiparty alliances, however, learning may be multilateral, indirect, and mediated by network position, reciprocity patterns, and subgroup structures. Consequently, the central theoretical issue is not only whether a firm can absorb knowledge from a partner, but how the architecture of the multiparty alliance shapes exposure, interpretation, recombination, and appropriation of knowledge. This setting hence offers opportunities to theorize how knowledge circulates beyond direct ties, how firms manage selective openness in complex networks, and how multiparty collaboration shapes the development of dynamic capabilities. Revisiting these classic questions through the prism of multiparty alliances thus promises to advance a more comprehensive and network-aware theory of strategic alliances.

Empirical recommendations

In this final section, we provide practical recommendations on both data and methodologies, aiming to facilitate the above future research opportunities.

Regarding data sources, current studies often rely on readily available data from well-explored contexts such as VC (e.g., PitchBook, LSEG, and Crunchbase) and loan syndicates (e.g., Thomson Reuters DealScan database). We recommend additional promising empirical settings with rich but underutilized data. Global airline alliances provide extensive archival records on membership changes, governance, and performance—ideal for examining interdependence and governance complexity (e.g., Gayle, 2007). BioPharma consortia, such as the Innovative Medicines Initiative (e.g., Denoel et al., 2018) and the ACTIV Partnership (e.g., Wholley et al., 2024), offer details from clinical trial registries, patent filings, and funding initiatives, allowing detailed analyses of how membership change and knowledge

interdependence shape innovation. Sustainability-focused collaborations (e.g., RE100) and digital platforms (e.g., Linux Foundation) also represent fertile contexts for assessing how diverse membership structures influence legitimacy, the diffusion of practices, and growth. Geographically, the EU offers particularly fruitful opportunities given the prevalence of EU-funded consortia with mandated reporting (e.g., Horizon Europe, European Partnerships, Clean Aviation Joint Undertaking), while the United States provides access to useful data through public–private partnerships and extensive government databases (e.g., the U.S. FDA’s CDER, USAID, NTIS).^[5] In Asia, Japan has strong traditions of technology-focused multiparty alliances, exemplified by initiatives like the Fifth Generation Computer Systems Project (Odagiri et al., 1997), while China has rapidly expanded digital and infrastructure-related alliances. Scholars can either collect internal data through industry associations such as the China Construction Industry Association and China Electric Power Technology Association or make use of public databases such as the Chinese Research Data Services Platform. In addition, other new data sources, like the Internet of Things data in supply chain alliances (see the review by Ben-Daya et al., 2019 for examples of IoT data sources), can provide detailed insights into operational coordination and performance, enhancing our understanding of how multiparty alliances manage complexity and optimize efficiency.

Regarding research methods, commonly used empirical approaches, such as regression analysis, may fall short of capturing the complexities of the multiparty alliance setting. Researchers should also explore other innovative empirical strategies to establish causal relationships within multiparty alliances, where multiple interacting variables and reciprocal influences obscure pathways that tend to be much simpler in dyadic alliances. Qualitative case

studies are particularly useful for providing deep insights into complex processes and dynamics (see Taubeneder et al., 2024, for a recent exemplary qualitative study). In addition, qualitative comparative analysis (QCA) (Fiss, 2007) can help identify how different combinations of alliance characteristics interact to produce specific outcomes, particularly in terms of alliance stability and innovation performance. Longitudinal case studies (e.g., Mathews, 2002) would complement QCA by capturing how these configurations evolve over time as partners enter and exit alliances. Finally, innovative modeling techniques may generate novel insights into multiparty alliances. For example, advanced network analysis methods, such as exponential random graph models (e.g., Kim et al., 2016) and stochastic actor-oriented models (e.g., Kalish, 2020), can help reveal how reciprocity patterns change and how faultlines emerge and evolve while handling both relationship interdependence and the temporal evolution of alliances. Machine learning algorithms, such as multi-agent large language models (e.g., Doshi et al., 2025), could simulate firm interactions to assess power dynamics or predict subgroup emergence in multiparty alliances.

Multiparty alliances are becoming a central organizational form in addressing complex technological, societal, and geopolitical challenges—contexts in which no single firm, or even pair of firms, can marshal sufficient resources or legitimacy. Advancing our understanding of these arrangements is therefore not simply a matter of extending dyadic theory but of rethinking how coordination, value creation, and governance unfold when interdependence spans multiple actors. By foregrounding interdependence as a generative lens, our framework invites scholars to probe the behavioral, cognitive, and political mechanisms that animate multiparty collaboration and to examine how these mechanisms scale, destabilize, or

transform as alliances evolve. Such inquiry promises to enrich broader debates in strategy and organization theory on cooperation under complexity, collective adaptation, and the management of distributed authority while offering actionable insights for practitioners navigating increasingly networked competitive landscapes.

NOTES

- [1] Our review also differs from reviews on alliance portfolios (e.g., Wassmer, 2010) and alliance networks (e.g., Baum et al., 2000), both of which are conceptually different from multiparty alliances. A multiparty alliance is a single, collaborative agreement involving three or more organizations, which cannot be simply reduced to a collection of dyadic relationships (i.e., alliance portfolios, Taubeneder et al., 2024). Multiparty alliances should also be distinguished from alliance networks, which are loose webs of connections, typically without a single collective agreement (e.g., Baum et al., 2000; Powell et al., 2005).
- [2] To ensure comprehensive coverage of terminology, we used wildcard truncation in our database queries. For example, we searched in Title/Abstract/Keywords with the search term “multi*”, where “*” returns all lexical variants beginning with the root (e.g., multiparty, multi-party, multipartner, multiparties). The wildcard also captures hyphenation and spacing differences across indexing systems. We then screened the results for relevance to inter-organizational collaborations and supplemented coverage through backward/forward citation tracking.
- [3] Taking “change of reciprocity patterns” as an example, in the first round of analysis, we observed the pattern that some articles discussed collaborative frictions and governance challenges related to multiple members, based on the coded terms in “difference from dyadic alliances.” For example, Pichler and Wilhelm (2001, p. 2238) write that “individual banks have a powerful incentive to free

ride on one another” and Zeng and Chen (2003, p. 591) note that “a partner in the multipartner situation will feel less guilt toward any particular partner when choosing not to cooperate.” In the second round of analysis, we tagged such observations with open codes such as “free riding,” “moral hazards,” “low accountability of individual,” “difficult to observe contribution/cheat,” “difficult to measure individual performance,” “difficulty in social sanction,” and “social complexity.” In the later rounds of analysis, we clustered these open codes with their contexts and found they converged on the same underlying mechanism, as Das and Teng (2002) point out: in multiparty alliances, as compared with dyadic relationships, the reciprocity pattern shifts from direct to generalized. This clarifies how this feature makes multiparty alliances categorically different from dyadic ones, and we validated this by revisiting the full set of coded research papers again to assess how often and in what contexts they discussed “a change in reciprocity.”

[4] For more details, see: <https://www.who.int/initiatives/act-accelerator/covax>

[5] For more details, see RE100 at <https://www.there100.org/re100-members>, Linux Foundation at <https://www.linuxfoundation.org>, U.S. FDA’s CDER at <https://www.fda.gov/drugs/science-and-research-drugs/scientific-public-private-partnerships-and-consortia>, USAID at <https://catalog.data.gov/dataset/usaaid-public-private-partnerships-database>, and NTIS at <https://www.ntis.gov/>

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FIGURE 1. Procedure of search and selection of the literature

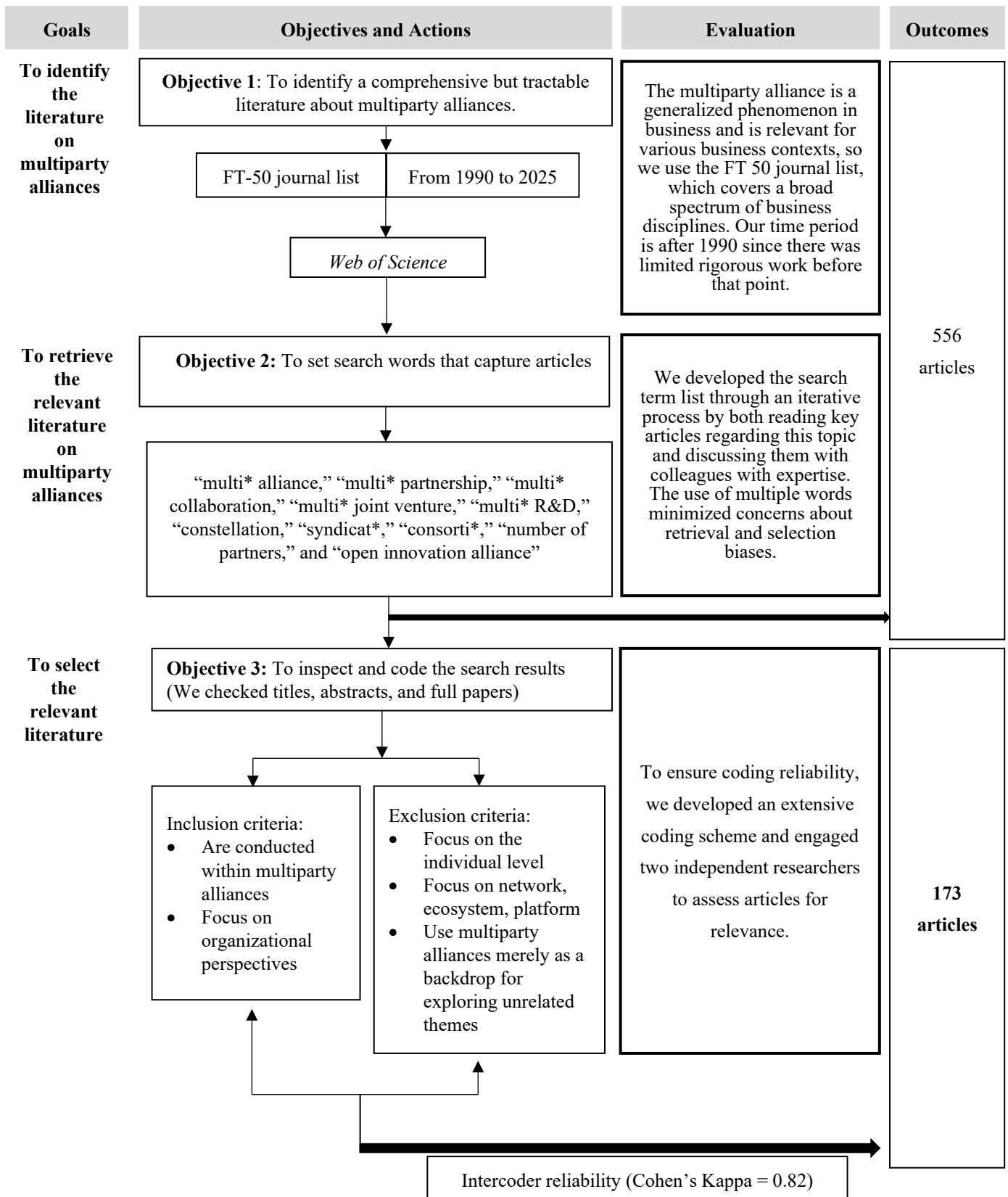


FIGURE 2. Number of articles on multiparty alliances in FT 50 journals by period, 1990-2025

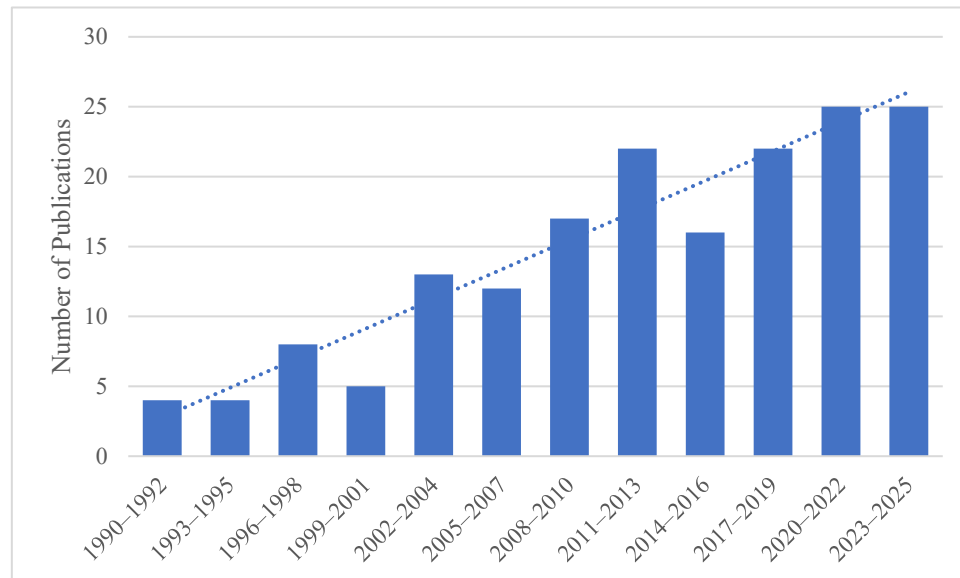
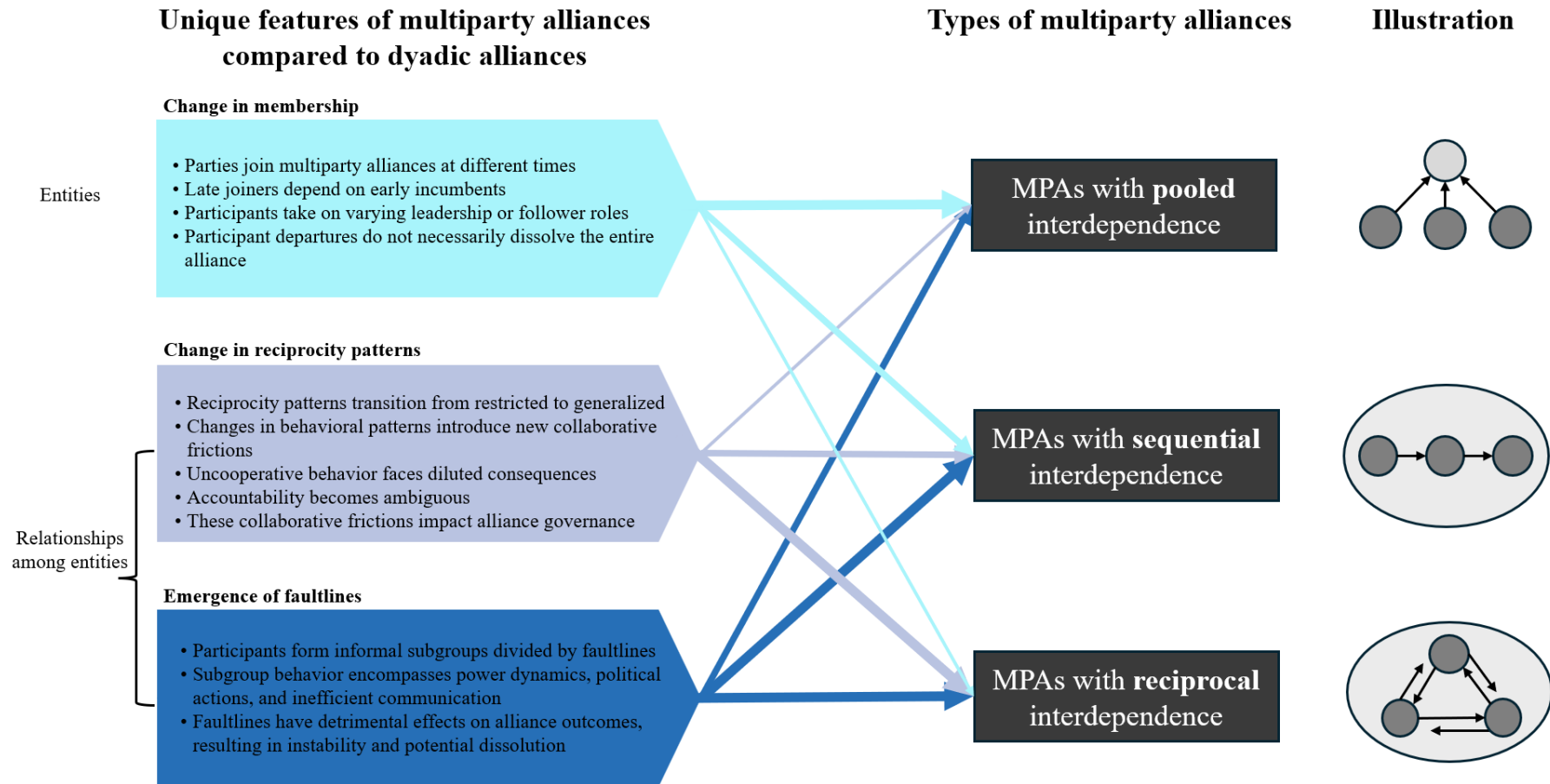


FIGURE 3. Categorical differences across different types of multiparty alliances

In addition to the gradual changes associated with having more partners (e.g., increased complexity, access to more resources), this figure highlights the categorical changes in the nature of multiparty alliances (left), lists the different types of multiparty alliance (middle), and illustrates the types of interdependence (right).



Note: The thickness of the arrow signs denotes the relevance of each of the three categorical differences for each of the three types of multiparty alliances, with a thicker arrow denoting higher levels of relevance for that feature.

TABLE I. Descriptive summary of the sample

	Items	Illustrative studies
<i>Topic of interests</i>	• Formation (motivation, partner selection, alliance composition) • Governance (contractual governance, relational governance, equity involvement) • Performance (behavioral outcomes, longevity, dissolution)	Sakakibara, 2002; Sytch et al., 2018; Zhang and Guler, 2020 Das and Teng, 2002; Gong et al., 2007; Wright and Lockett, 2003 Gompers et al., 2016; Heidl et al., 2014; Wang et al., 2022
<i>Theoretical lens</i>	• Resource-based view • Knowledge-based view • Transaction cost economics • Social exchange perspective • Signaling theory • Agency theory • Social network theory • Collective action theory • Stakeholder theory	Li, 2013; Miotti and Sachwald, 2003 Dai et al., 2018 García-Canal et al., 2003; Lioukas and Reuer, 2020 Das and Teng, 2002 Bushman et al., 2017; Hopp and Lukas, 2014 Ball et al., 2008; Meuleman et al., 2010 Bubna et al., 2020; Lockett et al., 2006 Markus et al., 2006 Olsen et al., 2016
<i>Type of multiparty alliances</i>	• Venture capital syndicates • Loan syndicates • Research and development (R&D) consortia • Standard-setting bodies • Collaborations guided by general strategic purposes (e.g., co-marketing collaborations; learning consortia)	Gu and Lu, 2014; Zhelyazkov and Gulati, 2016 Schneider et al., 2024; Ivashina, 2009 Lioukas and Reuer, 2020; Nishimura and Okamuro, 2018 Ranganathan et al., 2018; Zhao et al., 2007 Maciel and Fischer, 2020; Stuart et al., 1998
<i>Level of analysis</i>	• Alliance level (67%) • Firm level (33%)	Berkowitz and Souchaud, 2019; Heidl et al., 2014; Pichler and Wilhelm, 2001 Leiponen, 2008; Sakakibara, 2002; Zhelyazkov and Gulati, 2016
<i>Research methodology</i>	• Quantitative methods (59%) • Qualitative methods (21%) • Conceptual (9%) • Modeling (7%) • Review (4%)	Lavie et al., 2007; Li et al., 2012; Yin et al., 2012 Fjeldstad et al., 2012; Trujillo, 2018 Das and Teng, 2002; Flak et al., 2022 Hatfield et al., 2020; Zeng and Chen, 2003 Albers et al., 2015

TABLE II. Coding scheme for data analysis

Coding item	Explanation
Type of alliance	Identify what kind of alliance a study focuses on (e.g., JV, R&D alliance, VC syndicate, loan syndicate)
Topic of interest	Specify what topic the study focuses on (e.g., alliance governance, behavior, performance, entry timing, competition, decision-making, structure)
Findings	Outline the main findings of the study
Major differences from dyadic alliances	Describe how multiparty alliances differ from dyadic alliances
Major differences from other networks	Describe how multiparty alliances differ from other networks (e.g., a constellation of dyadic alliances or an alliance portfolio)
Motivations	Categorize motivations, such as risk-sharing, cost-sharing, achieving economies of scale/scope, accessing resources, innovating, handling higher levels of complexity, pushing development of standards, and increasing diversity • Distinguish the purpose of the leader in initiating the alliance, if applicable • Identify why the other partners joined the alliance
Type of research	Identify the study's research type, within categories such as conceptual, qualitative, quantitative, and modelling
Level of analysis	Determine whether the study takes place at the alliance level, focal firm (in a multiparty alliance) level, or dyad (in a multiparty alliance) level
Industry	Identify the industry the study examines
Theoretical lens	Examine the theoretical lens the study draws upon (e.g., transaction economic cost, resource-based view, behavioral theory of the firm, or social exchange perspective)
Key variables	List all the variables in the study, including the dependent variable, independent variables, and moderating or mediating variables, if applicable

TABLE III. Summary of key differences between dyadic and multiparty alliances

	Dyadic alliances	Multiparty alliances	Illustrative studies
Gradual differences	• Complementary resources are key in partner selection • The two parties sign contracts to protect against hazards • The parties form relational mechanisms to govern the collaboration • Conflicts of interest between and the cognitive limitations of the two parties lead to opportunistic behavior and coordination costs	• Complementary resources are still important, but their role becomes more complex • Contracts become increasingly costly and complex to draft as the number of partners increases • Relational mechanisms become more important because of the increasing difficulty of drafting contracts • Potential conflicts among partners increase exponentially as the number of collaborators increases and coordination becomes increasingly complex	Gompers et al., 2016; Liu and Maula, 2016; Miotti and Sachwald, 2003; Santamaria et al., 2010; Keil and Müller, 2020; Lioukas and Reuer, 2020; Markus et al., 2006; Gulati et al., 2012; Markus et al., 2006
Categorical difference #1: Change in membership	• The two partners are fixed throughout ○ No partner selection processes beyond the formation stage ○ Partners select each other based on the fit between them ○ Partner roles do not vary between leader and follower ○ The exit of one party leads to the dissolution of the alliance	• Partners in the alliance may change over time ○ Partner selection processes extend beyond the initial formation of the alliance ○ Partner selection is based on the preferences of all incumbent firms ○ Participants proactively choose to be a leader or follower by initiating or joining the alliance ○ The alliance can continue to exist even after partners exit	Dorobantu et al., 2020; Lavie et al., 2007; Olk and Young, 1997; Pichler and Wilhelm, 2001; Zhang and Guler, 2020; Zhelyazkov and Gulati, 2016

Categorical difference #2: Change in reciprocity patterns	• Relational norms take the form of restricted reciprocity ○ Social exchanges are relatively clear between individual partners ○ Clear accountability ○ Negative outcomes of noncooperation fall totally on the other party	• Relational norms can be either restricted reciprocity or generalized reciprocity ○ Social exchanges are complex, taking place not only between individual partners but also between partners and the alliance as a whole ○ Ambiguous accountability ○ Negative outcomes of noncooperation are diluted among all partners	Das and Teng, 2002; De Clercq et al., 2008; Gong et al., 2007; Li, 2013; Li et al., 2012; Lioukas and Reuer, 2020; Zeng and Chen, 2003
Categorical difference #3: The emergence of faultlines	• The two parties act independently and maintain only one relationship with each other ○ Power distribution is relatively static ○ The alliance tends to be stable as long as the two parties are on good terms with one another	• The group of partners can be divided into subgroups by informal faultlines ○ Power distribution is dynamically evolving and complicated by the number of firms ○ The alliance tends to be highly unstable, with a higher possibility of dissolution	Heidl et al., 2014; Thatcher and Patel, 2012; Zeng and Chen, 2003; Zhang et al., 2017; Zhang and Guler, 2020

TABLE IV. Mapping the relevance of categorical differences for each type of multiparty alliance

	Underlying commonalities	Change in membership	Change in reciprocity patterns	Emergence of faultlines	Examples of multiparty alliances
Pooled interdependence	• Contributions from members are relatively independent from each other • Resources exchanged are tangible • Levels of specialized investment are low	+++	+	++	• Investment syndicates • Loan syndicates • Loose R&D collaborations
Sequential interdependence	• Contributions from members are interdependent with each other in sequential order • Resources exchanged are both tangible and intangible • Levels of unidirectional specialized investment are moderate	++	++	+++	• Supply chain consortia • Joint development agreements with sequential inputs
Reciprocal interdependence	• Contributions from members are mutually interdependent and can influence each other • Resources exchanged are both tangible and intangible • Levels of specialized investment are high	+	+++	+++	• R&D consortia for technological innovation • Coalitions for operational efficiency (e.g., airline alliances, blockchain consortia) • Temporary multi-organizations for delivering complex projects

Note: The “+” signs denote the relevance of each of the three categorical differences for each of the three types of multiparty alliance, with more “+” signs denoting higher levels of relevance for that feature.

Table V. A summary of future research questions and methodological recommendations

Research directions	Key themes	Illustrative research questions / recommendations
<i>Research direction #1: Exploring inherent trade-offs in multiparty alliances</i>	Changes in Membership	• What are the adaption costs of shifts in membership? How do they disrupt coordination routines, governance structures, or trust patterns, and ultimately impact multiparty alliances' stability and adaptability? • Under what conditions do changes in membership facilitate structural resilience? When are membership changes mostly disruptive versus potentially beneficial (e.g., enabling resource reconfiguration)?
	Change in reciprocity patterns	• Do alliances characterized by more generalized reciprocity produce better learning outcomes than alliances dominated by restricted dyadic exchange? • How do we conceptualize and operationalize the level of restricted versus generalized reciprocity across different multiparty alliances?
	The emergence of faultlines	• Under what circumstances do latent faultline materialize into activated groups, turning from potential threats into genuine hazards for alliance performance? • Are faultlines based on expertise or task specialization beneficial for alliance performance?
	Composition of the alliance	• How do the characteristics of the alliance members (e.g., size, sector, and resource endowments) moderate the trade-offs brought by the three categorical features?
<i>Research direction #2: Governing the challenges of multiparty alliances</i>	Governance configuration	• How are hybrid governance configurations (i.e., combining formal contracts with relational and network-based mechanisms) designed and adapted to address challenges in multiparty alliances? • How do the configurations of governance mechanisms evolve following alliance-level shocks? Do adaptive governance capabilities enhance the resilience and long-term performance of multiparty alliances?
	Structural governance design	• When do orchestrators, lead firms, or centralized actors stabilize multiparty alliances, and when do they instead reinforce power asymmetries or activate subgroup divisions? • When do structural holes within multiparty alliances facilitate brokerage and knowledge recombination, and when do they create coordination bottlenecks or information asymmetries?
<i>Research direction #3: Unpacking the mechanisms of</i>	Cognitive mechanisms	• How do different forms of interdependence shape partners' fairness perceptions and evaluations of contributions in multiparty alliances? • Under what conditions do similar interdependence structures generate divergent relational outcomes due to differences in cognitive framing?

<i>different types of interdependence</i>	Temporal dynamics	• How do coordination failures evolve over time under different forms of interdependence? • What feedback loops connect an interdependence structure to the activation of faultlines over time?
<i>Research direction #4: Revisiting classic alliance questions in multiparty alliances</i>	Resource-sourcing approach	• What trade-offs shape firms' choice between dyadic alliances, multiparty alliances, and acquisitions? • Under what conditions are multiparty alliances superior to dyadic alliances or acquisitions for resource access?
	Learning and capability development	• How do firms manage selective openness in multiparty alliances, sharing enough knowledge to support collective learning while protecting proprietary capabilities? • How do subgroup structures affect learning in multiparty alliances by enabling specialized knowledge development while potentially limiting cross-subgroup recombination?
<i>Empirical recommendations</i>	Additional data sources	<i>Context-wise</i> • BioPharma consortia (e.g., Innovative Medicines Initiative, ACTIV Partnership) • Sustainability-focused collaborations and digital platforms (e.g., Linux Foundation) • Supply chain alliances (IoT data to examine real-time operational coordination and performance metrics) <i>Location-wise</i> • EU-funded consortia with mandated reporting (e.g., Horizon Europe, European Partnerships, Clean Aviation Joint Undertaking). • U.S. public-private partnerships and extensive government databases (e.g., U.S. FDA's CDER, USAID) • Japanese technology-focused multiparty alliances (e.g., Fifth Generation Computer Systems Project) • Chinese digital and infrastructure-related alliances (e.g., Chinese Research Data Services Platform)
	Research methods	• Case studies • Qualitative comparative analysis • Innovative modeling techniques (e.g., exponential random graph models, stochastic actor-oriented models) • Machine learning (e.g., multi-agent large language models)