



By Vishal Agarwal, Vivek Lath, and Matteo Mancini

Confronting Indonesia's Productivity Challenge

Indonesia, along with most other Southeast Asian countries, has an opportunity to capture a bigger share of global manufacturing activity. Rising wages in China is giving the ten countries making up the Association of Southeast Asian Nations (ASEAN) an opportunity to replace China as the “factory of the world.” Yet taking advantage of this opportunity is not going to be simple.

The major challenge, in a word, is productivity. Most of ASEAN manufacturers including Indonesia have labor costs lower than China's, but they have lower productivity rates as well. If Indonesia wants to become attractive to manufacturing multinationals and turn the cost advantage it still enjoys into the basis for a robust manufacturing economy, the country cannot compete on low wages alone. It will have to dramatically improve its industrial productivity.

In what can be seen as both a serious challenge and an unusually timely opportunity, the need for Indonesian industry to step up its productivity coincides with a profound, global transformation—the greatest such change in more than 100 years—in how industrial firms produce and deliver the goods that fuel economies. This transformation is widely known as Industry 4.0.

Industry 4.0: The “what” and the “why”

At McKinsey, we define Industry 4.0 as the next phase in the digitization of the manufacturing sector. It offers the possibility of enormous increases in productivity while satisfying demands from today's customers for customized products, faster delivery, and high levels of service.

The Industry 4.0 “toolkit”—which includes such elements as advanced analytics, robotics, automation, the “internet of things” (IoT), and connectivity—can be deployed across the value chain to greatly enhance performance and sustainability. For example: Product development can now draw upon tools such as collaborative design, 3D modeling, VR-based design, and design for manufacturability. Efficiency in production can be enhanced not just through automating the production process itself but also by root-cause detection of quality failures, predictive maintenance, and use of augmented reality for maintenance. Industry 4.0 tools can be used to dramatically improve supply chain transparency and reduce inventories.

Indonesia's manufacturing and resource sectors, which account for about 20% of the country's GDP, are prime candidates for Industry 4.0. The advent of Industry 4.0 tools provides the country's industrial sector with a unique opportunity to reduce cost of production and cost to serve, provide customers with the advanced products and service levels they now demand, and—not incidentally—improve wages and living standards for Indonesia's people.

Taking up the challenge

Indonesian industrial firms seem poised to take on this challenge. At a recent McKinsey-organized roundtable for about two dozen CxO-level executives from more than 15 Indonesian companies, business leaders expressed their belief in the potential of Industry 4.0—indeed many said that they are already developing road maps for adopting it. They see several specific benefits to be gained. For their own companies, these potential benefits include significantly lowering the cost of manufacturing and achieving step improvements in the quality of goods and reduction of waste, thus enhancing productivity and competitiveness.

Beyond these bottom-line benefits for their own firms, these Indonesian business leaders also perceive substantial benefits for the Indonesian economy from adopting Industry 4.0. These benefits include: developing a workforce with skills in new fields such as data science and analytics, data engineering, and agile manufacturing applications; fueling innovation in fields such as analytics and automation (in some of which Indonesia, over time, could become a center of innovation for Southeast Asia); and creating strong local demand for Industry 4.0 components (IoT,

analytics, etc.), thus helping Indonesian companies to build capabilities in these areas.

To capture such opportunities, Indonesian industry needs to move fast, although some local firms have already made a start—developing use cases, for example, in areas such as predictive maintenance, supply chain transparency, and digital procurement. Resources like the Singapore Digital Capability Center (DCC)—a collaboration between McKinsey and the Advanced Remanufacturing and Technology Center—offer companies the chance to engage in experiential learning and capability-building, pilot new technologies, and generally advance along the path of digital transformation of their enterprises.

This path is beset by significant challenges. Companies sometimes lack a clear business case justifying investments in underlying IT architecture. They often face difficulty in coordinating actions in digital transformation efforts across different organizational units. Sometimes the problem is a lack of courage for confronting obstacles—from unions, for example, or from fears about cybersecurity—to radical transformation. Lack of necessary talent, both within organizations and in local workforces, in areas like data science poses another challenge, as does a lack of national technology standards.

Some of these challenges need to be met by the private sector, while others call for public sector solutions. But the time to start addressing them is now. The payoff for Indonesia will come in the form of not only of a stronger, more productive industrial sector but also a more innovative and prosperous economy and society.

An edited version of this article appeared in the Jakarta Post on 27 November 2017 and is republished here by permission.

Vishal Agarwal is a Partner in McKinsey & Company, based in Jakarta, **Vivek Lath** is an Associate Partner based in Singapore and **Matteo Mancini** is a Partner based in Singapore. Both Matteo Mancini and Vishal Agarwal are Co-Leaders of McKinsey's Operations Practice in Southeast Asia.