Transforming product innovation and engineering — why it matters

Legacy approaches to product innovation and development are not delivering an innovation return. In 2017, manufacturing industry was responsible for 58% of global R&D spend. Only 19% of discrete manufacturers feature in Forbes’s list of the most innovative companies.

Capitalizing on the servitization opportunity requires enhanced capabilities. The size of the connected products prize through manufacturing value added globally will be $519 billion to $685 billion by 2020.

Key challenges in maintaining digital continuity

What are your ambitions with relation to smart, connected products over the next three years?

How to overcome the challenges on the road to transformation

The transformation roadmap will vary depending on the maturity of individual organizations. We found that manufacturers fell broadly into four camps:

1. Not able to secure the involvement of manufacturing teams or customer service early in the product development process
2. Product development and engineering function faces problems in discovering and collecting the needs of all stakeholders
3. Not able to adequately create, capture, share and reuse knowledge across functions
4. Few manufacturers have scaled their transformation efforts

Only 21% of manufacturers are at an advanced stage of transforming product innovation and engineering with close to a third still running small scale pilots.

Talent shortage in non-physical skills continues to be an acute issue for 54% of manufacturers.

Most mature are ‘The Front-Runners’ — 17%
Challengers – 16%
Pacers – 17%
Least matured are ‘Novices’ — 50%

Use of digital technologies in product development processes is low.

How to address the key challenges?

1. Make sense of 'The Four Waves' — 55%
2. Challenges — 14%
3. Poorest — 14%
4. Leap-frogged are ‘Novices’ — 55%

Novices need a clear vision, strong leadership capability, and a focus on bridging gaps in both technology and talent.

Challengers need to focus on building a partner ecosystem and a digital culture.

Pacers need to ensure that adequate product data and partnerships are in place.

Talent shortage is now physical due to a lack of local issue.

Source: Capgemini Research Institute, Digital Engineering Survey, April–May 2018 (N = 1013). Percentages may not total 100 due to rounding.