

How to Improve New Product Introduction (NPI) in Three Steps Institutionalize, automate, and implement Quality 4.0

How can industrial and manufacturing enterprises achieve better new product introduction (NPI), a critical element of operational excellence? Corporate goals of improving market share and revenue, maintaining competitive differentiators, and improving customer experiences are especially challenging when developing and launching new products—making it vitally important that NPI is seamless and high quality. Despite significant investment in NPI, a startling 44 percent of new products fail to meet most NPI success criteria.

Manufacturers and industrials face three key challenges:

- Organizational and data siloes, with little collaboration among increasingly complex supplier networks
- Core process deficiencies, as shown by key performance metrics, even as solutions are within reach
- Outdated or poorly integrated operations and quality systems, and data sources

The power of supplier quality in new product introduction (NPI)

Consider these findings that illustrate the power of supplier quality in NPI:

- Only 14 percent of companies have automated supplier quality management, but these organizations report 10-points better NPI scores (hitting time, volume, and quality goals)—a 14-percent better median NPI score compared to those without automated supplier quality management.
- NPI improvements correlate closely with improvements in quality and manufacturing. Leaders in NPI are 21-percent better in multiple quality metrics and 4.7-percent better in multiple manufacturing metrics.

Three steps to better NPI, quality, and performance

Market leaders have been improving NPI, quality, and performance with a three-step plan:

1. Institutionalize formal processes across the corporation and supply chain
2. Automate those processes
3. Extend those processes with Quality 4.0 connected-supplier use cases

The quality organization must play a critical role in driving NPI success; too often, the quality team is considered secondary, with engineering leading NPI programs. This is a critical mistake that must be corrected for organizations to achieve their NPI goals.

Success step No. 1: Institutionalize processes

A formal process approach in quality generally leads to significant improvement in quality and manufacturing metrics. Whether talking about the number of industrial transformation (IX) practices and technologies deployed or the number of quality practices adopted, doing “more” has significant synergistic benefit for an organization.

Industrial organizations implementing some or all of these core quality management processes confirm the value of process adoption and the power of more; adopting *any one* of these processes enables a 9-percent improvement in successful NPI, and the benefits escalate with the adoption of more processes:

- Closed-loop processes to connect quality across design, manufacturing, and suppliers
- Cross-functional teams to manage quality across design, manufacturing, and suppliers
- Formal nonconformance/corrective and preventive action (NC/CAPA) processes established across the company
- Top executives consider quality a top priority
- Real-time visibility of quality metrics in customer service, engineering, and manufacturing

Success step No. 2: Automate processes with software

Adopting formal processes across the enterprise and supply chain is just the start. Companies that automate quality processes demonstrate significant improvement in business performance. The same is true of NPI and supplier quality. When we ask companies about quality processes such as change management, risk management, supplier quality management, and statistical process control, we see positive and escalating results among companies automating these processes. Further, we find a dramatic improvement in manufacturing and quality metrics among companies that automate the monitoring of supplier quality data and deploy a web-based portal for supplier quality data collection.

Automating supplier quality processes is highly correlated to leadership in NPI, quality, and manufacturing performance.

Success step No. 3: Extend practices with Quality 4.0 use cases

Manufacturers that want to accelerate NPI and increase success in launching new products must master Quality 4.0 best practices and use cases.

Quality 4.0 describes how manufacturers use modern technologies, such as advanced analytics and digital connectivity, to transform traditional quality and improve operational excellence. It delivers enterprise efficiencies, innovation, performance, and strategic objectives. Quality 4.0 doesn't replace conventional quality methods but instead builds on and improves them. Foundationally, it starts with quality data enhanced with other data sources, such as manufacturing, machine sensors, supplier management, and product life cycle data, to derive new analytical insights and apply these lessons across the entire organization.

Today 17 percent of companies say they have already implemented Quality 4.0, while another 23 percent are actively engaged in pilot deployments. An additional 15 percent of organizations expect to kick off a Quality 4.0 initiative within a year. Manufacturers deploying Quality 4.0 initiatives arrive at real value: improved quality, costs, efficiency, market share, and brand recognition. Quality 4.0 use

cases enable new approaches and answers to traditional organizational and value-chain quality challenges.

Time is of the essence. For success in NPI, organizations need to:

- Leverage lessons learned from early adopters
 - Understand that transformation requires change across the enterprise
 - Commit to Quality 4.0, now
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ISO STANDARD TAKES BUSINESS COLLABORATION TO ANOTHER LEVEL

ISO's International Standard for business *collaboration*, *ISO 44001*, helps organizations get the most out of working together. A new guidance document provides further insight to help them take these relationships to the next step.

The benefits of collaboration in the business world are many and include the generation of innovative ideas, reduced costs through efficiencies and sharing of resources, and access to new services and technologies.

ISO 44001, *Collaborative business relationship management systems – Requirements and framework*, assists companies in establishing and improving collaborative relationships, both within and between organizations.

Now, organizations can take the guidance to another level with the recently published ISO 44002, *Collaborative business relationship management systems – Guidelines on the implementation of ISO 44001*. The new standard provides in-depth knowledge and understanding of the requirements in ISO 44001 to help organizations implement it most effectively.

ISO 44002 offers specific guidance for establishing, developing and managing third-party relationships using the eight-stage life cycle detailed in ISO 44001. This supporting information enables organizations to successfully integrate the ISO 44001 business collaboration framework into their existing management systems, processes and procedures, to optimize the benefits of working together.

ISO 44002 was developed by technical committee ISO/TC 286, Collaborative business relationship management, whose secretariat is held by BSI, ISO's member for the United Kingdom. It is now available for purchase from your national ISO member or through the ISO Store.

RELATED INFORMATION

ISO 44001:2017

Collaborative business relationship management systems — Requirements and framework

ABSTRACT

ISO 44001:2017 specifies requirements for the effective identification, development and management of collaborative business relationships within or between organizations.

ISO 44001:2017 is applicable to private and public organizations of all sizes, from large multinational corporations and government organizations, to non-profit organizations and micro/small businesses.

Application of ISO 44001:2017 can be on several different levels, e.g.

- a single application (including operating unit, operating division, single project or programme, mergers and acquisitions);
- an individual relationship (including one-to-one relationships, alliance, partnership, business customers, joint venture);
- multiple identified relationships (including multiple partner alliances, consortia, joint ventures, networks, extended enterprise arrangements and end-to-end supply chains);
- full application organization-wide for all identified relationship type

ISO 44002:2019

Collaborative business relationship management systems — Guidelines on the implementation of ISO 44001

ABSTRACT

This document gives guidelines for organizations on implementing ISO 44001 in order to achieve successful collaborative business relationships, as well as helping organizations use and implement the framework specification effectively.

This document explains what is intended by each requirement of ISO 44001, why each is important, and recommends approaches to take for their practical implementation. How to meet the requirements is individually evaluated and applied in the context of each organization.

This document is applicable to any organization.

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