

Quality 4.0 – road to excellence in the digital world

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Technological advancements in the last decade have given rise to a new industrial revolution: Industry 4.0. This revolution has been powered by disruptive technologies and their exponential growth, which have led to dramatic changes in the workforce and the markets that organisations serve. 'Quality 4.0' is a state of transformation that references the future of organisational excellence and quality within the context of Industry 4.0. It encompasses the practices that organisations can follow when embracing the trends of Industry 4.0. Quality 4.0 combines the capabilities of machine learning, artificial intelligence, cloud computing and big data with conventional systems of quality management for driving continuous process improvement and for improving overall business performance. Quality 4.0 does not only affect delivery processes internal to an organisation, but also the entire value chain from procurement to sales, including corporate enabler functions.

Establishing and implementing Quality 4.0

The building blocks of Quality 4.0 are people, process and technology. While agile and seamless processes of efficiency, security, safety and adaptability are required to achieve excellence, use of technology for automation and real-time decision making enhances the capabilities of these processes.

Apart from decreasing costs, reducing transaction time and eliminating manual errors, automation leads to streamlined communication and better accountability. The automated execution system of Quality 4.0 encompasses faster delivery, self-diagnostic and self-healing systems, optimised operating model and in-process quality enablement, thereby providing transformational results in quality.

Challenges concerning Quality 4.0

Organisations can be expected to face some challenges in their quest to achieve excellence through Quality 4.0.

- **Lack of innovation and creativity:** While being open to innovation, an organisation should also consider principles of quality to ensure stable operations. Quality plays a critical role in enabling and fostering innovation and creativity. If quality standards are not embraced alongside innovation, the transformation process of the organisation may slow down

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- **Inability to understand customer expectations:** Quality assurance is regarded as an internal discipline that manages the way products and services are developed and delivered. However, it is imperative to understand the customer expectations, and pain points of a value-added delivery process. Organisations endeavouring for customer experience may have to look beyond the inward-focussed approach of quality assurance
- **Sluggish approach to delivery's pain points:** A quality organisation should consider a proactive approach to understand the pain points of delivery and recommend effective solutions. Hands-on exposure to delivery processes can help in generating practical solutions. It is vital to seamlessly integrate quality with the delivery process.
- **Outdated solutions:** Solutions that worked on a theory formulated several years ago might not work today due to changes in technology, lifecycle models and even people characteristics. So, the theory of quality needs to be redefined to meet today's expectations.

Quality transformation — success factors

Some of the key success factors in the adoption of Quality 4.0 include:

- Adequate empowerment of the quality function to make transformational and radical changes in the way the delivery processes are designed
- Improvements to be innovative rather than aiming only for incremental benefits
- A robust governance mechanism, with continuous review and execution checks would go a long way in sustaining the momentum of quality initiatives
- Meticulous investment in tools and automation to improve efficiency of delivery
- Practitioners and leadership need to change their outlook towards accomplishing continuous value delivery and customer experience.

For a culture of excellence

Technologies that collectively contribute to Industry 4.0 have been nothing less than transformative. There is an opportunity to use those technologies to redefine the quality function according to the wider organisational strategy. Furthermore, an effective Quality 4.0 strategy would allow organisations to deal with long-standing quality issues that stem from problems such as ineffective communication, absence of cross-functional ownership, and disintegrated traditional management systems. Quality 4.0 provides organisations with an opportunity to reassess the root causes of existing obstacles and increase the probability of success. Enhanced transparency, automated operations and high-quality data-driven insights can be used to achieve a culture of excellence.

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