Top 5 Priorities That Manufacturing CEOs Expect From Their CIOs

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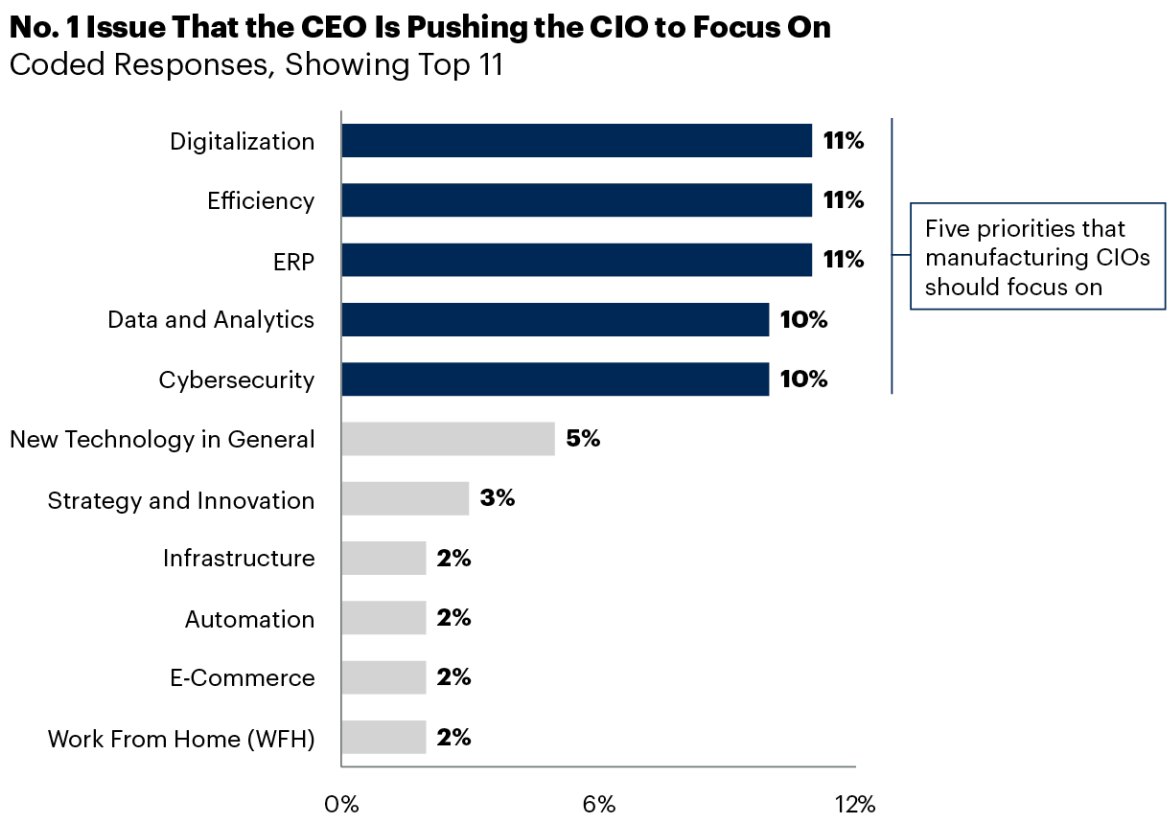
Initiatives: Manufacturing IT Optimization and Modernization

Five topics stand out that CIOs should focus on — digitalization, efficiency, cybersecurity, ERP, and data and analytics — according to the 2021 Gartner CEO and Senior Business Executive Survey. This survey data analysis explains why CEOs focus on the combination of these five issues in particular.

Data Snapshot

Figure 1: No. 1 Issue That the CEO Is Pushing the CIO to Focus On



Data Insights

The CIO and CEO and business unit leaders of manufacturing companies must coordinate to ensure alignment of IT investments with business outcomes like product excellence, operational excellence, customer engagement or risk avoidance. In the 2021 CEO and Senior Business Executive Survey, [1] five priorities that manufacturing CIOs should focus on dominate: Digitalization, operational efficiency and ERP were each at 11%, while data and analytics and cybersecurity were only slightly behind at 10% each. All other topics were mentioned by only 5% or less of the participants. This data shows that CEOs have several needs with almost identical priorities. What some CIOs may see as indecisiveness is, in fact, an indicator of how interrelated these priorities are. We explain this in more detail for each initiative:

- CEOs associate the term **"digitalization"** slightly differently by subindustry segment (see Note 1). There is consensus that the pandemic has triggered business transformation. Accordingly, there are clear signs of an increase in demand for as-a-service models that are gradually replacing traditional product sales. For industries that generate value from configurable, reusable components and production steps, products are becoming mass-customized (such as cars, personal computers or white goods), enhanced with services or even replaced by services (equipment as a service). At the same time, they are improving employee and customer experiences (see Top 5 Strategic Business Trends in Manufacturing Industries for 2021).

- **"Efficiency"** refers to optimization and automation of existing processes leveraging new technologies to reduce cycle times and cost through contextualized data insights (for example, inventory information), collaboration platforms or workflow capabilities. Many manufacturing companies have already invested in paperless frontline worker processes in factories, warehouses or field service (see Technology Investments for Frontline Workers Will Drive Real Business Benefits). Frontline worker technologies also help to better monitor process performance. In this way, possible gaps between planned and operationally executed processes can be closed, and planning security and resilience can be improved. However, other value-adding processes are increasingly being optimized and automated — in particular, sales, production and service order processing to reduce process cycle times and, therefore, to save internal cost. Through standardized integration of processes using standard APIs, cloud-based Internet of Things (IoT) platforms and hyperautomation, workflows are developed across system boundaries. Remote and distributed work for many job types will at least partially persist after COVID-19, except in factories or areas in which materials have to be handled.

- Every digitalization initiative in manufacturing builds on value-adding processes — product life cycle management (PLM), supply chain management (SCM), CRM and enterprise asset management (EAM). These processes exist in all manufacturing companies and are partly supported by often siloed business applications. The core business application of many business processes is **ERP**. Standardized process and data integration of ERP with product data management (PDM), CRM and EAM are a prerequisite to achieve end-to-end supply chain visibility. Since these systems contain a lot of process know-how — albeit fragmented — their modernization and standardized integration are essential (see Successful Manufacturing Digitalization Requires Application Modernization and Integration). The transition of ERP from a siloed, monolithic application to a composable network of packaged business capabilities (PBCs) drives investment in ERP modernization. The focus is on dissolving complex ERP processes to be able to network them more flexibly with processes in adjacent systems, such as configure, price and quote (CPQ), PLM, CRM and manufacturing execution system (MES). According to The Future of ERP Is Composable, "the future state of ERP will be defined by integrated applications that can be composed and recomposed to deliver customer-defined business capabilities."

- **Data and analytics** across functional IT and operational technology (OT) silos and blending of this internal data with data owned by external parties (customers and suppliers) are a key prerequisite for decision making and predictability across manufacturing value chains (see How to Use Manufacturing Analytics for Intelligent Decision Making). Visibility and transparency across the end-to-end supply chain is seen as a key driver to go beyond asset utilization and efficiency and enable agility and shorter innovation cycle times. Investment in generating insights from data will increase as more data sources — IT applications and cyberphysical systems such as production assets — are connected and generate more and more data, which has to be aggregated, contextualized and visualized. This will also result in more investment in data strategy and governance.

- Boards of directors now overwhelmingly view cybersecurity as a business risk. System integration (ERP, MES, CRM and PLM) across company borders and remote work within manufacturing enterprises lead to increased **cybersecurity** requirements and regulations. In addition, human-machine interfaces in factories and warehouses require continuous investment in cybersecurity and the interrelationship between OT security and safety. CIOs Need to Rebalance Accountability for Cybersecurity With Business Leaders explains in three steps how CIOs can share cybersecurity accountability with enterprise leaders.

Evidence

[1] The 2021 Gartner CEO and Senior Business Executive Survey. Gartner conducted this research from July 2020 through December 2020 with questions about the period 2020 to 2023. One-quarter of the sample was collected in July and August, three-quarters from October through December.

In total, 465 actively employed CEOs and other senior executive business leaders qualified and participated. The research was collected via 390 online surveys and 75 telephone interviews. All consumer manufacturing and retail respondents were screened for active employment in organizations with greater than $50 million in annual revenue.

By job role, the sample mix was:

- 287 CEOs
- 115 CFOs
- 29 COOs or other C-level executives
- 34 chairpersons, presidents and board directors

By geographic region, the sample mix was:

- 183 — North America
- 109 — Europe
- 97 — China, Japan, Australia and other APAC
- 56 — Brazil, Mexico and other Latin America
- 13 — Middle East
- 7 — South Africa

By enterprise revenue, the sample mix was:

- 46 — $50 million to less than $250 million
- 122 — $250 million to less than $1 billion
- 226 — $1 billion to less than $10 billion

- 71 — $10 billion or more

The survey was developed collaboratively by a team of Gartner analysts that examines technology-related strategic business change, and was reviewed, tested and administered by Gartner's Research Data and Analytics team. The results of this survey are representative of the respondent base and not necessarily businesses as a whole.

Note 1: What "Digital Business" Means to Survey Participants

The CEO Survey also asked participants what they mean when they think about "digital business" in the context of their business and industry.

Table 1 shows the top five meanings for industrial manufacturers vs. consumer packaged goods (CPG) manufacturing or retail organizations.

Table 1: Meaning of "Digital Business" — Showing Top Five Meanings of Digital Business

Industrial Manufacturing (n = 41)	CPG/Retail (n = 63)
Data and Analytics	E-Commerce/E-Business
Product and Service Innovation	Customer Experience
Customer Interaction	Data and Analytics
Efficiency, Process, Effectiveness	Customer Interaction
Work Automation	Digital Marketing
n = varies Q. In a business context, the term "digital" does not have an agreed-on definition. In your own words, what do you mean when you think about "digital business" in the context of your business and industry?	

Source: Gartner (October 2021)

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