

PART B

Designing Organizational Ecosystems & Overcoming Barriers to Implementation

Jonathan Trevor & Kazuhiro Asakawa*

In the second of a two-part series on aligning organizational ecosystems to be fit for purpose and high-performing, this article delves deeper into how firms must be mindful of the unique implementation challenges associated with this more complex form of organizing work.

Organizing as an *ecosystem(s)* (or an organizational ecosystem, as we refer to it) bestows upon firms many benefits on paper. It enables firms to exploit economies of association and capitalize upon the resources and capabilities (think talent, technology, and knowledge) of a network of external partners (think other firms, institutions) to supercharge their innovation capabilities in ways not possible if relying upon internal resources alone.

However, most organizational ecosystems fail to deliver on their promise according to published research.ⁱ Part A of this two-part series of articles focussed on the importance of strategically aligning organizational ecosystems to be fit for purpose if they are to succeed. It put forward a framework of three strategic choices, each of which is vital and should align closely to achieve high performance. First, managers should formulate a clear ecosystem purpose (a first-order choice); second, they should select the most appropriate ecosystem strategy (a second-order choice) from a range of options to fulfil that purpose.ⁱⁱ

* **Jonathan Trevor** is Professor of Management Practice at Oxford Said Business School, University of Oxford, UK. **Kazuhiro Asakawa** is Professor of Global Innovation Management at Keio University Graduate School of Business Administration, Keio University, Japan.

This article, Part B, focuses on a third-order set of design choices about which ecosystem structure and resource allocation will enable firms to implement their chosen strategy best. No matter how much time is devoted to ecosystem purpose and planning, effective implementation makes or breaks how well firms can practically leverage external resources for value and avoid the pitfalls associated with this more complex form of organizing work.

Third Order Choice — Which Ecosystem Structure?

A third critical choice for managers is to select the appropriate ecosystem structure to support the implementation of their chosen strategy. We define ecosystem structure as the combination of organizational ingredients (you could also say resources) that form the makeup of every ecosystem and which enable it to fulfill its stated purpose in ways intended by its chosen strategy.ⁱⁱⁱ

Like any form of organization, ecosystem structure (or you might also say design) can be helpfully thought of in terms of required human capital (think skills, knowledge, and behaviors of people, including those residing within partnering organizations), social capital (think relationships, networks, and social methods of exchange, across the whole ecosystem) and organizational capital (think processes, cultures, and structures in which knowledge is objectified, both inside and outside an ecosystem's focal organization).^{iv} We add a fourth category — technological capital — to this list. Technological capital includes the combined value of technology, including information systems, artificial intelligence, cloud computing, and others, for example.

The challenge for managers is that there is no one-size-fits-all design of an ecosystem that suits all purposes. Different ecosystem strategies require different varieties of each ingredient. For sure, some universal people characteristics, for instance, are valuable in all

contexts, such as technical skills, basic competence, or industry-related know-how. However, different types of ecosystems require particular skills, competencies, and behaviors to be effective. The same is true with the closeness and strength of network ties or the type of technology required to support collaborative ways of working. All four forms of capital are important in every type of ecosystem, but each matters more or less as a priority according to the requirements for openness and horizontal integration.

Human Capital: Closed horizontal ecosystems in the organizations we studied, such as IBM's strategic partnership ecosystem, tended to emphasize investments in human capital. They were reliant upon the behavior of key relationship managers at all levels of each strategic partnership to ensure effective collaboration and downstream delivery of novel market offerings. Horizontal collaboration involves more autonomous contributions by actors. For this reason, human capital is critical for this type of ecosystem. Human capital requirements do vary. For instance, closed vertical ecosystems tended towards individually focussed work within a B2B transactional relationship, but with much less emphasis on human and social capital investments.

Social Capital: The development of social capital was considered a priority in open and horizontal ecosystems, primarily to support the forming of connections between different groups through which serendipitous and open-ended innovations might occur. For instance, Sosei Group Corporation's early entry into open, horizontal collaboration in the innovation ecosystem in the UK was due to the personal network with the local scientists of its founder, President Shinichi Tamura.^v Or consider the stated corporate values of ARM as a focal organization presiding over a rich innovation network of thousands of partners. To support the types of horizontal interactions required to support cutting-edge microprocessor design, ARM emphasizes *customer and partner focus, constructive pro-activity, innovation, teamwork and selflessness* as core values applying to all of its 7,000-strong workforce.^{vi}

Each value is supported by a suite of human resources intended to elicit those behaviors, including compensation systems (e.g. incentives), but also a heavy emphasis on personal development and network opportunities. The decline of in-person opportunities to forge new or maintain existing network connections during the COVID-19 global pandemic represented a challenge for many firms reliant upon strong partner and network ties through which to engage in serendipitous conversations, co-deliver complex propositions to market and create and exchange new knowledge for innovation purposes.

Organizational Capital: Closed vertical ecosystems are typically focussed much more on organizational capital investments in the form of objective performance data, clear processes, and defined parameters. These are representative of vertical integration through hierarchical control mechanisms. Consider the example of mega-company NTT DATA (NTTD) and its payment ecosystem. Within Japan, NTTD has been leading the cashless payment system via its “CAFIS” platform for 35 years as a precursor to what is now a common payment method. CAFIS is a node that connects credit/finance card companies with various stakeholders, including finance institutions (e.g., banks), local governments, and millions of vendors and merchants both within Japan and abroad.

To manage this volume of transactions reliably at scale, NTTD has to date invested heavily in developing robust organizational capital in the form of elaborate business processes, targeted system optimization, infrastructure development, performance measures, and development automation, all features of organizational capital development in which valuable knowledge and information are encoded as standard and scalable management practice.^{vii}

Technological Capital: Open vertical ecosystems in our study were highly technologically driven, using digital platforms as the primary means of aligning network actor interests through, typically, microtransactions. Effective management of global value

chains, a typical case of open vertical ecosystems, often rely upon digital technology platforms to manage thousands of individual transactions. Returning to the example of NTTD, it is innovating its CAFIS platform.

NTTD identifies three periods of development for its payment ecosystem — foundation, expansion, and transformation. CAFIS is entering the transformation period, having expanded significantly in recent years, especially during COVID-19, the vision for which is that it will cease to be purely a payment platform and become instead a customer ‘one-stop shop’ in which digital technology supports ever greater levels of customer choice (of products and services) and personalization through data mining, information cooperation, channel integration, and automation.

These are all features of digital transformation, or DX, as it is referred to by Ken Watanabe, General Manager within CAFIS. At the same time, digital technology alone cannot deliver the required business transformation. NTTD is also investing heavily in its values and organizational culture, including a pivot towards a “flat, bottom-up culture that emphasizes creativity and challenge”.^{viii}

Such ecosystem design choices are separate from the everyday tactical and operational decisions managers must make, such as which partners to choose, where to locate an ‘innovation outpost,’ or how much information to share. While both sets of choices (strategic and tactical) are essential, in our experience, the latter is made considerably easier if there is clarity around the former.

Consider for your organization: which is the most appropriate ecosystem structure? Which variety of human capital is required? Or organizational capital? Again, it depends upon the strategy being pursued. Similarly, which form of capital is the priority to implement your chosen ecosystem strategy? Investments in any form of structural capital supporting ecosystem implementation are not mutually exclusive.

On the contrary, investments should be complementary. Human capital investments and capabilities should support technological capital and vice versa. And, finally, as resources, how are your people, networks, cultures, processes, and technologies best managed to deliver the results needed? Its structure is a key component of the ecosystem value chain and is where the rubber hits the road regarding implementation.

Ecosystem Alignment Challenges

Ecosystems pose unique and additional implementation challenges that managers should know to avoid being tripped up.

Misalignment is a perennial risk: First, managers should always be conscious of the potential for misalignment. By virtue of their design, ecosystems are the most complex form of organizing work. They consist of many moving parts, especially external actors with diverse interests, much more than the traditional internally focused hierarchical organization, which typically prizes cultural homogeneity. Reconciling competing interests and assumptions between partnering firms and maintaining coherence are just some of the challenges involved. And, of course, in open and highly collaborative ecosystems, the potential for misalignment is even higher.

Consider again the example of the storied consumer electronics company Sharp mentioned earlier. Founded over a hundred years ago, Sharp was a major international player in designing and manufacturing innovative and high-quality electronics, ranging from televisions to audio. But failing to keep pace with rapid technological change and international price competition, especially from new market entrants from China, placed it within a ‘commoditization trap’ of declining performance.

Sharp embarked upon a strategy to enhance its openness to external innovation via collaborations with an ecosystem of partnering organizations. But despite concerted attempts

to reorganize along ecosystem principles — to capitalize upon external resources to revitalize its products — it failed. A key reason was its failure to manage its ecosystem as a more complex form of work organization due to its prevailing internally focused structure and culture. In other words, its structure was a poor fit for its chosen ecosystem strategy. Its competitor, Foxconn, eventually bought Sharp for a mere \$3.8bn in 2016 (a considerable drop from its historic high).^{ix}

Complex organizations are more naturally prone to disintegration and entropy than simple ones – to return to an atomized state and to lose energy in the form of capital expenditure, whether financial, human, social, organizational, or technological, over time and at a rate commensurate with the state of alignment, i.e., highly misaligned organizations dissipate energy most quickly.^x

Another consideration is the multi-level nature of ecosystem working. IBM identifies four principal levels of working within its strategic partnerships: the *top level*, *areas of focus level*, *individual opportunity level*, and *local application level*. The top level is a strategic concern as to why two organizations would choose to partner. IBM also organizes its top service partners into a Platinum, Gold and Silver ranking based upon the level of joint engagement, co-creation and revenue.^{xi} Each service partner is carefully selected for its complementary capabilities and represents an opportunity to deliver a joint technology or consulting outcome that would not be possible if either firm were to rely upon its own resources alone.

Each strategic partnership is then given an area of focus, the second level, that defines the desired co-delivered impact (e.g., sustainability, digital transformation, or social value innovation) and choice of target client sector. The individual-level opportunity describes how the strategic partnership will pool resources to win and deliver particular client outcomes. These considerations define joint ways of working to successfully fully a project. Finally, the

local application level is how a collaborative project is delivered in different settings if a common client is a multinational corporation with different geographies, for example. Like the ecosystems they are a feature of, strategic partnerships must be aligned at all levels to deliver on their promise of a differentiated client outcome. Alignment within ecosystems is multi-faceted at multiple levels and over various periods (e.g., from client opportunity to client opportunity in the case of IBM and as the ecosystem itself matures).

Some types of ecosystem are harder to align than others: Managing any ecosystem is not easy, but some strategies are more challenging than others. Our findings indicated that those ecosystems that were more open to external members *and* the most horizontally integrated were the most complex and the hardest to align. However, they also typically offer the greatest strategic advantage precisely because they are hard to emulate or replicate by competitors. Therefore, the managerial ability to align complex ecosystems and maintain their fitness over time becomes itself a factor in sustainable performance and competitive advantage. Ecosystem leadership development is a must, in other words.

The established view of strategic alignment is that organizations operate best when they are in a stable state, which, when punctuated by a period of change, is followed by the restoration of equilibrium.^{xii} For example, biological ecosystems, such as the human body, are considered to be optimally functioning when all physical, chemical, and internal systems, such as temperature and fluid balance, are homeostatic – operating in a steady state within required limits.

However, a feature of ecosystems is that they operate in a constant state of change by design. Research indicates that complex adaptive systems, such as ecosystems, exist naturally in states of disequilibrium or in a “far-from-equilibrium” state and are characterized by non-linear flows of information and resources.^{xiii} This is especially true when they are

more horizontally integrated (i.e., egalitarian) and open. For this reason, alignment is dynamic and cannot mean “fixed” or homeostatic in the usual sense.^{xiv}

Consider the example of swarming drone technology. The United States Air Force is seeking to replace its existing fleet of aircraft with a “system of systems” family of manned and unmanned aircraft of different roles, shapes, sizes, and capabilities. These individual systems, or ecosystem actors, run the whole gambit from air and ground fighters, reconnaissance, command and control, electronic defense, transport, and aerial refueling. The idea is that each system acting in concert can offer any mission commander “a continuum of platforms most effective to [any] given problem” according to real-time and emergent requirements on the ground and in the air.^{xv}

The unique alignment challenge for focal firm leadership is maintaining organizational coherence while providing opportunities for the delegated authority necessary — perhaps even deliberately stimulating ecosystem disequilibrium — to ensure reconfigurability around emerging requirements, such as changes in customer buying behavior.

Some companies may need to manage more than one ecosystem simultaneously:

Another key challenge is to handle multiple and different forms of ecosystem simultaneously. The idea of ambidexterity is core to published innovation literature. It is most closely associated with the ability of firms to efficiently deliver short-term results while also developing longer-term innovations. In other words, to overcome the perceived trade-off between efficiency and flexibility and ‘do both’ in the words of Inder Sidhu of Cisco Systems.^{xvi}

But another perspective on ambidexterity is the alignment of multiple different types of ecosystems simultaneously, each serving a different purpose and acting in ways that are complementary and not in conflict. Returning to the example of IBM, even though the critical

mass of IBM as an ecosystem is shifting to ever greater degrees of openness and horizontal integration between partnering firms, it will likely retain its closed vertical ecosystem of resellers in addition to its more open horizontal ecosystem of key project partners and strategic partnerships. Managing multiple types of ecosystems simultaneously puts a strain on the focal firm management. It must be capable of juggling multiple different and ever-changing strategies and structures over time whilst maintaining coherence as one overall aligned system.

Or consider the even starker example of the Toyota Motor Company (Toyota). Toyota is famous for its laser-like focus on operational efficiency and its ability to manufacture high-quality cars at scale. Toyota pioneered lean manufacturing and the Toyota Production System, which relies on a tightly managed supply chain of numerous external suppliers and partners. As a closed vertical integrated ecosystem, Toyota exerts strong supervisory influence over its supply chain, setting and maintaining standards and monitoring performance.

Contrast this with its designed community, Woven City, mentioned earlier. While both require the capitalization of external resources, the two ecosystems — *closed vertical* and *open horizontal*, respectively — could not be more different. When competitors are not equally ambidextrous, it becomes a source of sustainable competitive advantage.

Ecosystems must be realigned as required, which may be constantly: Of course, even if a state of high alignment is achieved, in practice, the requirements for openness and integration are a constantly moving target, depending upon the introduction of new technologies, disruptions, changing customer preferences, and the positioning of competitors. Managers must be prepared to realign their approach to their ecosystem to better fit changing external requirements.

For example, the IBM strategic realignment journey overall might be described in three phases. Phase 1 was the focus on the reseller network prior to 2019. Phase 2 is the

current move since 2020 to capitalize upon strategic partnerships, retaining a focus on a relatively closed network of key collaborations (closed horizontal). Phase 3 is envisioned to shift the critical mass of its ecosystem toward greater openness to enable the company to work with more and different strategic partners, with a goal of tripling its ecosystem income by 2025.

Takeda, once holding its in-house R&D approach, turned to an open-horizontal R&D partnership in the late 2010s to reflect changing requirements.^{xvii} As noted, ecosystems differ from the traditional hierarchy in that they may exist in a permanent state of disequilibrium. The more open and horizontally integrated an ecosystem, the less likely strategic realignment will occur in episodes. Therefore, strategic realignment is a key capability requirement and a constant state of being in some cases. Again, one-size-fits-all prescriptions are unhelpful.

Summary

The study presented in this series of articles confirms that firms' attempts to leverage external resources by adopting ecosystem principles can offer clear advantages over more traditional and inwardly focused forms of organizing. But ecosystems pose age-old challenges and some new ones, possibly making achieving alignment harder and explaining the high failure rate. So, which steps should managers follow to improve their chances of success?

First, understand the purpose — the why — behind the choice to adopt ecosystem principles. Second, select the most appropriate strategy supporting that purpose according to requirements for openness and integration. There is no one-size-fits-all ecosystem strategy that works in all situations. Third, select the ideal ecosystem structure as a combination of different forms of human, social, organizational, and technological capital required to ensure effective implementation of the chosen ecosystem strategy. It is only when an ecosystem's purpose, strategy, and structure are in alignment that it can be successful.

The decision-making framework helps managers establish a dominant logic that encompasses the why, the what, the how, and the how well of their organizational ecosystem. This logic should be expressed as a narrative to all stakeholders across the entire ecosystem because it provides a common definition of success and the rules of the game for all, no matter how dissimilar, to abide by.

The authors

Jonathan Trevor is Professor of Management Practice at Oxford Said Business School, University of Oxford, UK. **Kazuhiro Asakawa** is Professor of Global Innovation Management at Keio University Graduate School of Business Administration, Keio University, Japan.

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