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# **From Orchestration to Ensemble: Disentangling Ecosystem Management through a Systematic Literature Review**

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## **Abstract**

Scholars use the analogy of orchestration to study how heterogeneous organizational actors collaborate and manage the resulting ecosystems. However, as scholars applied the analogy to capture activities in various types of ecosystems, the analogy gelled into a concept that glosses over crucial differences in ecosystem purposes. To disentangle the concept of orchestration, we conduct a systematic literature review that takes stock and accounts for ecosystem diversity. Our analysis revealed that scholars conflate two different conceptions of orchestration when studying ecosystems. The first conception implies a single orchestrator that maximizes value for itself, using directive governance mechanisms, and sustaining its ecosystem through resource management, dynamic capabilities, and staged ecosystem development. It represents the dominant conception of ecosystem management. The second conception, nascent and growing, implies multiple actors involved in inviting and attracting collaborations to create shared value for internal and external ecosystem actors, sustaining their ecosystem through legitimization, government support, and a vision of the common good, for example, to improve environmental sustainability, innovate in disability care, or develop community solutions. Orchestration is a limiting concept for studying the latter type of ecosystems, and we propose using the musical metaphor of ‘ensemble’ instead. We compare and discuss the two concepts to disentangle orchestration and further ecosystem studies and theory.

**Keywords:** Ecosystem, Orchestration, Ensemble, Management

## INTRODUCTION

Scholars have used the analogy of orchestration to denote and understand the activities and capabilities required to manage several types of ecosystems. Orchestration has been used to study the management of innovation (Adner, 2006; Autio & Thomas, 2014; Granstrand & Holgersson, 2020; Ritala et al., 2013), business (Iansiti & Levien, 2004; Moore, 1993), entrepreneurial (Stam & Spigel, 2016), platform (Gawer & Cusumano, 2014) and knowledge ecosystems (Clarysse et al., 2014). At the same time, however, orchestration has glossed over some distinct characteristics, purposes, and management approaches. For example, orchestration originally assumes the central activities of a dominant ecosystem actor, while recent studies have found that orchestration tasks can be shared by several ecosystem actors (Autio, 2022; Gupta et al., 2020; Leten et al., 2013; Lingens et al., 2022). What has fallen under the label of orchestration so far may therefore refer to various ecosystem management activities with different purposes. To disentangle orchestration, our paper offers a systematic review of the ecosystem management literature to refine when, and when not, orchestration might be a suitable metaphor for ecosystem management, and what additional metaphors would capture distinction and further ecosystem research.

Ecosystems denote a form of inter-organizational collaborations including complementary resources and expertise to create value propositions that meet stakeholder needs. Scholars have contributed to a canon of empirical and theoretical research since Moore's (1993) founding paper on business ecosystems. This resulted in a typology including innovation (Adner, 2006), entrepreneurial (Stam & van de Ven, 2021), and platform (Jacobides et al., 2018) ecosystems, each with distinct intentions, patterns, and workings. In each type, ecosystems bring together "a community of hierarchically independent, yet interdependent heterogeneous participants who collectively generate an ecosystem output" (Thomas & Autio, 2020, p. 38).

The concept of ecosystem orchestration has helped to understand how actors jointly create a value proposition and align with each other. Orchestration activities are, for example, attracting and retaining actors in an ecosystem (Autio, 2022, p. 202; Leten et al., 2013; Lings, Böger, et al., 2021), connecting and aligning these actors (Rajahonka et al., 2015; Sjödin et al., 2022; Walrave et al., 2018; Yaghmaie & Vanhaverbeke, 2019), ensuring value capture and distribution (Giudici et al., 2018; Tabas et al., 2023), and ensuring value creation and ecosystem renewal over time (Autio, 2022; Isckia et al., 2020; Walrave et al., 2018).

While the dominant view on orchestration assumes and studies a single actor as the orchestrator of an ecosystem, some scholars have argued that ecosystem actors can also manage their ecosystem jointly (Autio, 2022; Gupta et al., 2020; Leten et al., 2013; Schaeffer & Matt, 2016). Others have advanced a more collaborative approach in which multiple actors share orchestration activities. For example, Lings, Huber & Gassmann (2022) analyzed ten case studies and explained the conditions under which ecosystems are orchestrated by a single or multiple actors. Similarly, Oskam et al. (2021) showed that collective orchestration involves mutual goals, collaborative value creation and capture, and a rather stable ecosystem. This distinction between single or collective orchestration hinders rather than helps further conceptual developments on ecosystems (Fan et al., 2022). As a whole, the increasingly diffuse understanding of ecosystem orchestration makes it difficult to communicate and share academic insights with practitioners (Tranfield et al., 2003).

Considering the diverging views on the ecosystem orchestration concept, this article aims to systematically review the literature to better delineate the concept and open ways for further theoretical developments. Our review revealed that scholars writing on ecosystem orchestration actually refer to two different conceptions. In the first conception of orchestration, scholars associate the concept with strategic issues of rather homogeneous ecosystems in which value is

supposed to be mostly captured by one single orchestrator. The latter coordinates value creation through governance mechanisms, leadership, and resource management. On the other hand, scholars following a second conception associate orchestration with strategic issues of rather heterogeneous ecosystems where possibly multiple orchestrators ensure value appropriation for all ecosystem partners. Actors also ensure value creation by drawing on shared values, government support, and smart power. Finally, while the first conception emphasizes activities related to governance, ecosystem stability, goal realization, and competitive advantage achievement, the second conception focuses on collaborations, collective action, resource recombination, and ecosystem identity development.

We begin this article with a presentation of the methodology used to carry out a systematic literature review of ecosystem orchestration. We then present the characteristics of both conceptions of ecosystem orchestration. In the discussion part, we suggest the metaphor of ensemble to distinguish between the two concepts to enable further empirical studies and theoretical developments. We conclude with a discussion and suggestions for future research.

## **METHODOLOGY**

An exploratory literature review highlighted divergent insights on ecosystem orchestration, which encouraged us to adopt a systematic approach. Systematic literature reviews (SLR) allow for a rigorous and transparent review of disparate and fragmented bodies of literature (Rojon et al., 2021).

### **Selection of Articles**

Drawing on Tranfield et al. (2003), we began by searching the Web of Science and EBSCO databases for journal articles from the Business and Management fields that included “ecosystem\*” and “orchestra\*” in their title or abstract. With Thomas & Autio (2020) and Jacobides et al. (2018), we concentrated on papers conceptualizing orchestration in innovation,

business, knowledge, and entrepreneurial ecosystems, thus excluding articles only mentioning the concept in various contexts such as service, industrial, Internet of Things or marketing ecosystems. We then extracted the .ris files of the relevant studies, uploaded them to the Rayyan web app (Ouzzani et al., 2016), and removed duplicates. We arrived at 141 journal articles and screened their abstracts in Rayyan. We further filtered the articles by reading them entirely and excluding those that mentioned but did not discuss orchestration as a concept. We retained 50 articles in total.

Most articles followed a strategic-choice view with theoretical backgrounds such as dynamic capabilities (Giudici et al., 2018; Helfat & Raubitschek, 2018; Linde et al., 2021; Sandberg et al., 2021; Wallin, 2012), resource-based view (Bittencourt et al., 2021; Cui et al., 2019; Franco et al., 2022; Xin et al., 2022; Zeng et al., 2021), knowledge management (Gastaldi & Corso, 2016; Gomes et al., 2021; Schreieck et al., 2021), stakeholder theory (Laczko et al., 2019), or business models (Russo-Spena et al., 2022). We also identified a resource-orchestration view under which we included articles with theoretical backgrounds such as network orchestration (Pikkarainen et al., 2017; Rajahonka et al., 2015; Schaeffer & Matt, 2016; Still et al., 2014; Tabas et al., 2023), open innovation (Masucci et al., 2020; Wikhamn & Styhre, 2023), or social network theory (Busch & Barkema, 2022; Tan et al., 2020). The least common perspectives fall under the collective-action and enabling-structure views with theoretical backgrounds such as property rights theory (Azzam et al., 2017; Leten et al., 2013), catch-up theory (Ge & Liu, 2022), transaction cost theory (Aagaard & Rezac, 2022) or agency theory (Autio, 2022), attention-based view (Lingens, Miché, et al., 2021) and alignment structures (Lingens & Huber, 2021). Table 1 presents the distribution of the articles along the four views.

INSERT TABLE 1 ABOUT HERE

## **Analysis**

For all included articles, we extracted basic identification information (authors, publication date, title, journal), the main research question(s), theoretical background, methodology, findings, and how orchestration was defined. Further, for each article, we identified the view of authors on orchestration and the associated strategic activities in terms of value maximization, coordination, and ecosystem sustainability. These categories, in combination with the theoretical views, enabled us to identify two conceptions. We gathered the strategic-choice and resource-orchestration views under the first conception, and the collective-action and enabling-structure view under the second. We then created one document for each and identified the articles' research questions and main findings, and their definitions. Building on the logic of comparative analysis, we identified common characteristics across articles for each conception and discussed the distinctions between articles across the two conceptions.

## **ORGANIZING THE ECOSYSTEM ORCHESTRATION LITERATURE**

Our analysis of the ecosystem orchestration literature revealed that what has fallen under the label of orchestration refers to two different conceptions. Table 2 describes the two conceptions and their characteristics.

INSERT TABLE 2 ABOUT HERE

### **Conception 1: Single Orchestrator and Governance**

We related the first conception to 36 articles that follow the strategic-choice or resource-orchestration views. Authors following these views understand ecosystem management as a the activity of a single, self-centered and central actor that assumes orchestration activities based on its reputation, size, and influential power. It seeks to maximize its value through value capture, leadership, and competitive advantage and is concerned about how to sustain the ecosystem over time. In such a case, the single central actor ensures ecosystem coordination on

the basis of its individual interests and objectives. While the two theoretical views shared a similar conception of orchestration, they also present idiosyncrasies that we present below.

### ***Strategic-Choice View***

In this view, scholars refer to the orchestrator as the central ecosystem actor (Aagaard & Rezac, 2022; Franco et al., 2022; Laczko et al., 2019), focal or hub firm (Azzam et al., 2017; Masucci et al., 2020; Ritala et al., 2013; Walrave et al., 2018), leader (Gomes et al., 2021; Helfat & Raubitschek, 2018; Isckia et al., 2020; Kamalaldin et al., 2021; Linde et al., 2021) or keystone (Poblete et al., 2022). Actors were identified as orchestrators based on their size. For instance, Stonig et al. (2022) studied CASTER, a major supplier in the machine industry. Similarly, Poblete et al. analyzed AH, “one of Sweden’s largest construction clients” (2022, p. 304). The leadership position and reputation of actors also granted an orchestrator role. Both Gomes et al. (2022) and Kamalaldin et al. (2021) selected leaders as their main case study. On the other hand, Franco et al. studied “one of the best hotels in the world” (2022, p. 3445) and Azzam et al. (2017) focused on a firm characterized by strong relationships.

In the strategic-choice view, the main research topic relates to strategic issues and ways of maximizing value for the orchestrator, such as value creation and capture, competitive advantage, governance, and leadership. Giudici et al. (2018) and Poblete et al. (2022) analyzed how keystone actors or orchestrators can encourage the sensing of opportunities and support the realization of value. Isckia et al. (2020) suggested that defining a value proposition is at the core of the orchestration process during the ecosystem birth stage. Authors also identified value creation and capture as one of the core activities of an orchestrator (Kolagar et al., 2022; Ritala et al., 2013; Schrieck et al., 2021) as well as the mechanisms and capabilities to realize this activity (Laczko et al., 2019; Linde et al., 2021). Value creation is an important activity for orchestrators to gain a competitive advantage (Zeng et al., 2021), achieve objectives (Cui et al.,



2019), and reach ecosystem stability (Azzam et al., 2017; Isckia et al., 2020) and performance (Franco et al., 2022).

In this view, orchestration is defined in terms of governance, leadership, and control. Governance mechanisms (Aagaard & Rezac, 2022; Addo, 2022; Cobben et al., 2022) and strategies (Gomes et al., 2022) can be used by orchestrators to manage relationships and direct ecosystem actors. Orchestrators are responsible for enforcing the rules of the game, defining governance principles (Kolagar et al., 2022), and governing actors' alignment (Linde et al., 2021). Visnjic et al. (2016) characterized the orchestration approach as a city governance approach to establish the right ecosystem structure. Stonig et al. (2022) suggested that the orchestrating firm governs the value proposition when developing its ecosystem. In terms of leadership, orchestrators generally adopt a leader role (Kamalaldin et al., 2021) which implies planning goals and roles related to knowledge management (Gomes et al., 2021) and influencing how an ecosystem operates (Walrave et al., 2018). Finally, when it comes to controlling, orchestration involves various control mechanisms (Franco et al., 2022; Schrieck et al., 2021) to enforce quality standards (Schrieck et al., 2021) and secure control over intellectual property (Masucci et al., 2020).

### ***Resource-Orchestration View***

This view resembles the strategic-choice view and perceives orchestration as a single-actor activity. However, scholars following a resource-orchestration view address questions at the ecosystem level, thus highlighting different ecosystem orchestration features. Typically, scholars study the development of different ecosystem types over time (Ge & Liu, 2022; Wallin, 2012; Wikhamn & Styhre, 2023) or elements of ecosystems such as business models (Russo-Spena et al., 2022), inter-organizational capabilities (Sandberg et al., 2021), or competition (Xin et al., 2022).

A central question in this view, tackled through resource approaches, is how the orchestrator can sustain the ecosystem over time. Bittencourt et al. (2021), Ge & Liu (2022), Sandberg et al.(2021), and Xin et al. (2022) adopted a resource orchestration approach to understand how resources in ecosystems can be coordinated to generate innovation and maintain stable relationships. The literature also suggests that having resources at disposal is less important than the orchestrator's ability to integrate such resources. Russo-Spena et al. (2022) highlighted the need for orchestrators to integrate resources and competencies from different ecosystem actors to create and deliver value for the ecosystem. Being able to integrate and transform resources into innovations is an essential characteristic of an orchestrator's performance, according to Bittencourt et al. (2021). Resource orchestration also benefits the orchestrator itself as it helps maintain stable relationships with partners and gain additional resources (Ge & Liu, 2022).

Articles included in this view also study the dynamic aspect of ecosystems to sustain them over time. Pitelis & Teece (2018) focused on the dynamic capabilities orchestrators should possess to shape, sense, and seize markets. Sandberg et al. (2021) showed that resource orchestration capabilities differ depending on the type of inter-organizational dynamic capabilities, namely firm-based, network-based, exploitative, or supportive. Ecosystem dynamics (Das & Dey, 2021) were also studied through ecosystem development and transformation. For example, Ikenami et al. (2020) drew on the maturity stages of ecosystems to identify and analyze the orchestrator role. Wallin (2012) and Wikhamn & Styhre (2023) both argued orchestrators were central to ecosystem development. Finally, Still et al. (2014) presented a framework for how orchestrators can support ecosystem transformation.

## **Conception 2: Multiple Orchestrators and Shared Values**

Based on our systematic review, the second conception of ecosystem orchestration includes 14 articles that adopt a collective-action or enabling-structure view. In this conception, actors have an altruistic rather than self-centered nature and take on activities based on their expertise, knowledge, and resources. As in the first conception, actors seek to sustain their ecosystem over time. Yet, their main intention is to maximize value for the ecosystem as a whole rather than for a focal actor. Furthermore, scholars investigate a phenomenon in which multiple actors take part in orchestration activities which was named “shared” or “collective orchestration”. Such actors are not necessarily renowned and established firms, but can be start-ups (Lingens, Böger, et al., 2021), universities (Schaeffer & Matt, 2016), or governments (Tan et al., 2020). Finally, ecosystem cohesion is achieved through shared interests and values between ecosystem actors.

### ***Collective-Action View***

In this view, scholars have studied ecosystem orchestration under the term of multi-actor orchestration (Lingens & Huber, 2021; Pikkarainen et al., 2017), co-orchestration (Lingens, Miehé, et al., 2021), and collective orchestration (Oskam et al., 2021). We also include articles in which scholars clearly state that multiple actors manage an ecosystem, without naming it. For instance, Autio wrote that while “the ecosystem orchestrator often is the ‘hub’ firm, any participants of the ecosystem may engage in orchestration activity to shape the functioning of the ecosystem” (2022, p. 12). In the same way, Pikkarainen et al. studied a case in which “multiple parallel actors took part in forming and managing the networked innovation activity” (2017, p. 36). Finally, in one of their nine case study, Lingens, Böger & Gassmann identified that “the orchestrator assigned each orchestration task that was not essentially related to the core relocation process to one of its partners” (2021, p. 132), leading to the presence of one strategic orchestrator and one operative orchestrator.

The main concern in the collective-action view is how to maximize value for the ecosystem through various activities, challenge-solving, and roles. Autio (2022) suggested tangible actions actors can take across technological, economic, cultural-behavioral, and institutional layers to manage ecosystem emergence and offer a coherent offering. Valkokari et al. (2017) described the different activities start-ups and established firms can have when managing their ecosystems. In terms of challenge solving, Leten et al. (2013) focused on the intellectual property challenge and presented a model for an ensemble to stimulate collaboration and ecosystem success. Lingens & Huber (2021) addressed the alignment challenges by identifying the efficient-driven, collaborative, and bottleneck approaches as a way to align ecosystem partners. Finally, scholars following a collective-action view showed that actors can take on different roles over time. Pikkarainen et al. (2017) argued that actors play the role of architects, gatekeepers, conductors, developers, auctioneers, leaders, promoters, or facilitators. Depending on the situation, one or several types of actors may step in to manage the ecosystem. Tabas et al. (2023) identified a similar set of roles and the associated required capabilities. Both authors supported the idea that actors can engage in multiple roles at a time and change roles over time.

### ***Enabling-Structure View***

The enabling-structure view also recognizes that multiple actors can manage an ecosystem. Thomas & Ritala (2022) showed that several actors were involved in developing ecosystem legitimacy during the emergence stage. In their case study, Tan et al. (2020) analyzed how one government and its two support institutions managed their ecosystem by creating connections and fostering collaboration across the value chain. However, scholars following this view researched ecosystem-related topics such as ecosystem emergence (Thomas & Ritala, 2022) or implementation (Gupta et al., 2020).

The empirical studies of scholars recognising that multiple actors can manage their ecosystem show that ecosystem actors shared activities based on their expertise. By studying the London's city data initiatives, Gupta (2020) revealed a case of collective management in which a local institution supported the local authority in managing the ecosystem because the latter lacked authority in different part of the ecosystem and thus, had a limited power in managing the whole ecosystem. Similarly, Thomas and Ritala (2022) argued that several actors are involved in legitimising an ecosystem. These actors, i.e., orchestrators, complementors, users, and external actors, have distinct and interconnected roles that enable the ecosystem legitimisation process. The orchestrator is needed to design ecosystem goals and identity. Complementors are necessary to the realisation of an ecosystem value proposition, which is essential is legitimising an ecosystem. Users, by adopting the value proposition, can trigger cognitive and normative legitimacy. Finally, external actors such as media, competitors and regulators, can influence ecosystem legitimacy by signalling viability or establishing standards.

Studies in the enabling-structure view emphasise the importance of ecosystem identity to ensure coordination across actors. Thomas and Ritala defined ecosystem identity as a “set of mutual understandings among ecosystem participants regarding the central, enduring, and distinctive characteristics of the ecosystem value proposition” (2022, p. 19). The authors also advance that such identity is particularly important at the emergence stage as it helps to attract new actors and mobile action as the system level. Tan et al. (2020) address the identity aspect and states that a common identity can enhance knowledge mobility and foster linkages among actors. Their case studies show that the development of “cohesive groups” reinforce such identity and provide actors with information sharing.

Finally, the articles included in this view tackle how external structures and factors enable actors to manage and sustain their ecosystems. Thomas & Ritala (2022) studied how ecosystem

actors can develop ecosystem legitimacy for emerging ecosystems to overcome the liability of newness and further develop. Tan et al. (2020) showed how important the support of governments and institutions is to facilitate technological development and develop network ties. Finally, Gupta et al. (2020) identified openness, diffusion, and shared vision as three elements enabling actors to develop city data initiatives.

## **DISCUSSION AND FUTURE RESEARCH**

This article aimed to systematically review the literature on ecosystem orchestration to provide conceptual clarity. As scholars used the orchestration concept in various ways to understand ecosystem management, we identified two different conceptions of orchestration. We carried out our analysis by identifying the view of authors on orchestration and the associated activities in terms of value maximization, coordination, and ecosystem sustainability. This revealed two conceptions with fundamental differences in terms of orchestrating actors and their activities. Below, we discuss the two conceptions and suggest renaming Conception 2 to further distinguish it from Conception 1 and structure our understanding of ecosystem management.

### **Ecosystem Management Through Orchestration**

Conception 1 of ecosystem orchestration is the most common among the article reviewed and covers the strategic-choice and resource-orchestration views. This prevalence illustrates the origin of the orchestration concept from the innovation network literature in which Dhanaraj & Parkhe (2006) described network orchestration as “the set of deliberate, purposeful actions undertaken by the hub firm as it seeks to create value (expand the pie) and extract value (gain a larger slice of the pie) from the network” (2006, p. 659). When adapting the concept to ecosystems, scholars have retained the centrality of the hub firm (Hakala et al., 2020) and focused on the activities and capabilities of a single ecosystem orchestrator.

We chose to retain the *orchestration* concept to refer to Conception 1, considering its focus on a single orchestrator, value maximization for the orchestrator, governance mechanisms, and ecosystem sustainability through resource management, dynamic capabilities, and ecosystem development.

### **Ecosystem Management Through Ensemble**

Conception 2 of ecosystem orchestration includes articles following a collective-action or enabling-structure view. It is the least adopted conception among scholars with only 14 articles out of the 50 articles reviewed. This scarcity indicates a nascent view of ecosystem management that is different from the concept of orchestration and draws attention to the specificities and lack of understanding of Conception 2. We argue that what has so far been referred to as ecosystem orchestration may actually entails distinctive characteristics from orchestration as defined in Conception 1. We thus propose the *ensemble* concept to refer to Conception 2.

Drawing on a music metaphor, we chose the term ensemble as a metaphor related to jazz ensembles in which multiple musicians with different instruments come together (Pavlovich, 2003) and, unlike classic orchestration, the roles of musicians as a whole prevail over their individual roles (Merriam-Webster, n.d.). Likewise, we introduce the term ensemble in ecosystem management to refer to a group of diverse actors, each having their own role, that collectively manages an ecosystem. In our view, the ensemble concept covers the characteristics of Conception 2, i.e., the presence of multiple managing actors, the focus on value maximization for the ecosystem and shared values, and the role of government support, legitimacy and a shared vision to sustain the ecosystem.

### **Future research**

We encourage scholars to carry out additional empirical research on the ensemble concept to understand how activities are distributed across an ensemble of actors and how these latter

coordinate or not their activities. We also believe it important to consider the dynamics of ensemble activities and consider the way the distribution of activities evolves as the ecosystem develops or whether actors can enter or exit an ensemble at any time throughout an ecosystem development.

We propose avenues for research on how coordination takes place in ensemble ecosystems. As demonstrated in this review, the orchestrator, according to Conception 1, resorts to governance mechanisms to coordinate other ecosystem actors who eventually align and coordinate their actions thanks to the controlling role of the orchestrator. Yet, as Conception 2 does not consider a single orchestrator, we can wonder how ecosystem actors' alignment and coordination take place without a single, powerful leader.



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**Table 1:** Distribution of the Collected Articles Along the Four Identified Views

Views	Papers Included
Strategic-choice view	Aagaard & Rezac, 2022; Addo, 2022; Azzam et al., 2017; Busch & Barkema, 2022; Cobben et al., 2022; Cui et al., 2019; Franco et al., 2022; Gastaldi & Corso, 2016; Giudici et al., 2018, 2018; Gomes et al., 2021, 2022; Helfat & Raubitschek, 2018; Isckia et al., 2020; Kamalaldin et al., 2021; Kolagar et al., 2022; Laczko et al., 2019; Linde et al., 2021; Masucci et al., 2020; Poblete et al., 2022; Ritala et al., 2013b; Schrieck et al., 2021; Stonig et al., 2022; Visnjic et al., 2016; Walrave et al., 2018; Zeng et al., 2021
Resource-orchestration view	Bittencourt et al., 2021; Das & Dey, 2021; Ge & Liu, 2022; Ikenami et al., 2020; Pitelis & Teece, 2018; Russo-Spena et al., 2022; Sandberg et al., 2021; Still et al., 2014; Wallin, 2012; Wikhamn & Styhre, 2023; Xin et al., 2022
Collective-action view	Autio, 2022; Leten et al., 2013; Lingens, Böger, et al., 2021; Lingens, Miché, et al., 2021; Lingens & Huber, 2021; Pikkarainen et al., 2017; Rajahonka et al., 2015; Schaeffer & Matt, 2016; Tabas et al., 2023; Valkokari et al., 2017
Enabling-structure view	Gupta et al., 2020; Tan et al., 2020; Thomas & Ritala, 2022

**Table 2:**Two Conceptions of Orchestration in the Ecosystem Literature

	<b>Conception 1</b>	<b>Conception 2</b>
Main theoretical views	Strategic-choice	Collective-action
	Resource-orchestration	Enabling-structure
Managing actor(s)	Single central actor	Multiple actors
Managing actor(s)' orientation	Self-centred nature	Altruistic nature
Management activities distribution	Assumed by an actor based on his size, reputation, and influence	Chosen by multiple actors based on their interconnected roles, expertise, and knowledge
Coordination	Based on governance mechanisms, and individual interests and objectives	Based on shared interests, values, and ecosystem identity
Value maximization	For the orchestrator, through value capture, leadership, and competitive advantage	For the ecosystem, through various roles, activities, and challenge-solving
Ecosystem sustainability	Through dynamic capabilities, resource orchestration, and ecosystem development	Through government support, legitimacy, and a shared vision