

Maximizing efficiency in pharma operations

By matching the productivity of top drugmakers, average ones could enjoy labor and unit-cost savings worth five to six percentage points of earnings before interest and taxes.

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A study of the operational practices of more than 25 global pharmaceutical manufacturers finds that top ones are more than twice as productive as their average counterparts. A look at how the leaders manage cost, quality, and speed to market offers lessons for drugmakers around the world, including large European and North American companies grappling with stagnating growth and aging patented-drug portfolios. The rewards for improvement are significant: by matching the top players' total labor productivity (capital productivity shows comparable results), average drugmakers would enjoy annual labor and unit-cost savings worth five to six percentage points of earnings before interest and taxes (EBIT). At the industry level, the value of that opportunity exceeds \$65 billion.

The study, part of an ongoing benchmarking effort, included a detailed analysis of the financial data and operational performance of more than 1,900 production lines at 150 plants around the world. To ensure the comparability of data, we normalized all results for factors such as differences in product technologies (coated versus uncoated tablets, for example), unit sizes (large versus small blister packs), value chain configurations, and levels of outsourcing.

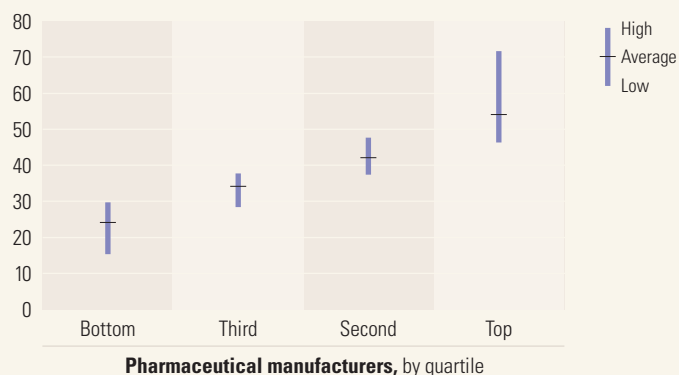
We found a wide range of productivity levels among the companies in the study. Despite broad geographic differences—for instance, European plants are often more productive than North American ones—there are top players in every region we studied. This finding suggests that the potential for industry-wide improvement is substantial.

Maximizing the efficiency of production labor and equipment is one important way top-quartile drugmakers break out of the pack. Their rates of operational-equipment effectiveness are more than twice those of bottom-quartile companies (Exhibit 1), and when we looked closely we found

Exhibit 1

Surpassing the competition

Performance in operational-equipment effectiveness (OEE),¹ n = 25 global companies, %



¹OEE is a standard measure, expressed as a percentage, of how well manufacturing capacity is utilized. A machine that never experienced breakdowns or other unplanned delays, for example, would have an OEE of 100%.

Source: Reported OEE of packaging lines of 25 companies from 2005 to 2007; McKinsey analysis

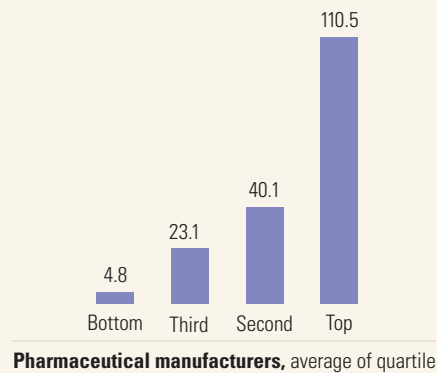
that processes account for two-thirds of the difference. Low performers, for instance, are less likely than high performers to use standardized ways of measuring and controlling equipment parameters and as a result generate more than twice as much waste from unplanned speed losses caused by line stoppages.

Since top-quartile drugmakers are more likely than average ones to use lean-management tools to plan and schedule activities, they release 97 percent of their products to market without rework, compared with 92 percent for average companies. Moreover, the greater attention that top-quartile drugmakers pay to improving their processes helps them use nonproduction labor extraordinarily efficiently. Their quality control employees, for instance, review an average of 110 batches a year—exceeding the productivity of quality control employees at bottom-quartile companies by a factor of 20 (Exhibit 2).

Exhibit 2

A wide range in productivity

Number of batches of drugs reviewed annually per quality control FTE¹



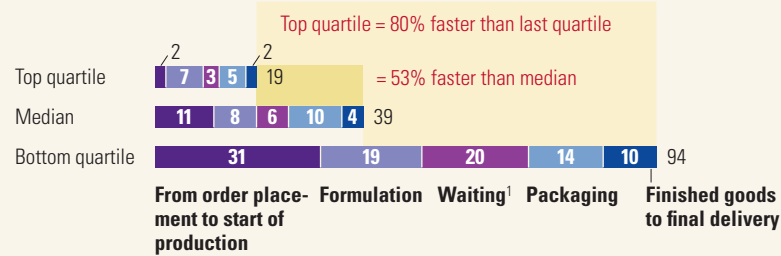
¹Batches normalized for product type and value chain coverage; all comparisons based on standard production unit; FTE = full-time equivalent.

Finally, the best pharmaceutical manufacturers respond much more quickly to demand. Top-quartile players reach final delivery in half as much time as average manufacturers and more than five times faster than bottom-quartile ones (Exhibit 3). More efficient supply chains play a big role: top companies, for example, are likelier to conduct weekly planning cycles (low performers tend to have them monthly) and can therefore respond to customer needs faster. Leading drugmakers also eliminate unnecessary complexity from their production-planning activities—for instance, by using fixed, repeatable, short-duration production schedules that increase their flexibility and diminish the likelihood that they will be forced to change production plans for any given product. The financial benefit of increased speed is significantly lower inventory. For a bottom-quartile drugmaker, reaching the throughput performance of top-quartile companies would be worth two percentage points of EBIT.

Exhibit 3

Speed matters

Pharmaceutical manufacturers' speed to market, number of days



¹Includes planned/unplanned waiting for availability of production-line equipment.

Source: Reported throughput times from 25 global pharmaceutical companies from 2005 to 2007; McKinsey analysis

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How do structural factors contribute to productivity? Unsurprisingly, small plants (those producing fewer than about 1.5 billion tablets a year) are substantially less productive than larger ones. The benefits of scale apparently do not, however, extend to the very largest plants (those exceeding about 3 billion tablets a year); additional management complexity may sap their productivity.

Such results shed light on the evolution of lean-management practices in the industry. Every drugmaker we studied has launched lean or Six Sigma projects in the recent past, and most employ specialized teams of operational experts to manage them. Yet relatively few companies get the full, bottom-line benefits from such efforts. Many workers at the laggards, for instance, see lean tools as the objective in themselves, not as a way to introduce a fundamentally new way of working. Leading companies are much likelier to analyze and adjust their formal structures and organizational processes to ensure that operational improvements promote business objectives and that senior leaders focus on changing the mind-sets of employees in ways that make lean improvements stick. *Q*

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