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Radically rethink your strategy

How digital B2B ecosystems can help traditional manufacturers create and protect value

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The production, sale, and service of equipment are the traditional business model of many hardware-oriented industries. Digital, however, promises to be a game changer for all segments, whether product, project, or process industries. Machinery companies have started to innovate their business models. One-fourth of respondents to McKinsey's Periscope Machinery and Industrial Automation survey reported that their companies have digitized their service, spare parts, and consumables business, and more than two-thirds are planning to do so.

Digitally mature companies deliver higher returns to shareholders and enjoy higher revenue growth than their less advanced counterparts

A higher commitment to digital results in business success. The more digitally mature a company is, the better its performance is along two key indicators: TRS and revenue growth. Though most companies across industries have ventured into the digital space on some level, less than one in ten are highly mature, and these are the companies reaping digital's largest benefits. Compared to the least mature, the most digitally mature companies see three-year TRS rates nearly three times larger and five-year CAGRs more than four times larger (see Exhibit 1).

Exhibit 1

Digitally advanced companies create greater value

Digital maturity		3-year TRS	5-year revenue growth CAGR
High	9%	42%	18%
Medium	29%	18%	10%
Low	62%	15%	4%
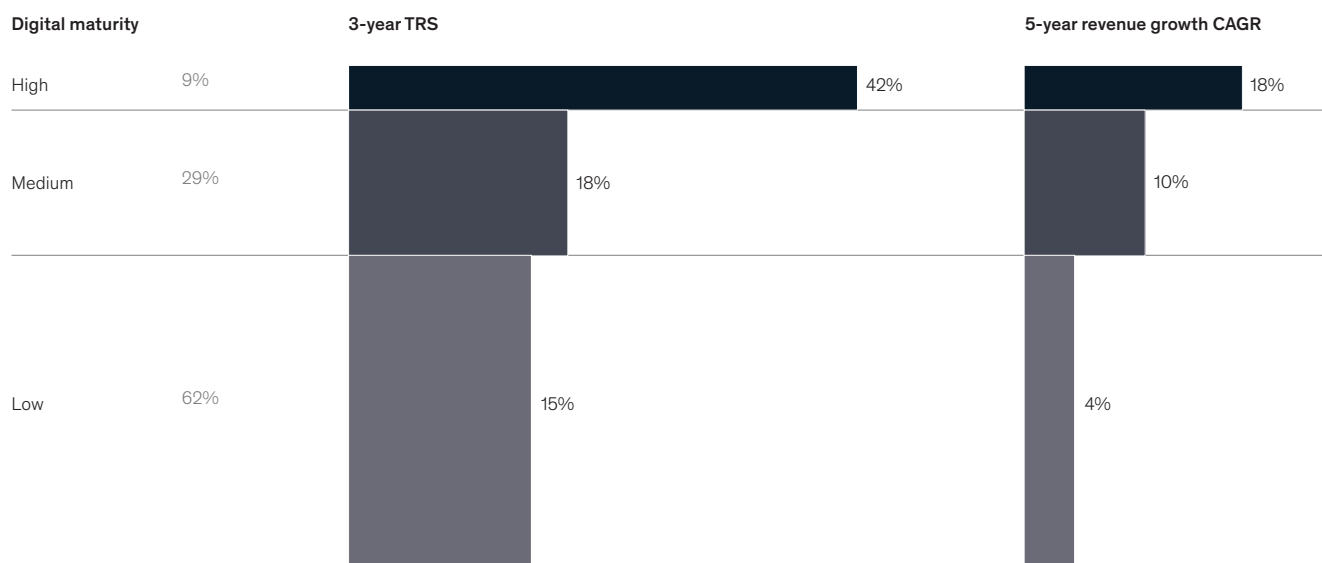
Digital is an OEM opportunity with an imminent built-in threat

Digital is more than a novel feature or add-on in the machinery industry – it has implications for every link along the value chain. In the earliest parts of the value chain, digital applications are creating efficiencies for OEMs and Tier-1 suppliers. In product development, AI is reducing time to market. In manufacturing, the current ubiquity of autonomous robots is boosting shop performance, and the emergence of collaborative robots is improving the lives of the humans working right alongside them. Finally, in distribution, digital is reducing cost by optimizing delivery routes and fleets.

Traditional OEMs and suppliers must act now or risk the critical aftersales and service relationship with their customers

Further down the value chain, however, OEMs and suppliers are not the only players with much to gain from digital. Tech giants are using their digital expertise to enter the manufacturing industry in both aftersales and services. In aftersales, digital is becoming the foundation of a new type of platform for spare parts and consumables. In services, a single application of a digital-technology-like augmented reality can both enable a premium service offer and increase on-site maintenance efficiency. With advanced digital know-how, tech giants have boldly inserted themselves in these links of the manufacturing value chain and threaten to stand directly between manufacturers and their customers. Some are integrating directly into the procurement systems of manufacturers' customers, making tech companies, not OEMs, the go-to provider for parts and services (see Text box 1).

Text box 1: Amazon and Alibaba – a tech-giant takeover of aftersales and service

Amazon Business has entered the industrial aftersales and consumables space with its presence known in more than eight countries, revenues exceeding USD 10 billion p.a., and growing at fast pace. In janitorial supplies, Amazon Business offers 1.5 times the number of products offered by a traditional aftersales player. In cutting tools, its online platform offers 84 times the number of products of a large specialty supplier. Alibaba.com, its international online wholesale marketplace, enables more than 165,000 suppliers to serve buyers in over 190 countries – and this is just the beginning.

Today, hardware is still the typical manufacturing company's "bread and butter," accounting for more than 60 percent of the value with software and services making up the rest. As digital proliferates, the balance is shifting. The price of hardware is increasingly coming under pressure as machine prices continue to drop, and software and services are expected to make up the majority of value in the near future. Looking ahead, the value-add is increasing in digitally enabled services, software, and machine integration, and tech companies are already well-positioned to dominate in this arena.

From competitors to allies – B2B ecosystems as a new strategic approach to create and secure value

Individually, no machinery company can rival the SW and IT capabilities of a technology powerhouse like Amazon or Alibaba. However, as part of an ecosystem that includes other machinery players – ones who serve a similar customer base and whose offers are

complementary – that same company can fend off the new wave of tech competition by developing the capacity to deliver innovative aftersales and services offers. This type of alliance of traditional players constitutes the core of a digital B2B ecosystem play, and it is a radical strategy with the power to help manufacturing companies create and secure value in aftersales and service.

Implemented correctly, an ecosystem is a partnership of players that combines deep industry insights, profound customer understanding and relationships, established industry-specific networks, and highly complementary value chains to create true value-add to their end customers (see Text box 2).

Text box 2: Food packaging – creating an aftersales ecosystem

The value proposition of an ecosystem is its power to help operators streamline their operations and reduce complexity. The food packaging value chain is comprised of a large and diverse set of machinery targeted to several functions. Filling and form, sealing, labeling and coding, wrapping, and bundling and palletizing are among the activities requiring unique machinery from different OEMs with a wide range of parts and components for building and maintenance.
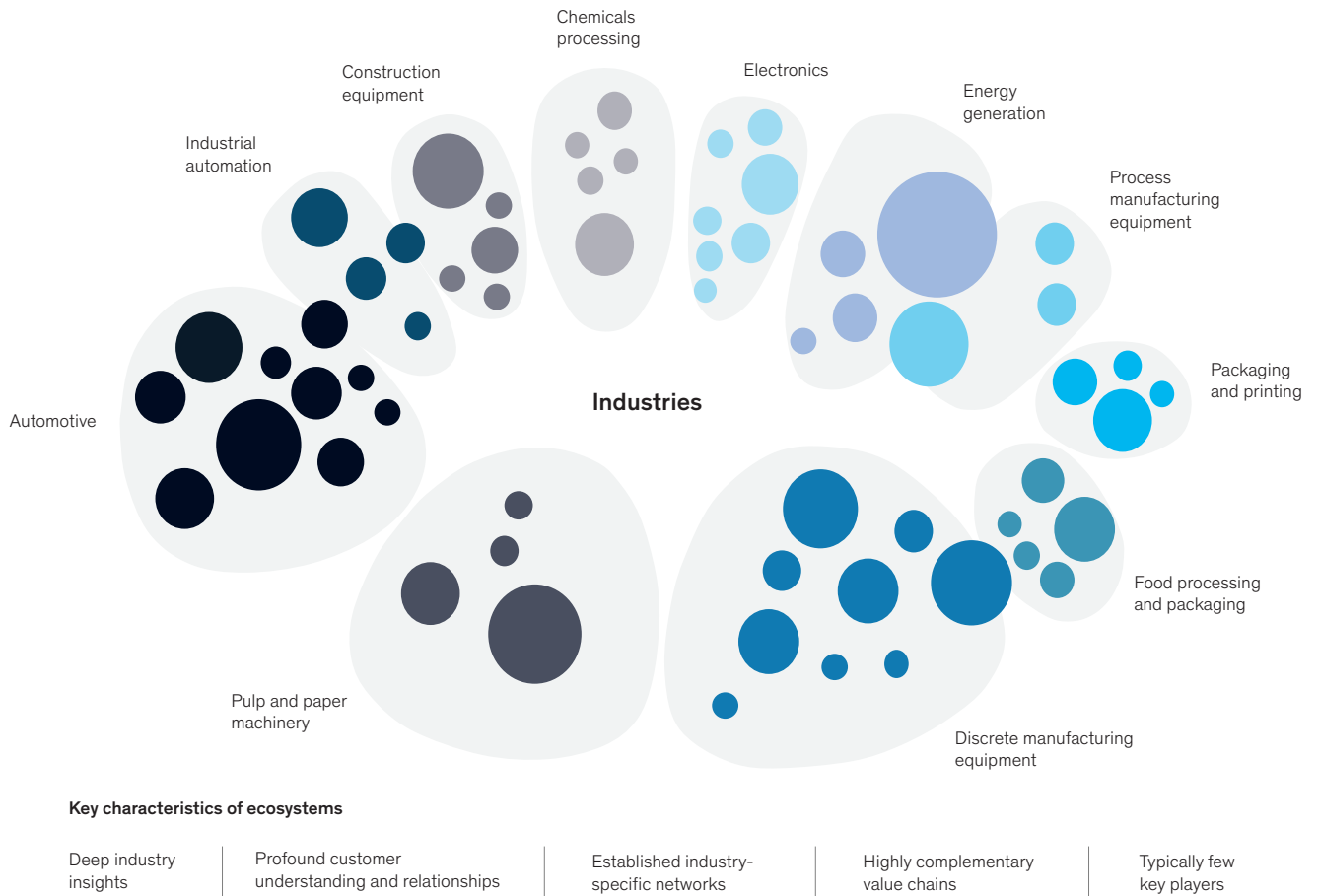
Food packaging operators such as Unilever or Nestlé are typical players in this space. Their needs include spare parts, consumables, and services from multiple machinery OEMs. A one-stop-shop solution for a broad range of products would be highly beneficial. For this reason, machinery OEMs want to improve their service levels, protect their business, and improve the cost efficiency particularly when it comes to building and maintaining platforms.

In this particular ecosystem, there is significant opportunity for both the machinery OEMs and the operators. For OEMs, more than 20 percent of their revenues are already generated from spare parts and consumables – this can be expanded and secured. Operators can significantly lower the cost of operating their plants across a diverse set of machinery players. The creation of such an ecosystem can lead to the development of a single platform for all consumables and parts in the food-packaging machinery space, clearly benefiting both OEMs and operators.

In digital B2B ecosystems, traditional competitors become partners, creating value and defending their market positions against powerful coalitions of third parties and tech giants

The digital B2B ecosystem is a carefully cultivated environment of industry players that collectively establish the key characteristics that none of them can fully provide individually (see Exhibit 2).

Exhibit 2

Industry ecosystems can provide entry barriers for industry-agnostic tech giants

Key characteristics of ecosystems

Deep industry insights	Profound customer understanding and relationships	Established industry-specific networks	Highly complementary value chains	Typically few key players

A successful ecosystem requires that OEMs and specialty suppliers think of the sector, and their peers, in a radically new way. Specifically, they will need to think of each other less as competitors and more as partners, since partnership and networks will be the foundation of the new B2B ecosystem.

It is the collective know-how and access of the ecosystem that is the best defense against digital natives looking to enter the industry and dominate. Successful digital B2B ecosystems are lines of defense that help manufacturers and suppliers create real value in aftersales and services and hold onto valuable customer relationships, which tech giants seek to control.

The building blocks of a successful digital B2B ecosystem

The digital ecosystem starts with rethinking the competitive arena. Players that once defined themselves purely as rivals (i.e., OEM vs. OEM and supplier vs. supplier) must now see each other as an essential network of peers that delivers value to customers and helps secure each other's place in the market. Following this fundamental shift in mindset, there are several building blocks along the four key dimensions of scope, value proposition, technology, and governance that traditional industry players need to have in place to build a successful ecosystem (see Exhibit 3).

Exhibit 3

Building blocks across 4 dimensions form the foundation of a sustainable digital ecosystem that delivers a competitive advantage

01 Scope	Ecosystem	**Define scope** and **identify partners** – also consider including traditional competitors

02 Value proposition	Customer focus	Create **tangible value proposition for customers**
	Marketing and sales	**Omnichannel approach** to improve customer experience
	Business model	**Sustainable business model** for all ecosystem partners
	Scale	Achieve **critical mass to scale** and scale forcefully

03 Technology	Platforms	**Platforms enable collaboration** in ecosystem and **joint offers**
	Innovation	Continuous and effective **best-of-breed approach** – e.g., analytics engines

04 Governance	Leader	**Committed leader** as core driver to build ecosystem
	Fair and honest	**Fair business agreements** for all partners; manage **conflicts of interest honestly**
	Inclusive	**Continuously invite new partners** to expand ecosystem

Scope. Think about the ecosystem as a whole. It is important to define the breadth of its functions, the size of its value chain footprint, and the value proposition each partner is able to bring to the table. An ecosystem is not a network of similarly functioning organizations but a partnership of complementary players. That said, it is also important to look specifically at peer companies that have traditionally been viewed as direct HW competitors. They may be reluctant, but in the spare parts and consumables business, traditional HW competitors will fare better together, as new tech entrants seek to take value from all of them.

Value proposition. The ecosystem must deliver clear and specific value to all involved. Partners will need to create a sustainable model from which each one can benefit. They will need to create tangible value-add for customers. This customer focus will include an omnichannel infrastructure that seamlessly spans customer self-service, field service, and the customer contact center. This unified, tailored platform will streamline quotes, advice, and orders related to spare parts, and will deliver a superior experience.

Technology. The successful ecosystem will run on a full technology stack that enables collaboration and joint offers. This includes software deployed in the cloud and on-premise, and the use of standardized APIs, including access to embedded layers via a user interface. On the IIoT industrial automation side, a data storage and management platform and a cloud-enabled, full manufacturing SW stack will be key elements. It will also be critical to choose the right technology partners, and there are options when it comes to building the technology stack regarding the level of in/outsourcing and partner types, each with its own set of pros and cons (see Text box 3).

Text box 3: Tech stack options and considerations for ecosystem builders

Companies looking to establish an industry ecosystem have four basic choices in building their system's technology stack. Each approach comes with potential advantages – depending on the ecosystem's particular characteristics – as well as a unique set of considerations:

Leveraging the technology of established industry platform players, a company will need to weigh the upside of convenience against the risk of losing their customer relationship to the platform provider. Also, the additional cost on top of a cloud services provider may not be justifiable. Finally, understanding the degree to which it will be able to differentiate while still using a single platform is also an important consideration.

Leveraging technology from major software players, a company will want to take a long-term look at the cost of licensing fees and determine if that cost is sustainable. It will also need to answer the question of data ownership. A software partner may want to own the data captured by the sensors on an OEM's machine. This could put the OEM at the mercy of the software partner in the area of using analytics to drive significant improvements in machine output or performance.

Partnering with (semi-)public providers, e.g., from the academic space, a company may have greater autonomy or ownership, but there are the questions of whether the business models offered are sustainable and if their speed of development is sufficient.

Developing their own platform, a company addresses the ownership question but may run the risk of overinvesting in features that are already commodities. Scalability may also be an issue when using a completely in-house platform.

Governance. The shape of the partnership and the governance setup are extremely important. Choosing the right model is key to the ecosystem's success. On the business-model axis, the ecosystem may follow a relatively simple licensing agreement on one of the party's platforms, create a white-label shop based on one party's solution, or form a full-fledged JV, where all involved have equal equity shares. The level of cooperation may also vary. Partners may simply share software, go further and engage in joint functional processes, or even share infrastructure, such as a spare parts center. No matter what, committed leadership and agreements that are fair to all partners are core drivers of the ecosystem's success. Continuously identifying and inviting new partners will be key to the ecosystem's growth. Getting this right will require a significant change to general management practices.

Digital ecosystems are not just a concept

Real-world examples across a wide range of industries do exist. Globally, these ecosystems are emerging and they are at different stages of maturity:

OpenEarth Community is an early-stage example of a digital ecosystem. Oil and gas companies aim to develop a productive, shared software platform that serves as a breeding ground for accelerated technology innovation in the industry.

Open Security and Safety Alliance is an emerging ecosystem for providers of security and safety solutions in the building technologies space. The technology platform will launch its first pilot installations in 2019 and plans to onboard a broad set of new partners to provide ready-to-use applications throughout 2019 and beyond (see Text box 4).

Text box 4: Creating an open ecosystem for security and safety solutions

Security cameras today are able to automatically analyze the images captured. Depending on the specific software deployed, these cameras can provide a wide range of functions from recognizing the license plates of cars entering a parking garage to spotting potentially dangerous objects in an airport.

To date, these functions are the proprietary offers of individual camera manufacturers, and the software is not portable from one supplier to the next. This reality sparked the founding of the Open Security and Safety Alliance. Geared toward overcoming the fragmentation in today's market, this body is defining a standard operating system for security cameras and enabling the sharing of software applications across camera platforms, thus boosting innovation.

Bosch – an important manufacturer of security cameras – is a founding member of the alliance and also founded **Security and Safety Things,** a wholly owned start-up, which provides an implementation of the standardized operating system and is creating a corresponding web platform for developers, integrators, and end customers.

This alliance is a promising example of multiple players combining their respective strengths to build an ecosystem and succeed in the digitized world. Together, they tackle challenges, such as data security and the move to more data-centric solutions, such as software-as-a-service.

Aviatar is the creation of a digital ecosystem of aviation players that is starting to scale. The open platform offers a variety of digital products and services, contributing to lower cost, optimized operating hours, and a reduction in operational incidents for airlines, MROs, OEMs, and lessors.

Tolino is among the more mature digital ecosystems. A group of book dealerships has joined forces and created the Tolino Alliance. They built a joint digital reading ecosystem with an e-reader and a shared online presence. With its online component and over 1,800 stores in Germany, the Tolino Alliance offers a truly omnichannel experience to its customers, keeping Amazon's Kindle at bay.

Outlook – think big, act now

Across industries, the profit pools of physical products – whether they be airplane parts or paperback books – are giving way to digitally enabled services. Once the valuable domain of OEMs, spare parts and consumables are becoming commodities, and technology companies are hugely successful in providing them to OEMs' end customers. The logistics prowess of digital titans along with growing price transparency has lessened customers' dependence on OEMs. Will incumbent OEMs and specialty suppliers continue to cede ground to tech players or will they create the systems that allow them to beat tech giants at their own game?

Digital B2B ecosystems – constellations of complementary industry players working together – are proving to be powerful defenses against the advances of the tech giants that are moving into the manufacturing space. To make the most of ecosystems, traditional industry players will need to move away from old concepts of competition and market control and build mutually beneficial networks and environments that incubate innovation and create new value.

In short, traditional players can either ride the wave or get crushed by it. Doing nothing will almost certainly mean that attractive parts of their value chain will shift to tech-driven companies. Time is of the essence. In order to build thriving ecosystems, players must think big, aim for scale, fully embrace technology, and act now.

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