



Reshaping the future of pharma

Four critical capabilities for 2030

Life Sciences

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Shaping the future global life sciences workforce

The rules of engagement in the global pharmaceutical industry are changing rapidly with disruption in this industry already well underway.

Two seismic shifts are starting to take effect. First, a rebalancing of power across the healthcare value chain is forcing a downward pressure on pricing and second, a swing from treatment to prevention is attracting a host of new entrants, including tech startups as well as players from other sectors.

Pharma companies of today must be able to adapt to these shifts, fundamentally re-imagining their businesses, operating models and capabilities to remain relevant and competitive.

In Pharma 2030 Outlook: From evolution to revolution¹, we highlighted how pharma industry shifts are driving three emerging business models: active portfolio company, virtual value chain orchestrator and niche specialist.

- The **active portfolio company** will typically be active in several therapeutic areas within its portfolio and is able to acquire and divest parts of its portfolio in a 'plug-and-play' fashion.
- The **value chain orchestrator** is a data-rich pharmaceutical player, offering 'virtual' solutions across numerous healthcare platforms, using data to effortlessly link supply and demand in global healthcare systems.
- The **niche specialist** is focused on a single therapeutic area or disease looking at the entire patient pathway from prevention to real cure.

In this paper, we share four critical capabilities for global pharma - applicable for any business model - that we see as fundamental to operating in the new world. Embracing an outside-in approach, we look at how other sectors have adapted to similar disruption, and call People Leaders to harness workforce shaping as an innovative means of accessing these critical capabilities.

No pharma company is too big to fail.



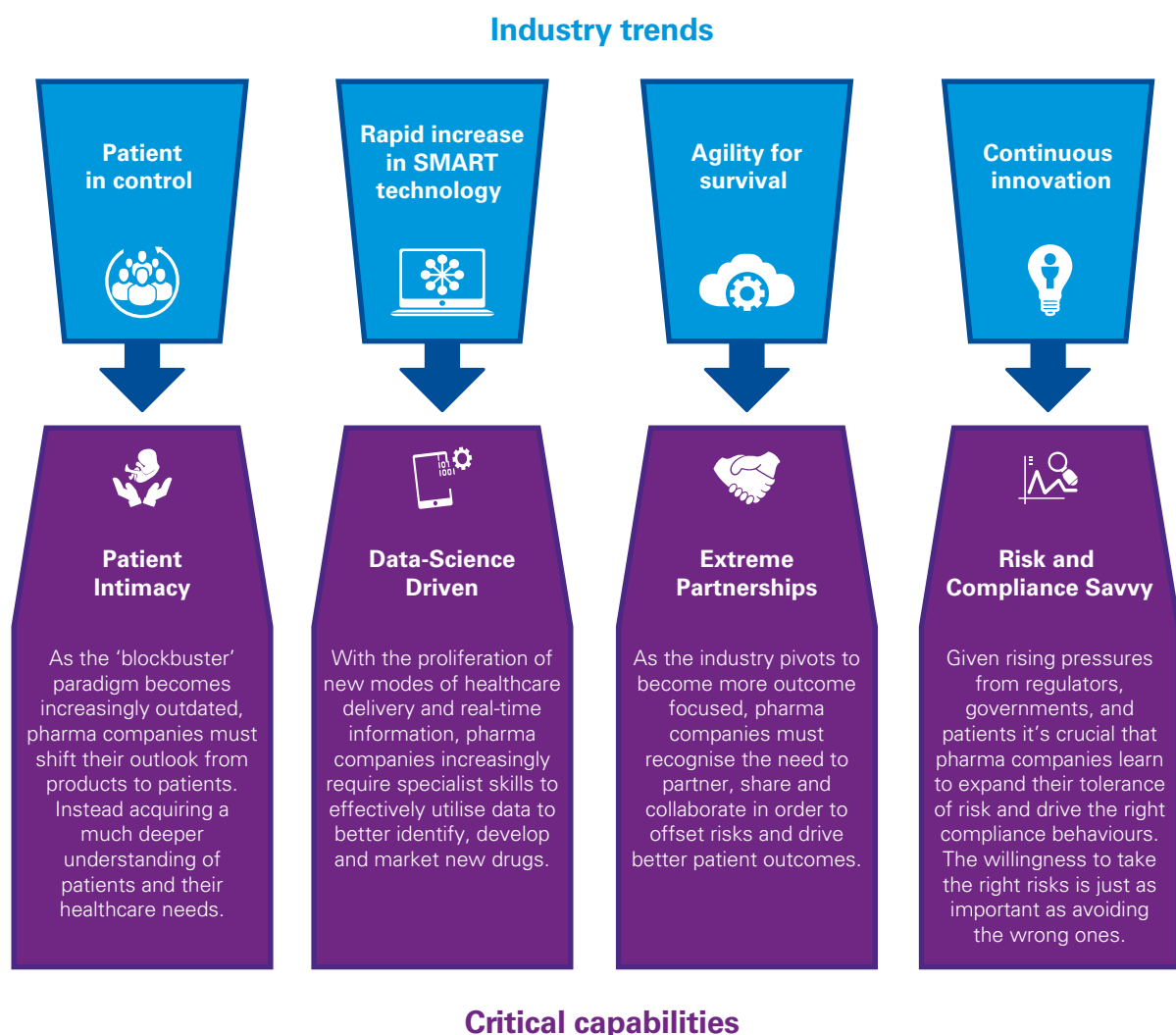
Responding to industry trends: Critical capabilities essential for survival

Coupling insight from interviews with senior pharma executives and our own secondary research, this paper explores how four key trends are in turn shaping four critical capabilities required for the future.

We see these capabilities as a series of 'Russian dolls', which build upon each other, starting with 'Patient Intimacy' and 'Data Science-Driven' as the

core of the new global pharma. Then the remaining two 'Extreme Partnering' and 'Risk and Compliance Savvy', enable this new world global pharma to remain agile, as the sector becomes ever more uncertain and competitive. We'll unpick each of these trends and resulting capabilities in turn, with examples from both global pharma and other industries as inspiration.

Four key industry trends drive the need for four critical capabilities for pharma in 2030



Four critical capabilities of pharma 2030

- 1. Patient intimacy**
- 2. Data-Science driven**
- 3. Extreme partnerships**
- 4. Risk and compliance savvy**





1. Patient in control: Deepening patient intimacy

The volumes of healthcare information now available to patients has risen exponentially over the past decade, with an apparent one in twenty Google searches accessing health-related information.² In much the same way that consumers make informed purchasing decisions, so too are patients increasingly taking greater control over their own care and advice.

With this brings huge opportunity for pharma companies, not only to access patients directly but also to gain and build better insights into the patient experience.

Turning to retail and service organisations for inspiration, pharma companies can note how they employ customer journey mapping and design thinking techniques to seek out touchpoints with their consumers. Moving beyond linear processes, customer journey mapping reframes the conversation as a human-centric endeavour with emotion at the heart. This is certainly true of the recent work KPMG undertook with Heathrow airport to chart the experiences of its 20 million unique visitors each year.³ By delving deeper into the different customer profiles, creating personas and taking them through the whole experience across thousands of touch-points, Heathrow was able to see the 'pains and the gains' of the entire experience. (For more on this, read our recent KPMG publication 'the 5 Mys⁴').

Leveraging this same model, pharma companies can look to map a patients' end-to-end journey to better understand their needs and use this knowledge to help shape decisions, products and services.

Such a shift can not only reduce the number of unsuccessful launches but arguably help pharma companies move beyond drug production only to overall patient wellbeing.

Case study

Celgene - instilling more empathy⁵

To build greater patient intimacy, Celgene adopted an ethnographic lens to access their patient's experience by asking a sample of patient's suffering from psoriasis to capture daily personal videos detailing their experiences. By analysing over 2,000 minutes of video footage they were able to delve deeper into the patient experience and ensure a more holistic assessment of patient opinions and priorities.

All this suggests that patient intimacy is a vital capability for pharma companies. Enabled by both journey mapping and design thinking techniques, employees should also be educated in how to translate and infer results from more qualitative assessments. Future leaders need to have both the technical know-how to make use of these tools, as well as the ability to engage with a range of different actors (HCPs, carers, influencers, advocates) along the patient pathway.

// If we're working with psoriasis patients, we could get a make-up artist to come in and dress them up like they have the disease, and drop them in a shopping mall to see how a psoriasis patient really experiences day-to-day life. We get far more insight from such activities that are closely comparable to the disease we are dealing with. //

Head of Global Patient Services, Global Pharma



2. Becoming SMART: Data science driving the core

A new generation of SMART technology is reshaping the relationships between pharma companies and their traditional customers; creating new opportunities for collaboration (see also our KPMG paper entitled Medical Device 2030⁶).

With the ability to collect information in real time, SMART technology relies on a combination of wireless sensors and interconnected devices or wearables capable of 'talking' to one another.

Case study

Novo Nordisk - 'connected' devices and data

Novo Nordisk has recently announced the launch of two 'connected' insulin pens able to communicate with continuous glucose monitoring (CGM) systems and blood glucose meters (BGM) to offer patients a joined up disease management solution⁷.

While such technology has opened a world of potential - not least to expand the detection of responsive patient subsets - its success lies in advanced data science tooling and capability.

If companies are to capture the additional market value that SMART technology offers, they need to place equal emphasis on front-end technology as well as back end systems and capability. This should help them process and make sense of this information; for example, predicting how a patient will respond to a medicine can help influence the clinical intervention and prevention mechanism.

This signals the journey from chemical to biological and now to data science as a core competence for the future of global pharma.

Given the speed and scale of change most companies are opting to establish cross-functional, agile teams, for example "data labs," made up of these different skill sets or even working to shape university data science programs to fit the clinical context.

In our view, data literacy should not be reserved to data scientists alone but rather should be a key tenant across the entire organisation. As data proliferates it will inevitably be democratised so as to be harnessed for multiple users across the organisation; from R&D and supply chain to patient relations. In this way, multiple users from across the organisation could — in theory — access, update and harness data to support their multiple use cases. The benefit here is an acceleration of the R&D process and reduced time to market, as we outline in our recent R&D 2030 report⁸.

However, most organisations are not sufficiently integrated to pass data 'down the line' in such a seamless way, often with data integration held back by legacy systems and operational silos. But it's not just about the sizing and scale of the IT landscape, but rather the need to build stronger capability for data integrity and intelligence among all staff.

People should be trained on the means and tools by which to maintain and assure accurate and consistent data throughout its entire lifecycle. Not everyone will immediately feel comfortable with handling data in this way, so it's important to embed a culture of willingness to learn. Supported by adequate controls, individuals can practice and develop this skill in a safe environment, to become more competent and confident at mitigating associated data and information risks.

// Data science is becoming a far more important role, with the subsequent interrogation giving us much greater insights. Therefore the ability to collect the correct data up front to get to those insights is vital. We're currently not sufficiently structured in how we get that data and how we will use it further down the line. //

Head of Global Patient Services, Global Pharma



// Pharma companies tend to be inward looking. We are trying to change by being externally focused. We need to be ahead of the game and scan the horizon in order to shape the market around the disruption that is coming. We need to anticipate what the competitors are going to do and look for alliances with others who face similar disruptions. //

Global Pharma Executive



3. Two heads is better than one: Extreme partnerships

For pharma leaders, the pain of investing heavily in clinical trials and drug development only to launch a product with sub-par revenues is a common concern⁹. Similarly, the lack of access to the right data in order to accelerate a products' route-to-market, can be frustrating and costly. Many senior executives are acutely aware of the need to partner, share and collaborate to drive better outcomes for the patient and for the business. Such an approach is not just a strategy for competitive advantage, but a critical means for survival both inside and out of the pharma industry.

Where we see emerging partnerships, related to the hunger for data, with companies joining up to share data to capture greater depth of insight.

GSK is leading the change by investing \$300 million in a partnership with consumer-science company - 23andMe - who originated as a provider of genetic screening tests to the every-day user. The two have joined forces to match up drugs in development with disease and mutation carriers identified in the 23andMe database. Given that on average 80 percent of customers permit such use of data, enrolling patients in clinical trials becomes much easier and quicker. According to AstraZeneca's '5R's for successful R&D'¹⁰ framework, identifying the right patients for clinical testing is one of the top five contributors to successful drug development. Their research recommends implementing strategies to identify the 'right' patient population early, through the use of biomarkers and other disease stratification markers⁹. Partnerships like the 23andMe collaboration can accelerate this capability, in turn vastly accelerating the clinical trials process while potentially also consigning animal testing to history.¹¹

Technology partnerships also see pharma giants able to accelerate digitisation and modernisation without such significant investment in their own capability, platforms and tools. Many global pharmaceuticals such as Novartis and Sanofi have previously partnered with the likes of Google¹² to use cloud-enabled, real-time patient monitoring to improve the level of care¹³. The challenge here, however, is to ensure that global pharma reap the benefits of the

partnership without losing valuable patient insights from clinical trial data. Initial forays into pharma and tech partnerships are now being reviewed with more scrutiny to ensure that results are actually achieved. For example, the recent disbanding of a smart contact lens project on the basis of such a partnership provides some evidence of this.

Case study

Netflix strategic partnerships with fail fast mindset

The winning strategy Netflix has used to dominate its sector is to leverage strategic partnerships with carefully selected content owners. But they do it with a twist: they test video streaming models using the practice 'Think Big, Start Small, Fail Fast, Scale Fast'. As Netflix CEO Hastings has said, "the only thing harder than starting a strategic initiative is killing one." This approach has allowed Netflix to grow from nothing, to becoming world leaders in video streaming.¹⁴

The best partnerships don't always have to be external: innovation can also be bolstered by creating synergies and driving collaborative partnerships within the industry. The Chief Digital Officer at Takeda Pharmaceuticals stresses the importance of 'grass-roots experimentation' and explains how the company has set up an internal innovation and digital accelerator fund to support this approach.¹⁵ By adopting a nimble, start-up style, bringing together different skills sets from each corner of the organisation and piloting only the best ideas, they avoid wasting time and money on pilots that don't prove their value such a mentality that is resonant of Netflix 'fail fast' mindset.

Clearly, the operational capability to identify, set-up and optimise value-adding partnerships to extract value quickly; as well as the relational skills required to make these a success, will be critical for any organisations looking for a future in the pharma world.



4. Compliance is king?

Balancing risk and reward

Risk and compliance have always been top priorities for pharma companies, and the pressure from regulators, governments and patients themselves is ever increasing. However, with the pace of technological change and a growing need for innovative evolution, too little risk appetite is fast becoming a brick wall to real progress.

The willingness to take the right risks is just as important as avoiding the wrong ones. Dan Goldsmith of Veeva Systems is quoted as explaining that risk consciousness *“has resulted in slow advances and a lack of innovation across the industry for years. In essence, pharma wants to be in control and avoid the risk of standing out.”*¹³ This risk aversion doesn't just limit technical advances; it also seeps into patient intimacy by reducing the willingness to engage directly with patients.

If they are to increase their risk appetite, pharma companies need to be confident they can identify, manage and mitigate risks across the enterprise. Yet this is hard to do when delegated to different departments such as Internal Audit, Compliance,

Legal, Safety and Quality. A critical first skill is therefore the ability to join up a single set of risks, for example in a Chief Risk Officer role, so as to agree risk tolerances and appetite for each risk area. Financial Services institutions are leading the way, stating a clear position on issues such as ‘very low to no appetite for theft of customers’ personally identifiable information’, which helps teams prioritise their critical assets.¹⁶

Equally importantly, compliance teams should become more adept at assessing and mitigating patient and commercial risks in ways that accelerate and add value to the commercial process. As the Head of Patient Services in a global pharmaceutical has said, *“It is easier to get a power tool approved through internal compliance teams and regulators than an urgently-needed therapy in an orphan disease area.”*

The key challenge is overcoming the cultural shift and breaking down the barriers compliance teams have often placed around patients.

// The culture in major pharma is relatively slow and highly regulated. This mind-set needs to change to be much more flexible and agile. Pharma will have to get much more comfortable with ambiguity – it is easy to make it complicated because of regulation but when we have really innovative people we need to make sure we don't get in their way. //

Associate, Pharma Company

Compliance savvy teams tend to be ahead of the game in building relationships with country regulators. This enables them to educate regulators about upcoming therapies and service/solution combinations, and also anticipate regulatory challenges and advise medical and commercial teams well in advance of launch dates. They may also advise commercial teams on different routes to market by playing in multiple 'regulatory sandboxes' - for example opting for the over the counter (OTC) or healthtech route, rather than spending significant time and money on regulatory approvals associated with traditional launches.

An advanced risk and compliance capability is likely to be critical to performance in this highly pressured environment. Shifting from fragmented risk management and heavy compliance barriers to a more joined-up, agile approach calls for a new style of leadership. Senior pharma executives should inspire a willingness to innovate and adopt a principles-based approach to risk decisions throughout their businesses. Without such a culture, global pharma companies could be left behind by new entrants able to navigate regulation to get their products piloted and into the market more quickly.

Lessons learned

Compliance can work smarter to manage AI risk

An example of searching for the right balance of risk and reward is the story of the approval for a therapy app that was developed using an underlying algorithm based on best practice care research for a regional sales force. Compliance colleagues felt obligated to review each permutation of the algorithm to ensure that it did not result in any adverse regulatory impacts - this took over 6 months, in the context of a critical window to increase take-up of the therapy. Instead, we believe that compliance teams should aim to work smarter and more closely with commercial teams on seemingly riskier tools and techniques. They can build a greater understanding of therapy patient pathways and help to unblock regulatory and internal barriers to getting the therapy to patients. In this instance the algorithm itself, rather than the permutations, could have been thoroughly tested against the compliance requirements and then a sample tested for outcomes.



// When we talk about how to acquire the right capabilities in life sciences, frankly I would like to ban the word “career”, as it suggests a planned progression of positions and potentially a job for life in a company or sector. In a VUCA (volatility, uncertainty, complexity and ambiguity) world, with our industry facing significant challenge from ABCD disruptors (Analytics, Big Data, Cloud and Digital), I believe we should build our structures around capabilities, an approach that is fairer and offers opportunities for all.

This means accepting that the ‘gig’ economy can also apply to highly qualified professionals, who have the freedom to gain experience across multiple organizations and continuously learn. By redefining and modernising their employment deals, policies, processes and contracts, life sciences companies can treat permanent and temporary role holders equally, offering compensation and benefits linked to the outcomes they generate. Such a concept can be particularly empowering for workers prepared to invest in the right skills, who should remain in strong demand and enjoy fulfilling roles. //

Kim Lafferty, Vice President, Global Leadership Development, Glaxo SmithKline

Rethinking the 'buy and build' strategy to close the capability gap

Although pharma companies are starting to consider a wider range of sources for talent, many are finding it hard to move on from the traditional approach of hiring permanent staff. When we asked a range of industry executives how they expected to acquire new capabilities, the most frequent responses are re-skilling of existing employees and skilled new hires. Fewer say they expect to gain new skills via alliances, short-term contracts or acquiring companies specifically for the talent they bring.

Acquiring companies with the right capabilities

Traditionally, pharma acquisitions have been carried out to gain physical resources, intellectual property and customers. Google's parent company Alphabet, on the other hand, bought the UK AI business DeepMind specifically to take its AI to the next level. Through the rumored \$660 million acquisition they brought some of the world's leading technology entrepreneurs into their fold. And having established its credentials, DeepMind continues to attract new, in-demand researchers, computer scientists and neuroscientists.¹⁷ This approach is a signpost for sectors like pharma, which can move beyond alliances with tech firms to acquire actual data science capability in the life sciences space.





Alliances and secondments

As we have discussed, alliances can bring complementary capabilities to both parties. Such an approach is particularly appropriate for finite projects, offering a rich source of talent without the costs and obligations of permanent hiring. The key here is to build more structured programmes that transfer capabilities from the alliance partner back into the pharma company, working jointly on agile-based projects where exposure to new mindsets and skills is part of the benefit.

Whilst the 'permanent employee' model persists, there is also great potential to second employees to companies in other industries, to absorb new ideas, skills and cultures — possibly as part of a two-way movement, taking on secondees from partner companies in return. This has been done previously between companies in non-competitive sectors, i.e. between consumer goods and automotive, as well as in departments such as marketing and strategy, to enable high potentials to secure new capabilities such as competitive pricing, scenario planning and market positioning. Not only does this act as a capability build, but also as a retention tool for top talent.

Re-skilling — more than just training

Although a medium-to long-term option, re-skilling the workforce has its advantages by lowering the cost of acquiring new capabilities, and avoiding the culture shock of introducing new people.

Global telecommunications giant AT&T has been involved in a massive, company-wide program to re-skill 100,000 employees to enable them to take on newly created roles. As CEO Randall Stephenson explained, *"It became clear that our people did not possess the skill set required to run a massively scaled software infrastructure. We were facing a massive people issue. Workforce 2020 aims to retrain employees in science, technology, engineering, and math, making more use of existing people rather than engage in a bidding war for scarce new talent."*¹⁸

Disney is following a similar path in supporting its skills gap and diversity agenda in one hit through the *CODE: Rosie* program that gives female employees in non-technical roles an opportunity to switch careers. Disney have partnered with Tech training firm General Assembly to lead the classroom components of their programme, as well as using existing internal capability to inspire and upskill their new contingent of female tech workers.¹⁹

For many, re-skilling is much more than just a training exercise - especially for those who have held a certain role or job title for years. Organisations should appreciate the cultural adjustment of a sideways move. and support employees on this journey.





Skills platforms and the rise of the blended workforce

In future, we should see a growing number of platforms connecting people to tasks — platforms that may well be set up and run by pharma companies, similar to the concept of e-patient enrolment used for clinical trial participants.

A number of pharma companies have already gone some way down this road, to foster networks and pool the right people for projects and initiatives — from within and outside of the organisation. Some of these individuals may not even come from the pharma sector, while others may be recent retirees from the 'baby boomer' generation, who are interested in lending their experience on a part-time basis.

Rather than expecting companies to 'sell' their brands to interested job candidates, individuals from within and outside the organisation may instead be selling themselves via these platforms, by highlighting what they can bring to specific projects.

As the 'gig economy' of pharma takes off, expect to see the balance between full-time and contingent workers change dramatically, as companies move to an agile, blended workforce of multidisciplinary teams.

Innovation hothouses

For high potential employees, hothouses provide deep, short-term immersion for high potential employees with intellectual stretch to accelerate development. ViiV Healthcare, part of GSK, has set up what it calls 'the hive' — a specialist HIV digital innovation unit dedicated to addressing HIV care needs. Looking beyond treatment, this initiative aims to deliver breakthrough digital innovations for those affected by HIV, as well as for their carers and clinicians. The hive is a cross-functional effort, offering employees intensive, 3-month secondments of highly focused work.²⁰ GSK offers other opportunities for staff to immerse themselves in different parts of the business for short periods — sometimes as little as a couple of weeks. These can be used to unblock barriers to innovation and help staff develop new skills to take back into their regular jobs.



Beyond capabilities: Workforce shaping

Despite an urgent need to access these critical capabilities in global pharma, few of the executives we spoke to say they have robust plans in place to achieve such a goal. Building capability is an organisation-wide challenge, in partnership with HR.

Competition for rare skills - such as data scientists with global pharma experience - is likely to be intense and constant. Other digital and commercial skills, such as alliance and partnership capabilities,

are expected to be in demand across multiple sectors, as industries become disrupted.

Whilst some of the above suggestions can address these needs to a certain extent, we ultimately believe that the traditional approaches to 'buy or build' are becoming rapidly outdated, even in today's world.

Instead we envisage the workforce of a 2030 pharma company operating in a much more fluid way.

Shape of workforce 2030



Integration between physical and digital labour

- Increasing use of robots as more and more tasks become automated
- Not about replacing humans but enabling them to perform more meaningful types of work



Job losses and job creation bring new opportunities

- Routine, methodical tasks become automated — but new roles will emerge
- New skills required to deliver unique patient experience



The gig economy becomes the norm

- Estimates show proportion of US workforce as gig workers rising from 34% to 43% by 2020¹⁹
- 'Giggers' provide pharma companies with an agile and skilled workforce



Expert pools of talent

- Greater need for specialist skills as lower roles become automated
- Workforces require a blend of internal and external talent

These changes should have a profound impact on the way in which pharma plans its workforce. Traditional workforce planning provides a static view of the workforce, based upon a continuation of current conditions.

However, 'workforce shaping', on the other hand, addresses disruption. By identifying the skills and capabilities needed in the next 5-10 years, workforce shaping harnesses scenarios to help leaders hire, develop or find alternative ways to access the right people.

// The way we work needs to change, with more blurred boundaries — especially in R&D.

Will we even have job descriptions anymore? We now accept that ‘the matrix’ is the way we work — it’s now all about the liquid organization. //

Stuart Hepburn, Head of Human Resources, Consumer, Global Pharma

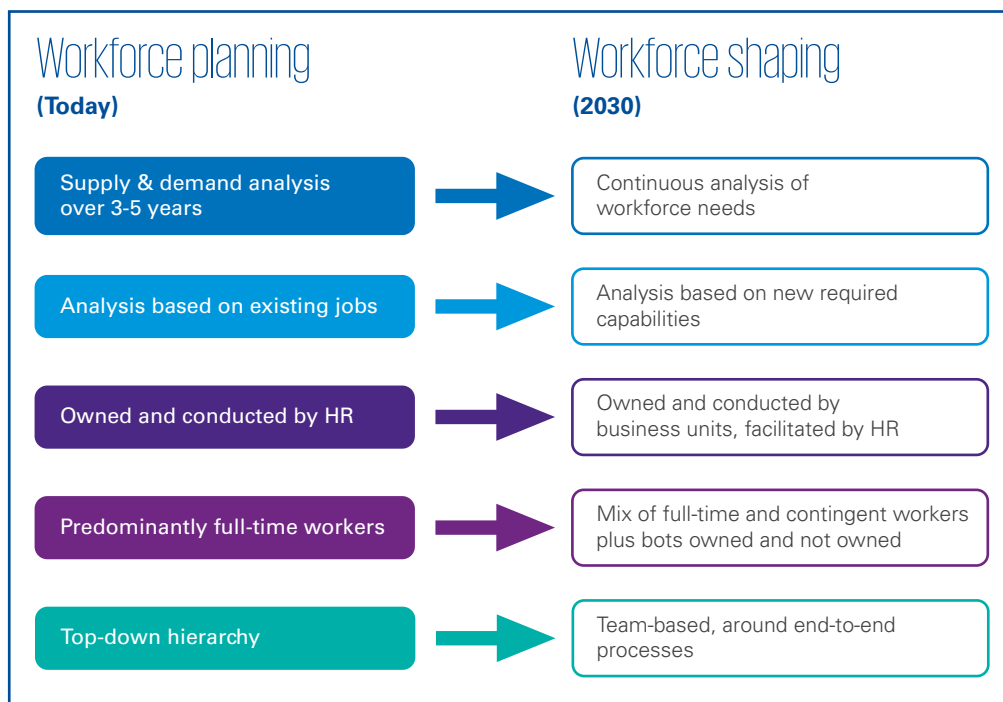
Not about mapping people to jobs; instead, link skills to tasks and projects

As workforce shaping replaces workforce planning, HR’s role should be less about acquiring and recruiting talent and more about assessing capabilities for tasks, activities and projects — and then accessing these capabilities from a variety of sources.

Rather than mapping people to jobs, HR should map skills to work. Rather than analysing the workforce from a static point in time, HR should continuously sense the shifts and pivots to maintain competitive advantage.

In KPMG’s paper Rise of the Humans 2, we present this vision in more detail, showing the shift from workforce planning to workforce shaping:²¹

Workforce planning (today) vs Workforce shaping (2030)

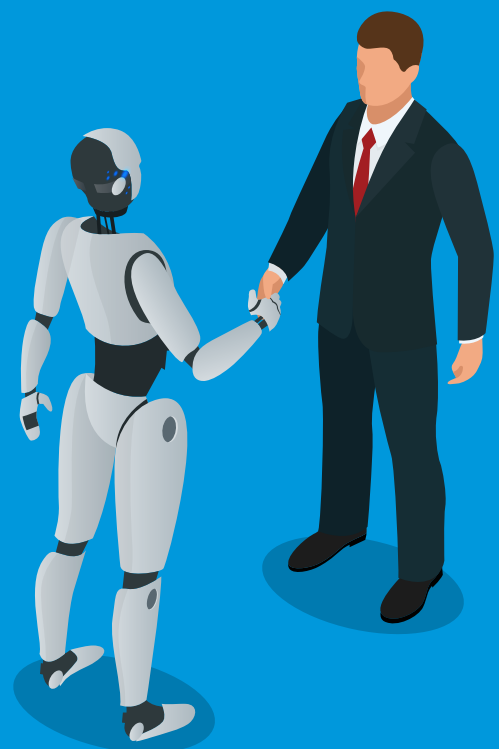


As intelligent automation reduces varying portions of roles, organisations should no longer map people to jobs, but rather map skills and capabilities required for a given tasks or project and then resource appropriately in an agile way. This may mean incorporating different kinds of talent, like part-time, associate and contingent workers as opposed to building a large, permanent workforce. After all, when attracting, retaining and motivating talent in long-term roles poses such a challenge and expense, drawing on the ever expanding contingent workforce has many benefits for organisations, as well as their flexibility-thirsty people.

Are pharma companies ready for change?

In this paper we have seen how 'outside-in' thinking can bring new ideas to help address the challenges of disruption. To gain the agility to survive, global pharma companies face a race against time to close the capability gap and access in-demand resources through creative strategies and channels.

Rather than go through an extended exercise of mapping current people to future jobs, pharma companies should rethink their people strategy to access the four critical pharma 2030 capabilities through emerging alliances, acquisitions, giggers and reskilling of internal teams where possible. Clearly there is an urgent need for line leaders and their HR teams to initiate workforce shaping in line with strategic business scenarios and resourcing future projects for global pharma. This will help identify existing gaps and accelerate on the journey to prepare for what will be an ambiguous but exciting future ahead.



Sourcing and notes

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