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Ops 4.0: Turning digital analytics into 20 percent higher productivity

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Digital and analytics provide four distinct opportunities for organizations to achieve productivity breakthroughs.

Business is now in the midst of the most significant disruption in decades. This epochal transformation has been driven largely by technological changes—big data and advanced analytics, additive manufacturing, the Internet of Things, robotics, and artificial intelligence—collectively described as the fourth industrial revolution.

Arriving at dizzying speed, its consequences are already evident across sectors: competition is intensifying not just within industries but also between them. Think of Apple assembling an autonomous-vehicle business or Tesla moving into power supply. And then there are the aggressive, agile start-ups, with business models that ignore conventional constraints.

Organizations must nevertheless deploy the fourth industrial revolution's digital and analytics technologies with great care, understanding the specific opportunities they support (Exhibit 1). Among the simplest is faster acceleration: changes happen more quickly and organizations can do more things in less time. Higher efficiency means that these changes require fewer resources, while enhanced effectiveness gives the changes greater effect. Increased predictability—achieved, for example, through more accurate forecasting based on unstructured data—lets organizations plan their moves more consistently and respond with greater agility. Finally, deeper engagement at every level yields denser, larger resource networks, which reinforce new behaviors and help build a transformation's scale.

These areas of impact all combine in different ways, depending on an organization's starting point and the type of transformation it undertakes. Together, they make it more likely that the changes will keep performance improving year after year.

How companies transform themselves depends, to a great extent, on the capabilities they need most. We see four primary structures, which collectively become Operations 4.0 (Exhibit 2).

Exhibit 1

In the fourth industrial revolution, digital analytics enables a new level of operational productivity.

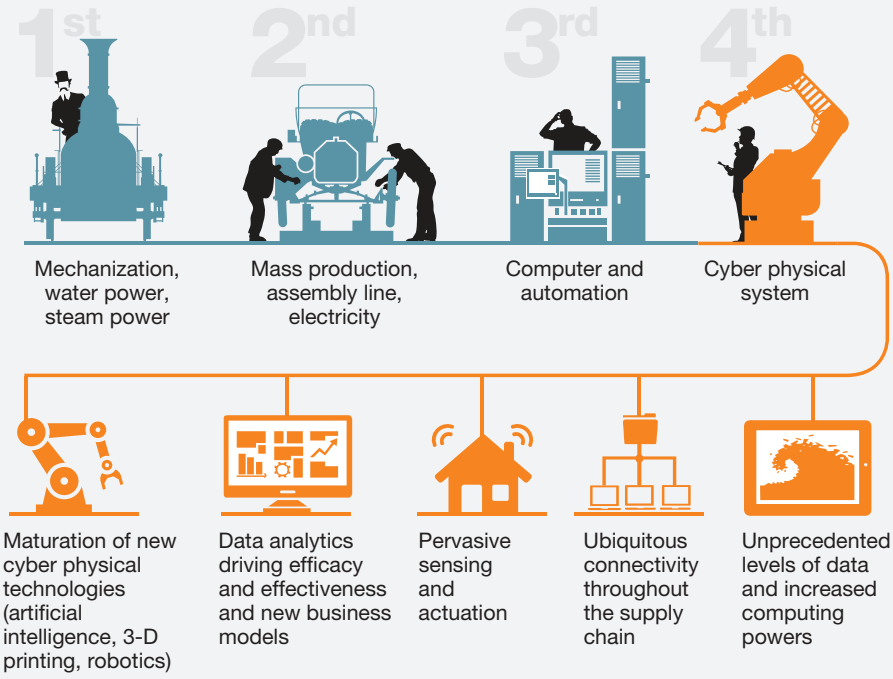

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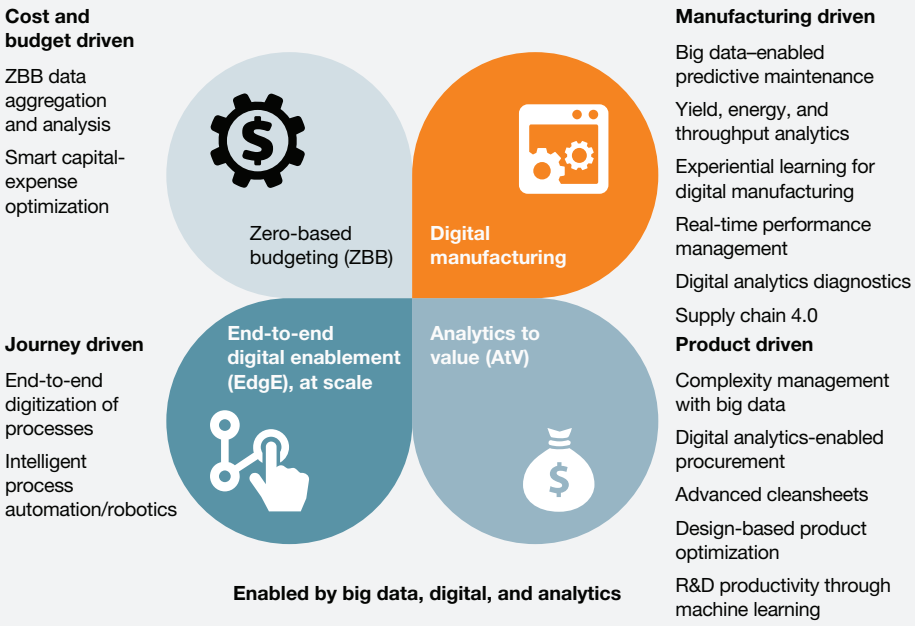
Exhibit 2

Operations 4.0 encompasses four approaches to achieve productivity breakthroughs.



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Product driven. For organizations whose strategic imperative is to design and launch products more effectively, advanced analytics combines with design to value, becoming analytics to value, or AtV.

Journey driven. Many organizations have already seen a dramatic impact from applying lean management's end-to-end perspective to their customer journeys. Digital technologies and agile processes let organizations make these changes more easily, quickly, and sustainably—and on a greater scale, with a bigger impact—than ever before. Together, the technologies and processes form EdgE, or end-to-end digital enablement.

Cost and budget driven. Traditional cost-control measures have often been a blunt instrument at best, but a more sophisticated analysis required too much data and coordination to be practical. Now, sophisticated analytics techniques make zero-based budgeting, or ZBB, more feasible, flexible, and profitable than ever.

Manufacturing driven. To help companies reach new levels of resource productivity and effectiveness, digital manufacturing connects novel and existing data sources with smarter machines and new process technologies.

We'll describe each of these in more detail over a forthcoming series of brief papers. ◻

This article is adapted from Mercedes Goenaga, Philipp Radtke, Kevin Speicher, and Rafael Westinner, "Ops 4.0: Fueling the next 20 percent productivity rise with digital analytics," April 2017, McKinsey.com.

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