ECONOMIST IMPACT

Pharmaceutical industry profile

Preparing for a resilient future

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Pharmaceutical companies have undergone an accelerated transformation in recent years, particularly after the pandemic disrupted their standard operating procedures. As a result, these companies are aspiring to be better prepared for new challenges arising from geopolitical tensions, as well as seeking to take advantage of new opportunities from rapidly advancing technologies like AI.

The covid-19 pandemic affected the production, operations and supply chains of many essential industries. Yet, the need to overcome those challenges was particularly vital for the pharmaceuticals industry as it worked to both develop and supply the vaccines and other medication needed to support the fight against the virus. As global logistics ground to a halt, pharma companies had to reallocate resources and reassess how to deploy their human capital, processes, priorities and supply chains in order to provide the world with much-needed healthcare.

An Economist Impact survey of senior executives from six industries, across countries in North America, Europe, and Asia Pacific sought to explore how executives view business resilience and value now that the world has transitioned to a recovery period. The survey found that respondents in the pharma industry feel that their companies are more resilient and ready for future shocks than before, with 87% of respondents saying that they feel prepared to respond to a global pandemic and a similar number (84%) feeling prepared to respond to supply-chain shocks.

The pandemic was a "wake-up call", says Dr. Mahender Nayak, area head for Taiwan, Australia and South Korea at Takeda Pharmaceutical. "In terms of supply-chain disruptions, how do we manage that? How can we be more agile? What is our plan B in terms of making sure that supply is not interrupted, which is extremely critical, especially in the areas that we operate where there are no alternatives available for patients?"

Now that the threat of the pandemic has subsided, geopolitical tensions have taken center stage. To get drugs to market, pharma companies are dependent on clinical trials, which try to encompass a holistic sample from different markets in order to get a representative sample size for drug research. However, running said trials across regions and countries makes them subject to geopolitical shocks.

For Takeda in particular, many clinical trial sites in Ukraine have been disrupted by the war with Russia. "We have to operate in a way that is statistical," says Dr. Nayak. "If a patient group in a trial cannot be completed due to disruptions in patient enrollment and site closures, we need to start the trial in some other centers, which would mean enormous delays. We now are thinking of where else there may be geopolitical challenges and what we need to mitigate those risks."

Striking a balance: physical and digital asset protection

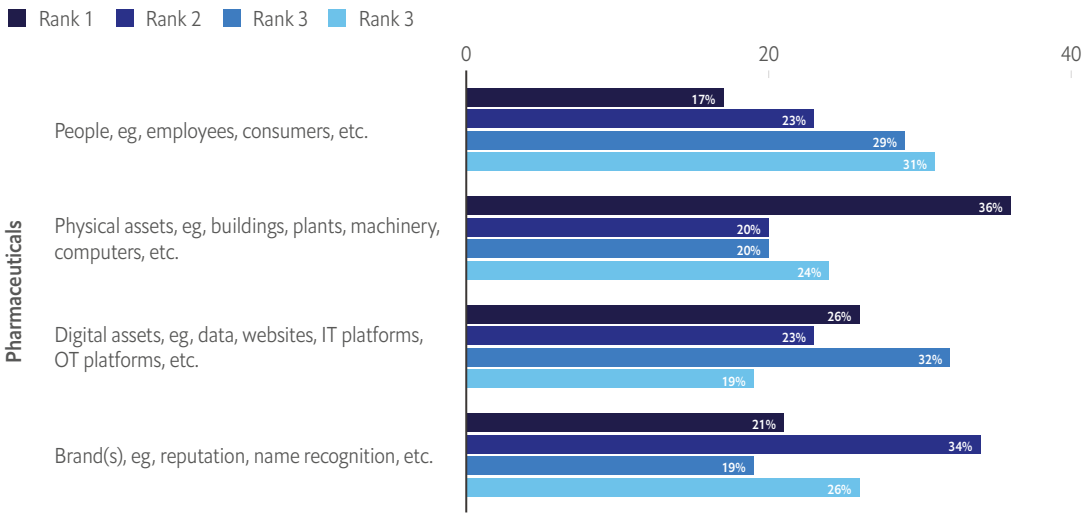
In contrast to their counterparts across industries, pharma respondents chose physical assets as more of a priority for their organization's business strategy than digital assets. In support of this finding, Dr. Nayak points to the importance of Takeda's manufacturing facilities, the products that they produce, and the research and development pipeline that is "critical to the success of pharma." Providing an uninterrupted supply of medicines to patients, as well as thinking about what kind of innovation to bring in, is a central goal of the company as it seeks to maintain operational resilience and provide value to the patients. "It is critical for us to have that narrative around the productive pipeline, the therapy area … in order to provide a sustainable business in the long run," says Dr. Nayak.

Further to pharma respondents ranking digital assets as their third business strategy priority, Dr. Nayak says that the industry was "slow to take off on adopting digital technology", but, because of the pandemic, "there's been a digital disruption that has changed the way doctors and patients expect to experience services and products, and there is no going back now." The industry realized that it needed to adapt "other digital avenues to interact with customers" by moving away from the traditional model of sales representatives going to meet customers and other relevant stakeholders, says Dr. Nayak.

However, the physical and digital are now very closely linked. The highest priority for Pharma respondents, in terms of how they should protect their physical assets, is the identification of digital or cyber risks that impact physical assets. And that goes both ways—the identification of physical security risks that impact digital assets is pharma respondents' top approach to managing firms digital assets, as well as their top priority for the future.

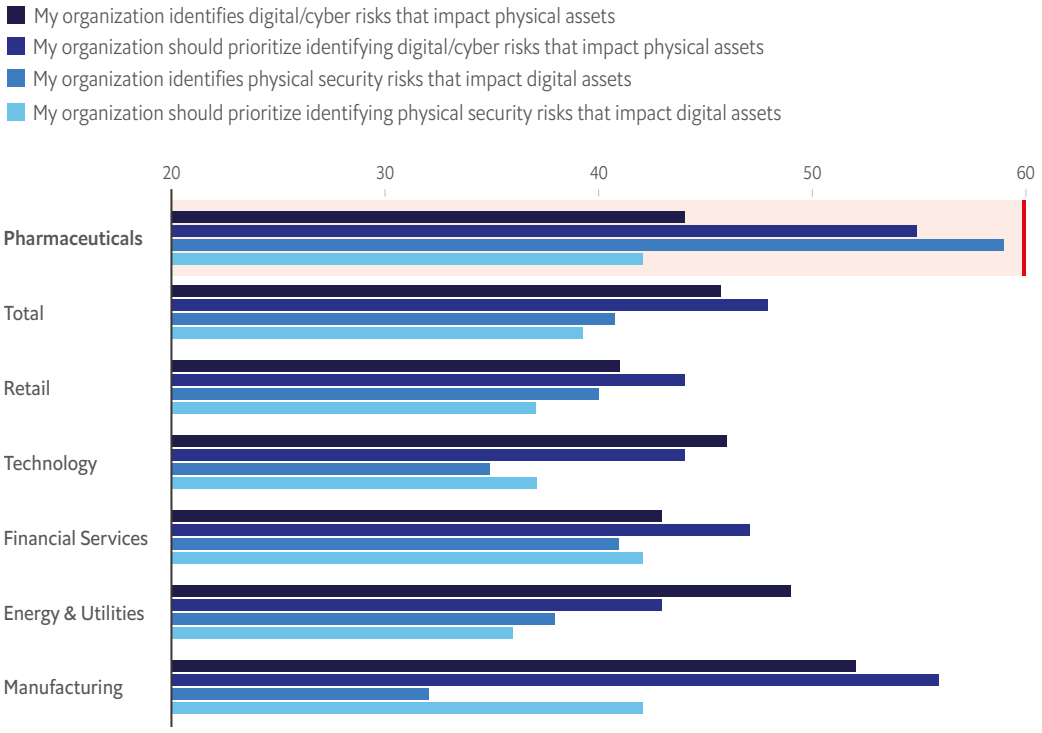
As well as a heavy reliance on physical assets such as manufacturing facilities, the increasing value of digital is beginning to show. Digital health technologies used in clinical development programs help to collect data continuously outside of patient office visits. These include external, wearable, implantable, and ingestible

Figure 1: Respondents in the pharmaceutical industry ranked physical assets higher than digital assets, brand and people for their organization's business strategy.



Source: Economist Impact Survey (Question 7: How high of a priority is each of the following to your organization's business strategy? Please drag and drop to rank, with 1 being the highest priority and 4 being the lowest priority.)

Figure 2: Pharmaceutical industry respondents were more likely than peers in other industries to say that their organizations are placing importance on the evolving convergence of physical and digital security risks.



Source: Economist Impact Survey (Questions 20-23)

devices and sensors, along with digital mobile health applications (apps) that are accessible via users' personal electronic devices (such as smartphones, tablets and computers).[1] When the pandemic limited in-person interactions and threatened the survival of clinical trials, Takeda "started adopting digital technologies to recruit and monitor patients", says Dr. Nayak.

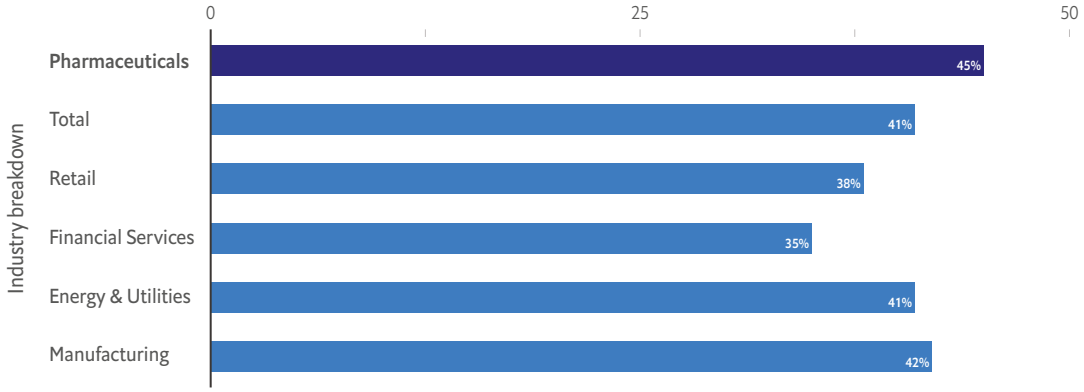
AI and innovating for the future

Change is not always easy, especially when there is little time to prepare for it, but Dr. Nayak sees value in pharma's greater use of digital technologies. "[Takeda] had been on a path of a digital transformation, but the pandemic really pushed us to accelerate the adoption and there have been many great innovative ideas," he says. "We are embracing data and digital technology because it is essential to our long-term sustainability and to bring our next generation of medicines and vaccines to patients faster."

Pharma companies are also exploring the use of AI in the drug development process, hoping to reduce the time that it takes to develop medicine and identify new drug molecules.[2] In particular, adoption of AI in the clinical trial process eliminates possible obstacles, reduces clinical trial cycle time, and increases the productivity and accuracy of the clinical trial process.[3]

[1] Mitsi G, Grinnell T, Giordano S, et al. Implementing digital technologies in clinical trials: lessons learned. Innov Clin Neurosci. 2022 Apr-Jun;19(4-6):65-69.
[2] Furlong A. AI is about to remake the pharmaceutical industry. Politico. March 2023. Available from: https://www.politico.eu/article/ai-is-about-to-remake-the-pharmaceutical-drug-medicines-industry/#:~:text=Algorithm%2Ddesigned%20drugs%20are%20entering,Venance%2FAFP%20via%20Getty%20Images
[3] Grand View Research. Artificial intelligence in drug discovery market size, share & trends analysis report by application (drug optimization & repurposing, preclinical testing), by therapeutic area, by region, and segment forecasts, 2023-2030. Available from: https://www.grandviewresearch.com/industry-analysis/artificial-intelligence-drug-discovery-market

Figure 3: Respondents from the pharmaceutical industry felt that access to new technologies such as artificial intelligence present the most significant opportunity for their organizations to create value in the next three years, more so than respondents overall.



Source: Economist Impact Survey (Question 12: Which of the following are the most significant opportunities for your organization to create value in the next three years? Please select up to three.).

The potential of AI in pharma is also reflected in our survey results. Pharma respondents ranked access to new technologies like AI as a top opportunity for value creation in the next three years, with a larger proportion of respondents in pharma highlighting its likely importance compared to peers in other sectors; 71% of pharma respondents told us that they believe AI will have a positive impact on their organization's ability to thrive in the next three years.

Most pharma respondents (90%) said that they feel prepared to respond to AI (taking into account challenges and opportunities associated with the technology) in the next three years. "I think [at Takeda] we're better prepared now in terms of future threats and risks, and how we protect our digital assets and our physical assets," says Dr. Nayak.

In its quest to serve patients, the pharma industry has faced challenges in dealing with production and supply-chain disruptions, as well as limited opportunities for in-person interactions, while playing a central role in fighting the covid-19 pandemic. However, as both our interview with Dr. Nayak and the survey results show, the experience has taught the industry valuable lessons. By adapting its processes and adopting new technologies, the pharma industry is building resilience that will help it to preserve its value when faced with future challenges, including today's volatile geopolitical environment.