

Anticipating the Operations of the Future

Operations Management and the disruptive change in operations

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Business operations have already been transformed over the last decade as a result of advances in information and communication technologies. Few would argue that this transformation is in any way slowing down – on the contrary, the pace seems to be accelerating rapidly, and this is “changing the game” for Operations Management in the near future. In this brief article we take a quick look at some of the likely characteristics of the Operations of the Future, and how operational leaders can best respond.

Global Megatrends are driving disruptive changes in Operations

Elsewhere in this edition we have mentioned the well-established global megatrends in technology, society, economics, energy and the environment, and the potentially disruptive impact that these are likely to have on businesses, both in terms of risks and opportunities. Many of these megatrends will also have a direct impact on the way we will manage day-to-day business operations. For example, the impact of digital technologies on business models and operational structures is already well-advanced, not just in the digital sector but across the whole of industry (ref Prism 1/ 2014 Innovation from Digitalization). Other megatrends such as the aging workforce, increasingly networked resources, higher expectations on health and wellness, and greater urban mobility challenges will all significantly affect how companies operate in the future. Extrapolating from recent trends and the speed of change we can be fairly sure that:

During the last decade business operations have transformed in a way not seen before. But what does the future hold for operations management and how can it react to the ever accelerating change? In this brief article the authors take a quick look at some of the likely characteristics of the Operations of the Future, and how operational leaders can best respond.

1. Your industry is likely to experience disruptive and radical change.
2. The speed of change will be much faster than has been experienced in the past.
3. The change will likely affect all aspects of Operations Management activities and capabilities – it will not be confined to product development and customer-facing activities).

Therefore, to stay competitive, it will be increasingly important to radically transform Operations, not only to support changes in the existing core business, but also to serve new product and service offerings (see Table 1).

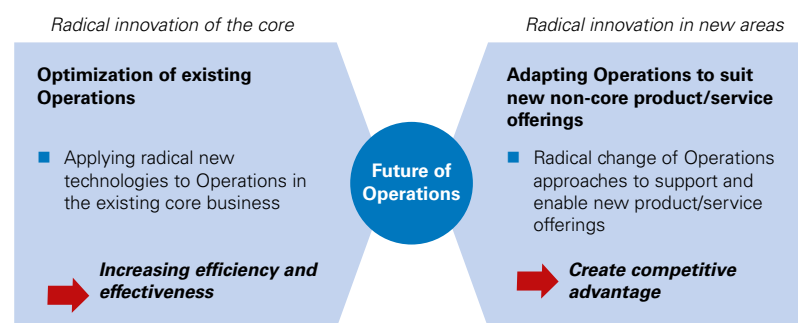


Table 1 Radical innovation of Operations

Source: Arthur D. Little

In preparing for this future, two basic questions are important for the Chief Operating Officer to be able to answer:

- What will be the core characteristics of leading, competitive Operations in the near future?
- How do I develop my Operations Management function to support these characteristics?

The core characteristics of successful Operations in the near future

Whilst there are differences between one industry and another, we believe that the successful Operations of the near future will share eight essential core characteristics (see Table 2).

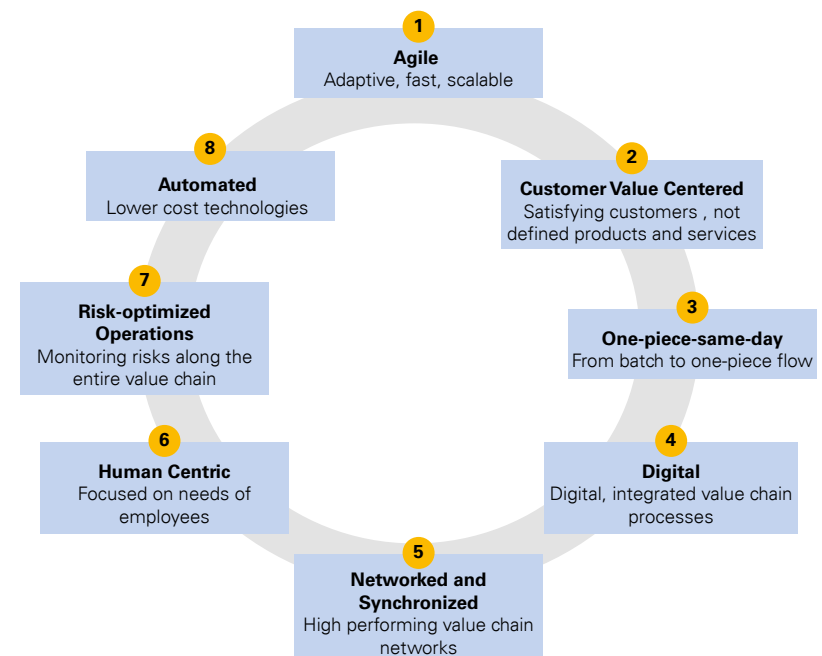


Table 2 Core successful characteristics of future Operations

Source: Arthur D. Little

- **Agile** – Operations will be adaptive to change. This will include fast decision making, scalability, fast time-to-market, and balanced value add.
- **Customer Value Centered** – Operations will shift the focus towards satisfying internal and external customers instead of delivering defined products and services. All operational functions will look at the total value to optimize Total Cost of Ownership.
- **One-piece-same-day** – Operations will change the focus from batch efficiency (trying to use scale effects by batch size optimization) to a one-piece flow production and same-day delivery to increase flexibility, e.g. 3-D printing to allow individualized products to be delivered efficiently to the client on the day they are ordered.
- **Digital** – The creation of more digital, real-time, processes along the value chain to increase efficiency and reliability, along with digital integration of all relevant supply chain actors, while allowing for totally new business models and service offerings.

- **Networked and Synchronized** – Shifting Operations from high performing autonomous units with a high degree of vertical integration towards a high performing, highly synchronized, value chain network across single companies.
- **Human Centric** – Operations will focus on the capabilities and needs of the employee and create the appropriate work environment. For example, adapting the environment with better ergonomics to accommodate an aging workforce.
- **Risk-optimized** – Operations will identify and monitor risks along the entire value chain to prepare for extraordinary events. This will be achieved by creating transparency for critical parts in the overall supply chain, not just for tier 1 suppliers.
- **Automated** – Greater automation than today. This is partly due to increasing wages in current low cost countries, an increasing focus on quality, and also because lower cost technologies will make automation and robotics increasingly affordable for any company.

Preparing the Operations Management function for the future

Over more than a decade most companies have focused on, and become proficient in, optimizing their operations in a known and stable environment. They have built Management and Excellence systems, such as the Toyota Production System and many others, to drive continuous improvement, typically in an incremental way.

Modern Operations Management needs to significantly upgrade its capabilities in a number of aspects. First, to cope with the high degree of uncertainty, the Operations Management function requires new methods and tools to **anticipate the future**, and derive consequences and requirements from this insight. Second, since future solutions will require radically new ways of working, Operations Management needs to nurture capabilities to generate much more **creativity and innovation**. Last, but not least, the speed of change, driven by hyper competition, digital and other trends, will require a **proactive and agile means of transformation**.

Insights from Atlas Copco Operations – Anticipating the Future, Innovating and Transforming

Interview with Kent Blom, VP Operations, Underground Rock Excavation, Atlas Copco

1 *Do you see radical changes in your industry with potential effects on your global supply chain?*

“One of the most noticeable changes is the customer requirement for shorter lead times. Combined with larger demand swings this results in tough challenges for our global supply chain. I also see other challenges ahead where we need to optimize the supply chain to produce a broader range of products and to accommodate new technology, such as electrification.”

2 *Have you taken any extraordinary or radical steps to meet your future challenges?*

“We have set a radical lead time reduction target and have embarked on a major transformation program to realize this target. This one is radical to us, because we are taking an end-to-end view, and we are challenging some “truths” about how things should be done. We believe this will give us an important competitive edge.”

3 *Are there innovative components in your supply chain strategy?*

“With the end-to-end view we will really try to optimize the overall lead time and working capital performance. To gain a full effect we intend to link this to our overall business model. One example is that we will change key principles in our customer contracts.”

4 *Do you see a need to increase your organization’s ability to capture future trends and challenges?*

“We have an excellent cooperation with our Marketing and R&D functions that already provides input on industry trends today. In addition, I am now about to form a new function called “Global Operations Development” – with the key task of identifying relevant trends and innovations in the field of Operations.”

Chief Operating Officers in leading companies have recognized that in shaping their future they cannot simply rely on functions like corporate development or technology management. They also need to build their own capabilities to anticipate, innovate and drive the required transformation. The Box provides an example of the approach taken by Atlas Copco, a world leader in mining equipment manufacturing.

Another example is provided in Table 3 below, illustrating how a leading automotive company is integrating Anticipating the Future, Innovation and Transformation into its Operations Management function. In particular it has linked Operations more closely with other relevant organizational units, significantly upgraded its Operations Management toolbox, and integrated its way of working more closely with the company's other management systems.

Insights for the Executive

Operations Management faces a significant challenge to shape up for a future of technology disruption, innovation and transformation. Today we see the following lessons and priorities as being important for the Head of Operations:

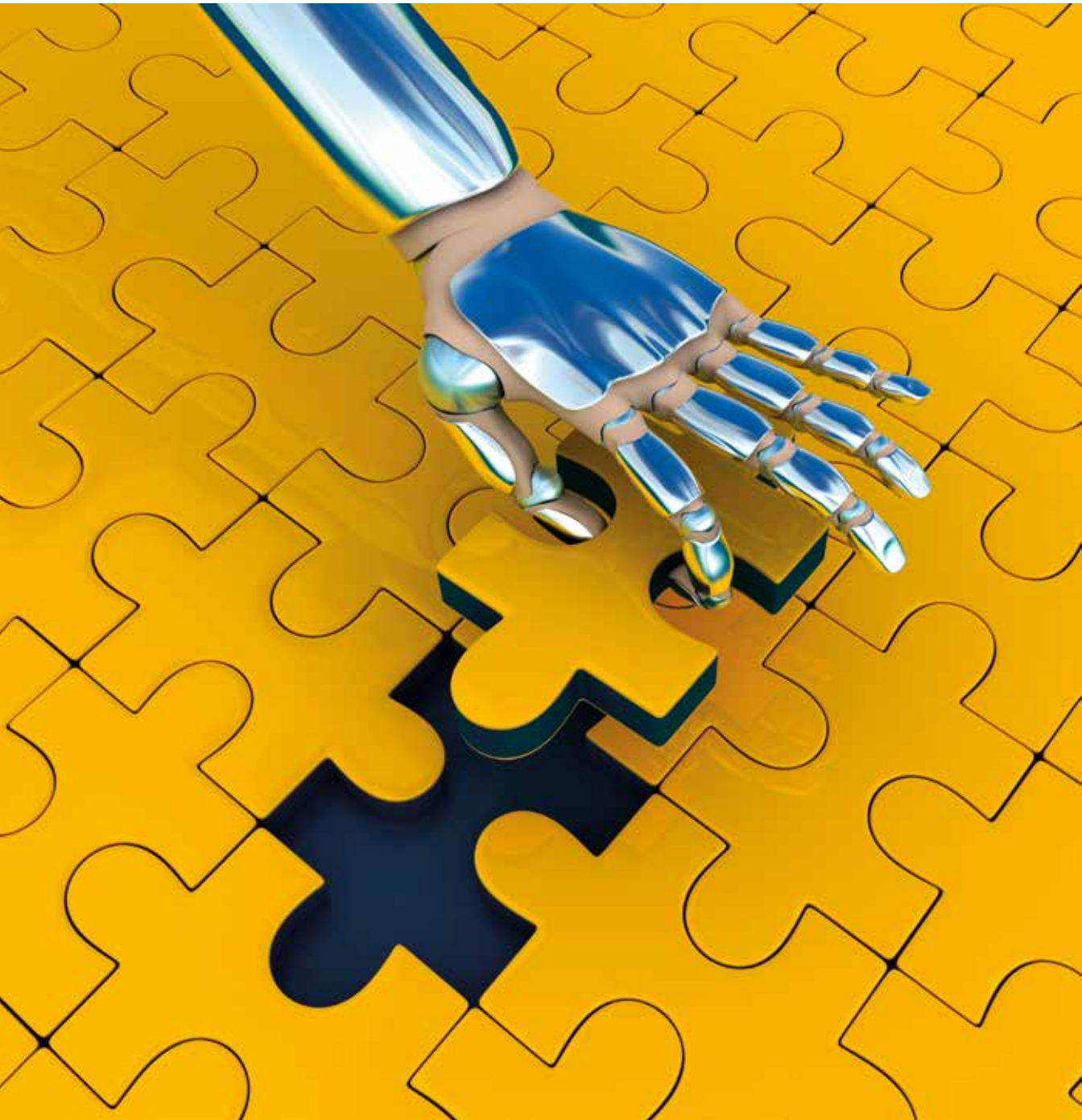
1. Build a dedicated function and supporting processes and systems within Operations to scan for relevant trends and innovations, and integrate plans on how to respond to new challenges and opportunities. Make use of the latest intelligence tools and approaches (see also "Trends in Megatrends" in this issue).
2. Be proactive in developing capabilities to meet future Operations requirements, including improvements in Agility, Customer-Centricity, One-piece-same-day, Digitalization, Network-orientation, Human-centricity, Risk optimization and Automation.
3. Set stretch performance improvement targets that drive radical innovation and transformation in Operations approaches, in addition to ongoing incremental improvements.
4. Promote creativity and innovation as a core value for Operations, in addition to incremental efficiency and effectiveness, and reflect this in incentives and objectives.
5. Ensure that the Operations organization develops a broader mix of individual skillsets and backgrounds to be able to master innovation and constant transformation in addition to safeguarding efficient and effective core operations.

Operations Management is no longer just about efficiency and effectiveness. In today's and tomorrow's business environment, those companies that focus only on "more of the same" are likely to suffer the consequences.

Capability Map Operations Management			
Core Capability	Anticipate the Future	Innovate Operations	Transform Operations
Key Challenge and Benefit	Cope with Uncertainty	Being Creative	Being fast and Agile
Organizational Set-Up	- Operations Management - Corporate Development	- Operations Management - Technology and Innovation Management	- Operations Management - HR Management - Organizational Development - Information Management
New and proven Methods and Tools	- Trend Scouting - Ecosystem Projections - ZEN Scenario Technique - Wargaming - Delphi - Ambition Driven Strategy	- Open Innovation - Crowdsourcing - Evolution/Revolution Design - Industrial Design - Operations Network Design - Technology Roadmapping	- Agile Project Management - 8 Steps Change Approach - Trust Management - Business Process Redesign - Partner Integration Management - Lean Management
System Integration	- Corporate Strategy - Operations Strategy	- Operations Design Plan - Technology Roadmap - Functional Strategies	- CAPEX and OPEX Plan - Process Management Systems - Corporate Project Portfolio

Table 3 Capabilities of the modern Operations Management function – Example of a Leader in the Automotive Industry

Source: Arthur D. Little analysis



Picture by Mordoliff / iStockphoto

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