Supplier ecosystems provide an opportunity for supply chain managers to overcome the shortcomings of conventional supply chain approaches when managing complex supply chains.

BY FRANK WIENGARTEN, THOMAS CHOI AND DI FAN

Companies are under constant pressure to optimize their supply chains to provide complex product and service solutions for customers. The conventional approach has been to find the best suppliers, wherever they are located. By doing so, companies have dispersed their sources of supply across long supply chains that often span the globe. The unanticipated consequence of this approach has been increased supply chain complexity, characterized by a lack of visibility and an increased risk of disruption. Many companies experienced all three of these during COVID. And in this model, the management of that complexity is centralized in the buying company, which bears the responsibility for managing and coordinating the activities of culturally and geographically diverse suppliers.
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Supplier ecosystems present a different approach that may provide an opportunity for supply chain managers to overcome the shortcomings of the conventional approach to complex supply chains. In a supplier ecosystem, suppliers have more autonomy and supplier-supplier relationships are allowed to emerge. That shifts some of the responsibility from the buying company and enables supply chain complexities to be managed decentrally.

While the traditional approach leads to long, dispersed supply chains, the ecosystem approach focuses on tightening and integrating supply chains. The ecosystem approach highlights supplier autonomy while acknowledging the buying company’s leadership.

At the Center for Advanced Procurement Strategy (CAPS) Research, we conducted in-depth case studies involving nine multinational companies with varied ecosystem approaches. Based on these case studies we developed a maturity model of supplier ecosystems that is based on processes and practices with implications to the strategic and operational performance benefits from applying the ecosystem approach. Our research has identified various operational and strategic benefits stemming from the supplier ecosystem approach (see About our research).

Supply chains versus supplier ecosystems
The traditional approach to supply chain management typically happens one supplier at a time, in a top-down way. The buyer drives the relationship, and often tries to gain leverage through adversarial posturing, by, for instance, taking away business, negatively modifying conditions and canceling contracts.

Supplier ecosystems are different. They present a dynamic, communal environment. Instead of involving one supplier at a time in, say, new product development, a buyer may create an ecosystem where multiple suppliers come together to collaborate on the project. Yes, the buyer still exercises leadership, but now the buyer faces not just one but a network of suppliers. If the conventional supplier relationship approach could be likened to a series of bilateral trade agreements, the ecosystem approach might be called a multinational trade agreement.

As the initiator of the ecosystem, the buyer plays

For this project, which was sponsored by CAPS Research, we asked two questions: (1) How can companies create and manage supplier ecosystem to deliver solutions to business problems and opportunities? (2) What is the type and level of value that companies can expect to gain through supplier ecosystems?

Using a case study approach, we conducted an in-depth analysis of nine companies operating in various industries across manufacturing and service sectors.

Two companies were from the electronic/IT/telecommunications sectors (IT.SERV and IT.PROD), one financial institution (FIN.SERV), one fast-moving consumer goods company (FMCG), one utility company (ELEC.SER), one company that works in healthcare and training (DRHT) and another company that provides logistical/delivery services (MAIL). Two companies were in automotive industry as industrial suppliers (BREM and FSA). Overall, six companies had their headquarters in the United States, one in Asia (Japan) and two in Europe (Germany).

These companies provided a broad spectrum of ecosystem approaches in terms of maturity and sophistication (see Table 1 for an overview). The level of maturity was assessed on a seven-item scale ranging from 1 (low) to 7 (high). The scale is cumulative and reflects the level of practices relative to the maturity of ecosystems: sharing of the benefits, coopetition, sharing the costs, soft side of relationships, knowing each other’s capabilities, varied leadership, communication, stakeholder consideration and problem definition.

Data was collected during the second half of 2018. Interviews lasted between 35 minutes and 50 minutes and often multiple interviews were conducted with the same informant. The informants were mostly supply chain or purchasing managers in senior positions. Secondary data was also collected from company webpages and was mainly used for contextual, background information such as company size, performance and other factors.

More information on these practices can be found in the CAPS report “Developing supplier ecosystems to create value.” It can be found on capsresearch.org.
the role of facilitator and must allow relationships among the suppliers to emerge over time as suppliers interact and work together. The relationships in ecosystems are built on the sharing of knowledge and mutual benefits. This represents a hybrid form of sourcing strategy where suppliers cohabit in one ecosystem organized by the focal buying company.

In this context, cooperation and competition happen at the same time as a group of competitors cooperate in activities associated with creating mutual benefits while at the same time they may compete against one another in other settings associated with dividing up the benefits—what is more commonly known as co-opetition. The ecosystem approach offers a real chance for competing suppliers to truly cooperate by sharing capacity and capability. For instance, two competing third-party logistics (3PL) suppliers can share their warehouse space and the know-how of working with trucking companies.

**The business case for supplier ecosystems**

One recurring theme appeared in our research to explain the need for an ecosystem: Complexity. That can be defined by the depth and scope, or the number of tiers and suppliers, of a supply network.

Globalization and free-trade agreements have contributed to complexity. On the one hand, they have enabled supply chain managers to gain access to cheap materials, sources of low-cost labor and specific capabilities that may not be available in their country of origin. On the other hand, supply chain executives must now manage processes across borders and over long distances, while dealing with diverse cultures and differences in business practices. Global supply chains have provided great opportunities for many companies, but also increased the likelihood of disruptions, loss of efficiencies and increased transaction costs.

As part of our research, a company in the electronic/IT/telecommunications sectors we’ll refer to as IT.PROD told us that “the traditional efficiency focused supply chain strategy is not working for our complex products and services anymore.” Such complexity requires a diverse set of capabilities that many companies do not yet possess for the entirety of their products and services. What is needed is a collaborative approach with a varied group of suppliers across the supply chain to gain access to multifaceted capabilities.

Supplier ecosystems present an effective tool for supply chain managers to address those high levels of complexity for companies like IT.PROD. While the structure and length of traditional global supply chains have in many incidents led to communication difficulties, ecosystems create a hub and spoke communication design where the initiator is located in the middle and all other ecosystem members can dynamically interact directly with the initiator and with all other members.

For instance, FMCG, one of our study companies in the fast-moving consumer goods sector, involves its suppliers and end customers in supplier ecosystems to develop new products. The strategy is to use the ecosystem approach only for products that are extremely meaningful and important to consumers. This enables FMCG to gain crucial feedback from consumers right from the start and throughout the product development process.

Ecosystem approaches like those just described also recognize suppliers as stakeholders and offers them a context within which to collaborate and pool capabilities. Sharing knowledge and capabilities is required across competing suppliers. The combination of co-opetition and the co-evolvement among the ecosystem members is another factor that sets an ecosystem apart from traditional supply chain management.

**Supplier ecosystem maturity framework**

From our interviews, we identified significant variances in the maturity levels of the ecosystem approach across our sample companies, as is illustrated in Table 1.

Our case analysis revealed that differences in
Supplier ecosystems

maturity levels comes primarily from four different dimensions as shown in Figure 1.

At the low end (i.e., 1-2), companies seem to apply the ecosystem approach as a project to find solutions for specific business needs. This project-based approach is best suited for radically new developments. Furthermore, project processes are generally used to develop highly customized products and services. As such they have a defined and limited time span in terms of the duration of the ecosystem. They are not continuous, and the project ecosystems dissolves after all milestones are reached and the deliverables are made.

On the opposing end of the scale at the high levels of maturity (i.e., 6-7) are more established and sophisticated ecosystems in terms of processes and practices. These ecosystems generally do not get dissolved, but instead evolve over time. IT.PROD, for example, uses specific ecosystems for product lines on a continuous basis. For a specific portable, handheld communication device, IT.PROD consistently uses the same group of stakeholders in its ecosystem to continually improve the product or product line. Small adjustments are made to the ecosystem as required, based on technological developments or changing demands.

FMCG was also at the mature end of the spectrum. During our research, one manager said “we define an ecosystem as a group of individuals that depend on each other.” The key word here is dependency—it comes not so much from the financial side but from a shared goal. Another company, FIN.SERV, offered a good example of accomplishing a goal together through an ecosystem approach. As a financial service firm, it launched an initiative to redesign its branches to be more ecologically sustainable. FIN.SERV developed

<table>
<thead>
<tr>
<th>COMPANY (abbreviation)</th>
<th>MATURITY OF THE ECOSYSTEM (scale 1-7; 1 = low; 7 = high)</th>
<th>ECOSYSTEM MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BREM</td>
<td>6</td>
<td>They include mainly suppliers along multiple tiers down into their supply chain. They also include customers in their ecosystem, but not by choice. Customers sometimes demand to be included to dictate the ecosystem setup.</td>
</tr>
<tr>
<td>FSA</td>
<td>1</td>
<td>Only limited number of suppliers. They do not really apply the ecosystem approach as such. FSA’s main concern with ecosystem is that they believe that a competitive environment cannot be created.</td>
</tr>
<tr>
<td>FIN.SERV</td>
<td>5</td>
<td>The decision as to whom to include in the ecosystem is entirely driven by the end service that is developed. Thus, they don’t prefer internal nor external stakeholders. However, overall the ecosystem members are mainly comprised of 1st tier service providers.</td>
</tr>
<tr>
<td>IT.SERV</td>
<td>6</td>
<td>They take a building block perspective to stakeholder management. They mix internal with external stakeholder. This company has a very defined view on stakeholders in terms of which stakeholders are “always” included: Supply partners, sales team, pricing team and delivery team.</td>
</tr>
<tr>
<td>IT.PROD</td>
<td>7</td>
<td>IT.PROD have a very inclusive approach to stakeholder management. They include all entities together that have a stake in the end product. This refers to all stakeholders that that contribute to the value proposition of the end product of service. This includes customers etc.</td>
</tr>
<tr>
<td>FMCG</td>
<td>7</td>
<td>FMCG have a simple philosophy but also the most sophisticated approach to ecosystems: “Bring in all that have a stake in the end product (including customers)”.</td>
</tr>
<tr>
<td>ELEC.SER</td>
<td>5</td>
<td>They only use internal stakeholders for their ecosystems. But interestingly sometimes uses a contractor to manage their ecosystems.</td>
</tr>
<tr>
<td>DRHT</td>
<td>4</td>
<td>They only use its 1st tier suppliers in their ecosystems.</td>
</tr>
<tr>
<td>MAIL</td>
<td>4</td>
<td>MAIL only uses its 1st tier suppliers in their ecosystems.</td>
</tr>
</tbody>
</table>

Source: Authors
an ecosystem of all stakeholders, including branch leadership and the construction companies involved in designing, selecting and renovating the facilities. Capitalizing on existing knowledge outside their area of business expertise, the supplier ecosystem developed innovative solutions together. Subsequently, the learnings were applied to other projects.

**Value generation**

A manager at IT.SERV, another company in the electronic/IT/telecommunications sectors, noted, “We clearly see three value dimensions: technical innovation, cost takeout and speed.” This comment captures two types of values—operational and strategic value. Operational value refers to cost, quality, delivery and flexibility. Strategic value refers to innovativeness, including areas such as new product development. With different levels of maturity come different performance benefits.

As expected, companies that are mature in their ecosystem approach reap operational performance benefits and strategic benefits. In contrast, companies at the lower end of maturity levels experience only strategic performance benefits. This observation was interesting in the sense that these lower-end companies tend to set up operational outcomes as their goals.
using a less mature ecosystem approach, such as those ELEC.SER, a utility company in our survey, can get enthusiastic about the ecosystem approach. There are low-hanging fruits to be picked and quick performance improvements to be gained from implementing supplier ecosystems. Overall, the major strategic value generated through ecosystems are associated with innovativeness.

For example, IT.SERV and IT.PROD, as mature users of ecosystems, reported that the main value of ecosystem lies in the ability to generate new product or service innovations, in addition to the operational performance benefits discussed below.

Less mature companies, however, have predominantly used supplier ecosystems from a project perspective to develop and push radical innovations. This priority is probably the reason why less mature supplier ecosystems predominantly result in strategic benefits. Higher levels of maturity bring not only higher levels of performance, but also additional benefits, such as both strategic and operational performance.

All in all, innovation is the key reason behind why most companies start engaging in ecosystems in the first place. IT.PROD told us, "(through the ecosystem approach) we have reduced the time to market from formerly just more than one year to three months." The company noted that it achieved this through the inclusion and integration of extended stakeholders with whom they now have direct access and communication with. This presents a crucial competitive advantage for them as the increased introductions of new products drives their innovative capabilities.

Another strategic objective of ecosystems is to gain access to new markets. This less apparent performance benefit can result in the ability to tap into sources of supply talent that were formerly out of reach. IT.PROD reported that the combination of the access to new sources of supply and new sales markets enables them to generate such high value through ecosystems. They used consumers in their ecosystems to adapt their products to the specific market needs to induce a country/regional perspective.

**Generating operational value**

Conventional wisdom holds that operational performance benefits come before strategic performance gains. For example, operational performance benefits such as quality improvements may increase customer satisfaction and required innovativeness.

In supplier ecosystems, however, we find that strategic benefits come before operational benefits. According to IT.SERV, the ecosystem approach provides a different process setup that can then positively affect the cost and speed dimension. What the company refers to as cost takeout encompasses procurement costs for parts and materials as well as transaction costs beyond costs that occur on the supplier’s side. Furthermore, by breaking down the barriers associated with conventional, linear supply chains and an increase in focus, ecosystems are able to significantly speed up the time to market.

While IT.PROD initially set up strategic benefits as the goal for its supplier ecosystem, it unexpectedly discovered operational benefits as a byproduct. For example, one initial objective was to gain access to new suppliers, new markets and to generate ideas. Then, it noticed improvements in operational performance. In essence, by being able to more accurately match supply with demand through the supplier ecosystem, the company began to reap some of the fruits of the ecosystem approach, including reduced time-to-market, lower costs and increased quality.

In short, operational performance benefits are attained by building on previously achieved strategic benefits of the supplier ecosystem approach. The resulting operational performance benefits are incremental but lead to continuous process improvements. As mentioned previously, the operational value can be in any operational performance dimension, depending on the priorities, such as innovation and quality process, or on other dimensions such as flexibility gains. At IT.PROD, increasing agility through improved communication and supplier connectivity represents an important improvement that can strengthen a company’s competitive position.
How FMCG practices supplier ecosystem

One of the companies we interviewed was a fast-moving consumer goods company we’ll call FMCG. This company’s approach to its supplier ecosystem exemplifies some of the best practices we observed in our study. A combination of these practices make this company’s supplier ecosystem a significant departure from traditional supply chain management. We identified nine significant practices.

1. **Something for everyone.** Ecosystems need to be managed so that there is “something in it” for each participant. FMCG has clear rules and regulations with regard to sharing gains from a new product or service that comes out of the supplier ecosystem. It provides a revenue percentage of sales based on the intellectual contributions of each ecosystem member.

2. **Co-opetition as modus operandi.** The tension between cooperation and competition among the ecosystem members is an important aspect of the value creation effort. Co-opetitive environments need to be created and fostered to appropriate value. FMCG, the ecosystem initiator, kickstarts it through supplier summits.

3. **Communication across diverse membership.** To start and initiate the ecosystem, FMCG uses supplier circles and partner workshops where suppliers begin to interact with one another. At this juncture, FMCG communicates by emphasizing a collaborative environment. However, as the ecosystem matures, FMCG actively communicates competition among the members in order to achieve desired performance outcomes.

4. **Problem definition.** FMCG emphasizes the success of an ecosystem depends on a concise definition of the problem. The company highlights that as an important exercise with which to begin the ecosystem. It provides the direction for the ecosystem members on the deliverables as well as member company selection based on their capabilities.

5. **Sharing the pain.** FMCG treats its suppliers fairly and openly. It collaborates together, not just in words but through actions. Action speaks loudly when FMCG partakes in cost and resources. Transparency, in terms of cost and resources, is extremely important for the successful management of an ecosystem.

6. **Soft side of relationships.** Supplier summits are used to select potential suppliers for specific ecosystems. FMCG uses these summits to get to learn about the supplier’s company culture—how they “do business.” Understanding the soft side of the relationship is instrumental in creating an innovative ecosystem culture based on trust, commitment and collaboration.

7. **Knowing supplier capabilities.** Assessing a supplier for its soft and hard skills is important. To do that, FMCG involves both qualitative and quantitative assessments. FMCG does this through a very sophisticated tracking and storage system of supplier information that includes both objective performance data and relationship related data and information.

8. **Varied leadership styles.** FMCG primarily adopts a value-based leadership style. However, in the way FMCG practices it, two different leadership styles manifest—charismatic leadership and team-oriented leadership. When FMCG leads the discussion to identify what values would drive actions, it behaves in a charismatic way. When the members begin to engage in action to move toward the goal, FMCG resorts to team-oriented leadership in which they allow autonomous activities among the team members.

9. **Technology.** FMCG uses two blocks of technologies for successful ecosystem management. First, it relies on technology that enables connectivity and communication among the ecosystem members. Second, it also relies on sophisticated knowledge management systems with AI that contain information regarding supplier capabilities and previous ecosystem data.

A new approach to managing complexity

An ecosystem approach is presented as a new way of managing complexity in supply chains. Under this approach, a manager should view suppliers as a network rather than as isolated entities. In that regard, how they interact and work together should be closely observed and studied.

Overall, a low maturity approach tends to confine supplier relationships for short-term projects, while a high maturity approach views supplier relationships as being continuous. A low-level maturity approach does not mean it sees no benefits—as long as the company follows through, all levels of maturity reaps innovativeness as the benefit. However, only the more mature can gain the operational benefits in cost, speed and quality.