

# PHARMA FIRMS SWITCH GEARS FROM RESPONSE TO TRANSFORMATION

The crisis has triggered the need for meaningful transformations within pharma to become future ready

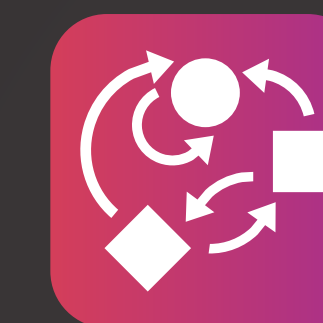
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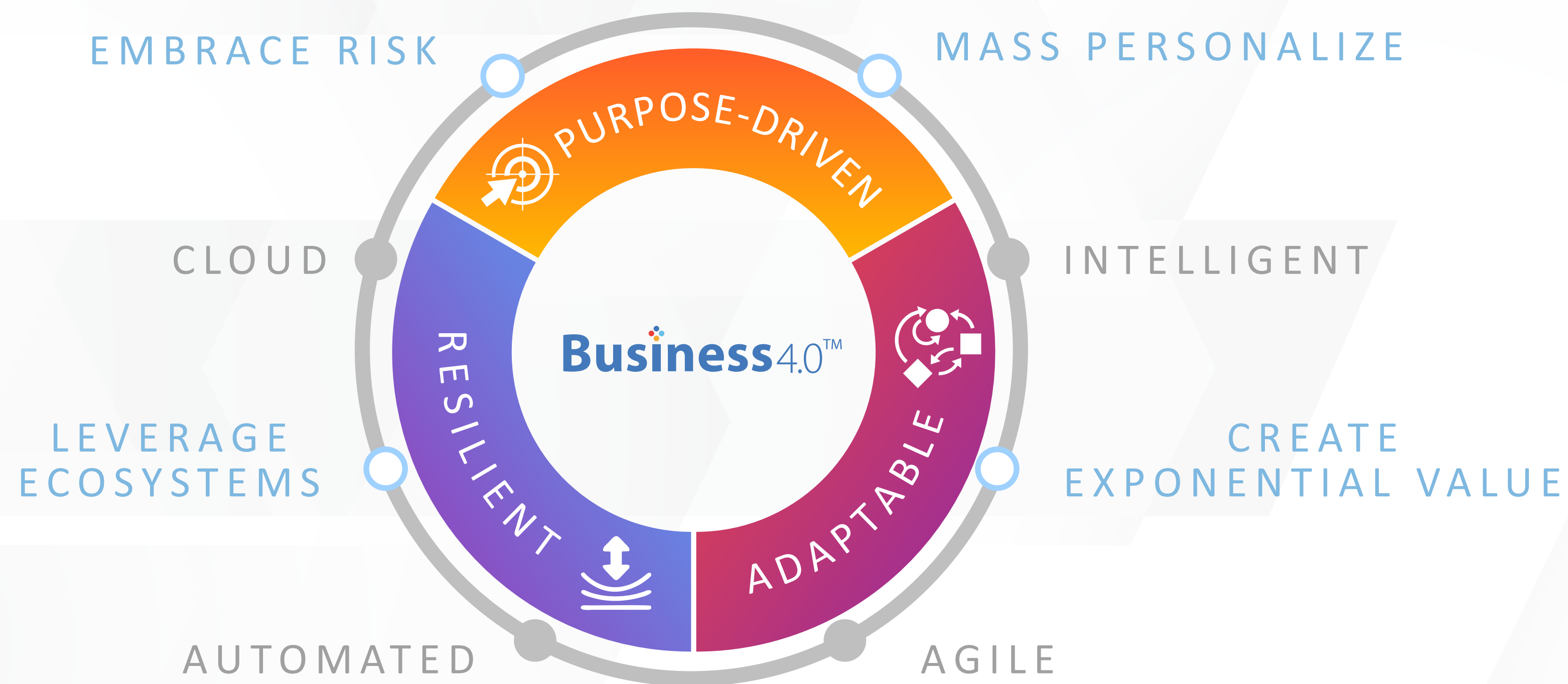
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# Executive Summary

The COVID-19 pandemic is an unprecedented crisis that no organization had anticipated or prepared for. Grappling with uncertainties and trying to contain the impact, most organizations are now operating in emergency mode.

Pharmaceutical firms are facing varied degrees of impact across the value chain as we find our way through the pandemic. While there has been short term instability in functions such as R&D, manufacturing, and supply chain, the impact on clinical trials, product launches, marketing events, and overall enterprise operations will potentially last a while and cause disruptions.

To cope with the already visible disruptions, the industry needs to re-imagine and transform business strategy by accelerating digital adoption. Virtual engagements have been on the rise – with both patients in clinical trials, and health care professionals (HCPs). While the pharmaceutical industry leads the fight with the current crisis it also needs to address two key challenges – neutralizing the impact of disruption, and transforming operations to become more future proof.

Smart use of disruptive technologies can transform the ways pharmaceutical organizations deliver value across the business functions including transforming clinical trials to more virtual trials, creating connected supply chains that are agile and transparent, and digitalizing sales and marketing practices to build high customer-centricity.

A future-ready pharmaceutical enterprise will be able to transform the current high-touch in-person models to futuristic digital, personalized, and resilient models. Technology and business leaders within the pharmaceutical organizations must leverage such digital capabilities in their strategic plans and accelerate the adoption to fully transform the businesses to thrive and excel in a post-COVID-19 world.



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# Gauging the Impact

Given the essential nature of the business, the pharmaceutical industry has seen a relatively lower degree of impact from measures like lockdowns implemented globally, unlike several other sectors.

While short-term instability has been observed in manufacturing operations, and supply chains, clinical trials have seen a significant impact because of missed subject visits, delays in clinical supply deliveries among others. Additionally, enterprise operations and product launches have also been impacted as well as marketing events followed by limited in-person interactions between sales representatives & HCPs.

A recent Global Data survey showed around 95% of pharmaceuticals and healthcare companies have expressed concerns over the impact from the Novel Coronavirus on their business. The onset and progression of the pandemic has demonstrated some visible trends in the pharmaceutical sector. Following is a quick look at some of the immediate issues faced by the industry:

## Trending Issues

- 1 **Skewed Demand**  
Multiple therapeutic regimes to treat COVID-19 has spurred demand of advanced antivirals and antimalarial drugs.
- 2 **Dip in Rx market after initial stockpiling**  
Fewer patient visits, less prescribing, deferral of elective treatments, more affordability issues.
- 3 **Delay in elective surgeries impacting demand patterns of select drugs**  
As the focus has shifted to COVID-19, delay in elective surgeries and diagnosis is impacting other therapeutic markets.
- 4 **Impact on existing Clinical Trials**  
Missed Subject visits, impact on trial end points, clinical supply delivery challenges and others
- 5 **Restrictions on API/Drug exports**  
China and India have put restrictions on the export of dozens of (APIs). Countries as US and UK are also restricting export of essential drugs.
- 6 **Launch Disruptions**  
Many essential drugs are at final stages of development or launch have been put on hold.

The crisis-related issues are spread across the pharmaceutical value chain with visible impact on areas like crucial clinical trials, where subjects have had to miss visits, impacting the trial end-points, in addition to facing clinical supply delivery challenges. Additionally, the COVID-19 crisis has impacted elective surgeries and treatments altering the demand patterns for various pre- and post-surgery drugs, in turn influencing planning, inventory, and labor requirements.

Cross border lockdown or restricted area movement as well as disruption in operations for suppliers and logistics partners also resulted in supply chain and logistic bottlenecks for drug production and distribution.

With healthcare ecosystems restricting non-essential interactions between medical representatives and healthcare professionals, the age-old sales and marketing practices are also set to be impacted. This in turn will directly impact product launches and distribution of promotional materials and samples.

Last but not the least, fluctuations in the financial market and forex will disrupt payment cycles, interest rates, and cash flow management throughout enterprise operations, and across the value chain as well as corporate functions like HR, Finance, admin, etc.





## Purpose-driven Ecosystems: A potential opportunity

While the pandemic is a major healthcare crisis, it can also prove to be a significant collaboration opportunity for several pharmaceutical companies. The unprecedented challenge from COVID-19 has triggered several collaborations across the sector. A consortium of pharma firms including Gilead, Pfizer, Novartis, and Eli Lilly have agreed to share libraries of proprietary molecular compounds with the COVID-19 therapeutics accelerator to find potential treatments.

The crisis has pushed the industry to develop both preventive and therapeutic interventions. The industry is also working across the ecosystem to develop new vaccines, monoclonal antibodies and drugs. While there are clinical studies underway to repurpose existing drugs (like Gilead's antiviral drug Remdisivir, Roche's arthritis drug Actemra), there are at least 120 initiatives related to vaccines underway including work on monoclonal antibodies as antidotes.

With businesses adopting social-distancing measures, the work force is adapting to new ways of working remotely and efficiently. Firms are working to build efficient models around this organizational shift, which would require enabling of different capabilities.



## Enabling digital acceleration to adapt to the new environment

Although for many organizations the playbook for surviving severe pandemics like COVID-19 is still being developed, planning and actions taken now will help significantly shape continued resilience through the crisis for the pharma sector. It will also help define recovery in the long term for a significantly different future for the industry.

Pharmaceutical companies depend on innovation, science, research and development. The digital maturity of a company speaks volumes about its openness to innovation, and enterprise agility. The severity of current crisis has moved the debate away from probable or gradual adoption of digital transformation to - doing it right now or accelerate the process. Key technologies at the forefront of the transformation include AI, Cloud, automation, virtual interfaces, and IoT enabled systems, with several firms rushing to upgrade the existing IT and digital capabilities on these lines. Leading analyst firm Gartner predicts 85% customer interactions in 2020 will be handled without human involvement.

The pharmaceutical firms will need to prepare themselves for a post COVID-19 world with an eye on accelerating digital transformation of the businesses. The following figure demonstrates the key segments within the firms and the ways they will be transformed going forward.

## Next Normal for Pharma

COVID-19 will leave lasting imprints on the Pharma industry

### Evolution of Pharma industry Post COVID-19

#### Research & Clinical Trial shifts away from traditional models

- New ways of collaboration across the industry
- New Model of engaging with Patients and Investigators
- Support digital **patient and investigator** engagement
- Digital Clinical Trials will become a key priority and see significant investments

#### Supply Chain Models focused on visibility and resilience

- Inbuilt Contingency and risk planning with advanced analytics and higher supply chain visibility
- Simulation to test supply chain resilience
- Distribution centers with higher localization
- Adaptive manufacturing & Automated Production line

#### Resilient Enterprise Operations

- The future of work will likely be **remote and distributed**
- Building more resilience in operations: **Planned remote working and collaboration**
- Accelerated adoption of new age digital technologies like analytics and automation will push demand for new capabilities and talent

#### Sales & Marketing moves closer to patients

- Life Sciences companies **move closer to patients** - digital engagements with patients gains momentum
- Interpersonal connection between sales reps and healthcare professionals
- Accelerated Omni-channel deployments and personalized physician interaction



R&D and clinical operations will see a lot of collaborations and partnerships between industry players, going forward. This will help change the traditional inward-looking processes to be more accepting of external partnerships to drive efficiency. Even within the companies, there will need to be greater acceptance of new ways of engaging with patients and investigators through digital channels.

Pharmaceutical firms will also have to make their supply chain more transparent and intelligent as they look to build real-time inventory planning and forecasting capabilities along with business continuity measures and risk planning with the help of predictive and advanced analytics. Additionally, firms will need to chalk out innovative manufacturing operation strategies to incorporate new ways of inspecting raw materials and finished products remotely.

The future of work will likely be more remote and distributed. The accelerated adoption of new technologies will necessitate upskilling and improvised talent capabilities. The industry will also see a transformative shift in pharma commercial operations. Sales & Marketing will now move closer to patients and HCPs - patient related digital engagement activities will be central to this shift. As healthcare institutions and ecosystems limit in-persons interactions, the industry will also re-invent the ways medical representatives engage with doctors, KOL (Key Opinion Leaders) - some of the physical interpersonal connections will be replaced with new technology channels.

In the following table we have identified the possible function-wise disruptions across the value chain and the mid to long-term response imperatives.

Disruption	Challenges	Key Focus Areas	Technology Interventions
Slackened R&D Activities	<ul style="list-style-type: none"> <li>Limited impact on access to Wet Lab Operations and several on-premise systems and applications</li> <li>In select cases, shift in research focus and funding to COVID-19</li> </ul>	<ul style="list-style-type: none"> <li>Digitize Labs - Identify new workflow, bottlenecks, and review Lab access policies for on-site and remote work</li> <li>Focus more on vaccines accelerated discovery and development processes</li> </ul>	<ul style="list-style-type: none"> <li>Expedite Drug Discovery with AI, Big data and Advanced analytics;</li> <li>Possible augmentation of wet lab/animal model experiments with In-Silico models viz, Simulations, Digital Twins, Robotics</li> </ul>
Stalled Clinical Trials	<ul style="list-style-type: none"> <li>Impact on recruitment, retention, and site activities</li> <li>Trial delays due to lack of site commitment, resources, staff, and reprioritization</li> <li>Increased dropouts/missed subject visits</li> <li>Impact on Study protocol and downstream functions/activities</li> </ul>	<ul style="list-style-type: none"> <li>Accelerate digital and decentralized trial initiatives, with hybrid subject visits</li> <li>Increase visibility and forecasting capabilities in trial supply management systems</li> <li>Support digital patient engagement for better retention, and medication adherence</li> </ul>	<ul style="list-style-type: none"> <li>Increased adoption of new age digital technology (AI, ML, Smart Automation) to virtualize the trials</li> <li>eConsent Procedures Tele-consultation/Virtual Assistant</li> <li>IoT/wearables/sensors for capturing vitals for disease analytics</li> </ul>



Disruption	Challenges	Key Focus Areas	Technology Interventions
	<ul style="list-style-type: none"> <li>Pivotal trials, in final stages of development, are at high risk</li> </ul>	<ul style="list-style-type: none"> <li>Need to amend Protocols for ongoing studies and new studies planned on COVID-19 guidelines implemented by FDA, EMEA, MHRA</li> <li>Outsourcing Approach - Balanced between efficiencies and resilience</li> </ul>	<ul style="list-style-type: none"> <li>Digital Documentation Direct to/from Patient home monitoring</li> </ul>
Constrained Supply Chain and Manufacturing	<ul style="list-style-type: none"> <li>Short term demand volatility</li> <li>No substantial impact on manufacturing operations</li> <li>Changing demand requires ability to maximize capacities in plants for select products</li> <li>Forecasting challenges - Lack of visibility into upstream and downstream disruptions</li> </ul>	<ul style="list-style-type: none"> <li>Prioritize fulfillment of critical care products and services</li> <li>Re-assess the stock point location and re-align inventory levels</li> <li>Ensure GMP compliance –Audit and inspection enablement through remote connects using digital technologies</li> </ul>	<ul style="list-style-type: none"> <li>Adoption of IoT, Cloud, Virtualization (Simulation)</li> <li>Improved worker safety through wearables and automation</li> <li>Risk assessment to identify vulnerabilities and test contingency plans to have a more robust risk management plan</li> </ul>

Disruption	Challenges	Key Focus Areas	Technology Interventions
	<ul style="list-style-type: none"> <li>■ Demand variation for non-essential drugs</li> <li>■ Ensuring compliance to COVID-19 restrictions, rules and laws</li> </ul>	<ul style="list-style-type: none"> <li>■ Adaptive manufacturing &amp; Automate Production lines</li> <li>■ Balance between local near to market manufacturing and cost arbitrage</li> </ul>	<ul style="list-style-type: none"> <li>■ Remote Inspection, Real time tracking and Inventory management</li> </ul>
<b>Hindered Commercial Operations</b>	<ul style="list-style-type: none"> <li>■ Product launches &amp; product line extensions delayed or cancelled</li> <li>■ Limited in-person interactions between sales representatives &amp; HCPs</li> <li>■ Disruption to promotional material and sample disbursements</li> </ul>	<ul style="list-style-type: none"> <li>■ Expanding digital marketing initiatives to increase engagement through data driven insights</li> <li>■ Pivot strategies for omni-channel sales launch events and virtual conferences</li> <li>■ Expand targeted digital health solutions to ensure continuity of care with patients, HCPs and other stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>■ Mobile Apps, Digital engagement tools, such as chatbots and voice assistants</li> <li>■ Remote detailing capabilities through web-based video conferencing and content sharing</li> <li>■ Digital learning for Sales Rep and HCPs</li> <li>■ Leveraging advance analytics technologies AI/ML, NLP and other to generate insights including RWE</li> </ul>





## Long-term Strategic Imperatives: Becoming resilient to drive purposeful strategies

We believe pharmaceutical enterprises of the future will have the ability to transform the current models to ones that are more digitally resilient. Smart use of disruptive technologies like AI, IoT and cloud will transform the ways healthcare organizations deliver value to customers. As digital healthcare becomes widely applicable, pharmaceutical organization will be able to virtualize large portions of clinical trial activities through a mix of available technologies like IoT, wearable sensors, social media, mHealth, etc. Pharmaceutical leaders will also have to visualize the R&D processes that fit the strategies for digital labs of the future and incorporate new-age technologies to transform these business functions.

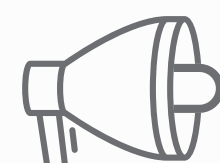
The following figure demonstrates the key capabilities that will ensure future proofing for the pharmaceutical firms.

## Long Term Strategic Imperatives for Business Transformation in a post-COVID-19 world



### Virtual Clinical Trials

Accelerated digital and decentralized trial initiatives – leveraging digital technologies



### Digital Sales & Marketing

Expanding digital marketing initiatives to increase engagement through data driven insights



### Digital Patient Engagements

Including acceleration of digital health adoption across the care continuum



### Agile and Resilient Supply Chain

Risk assessment to identify vulnerabilities and test contingency plans



### Autonomous and Adaptive Manufacturing

Re-engineered production lines & automation to increase productivity and improve resilience



### Workforce Safety

Adopting process and technologies to enable preventive measures for safety of workforce

Additionally, pharma players will need to ensure flexible manufacturing approaches that can optimize strategies for manufacturing plants by creating a balance between local resilience and low-cost location. They will need to automate some of the routine shop floor activities. The firms will also need to build agility in their supply chain operations to ensure resilience to any future disruptions.

Pharmaceutical leaders will also need to build innovative elastic operating models, incorporate digital touchpoints that can foster greater collaboration across the healthcare ecosystem and withstand the test of time. As the external environment changes, pharma enterprises will also need to re-look future regulatory engagements and build new interaction models with regulatory bodies across the world.

To thrive in a post COVID-19 world, pharmaceutical firms will need to re-model the sales and marketing function to balance physical interactions between sales representatives and healthcare professionals enabled through omni-channel interactions using augmented and virtual reality technology.



## Conclusion

The COVID-19 crisis has triggered the need to speed up digital optimization and work to modernize the existing infrastructure – be it AI based drug discovery approaches, digital clinical trials, transparent supply chains or virtual collaborations and sales engagements. Interventions enabled by digital initiatives will not only help overcome several current challenges but also prepare pharmaceutical organizations to function in the new social and business environment.

As pharmaceutical enterprises recover from the COVID-19 impact and start realigning their business to the changing reality, they will also need to regain and transform themselves for a post COVID-19 world, which will not only help them withstand any future shocks but also prepare for a new differentiated positioning. Digital interventions should become an integral part of such a re-imagined futuristic businesses set-up. Since pharmaceutical companies also sit on a wealth of data, linking them to new technologies and building digital platforms can unlock exponential business value and help transform the businesses. Co-Innovation with technology partners as well as collaboration with industry peers will also be crucial to innovate and transform through joint risk-taking.

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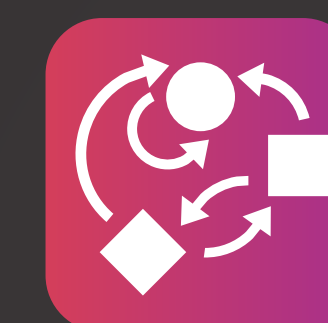
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