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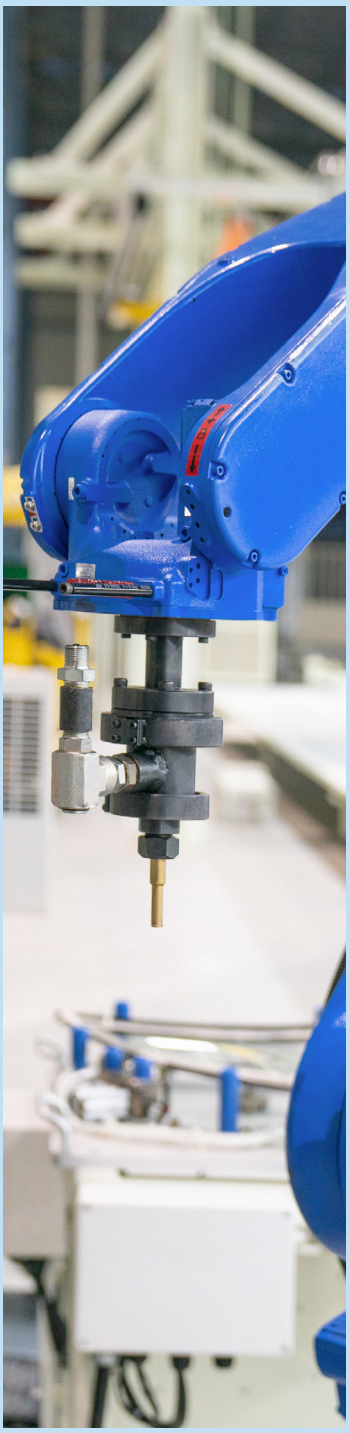

DIGITAL TRANSFORMATION – THE PERFECT VACCINE FOR POST-COVID WOES OF MANUFACTURING COMPANIES

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Impact of COVID-19 on manufacturing companies – Challenges and opportunities

COVID-19 has impacted lives, businesses and economy across the globe. And the pandemic's adverse impact on manufacturing companies is no exception, especially those that manufacture components for aviation, energy and the automotive industry.

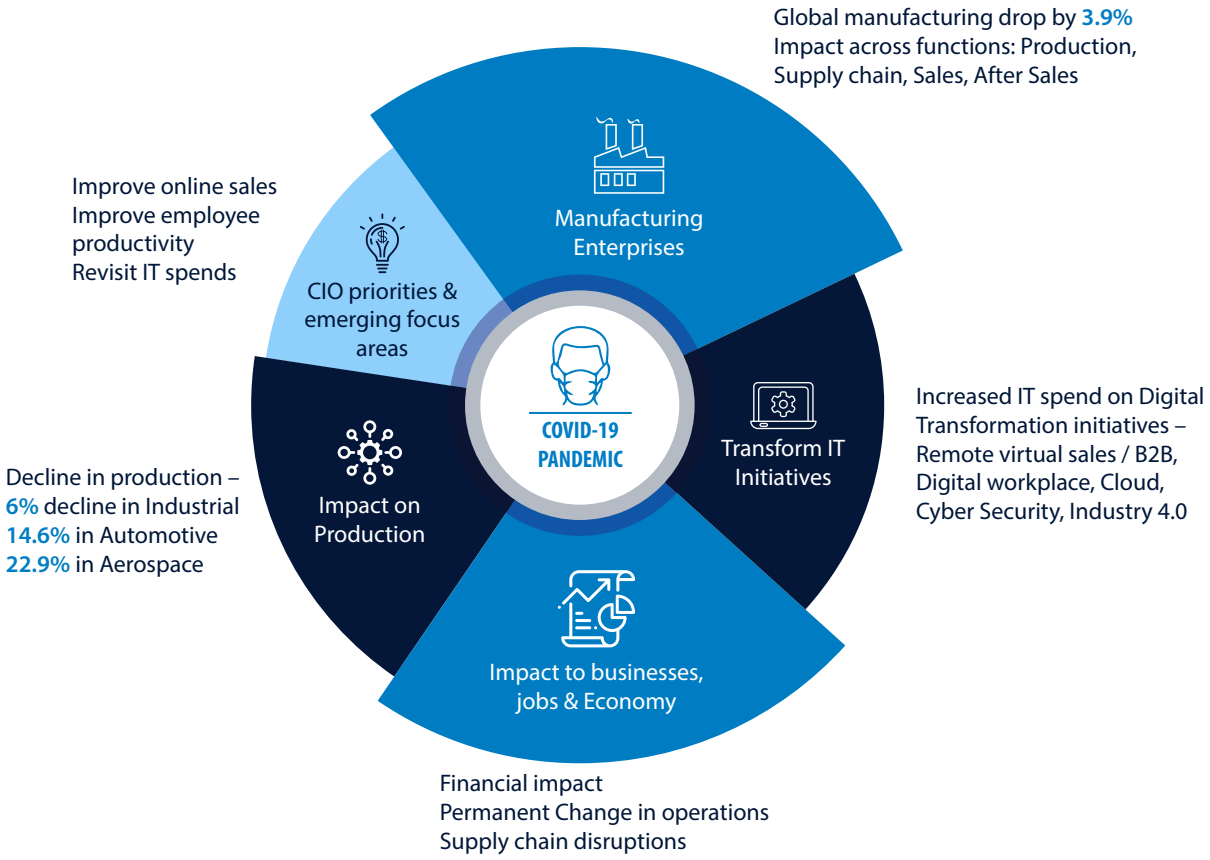


Fig 1: COVID-19 challenges can double up as growth opportunities for Manufacturing enterprises

Research from Infosys, corroborated by 3rd party sources show that in 2020, global manufacturing dropped by nearly 3.9%, global industrial production declined by more than 6%, and automotive production decreased by 14.6%. While global industrial production is predicted to return to normal by 2022, automotive production is unlikely to recover until 2023. The aerospace industry will continue to struggle beyond 2025 as production plummeted to below 22.9% in 2020 [(1)].

However, COVID-19 has taught businesses across the globe, the importance of being agile and resilient. It has catapulted the role of technology as a core business driver since IT plays a significant role in making processes less cumbersome and more automated. IT helps drastically in delivering just-in-time insights, swift visibility, and seamless innovation for implementing new-age solutions.

The manufacturing sector, one of the worst hit due to supply chain disruptions, is looking for ways to build resilience through digital transformation. We have noticed a trend of higher spend on digital transformation initiatives, with top areas being Cloud Applications & Infrastructure, Cyber Security, Data Analytics, Industry 4.0 and others, where majority of CIOs are investing.

Industry expects well equipped IT & Consulting organizations to meet such needs, who can offer the entire gamut of services and technologies from strategy to execution in a way that reduces costs, increases visibility and ensures flexibility to survive in the post-pandemic world.

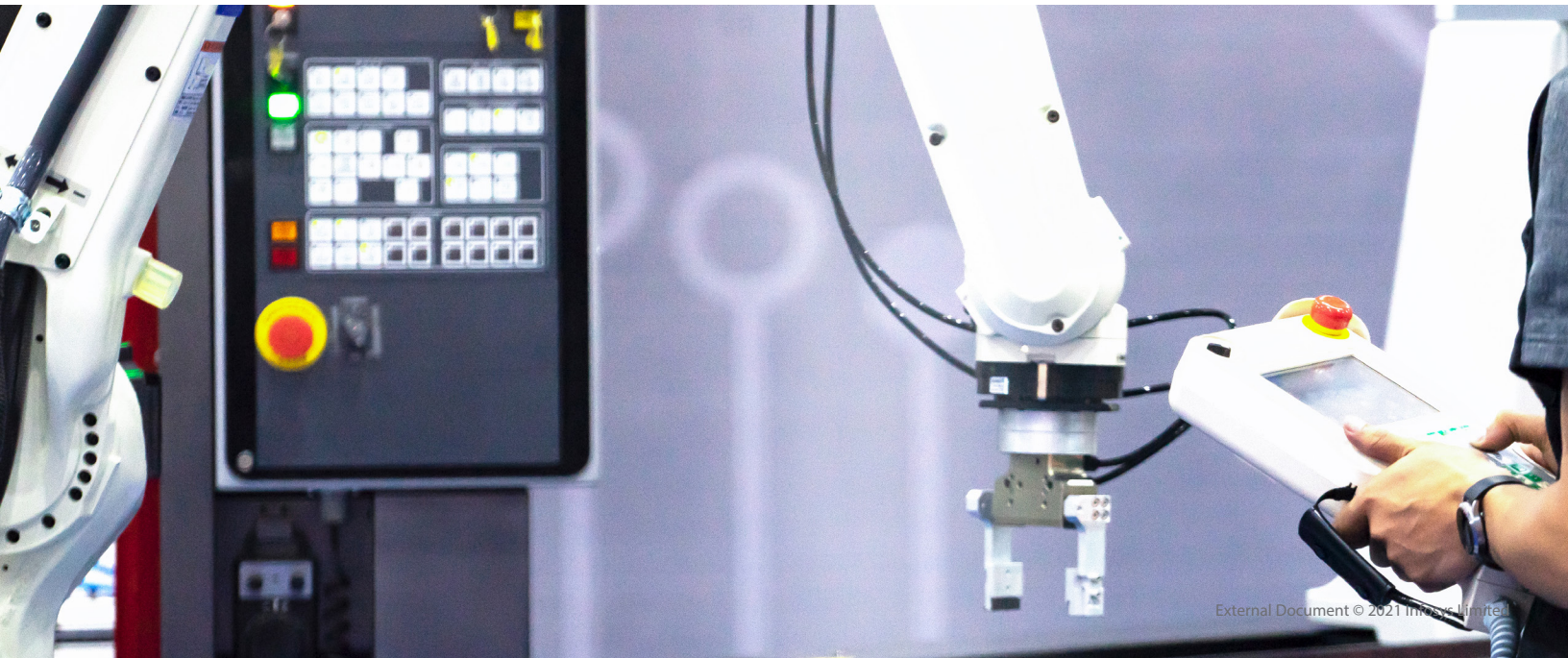
Impact on manufacturing by function

From a survey across manufacturing companies by Nam.org , 78% of respondents anticipated financial impact, while 53% saw the need for change in operations, thus making digital transformation the need of the hour. 35% of respondents expected to see continued supply chain disruptions and challenges in multi-country operations, which would require structural redressal through either process re-engineering or greater digitalization[2]. Finally, there is expectation of a fundamental disruption in sales/aftersales processes with most customer touchpoints shifting from physical to virtual channels.

PRODUCTION	SUPPLY CHAIN	SALES	AFTER SALES
• Negative operational, social and financial impact • Fluctuating demand according to segment • Supply shortages and inventory placement challenges • Reduced productivity and need for more labour • Talent gap and high dependency on human workforce	• Internal and multi-country disruption • Lack of global resilience • Sourcing becomes expensive • Inability to meet stakeholder expectations of sustainability • Finding digital solutions to support business continuity	• Declining sales revenue • Long-term changes in sales processes, as reported by over 80% of account executives • Drop in face-to-face selling with 90% of sales moving to virtual and online channels • Need to redesign sales plans from the ground up	• 14-18% decline in aftermarket sales in 2020-21 • Increasing order volume from digital and e-commerce channels • Shortage of parts for services due to factory shutdowns • Need to balance the increasing need for labor with norms of lower density in shopfloors • Talent gaps and high dependency on human workforce • Unable to address customer demand due to no flexibility

Fig 2: Impact of COVID-19 on manufacturing functions

Such challenges put pressure on CIOs while presenting them with opportunities to grow from a 'business support' to 'business enabling' function. CIOs have had to find ways to make their organizations digitally savvy in the fastest way while ensuring lower overall cost in line with the business outlook. Covid-19 has extensively accelerated digitization of customer interactions. Globally, digital interactions have shot up to 58%, that is 22% increase in a span of 6 months, which would normally happen in 3 years.



Amidst current COVID-19 challenges, some of the top IT imperatives for future growth are:

- **Improve online sales** by using IT as an enabler to drive customer demand and encourage online purchasing
- **Improve employee productivity** by enabling remote working/collaboration and increasing spend on data security and cloud
- **Reduce costs** by using advanced technologies in operations and business decision-making
- **Modernize infrastructure** by migrating assets to cloud and enabling automation, real-time monitoring and predictive analytics
- **Retain talent** by increasing nearshoring and/or insourcing practices

Across industries, not just in manufacturing, CIOs have had to deal with extensive workforce layoffs, significantly limiting the internal resources available to embark on transformation initiatives. Infosys estimates that 75-86% of heavy manufacturing, aerospace and automotive companies have undertaken major human resource restructuring initiatives in 2020-2021, resulting in talent exiting the organization at a time when it is perhaps needed the most [3].

Even though the world is heading towards recovery with ongoing COVID-19 vaccination programs, the post-pandemic disruption within manufacturing may stabilize only by January 2022 as manufacturing companies finetune new operational models, albeit with a significantly leaner workforce.

Many companies are leveraging more digital tools, automation, lean operations, simplified and standardized processes, consolidation and centralization of production units, etc., to lessen overall cost in keeping with reduced demand. A survey by McKinsey shows that the COVID-19 crisis accelerated the digitalization of customer interactions globally by three years with nearly 58% of customer interactions going digital [4].

Digitalization has proved to be critical for organizational survival. Companies need to enable rapid and decisive action across areas like core IT, engineering, and business processes. Industry leaders like Rolls-Royce and Daimler have already outsourced their non-core activities to strategic partners that share a common vision. Those technology leadership teams that postponed the decision to rationalize opex, and instead released money for capex investments, will find it harder to drive technology-enabled business transformation.

Three emerging focus areas for CIOs

1. Improve online sales through a stronger brand presence on digital channels

Manufacturing companies were laggards in embracing e-commerce, mainly because a large part of their business involved physical interactions between customers and salespersons. The pandemic has forced these stakeholders to change their ways to execute sales without physical meetings. This has led to key demands from the digital portfolio of an organization. These include:

- Aligning go-to-market models with the customer's desired purchase experience
- Creating omni-channel, simplified and efficient sales processes
- Ensuring timely and accurate data
- Promoting talent acquisition, development and retention strategies
- Developing incentives that align sales with the company's objectives
- Using technologies to uncover new customer insights and generate qualified sales leads

2. Improve employee productivity

Companies that can effectively manage disruption by pivoting to smarter models that maintain business operations will be better prepared for future crises. According to a study, 77% of employees state that flexibility in work arrangements is a major consideration in their job search [5]. In our experience, companies can facilitate delightful employee experience in virtual environments by simplifying workflows and prioritizing the user interface and user experience across all employee tools. The key focus areas are:

Build a strong virtual workplace infrastructure

Infrastructure and security: Implement strong solutions that ensure security across hosted and on-premises IT infrastructure as well as remote equipment like mobile devices, workstations, virtual desktops, etc.

Access control: Enable easy access to internet, accounts, equipment, and contact information

Collaboration: Deploy enterprise-grade virtual environments like Microsoft Office 365 that foster collaboration, security, and more

Implement data security and safety measures

Assess risk: Be aware that with increasing digitalization and connectivity across plant floors, logistics fleets, etc., there is higher vulnerability to data breaches and cyber attacks

Protect data: Deploy solutions that safeguard customer data from theft, which can damage credibility and lead to reputational loss

Monitor continuously: Manufacturers should monitor and address cybersecurity risks

Manage people better and boost productivity

Technologies: Use tools/applications that are designed to motivate employees, improve their productivity and keep them accountable

Communication: Ensure timely and periodic engagement with all employees, set clear expectations, communicate the business continuity plans, and foster collaboration through virtual events

Re-skilling: Enable reskilling and individual development

3. Revisit IT spend, reduce cost and embrace digital transformation

The traditional approach towards technology and IT spend has changed radically during the pandemic. Organizations are investing heavily in technology to address immediate concerns like falling revenue and interrupted supply chains, and to build long-term competitiveness and resilience.

According to a recent survey from KPMG, as a result of COVID-19, organizations are investing heavily in technology. 67% reported that they have accelerated their digital transformation strategy while 63% reported increasing their digital transformation budget [6].

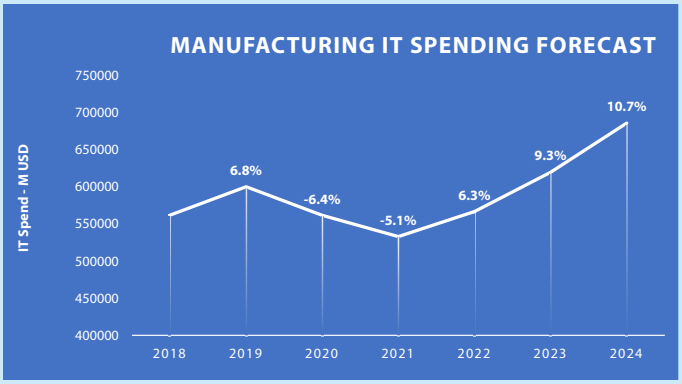
As per a Gartner forecast report, IT spends in the manufacturing industry clocked 6.8% in 2019, which dropped to -12.4% in 2020. This is expected to increase to 1.39% in 2021, reaching 6.34% in 2022 before attaining peak growth of 10.7% by 2024 [7].

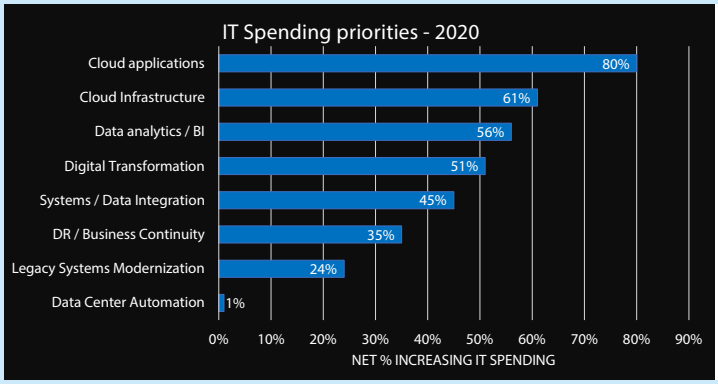
Infosys has observed a trend among its customers with respect to technology spending. Customers typically try to reduce their running costs, i.e., costs required to maintain their current technology landscape, by 15-20% while marginally increasing spend on transformation projects. Reduction in running costs primarily comes from one-time discounts from vendors, re-negotiating contracts and radically reducing the onsite presence of consultants on support engagements.

When it comes to transformation engagements, a majority of CIOs are spending on areas like cloud, security and digital transformation. A survey of IT spending priorities in 2020 across verticals shows that the top four areas of investment are cloud applications and security (80%), cloud infrastructure and security (61%), data analytics (56%), and digital transformation (51%) [8].

Transforming IT services in line with the new CIO vision

The COVID-19 crisis has accelerated digital transformation initiatives that organizations had either previously put on hold or defunded. As per recent survey by McKinsey, organizations have changed their current strategic posture toward technology. In July 2017, 48% of the respondents voted for 'Scaling down Costs'. Post Covid-19, only 10% primarily look for cost savings, while 30% of respondents voted to 'Modernizing Core technology capabilities' and 38% want to 'Invest more in technology to make it a competitive advantage'. 19% would prefer to refocus the entire business around digital technologies. Based on CIO business priorities and IT spending forecasts, here are the most valuable IT services pertinent to today's circumstances:





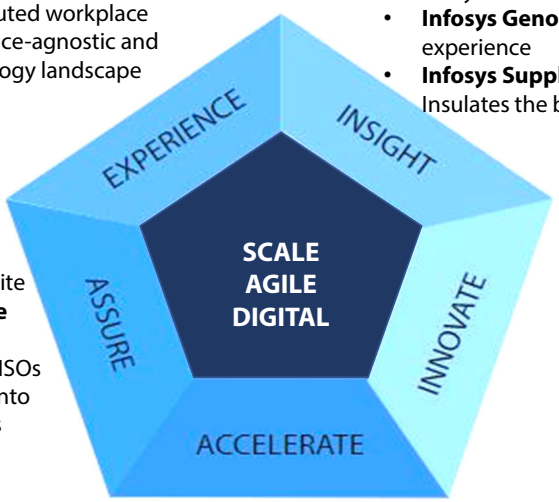
Potential IT services	Trends	Benefits
Remote / virtual B2B sales	Supplier mobile apps, social media and online communities showed the sharpest increase in adoption Buyers cited a strong preference for self-service options with outstanding interfaces or digital experience	Buyers benefit from fast and convenient self-serve and remote interactions It helps organizations lower cost per visit, extend reach and derive competitive advantage through better customer loyalty
Digital workplace	Employee productivity will center around new models like 'bring your own device'. Numerous communication tools will integrate into unified cloud-first enterprise-ready products that support actions such as instant messaging, file sharing, document management, and more Physical office design will evolve to follow social distancing norms, fostering the shift to smart workspaces	Enable business continuity by allowing remote working models, enabling safe transition back to offices, and promoting organizational resiliency
Industry 4.0	Accelerated adoption for quick-win solutions like tracking employee health, enforcing safe distancing on the shopfloor and remote collaboration Smart factories and manufacturing execution systems (MES) are integral to digital transformation Varying adoption rates for solutions such as digital twins and logistics automation, which require foundational infrastructure	Enables remote monitoring and reduces the number of people on the shop floor Accelerates automation programs to stem worker shortages due to the pandemic
Cloud	Interest in hybrid cloud computing (combination of private and public cloud) is rising as companies are forced to deal with technologies that they already own and operate, often within their own data centers	Roll out digital customer journeys in shorter time to market Access advanced analytics capabilities that are cost-effective and more efficient
Cybersecurity	Demand for rapid migration to offerings using the cybersecurity mesh, particularly network-security-as-a-service supporting or incorporating ZTNA (Zero Trust Network Access) Cloud-based security services offer the scalability and accessibility to host security services that can reliably and conveniently support a global cybersecurity mesh	Implement robust cybersecurity solutions to protect sensitive business assets and build customer trust through early threat detection and management Comply with regulations like the GDPR to secure personally identifiable information and avoid steep penalties for privacy violations

How Infosys helps manufacturers navigate their digital transformation journeys

Infosys has the skills, tools, and expertise to deliver these IT services through next-gen offerings. The Infosys strategy 'Navigate your next' focuses on partnering with clients to help them reach the digital future. One of the key pillars driving this strategy is 'Scaling Agile Digital'. This involves investing in experience, insights, innovation, acceleration, and most critically, assurance.

- **Infosys Digital Commerce**
- **Anytime, Anywhere Digital Workplace** – Distributed workplace services that are device-agnostic and adapt to any technology landscape

- **Infosys Analytics Workbench** – Offers agile analytics
- **Infosys Genome Solution** – Enhances the customer experience
- **Infosys Supply Chain Early Warning Solution –** Insulates the business from incidents and disruption



- **CyberNext Platform** suite
- **6 global cyber defense centers**
- **CyberGaze** - Provides CISOs with end-to-end views into cyber security initiatives

- **Industry 4.0**
- **Return to work solution –** Includes models for thermal scanning, social distancing and contact tracing
- **Infosys Center for Emerging Technology Solutions (iCETS)** – Incubates next-gen services like AR/VR, AI/ML, blockchain, advanced analytics, etc.

- **Infosys Cobalt –** Enables cloud-powered enterprise transformation across public, private and hybrid clouds as well as PaaS, SaaS and IaaS landscapes.

Fig 3: Infosys digital capabilities to help manufacturers navigate the future

Infosys has leveraged the above capabilities to help clients transform their organizations to achieve resilience. Some examples are enabling engineering transformation at Rolls-Royce, business operations transformation at Vanguard, and cloud, infrastructure and workplace transformation at Daimler.

About the Author

Manpreet Singh Paul, *Head of UK, France and Nordics, Manufacturing, Infosys*

Manpreet brings forth a good understanding on the key issues / opportunities facing manufacturing companies, with superior solutioning skills and a focus on forging long term partnerships. He manages global strategic engagements and new business development initiatives with Manufacturing customers across UK&I, France, Denmark and Finland.

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