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The True Value of

RELIABILITY

by Marc Hoppenbrouwers

“Reliability is affected by people, company culture and excellence in operations”

In the current economic climate, only the strongest businesses are likely to survive. That means companies who perform reliably with a healthy cost level and, therefore, are able to build a competitive advantage over weaker performers. This also allows them to maintain a positive margin even in a depressed market, while others fall into red figures.

Reliability is affected by people, company culture and excellence in operations, so multiple, fragmented approaches to reliability in manufacturing will not work. Often, companies struggle to identify the right initiatives and fail to make a serious impact on the bottom line. What is needed is a single, cohesive strategy with an integrated approach.

There are, in principle, four value levers that ensure reliability and add business value, as shown in Figure 1.

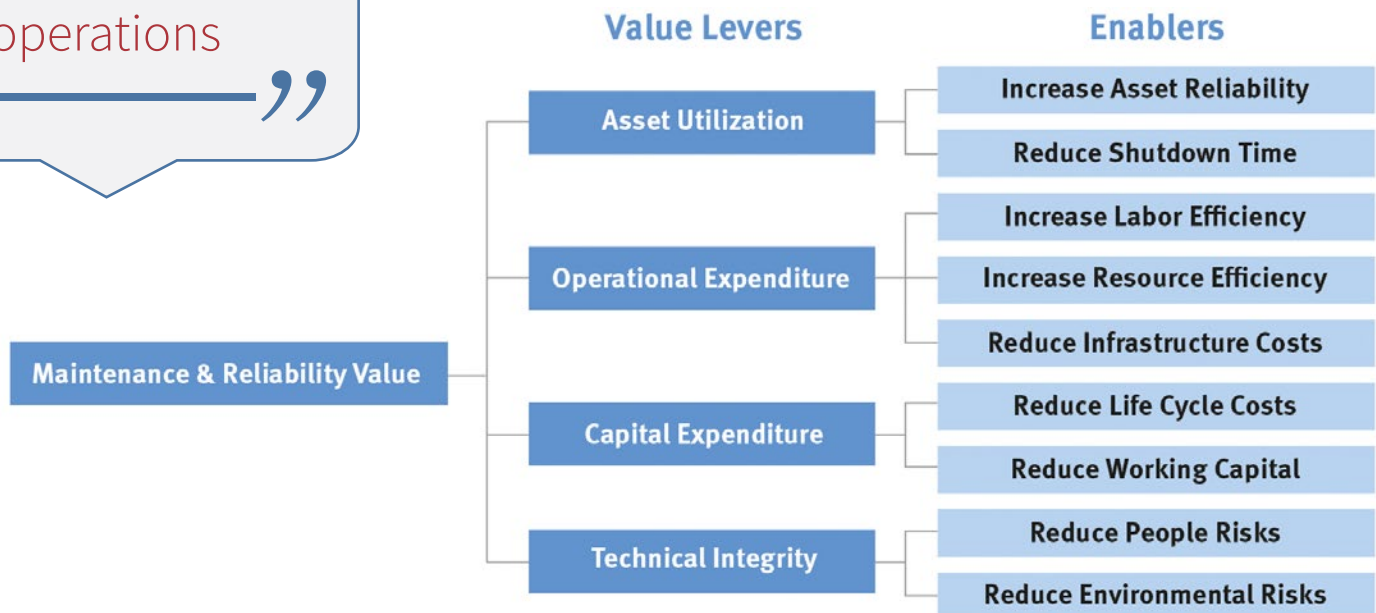


Figure 1: Value tree to achieve operational excellence

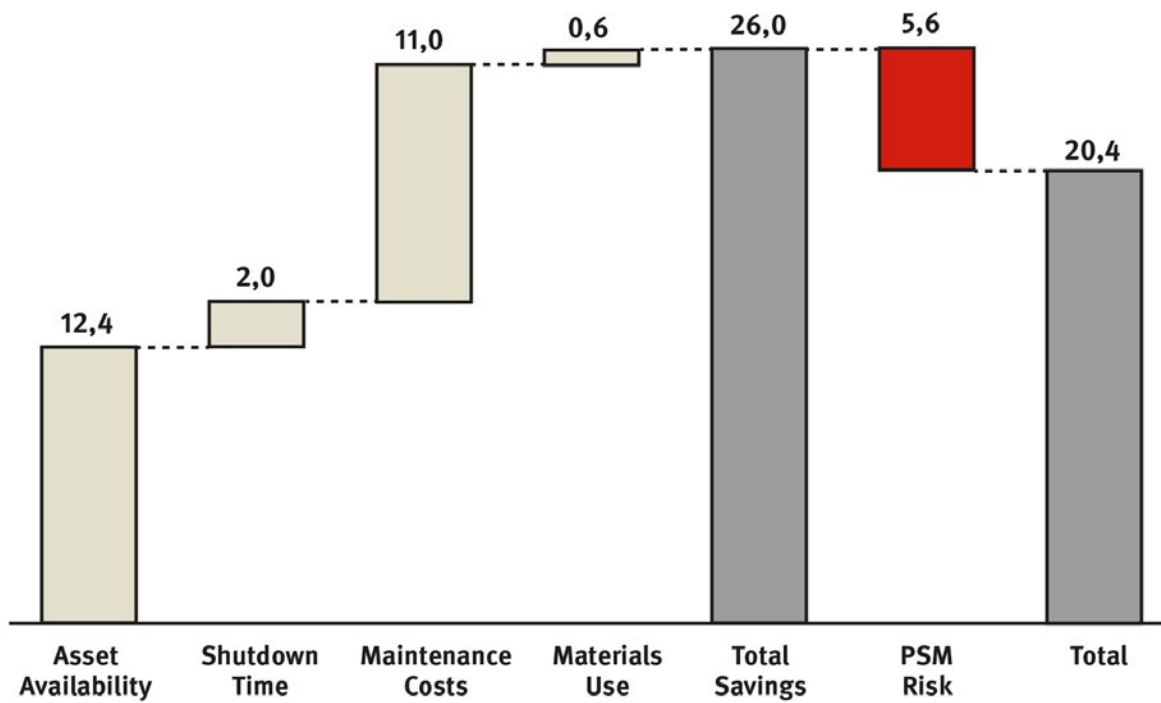


Figure 2: Waterfall diagram for a large mining site in South Africa

Value Identification

If opportunities are correctly identified, for example via the rapid value assessment method, it is possible to obtain a fingerprint of a company's current plant performance and culture, then quantify the value opportunities and risks. The waterfall diagram in Figure 2 sets out value opportunities for a mining company in South Africa in various areas of maintenance reliability on the left, giving a potential year over year value savings for each. On the right, the process safety management (PSM) risk of a serious incident occurring is quantified by effect likelihood. As the operational risk of a serious incident negatively affects value, this is displayed as a negative in the waterfall diagram.

internalize safe and more efficient behavior. In the interdependent stage, people network as an organization and correct each other's unsafe or value destroying behavior. Only at this stage is maximum value creation and operational risk reduction accomplished.

An Integrated Value Approach for Operational Excellence

The key to tackling value creation and reducing operational risk lies in strengthening a company's culture so employees are independent and empowered enough to generate value for the company.

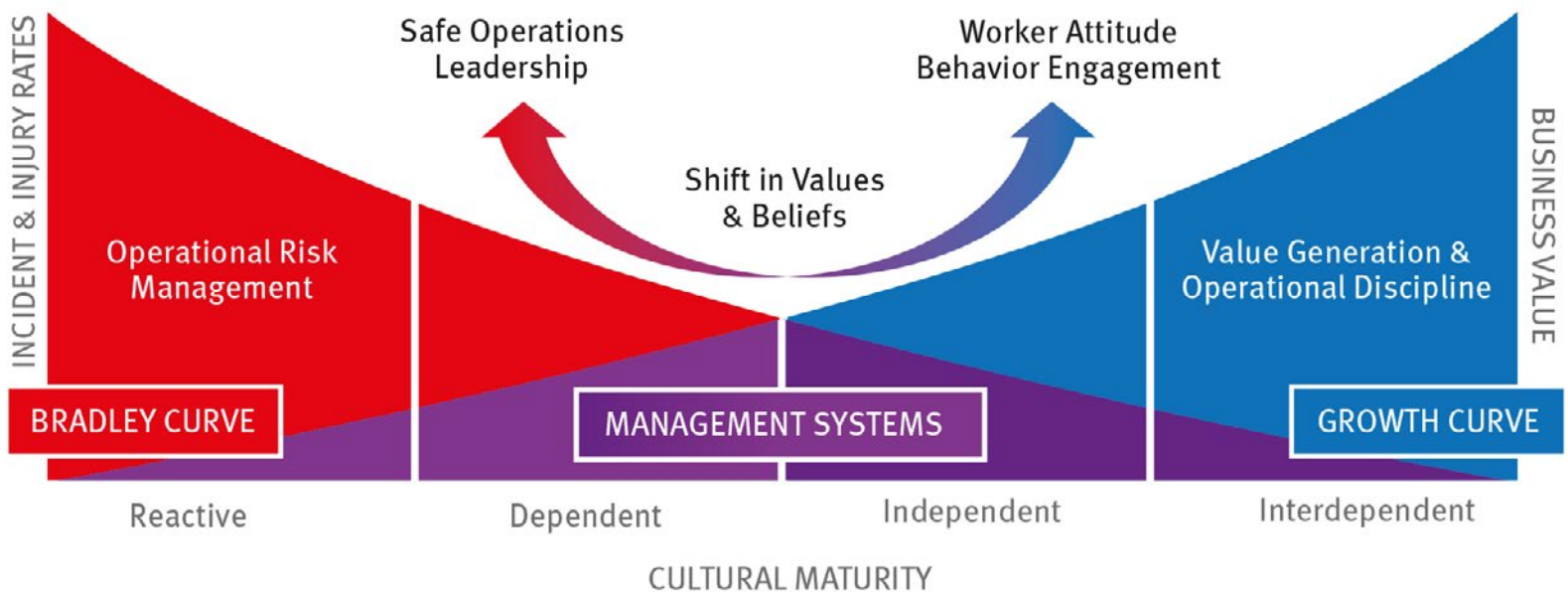


Figure 3: DuPont Bradley and growth curves

Once a rapid value assessment has provided insight into a company's performance, it is time to close the gaps using an integrated approach that moves the organization toward operational excellence. As shown in Figure 4, DuPont successfully implemented operational excellence at its own plants using a four-dimensional operational excellence model.

The three pillars of the model seek to improve technical skills through the creation of a maintenance reliability road map, with capabilities through a targeted, unified training program, as well as mind-sets and behaviors

to achieve a cultural transformation. The management process linking the three pillars ensures successful delivery of the business value. These four dimensions are inseparable if a serious effort for attaining reliable operational excellence is to be made. Many examples exist of companies that focus on one or two pillars, but then fail to reach or sustain the desired operational performance level for long. An integrated approach and a clear leadership focus are required to achieve a real business transformation and sustainable operational excellence.

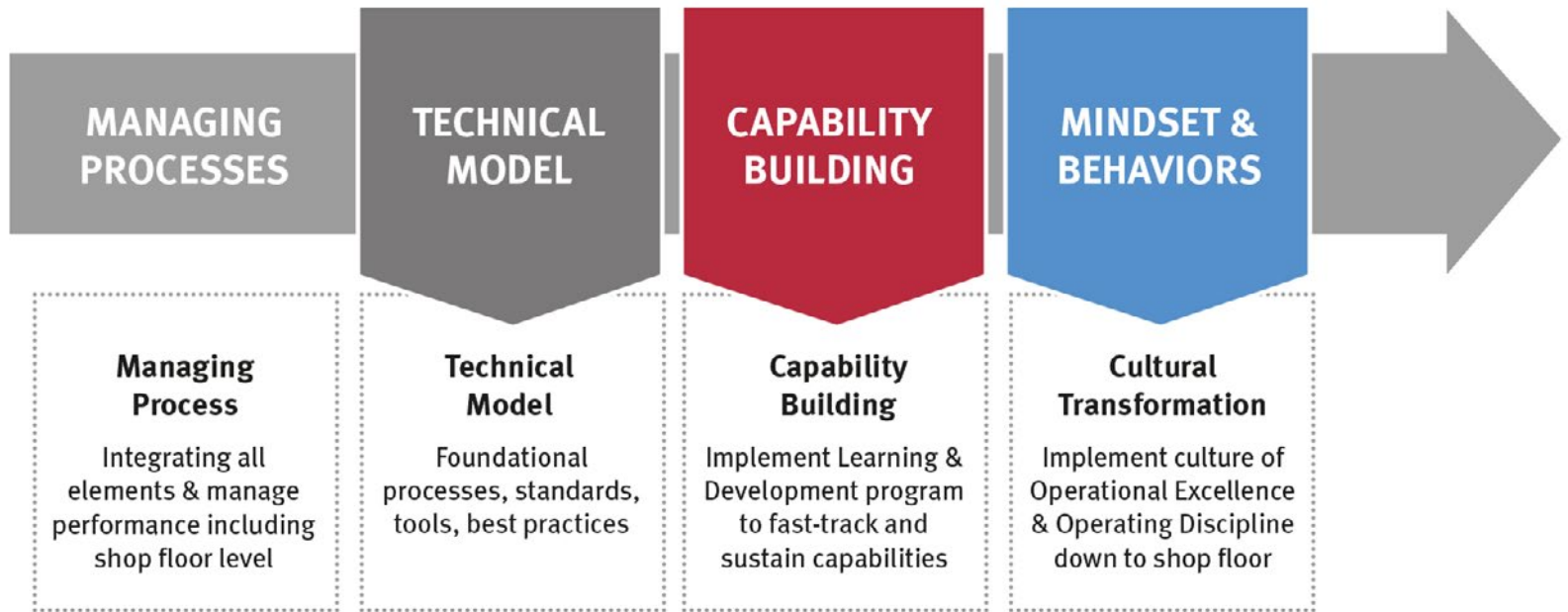


Figure 4: Four-dimensional operational excellence model

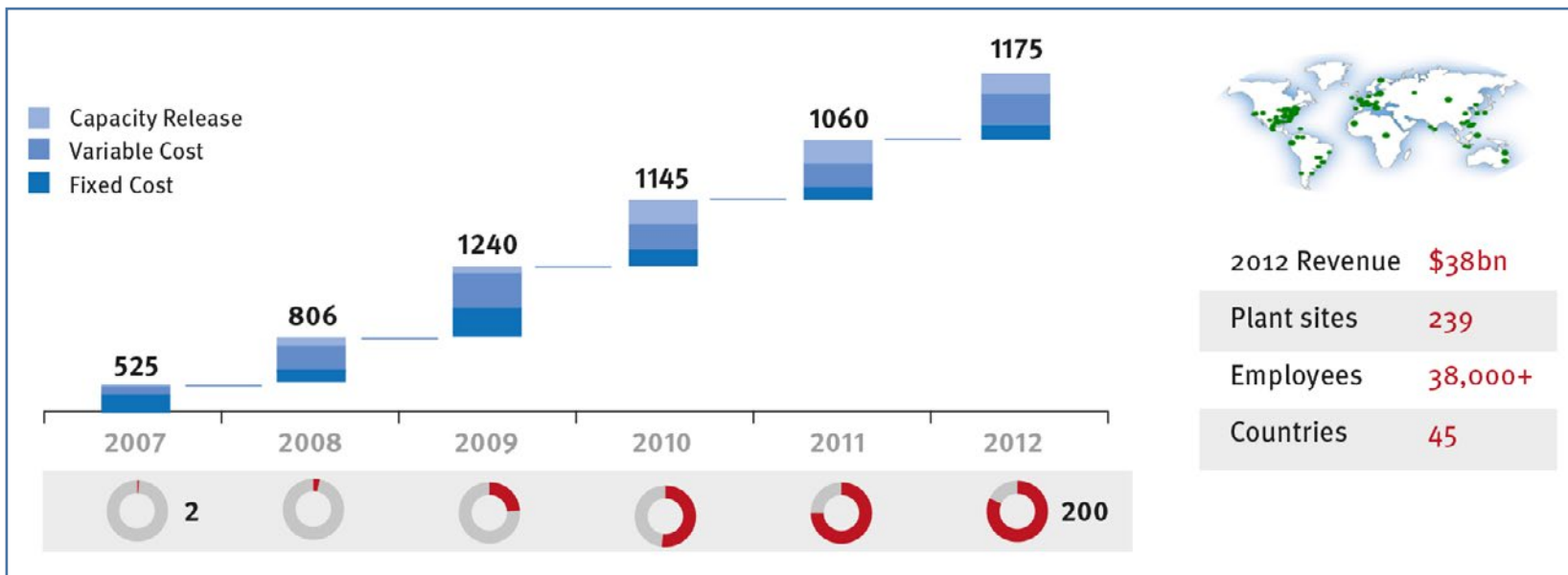


Figure 5: Results of DuPont's operational excellence program

“
Reliability is achievable.
 It just has to be tackled the right way.
 ”

Reliability Road Map

The key to achieving this long-term change, as well as maintenance reliability excellence, is the improvement road map. This should prioritize improvement actions required to achieve the desired level of excellence in a realistic time frame. Implementation of the road map requires commitment from senior management, strong project leadership and experienced transformation leaders. The right balance between the four dimensions of the operational excellence model is essential for keeping everyone in a company working at the same pace toward the same goal and changing the reliability culture from top management to plant floor.

Achieving Results

DuPont launched its own global operational excellence program in 2006. The transformation of over 200 sites was completed in just five years and has generated unsurpassed business results: \$6 billion in value generation through capacity release and variable and fixed cost reduction, and \$3 billion in working capital reduction.

These figures go to show that an integrated, cohesive approach to value generation can result in a steady performance even through times of economic uncertainty. Reliability is achievable. It just has to be tackled the right way.

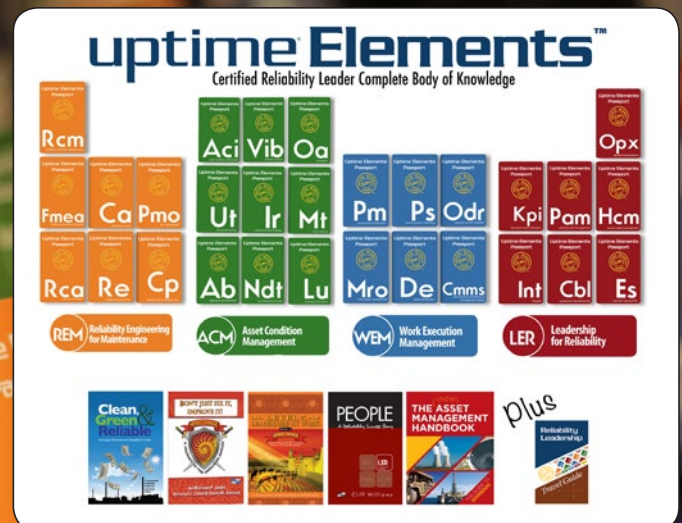


Marc Hoppenbrouwers is an Operational Excellence Solution Architect at DuPont Sustainable Solutions. He has more than 20 years of experience in global industry and has supported operational excellence and risk management improvement journeys for industry-leading companies across oil and gas, energy power, chemicals, food, pharmaceutical, metals and mining, utilities and high-tech industries.
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