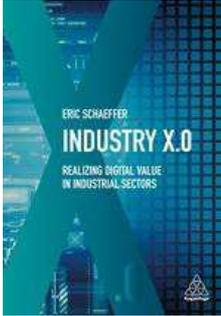


# Industry X.0: Realizing Digital Value in Industrial Sectors



## Chapter Takeaways at a Glance

*Excerpts from the book*

**Industry X.0: Realizing Digital Value in Industrial Sectors** by Schaeffer Eric.

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### Takeaways Chapter 1 – Industry’s Ongoing and Accelerating Digital Transformation

1. The industrial sphere is undergoing a profound, even dramatic change. Its drivers are many, among them the pervasiveness of connected technology, platforms and data optimization, hyperpersonalization, and as-a-service business models. And we are just at the beginning of the change.
2. Tightly connected industrial manufacturing processes are going to go mainstream soon. The Industrial Internet of Things (IIoT), will digitally orchestrate factory floors, physical products, workers and more, unleashing enormous value.
3. Critical to success in this new digital industrial world will be the deployment of the right technology, preparation of the digital workforce, intelligent orchestration of both, and embedding of enterprises in the right ecosystems of business partners.

### Takeaways Chapter 2 – How the IIoT Leads to the Outcome Economy

1. The Industrial Internet of Things (IIoT) will drastically change the way companies work internally, work with each other, and sell to customers.
2. This will lead to “the end of the product” and the rise of a new kind of economy, the Outcome Economy (or “usage economy”). In this new world, tried-and-tested industrial hardware products are not only eclipsed by their much more profitable service qualities, the user experience and the ecosystems they operate in: They are also commercialized on a per outcome basis. It is the combination of living products and as-a-service business model that make the outcome economy.
3. This will be the era in which industrial companies move away from rigid business silos to more agile ecosystems and alliances with surprising partners. If they don’t, they won’t survive in the long run.

### Takeaways Chapter 3 – Digital Super Value – A Guiding Light for Digital Strategy

1. Business as usual is over. Manufacturing companies can reap huge immediate and future financial rewards from digitizing their whole value chain. Society as a whole will also massively benefit via enterprises’ external value spread.
2. Understanding value is critical for an industrial business in devising a digitization strategy. Different values accrue from digitizing at different speeds. Different functions in different industrial sectors contain digital value pools of widely varying depth.
3. Although new digital business models have yet to deliver on their promise, only those companies investing ahead of existing and emerging competitors will capture the potential and establish leadership.

### Takeaways Chapter 4 – Six “No-Regret” Capabilities – the Journey Towards Digital, Mapped out Simply

1. Digitally transforming your company is a challenging task that may look like a scary upheaval of all functions.

2. No perfect or predefined roadmap exists, but that doesn't mean to do nothing. Figuring out the perfect and detailed roadmap for your company is near to impossible and of little value. Set the high-level directions for your company and dive in.
3. Start-up style rapid experimentation is the way to go. The rule of "deploy if successful, move on to the next idea if not" is standard in these firms. There should ideally be multiple rapid-experimentation sites across your enterprise to get the digital ball rolling.
4. There are six core "no-regret" capabilities to be targeted for the first steps towards a full-blown IIoT-powered enterprise: synchronizing the lifecycle clocks, embedding software intelligence and connectivity, using data analytics, rendering manufacturing facilities agile, understanding business as a service, creating and running smart ecosystems.
5. Try out each of these six "no-regret" capabilities and then combine. The benefits will only increase as you do so. This will contribute to quick wins and long-term success.

#### **Takeaways Chapter 5 – Zoom in: How to Make Data Analytics Work Your Way**

1. Data and the operational and commercial insights extracted from it are going to be the lifeblood of the industrial sector in the 21st century.
2. All companies have a wealth of unleveraged legacy data. Enriching this data will drive significant value in five main areas: (a) customer experience, (b) product performance, (c) workforce efficiency, (d) operational efficiency, and (e) portfolio optimization of new products and services.
3. Start progressively exploiting operational data hidden in your existing IT systems. Once the first pilots have delivered value, integrate external data. As your products become smarter and more connected, make the direct link.
4. Launch small, safe analytics pilots focused on specific use cases. Do so in as many areas of your company as possible and scale your data platform as soon as success clicks in.
5. Set up a cross-enterprise analytics capability to support all these initiatives within your company. Leverage data analytics service providers to accelerate the process and run pilots targeting both top-line and bottom-line opportunities

#### **Takeaways Chapter 6 – Zoom in: How to Handle Digital Product Development**

1. The entire process chain around developing and designing industrially manufactured items is redefined by the emergence of the smart and connected product.
2. Strengthen your software capabilities – There will be more and more software embedded in your products. Software-enabled services and user experience will be critical, you need to build at pace your software capabilities.
3. A robust Digital Product Lifecycle Management (DPLM) must be the starting point for product development in the emerging era of data-driven Living Products. Set up the right DPLM capabilities: agility, scalability, software intelligence, and unified data connectedness.
4. Synchronize, but do not lock together, the two clocks – and ensure that marketing optimizes the resulting propositions and improvements with regard to the customer.
5. End-to-end. Let your DPLM run through your whole business and become its DNA.

#### **Takeaways Chapter 7 – Zoom in: How to Create a Connected Industrial Workforce**

1. The industrial worker of the future will be a data-based decision-maker and supervisory presence on the factory floor, in the engineering centers or on the field servicing products.
2. All business roles and functions will be affected as cobots and artificial intelligence will permeate the enterprise resulting in a blended workforce from the shop floor to the boardroom.
3. Don't wait – proactively manage this revolutionary change in your company.

4. Craft new training and recruitment strategies now – start-up skilling your workforce and recruiting the talent now as the right skills will be in short supply. Explore new digital workforce models such as crowdsourcing.
5. Focus on your line managers, they will be critical in seeding and steering the change of your entire workforce while undergoing significant changes themselves.

**Takeaways Chapter 8 – Zoom in: How to Master Innovation in the New**

1. Experience beats product. Improved customer experience is where companies in the industrial sector have seen the greatest success from innovation in recent years.
2. New approaches to innovation can drive significant financial returns especially in sectors such as industrial equipment, consumer goods and consumer electronics.
3. Most industrial companies have very similar innovation investment profiles. The difference comes from the “how” rather than the “what.”
4. Open up to the outside. A new view of competitors and the ability to work in more open and fluid ecosystems are key.
5. Brilliant Innovators are solution-centered, powered by insights, drive pivotal leadership and operate at multiple speeds.

**Takeaways Chapter 9 – Zoom in: How to Make the Most of Platforms and Ecosystems**

1. Data-driven smart services will shape the New of the industrial world. They will allow for new hyperpersonalized and context- specific user experiences created through the connection of smart products with platform-based services using the power of broad ecosystems.
2. Ecosystems and platforms are becoming innovation and growth engines for most manufacturing enterprises. This change will be fast, disruptive and redefine the rules of competitiveness.
3. Hold on to your data. In a data-driven economy, it becomes a product in itself – one with immense value.
4. Ecosystem yourself. Competition between products and companies will be replaced by competition between fluid digital platform-driven ecosystems. Start connecting your enterprise and products to the outside.
5. Anticipate and lead from the front in the move towards an ecosystem. Setting up partner ecosystems and embedding your organization in them takes time, cuts through the organization and implies a profound change in mindset. It will not happen by itself.

