

Your guide to

Building a resilient skill ecosystem



01

Foreword:

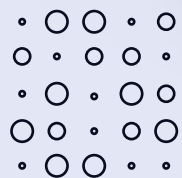


Skills have always been a major part of what it is to be human. In the beginning, a basic set of shared skills helped small tribes to hunt, gather and survive the elements. As these communities grew, skills began to diverge into specialisms, with members focused on specific tasks for a particular need and later trading their skills for things they needed in order to grow.

Today, skills have evolved from a handful of basic skills traded within small communities to a complex, interconnected global skills marketplace. Skills are now too complex to be easily overseen by a handful of village elders who know and understand all the strengths and weaknesses of each member of the community. And so we need an evolution in how we identify and nurture skills to stimulate growth, by leveraging AI and other technology to harness the power of skills. However, the humanity of skills still needs to be at the core of any skill ecosystem design. This is a driving force behind TechWolf - to uncover the power and potential of people. And this is something we have in common with all the organisations and HR and Learning leaders focused on the Skill-Based Organisation (SBO). We all share the belief that human capital is the most valuable asset, which is not even shown on the balance sheet, and will ultimately be responsible for the success of your business. And, much like the human body, all parts need to work together in harmony, for a common purpose, in order to reach its full potential.

02

The evolution of the skill ecosystem

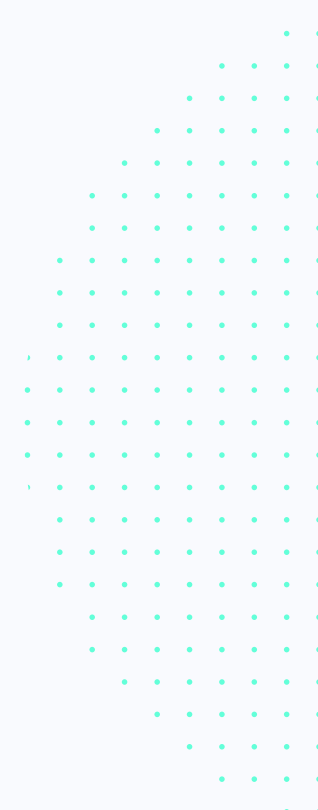


The concept of the skill ecosystem has been around for a long time. However, the systems supporting the management of skills have failed to keep up with the new challenges and requirements of what HR has to deliver. At the same time, HR's role has grown in significance with many HR leaders now called upon to help equip organisations to stay competitive. Skills are now not only in demand to maintain a business, they are now used in an integrated way to look at recruiting, development, internal mobility and remuneration in a strategic fashion.

Over the years, business leaders have invested in various technologies to solve business challenges but have not looked at how each system can work with and complement each other. Each business leader has their own view of how to capture and measure skills, and each has created their own preferred systems and structures to manage this. This encompasses not just HR and Learning Technologies but work systems including project management and communications tools. This adds further complexity as these multiple systems need to integrate and work seamlessly in order for organisations to thrive.

With so many systems, it can seem impossible to have a comprehensive view of the skills within an organisation - and, to date, no one technology has so far solved this.

In order to drive the change that is needed to build a resilient skill ecosystem, HR leaders need to embark on a company-wide approach that views skills as a system-wide endeavour.





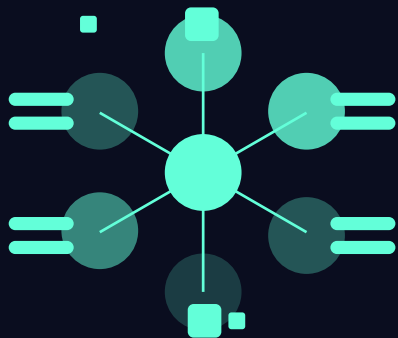
1.0

Business leaders and functions **start to invest in technology** to support operations, communication and process delivery.



2.0

More technology systems are added to the business across a broad range of functions to support the evolving needs of the business. However, this approach is fragmented and disjointed as multiple solutions try to solve multiple business problems.



4.0

The foundation of a successful skill-based organisation with a technology ecosystem that is seamlessly integrated (across HR, Learning and work systems) providing you with a complete, accurate, real-time and unbiased view of skills across your entire organisation.



3.0

The software landscape has become disparate, with leaders interacting with multiple systems, and very few working seamlessly together. HR now has a huge opportunity to understand the business better and guide leaders through a stronger focus on people however, they lack a total view of skill data across the business.



Case Study: Global Online Travel agency

A global online travel agency is on a mission to empower people to experience the world. They invest in digital technology that helps take the friction out of travel with a marketplace that seamlessly connects millions of travellers with memorable experiences every day.

The travel industry is a dynamic one, with people regularly moving between organisations and roles. The online travel agency understood early on that finding the best staff and keeping them is what would set them apart. With technology constantly changing the way we work, the company saw a need to create a skill taxonomy to keep track of the knowledge available within its workforce.

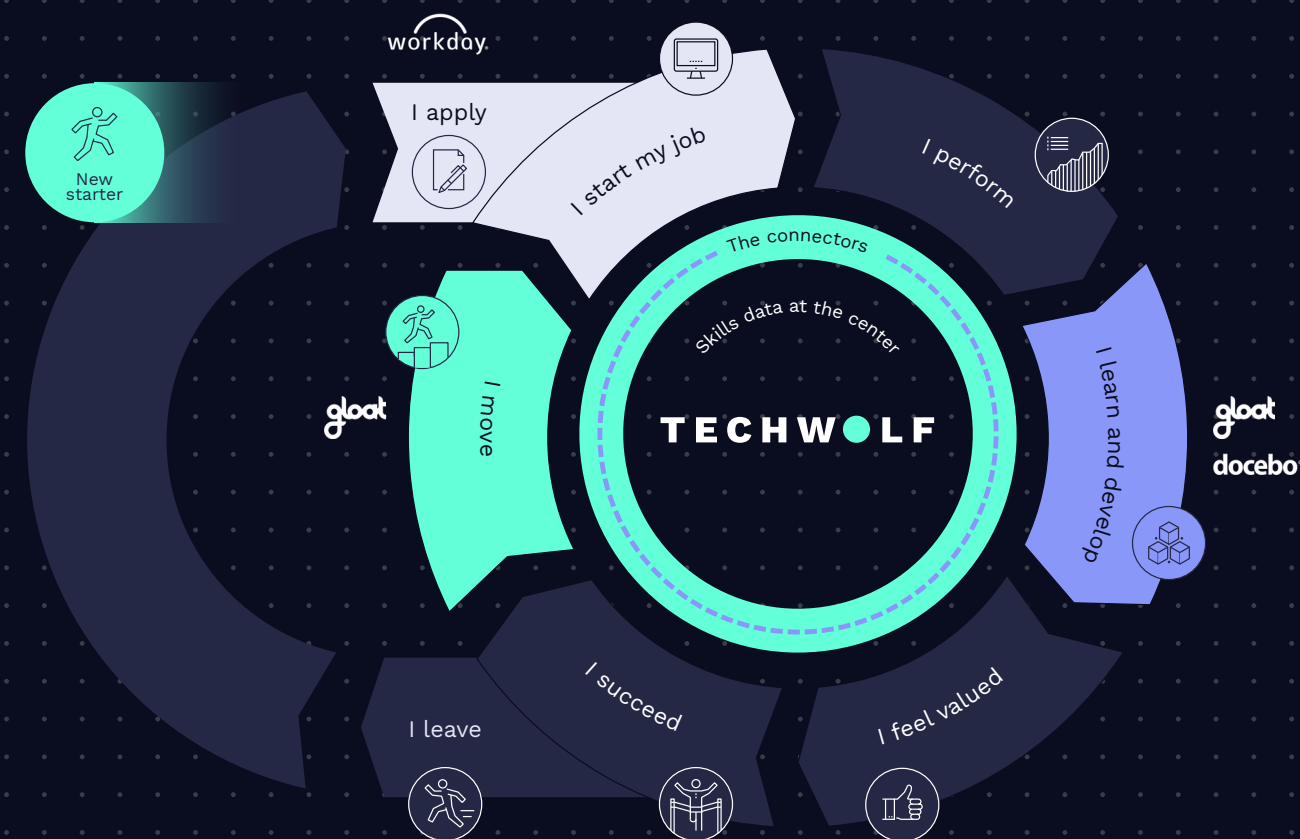
Creating such a structure, however, proved to be a challenge, with no standardised effort to map the existing skills and identify gaps among employees. The project lead at the online travel agency recalls the initial push started with simple spreadsheets. “It was a nightmare. We had disconnected offline spreadsheets that weren’t going anywhere and

no real use case in mind”.

The company decided to hire a consultancy that helped them understand the concept of the Skill-Based Organisation and what was needed to get there — a key learning point was: a real transformation would not be possible without the help of technology.

Through TechWolf’s Skill Engine™ — the online travel agency was able to infer skill data from a number of different HR, Learning and work systems to help the online travel agency create a customised taxonomy using real company data. This allowed the online travel agency to assess the real value of skills they had as a company, enabling the leadership team to make informed decisions.

The insights help the company determine with more precision what capabilities are needed to make operations more agile, which areas are mature enough and where the online travel agency needs to focus on upskilling and reskilling. In short, the data fuels the company’s growth and is a valuable asset as the online travel agency continues to work to hold its position as a market leader, now and in the future.



With all of this data at its disposal, the online travel agency is now ready for the next step: thinking of all the use cases to which skill data can be applied — these can be used to inform on talent acquisition and retention strategies, upskilling and reskilling opportunities, and even influence initiatives to empower employees. TechWolf will keep supporting the online travel agency to build the foundations as they embark on a journey to fully transition into an SBO model.

03

The importance of a connected skill ecosystem



As already established, organisations can often be overwhelmed with data from various legacy systems and technologies, capturing and storing information in different silos across a business. For this data to become powerful and strategically valuable, you need a **complete, accurate, real-time and unbiased** view of data across an organisation.

The ability for systems to keep up with change within a business is key. Great organisations never stand still. Just like a living organism, there is a continuous process of nurture, growth and adaptation to evolve and survive. In the natural world, bodies act intuitively and instinctively in response to an immediate need, e.g. if you cut yourself the blood will clot and white cells will rush to repair the damage.

For organisations this could also be replicated, to an extent, i.e. if you lose Person A who has x job function, you hire Person B to replace them in that function. However, given today's highly complex and fast changing business environment where emerging risks and opportunities require companies to marshal their people with precision and speed, a more sophisticated approach that is fast and accurate will ensure an organisation stays competitive.



Our research shows that a typical 5,000-person organisation hosts between 15-20,000 skills within its workforce.



It's hard to imagine how this can be managed without a strong central nervous system, led by CHROs, disseminating information from across the whole anatomy of the business from L&D, business strategy, talent acquisition etc., into a single point of truth about what is needed for growth.

Any business looking to become a successful Skill-Based Organisation needs to

first have employees at the heart of a skill-based strategy. A strong skill ecosystem relies on having a clear understanding of the work that is being done and the skills being demonstrated already, so that you can identify opportunities to retrain, upskill or recruit accordingly. People, and the skills they bring, are the basis for all future success in sustaining a dynamic skill ecosystem.



Case Study: Multinational Telecoms company

Skills as the passport to growth; managing an enterprise-wide skill language without disrupting the business.

A multinational telecoms company is transitioning from a hardware company into a cloud and software-focused one. The company realised that to fulfil its mission of shaping the future of mobile broadband internet communications it needed to reorganise as a company. The destination was clear: they want to become a Skill-Based Organisation. The passport to get there? Skills.

The telecoms company started its journey towards becoming an SBO a few years ago by creating a roadmap that then led to a skill framework project. "We understood that to turn into a true SBO we would need a strong skill infrastructure, good skill analytics and an understanding of critical skills for upskilling," said the project lead at the company.

The company established four key points they wanted to cover when they started looking for a partner to help create a skill taxonomy as the foundation of their skill infrastructure. First, would they get where they wanted to be faster if they used AI? Then, could their supplier provide them with a clearer understanding of the company's skill supply and would they be able to help them do a better job mapping out the skill profiles for their employees? Lastly, would the solution enable them to identify, map and track emerging and declining skills using market data?

The telecoms company found in TechWolf a partner who could help them address all of these crucial points. The company was brought in to get the skill framework project back on track. "We wanted a way of dynamically updating skill profiles without having to rely on our internal team to do so," recalls the project lead. "When we looked at what TechWolf was proposing to do, combining AI with human effort, it almost looked too good to be true."

Staffing its cloud unit was a critical priority for the telecoms company. With over 15,000 employees with the title "developer", the company struggled to find cloud skills among them. In just four weeks the telecoms company had a functional skill taxonomy which gave them a first view of where they could source people to cover critical cloud roles. TechWolf also helped the telecoms company align their talent acquisition through benchmarking with market data.

04

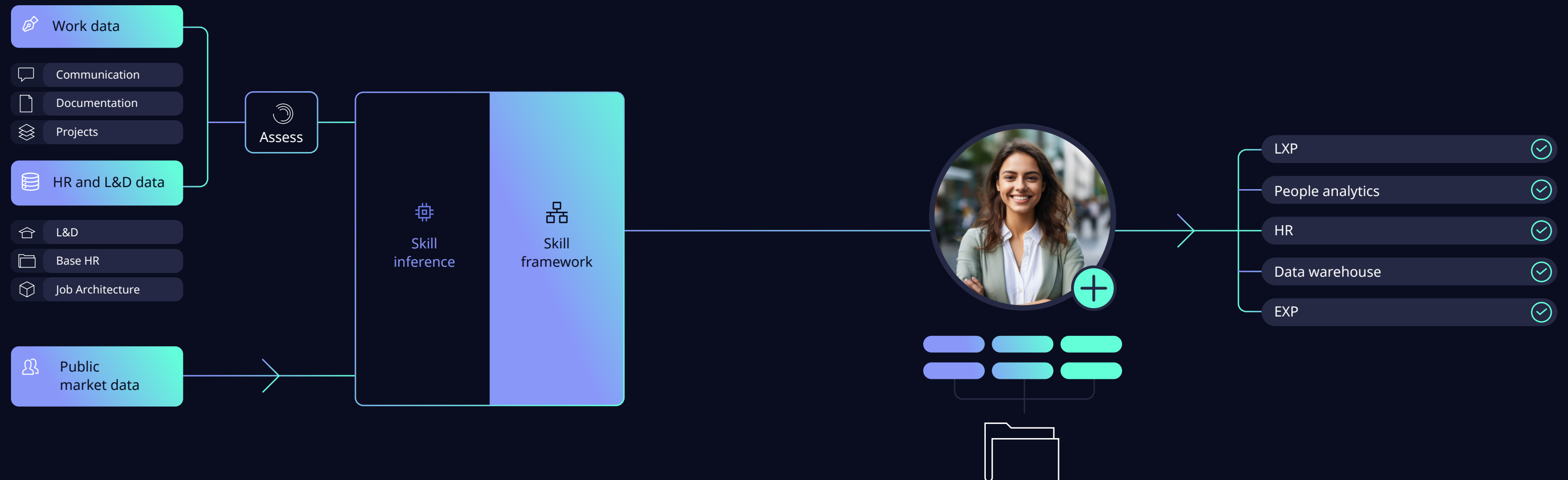
The core foundations of a skill ecosystem



Many businesses are transforming or needing to become more agile, therefore requiring the skills of their people to change at the same pace. The labour market shortage makes it harder than ever to cover the skill gaps. We now see many of our customers transitioning (parts of) their organisations towards a skill-based approach.

Systems and processes have an important role to play but only with the correct data being fed into them. It's crucial that the work that people do is documented and skills are captured, applied, gaps identified and this insight fed back to inform decision making. This ensures transparency and builds trust. This is vital as the process involves a significant amount of personal data and it is key that both sides understand how and when this is used and treat it with respect in its collection, analysis and resultant decision making. A cooperative and collaborative approach makes for a more resilient ecosystem in the long term.

We break down building the foundations of a resilient skill-ecosystem into four parts:



01

Assessing the quality of the data available and providing skill data

02

Creating a skill framework and common language through structuring skill data

03

Creating and enriching skill profiles - producing a skill inventory

04

Distributing skill data back into the ecosystem

01.

Assessing the quality of the data available and providing skill data

An organisation first needs to understand what data it already has. It can start by identifying and assessing the quality of available data sources to infer skill data from, such as, work data, HR and Learning data and labour market data. An organisation can then identify how the data should be improved, selecting the systems that should be connected to in the process to infer skill data from (on an ongoing basis).

Skill inference can be applied to automatically identify a person's skills based on sources such as work history, education, or even data in collaboration tools to see if there is a fit for any particular internal opportunity. By analysing job or vacancy descriptions, role responsibilities, and other relevant data, AI algorithms can infer the skills that are most relevant and important. This can be beneficial for tasks such as automated job matching or candidate screening, where the system can quickly assess whether an applicant possesses the necessary skills for a specific position.

Skill inference can also be applied to courses or educational programs. By analysing course titles, descriptions or other learning materials, AI algorithms can infer the skills that are likely to be developed or acquired through the completion of a particular course.

This can help individuals make informed decisions about which courses align with their desired development or career goals. Skill profiles can then be produced to give an overview and provide insight into skill demand, skill supply and skill development inside an organisation.



If you read our guide '[building the foundations of a lasting skill-based organisation](#)' you may already be familiar with what good skill data looks like.

If the basis of a good skill framework is skill data, then it makes sense that your framework is only as effective as the skill data feeding into it. So a critical step in building your framework and moving towards a skill-based organisation is to understand what 'good' skill data looks like.

The traits of good skill data:

Complete



You cannot make effective workforce decisions if you don't have complete data on all your employees. At best it'll be inaccurate, at worst, it will introduce bias and wrong assumptions into the process.

Real-time



You cannot make good decisions based on data that's months or years old. Workforce skills change continuously, so you need a completely up-to-date picture of what you have right now.

Accurate



If the data feeding into your system is inaccurate (for example, outdated) then the results you get from it will be incorrect.

Unbiased



You want to do as much as possible to reduce bias in your workforce decision-making. If data is biased, you risk introducing bias into your planning, recruitment, upskilling and more. And this could grow exponentially as you expand skill-based approaches across the organisation.

02.]

Creating a skill framework and common language through structuring skill data

Disparate data sources can be drawn together to produce a common language for skills by structuring skill data into a skill taxonomy with clear governance for future changes. A taxonomy can be built from scratch based on internal and external market data or, if an organisation has a taxonomy already, it can be mapped to that and improved.

The domains and skill clusters are specific to an organisation, so that they can own the taxonomy and its terminology, making it unique to their needs. Skill data can be structured in a way that enables an organisation to integrate it into existing systems and then distribute it to where it is needed.



03.

Creating and enriching skill profiles - producing a skill inventory

By integrating data sources through an API, an organisation can create a single stop for continuous skill tracking, matching, learning management and strategic insights. Existing data can be augmented with additional skill data to enrich skill profiles with relevant, up-to-date information - which could involve employees validating or enhancing their own skill profile, for instance via a Microsoft

Teams bot prompt. This ensures an organisation's skill inventory is not only comprehensive but also delivers real insight and tools to help discover what capabilities are already present, anticipate demand for future skills and identify efficient paths to upskilling, reskilling and hiring.



04.

Distributing skill data back into the ecosystem

There is little point in investing time and resources into an ecosystem unless it is sustainable and embraced by the workforce it should benefit. Once the data is analysed and a framework created, it is important to bring valuable insight back into the process. Skill data can be distributed back to where it's most needed in order for it to be applied in practical use cases through integrations or displayed through dashboards for analysis.

Building trust in the data, how it is gathered, analysed and leveraged to help both organisational and individual growth is a key part of the process to ensure adoption, engagement and dynamic, continual improvement.



Current skills solutions on the market:

HRIS

Skills

LXP

Skills

Workforce
Planning

Skills

Talent
Marketplace

Skills

Establishing a foundational skill data layer across all skill systems

HRIS

LXP

Workforce
PlanningTalent
Marketplace

Skill Data

Case Study: Global Pharma company

A global pharma company is on a mission to unite science, technology and talent to get ahead of disease together. To achieve its ultimate goal of positively impacting the health of 2.5 billion people by the end of 2030, they knew skills were a critical point of their journey. “Using skills to power the workforce is not a new concept, but having robust data to manage skills was a new opportunity for us,” said the project lead.

Investing in a solid skills strategy was the first step, with a focus on improving career development opportunities and ensuring pathways were clearer for employees, specifically within Research and Development. To make this happen, the pharma company needed to focus on providing opportunities for learning and development and upskilling, mapping against roles from within the pharma company and also externally. At first, the pharma company had invested in a talent marketplace, but the project had faced challenges around not being able to source the right data to power it. The pharma



company realised that to solve this problem, they needed skill data that was complete, accurate, real-time and unbiased. “We didn’t know what good data was and what could work for what we were trying to build,” recalled the project lead.

The pharma company first needed to solve their skill data challenge and started looking for a solution that would allow them to assess the current state of their data, understand what data they needed and how this data could help support decision-making. “We wanted to have access to technology that was not going to cause much disruption in the business, but that could, at the same time, help us understand how to use our data,” said the project lead.

Finding a system that could easily integrate into the company’s tech stack, the pharma company chose TechWolf’s Skill Engine™ because of the ability of the solution to connect and infer skill data from work systems such as Jira and their publication tracker, plus use that skill data to supercharge existing systems such as Workday Skills Cloud. TechWolf is helping the pharma company to identify data sets that work to create a common language of skills everyone in the organisation can understand — something that is crucial for a heavily regulated global organisation with localised challenges.

“TechWolf is helping us establish the foundations of our skill data so we can work in a centralised and organised way across departments and locations worldwide. Having the right data sets will enable us to know where we need to act to have the highest impact and really make a difference.”

05

Leveraging AI



Large organisations now simply have too much data to be processed manually without any guarantee of accuracy. The good news is that AI-powered automation can now gather, process and analyse skill data, in real time, meaning that your HR and learning teams are freed up to focus on other, more strategic work.

With an API-first approach you can connect to existing systems rather than reinvent the wheel and leverage AI to extract actionable insights from your employee data. So long as your foundational layer is strong, and you feed in good skill data, AI can provide clear insights, i.e. you need to hire 6 more Python coders or your median salaries are 15% below market rate. This then allows your human teams to make informed decisions that strengthen your skill ecosystem, making your organisation smarter.

While becoming a skill-based organisation is a journey, it's not something that can be done overnight. Like humans themselves, growth and change comes in stages. And there will be growing pains. However, this journey can start with a single step. And that step is identifying the skill data already in your organisation and using technology to unlock its potential and accelerate growth.

06

Getting your organisation ready (with a 4 step guide)



Building a skill-based organisation, like humanity, is about evolution and not something that can happen overnight. Deloitte's 2023 Global Human Capital Trends report uncovered a huge readiness gap amongst the senior leaders it surveyed, with 90% believing the use of technology to improve work and team outcomes is important, yet only 22% felt their organisation was ready. It's also not something that can be easily bought off a shelf and plugged in, as every organisation is as unique as the people within it.

Josh Bersin said, "Don't try to boil the ocean!" This begins with integrating as many of your current systems and processes as possible and getting them to speak the same language. Through this, you start to create a shared foundation that can be optimised for growth.

Embarking on your SBO journey may seem daunting but there are a few simple questions to ask yourself that will ensure you set off in the right direction.





01. —————> 02. —————>

Is your organisation ready?

Becoming an SBO is a marathon, not a sprint. It's fine to start small, with a select use case/s and iterate. To start with, **you need a clear strategy and buy-in from the right stakeholders** in the business to create a way in.

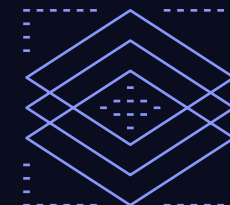
You also need to ensure there is a designated project team and a project plan that has a clear path to value for the business. Breaking down a business problem into smaller, manageable chunks means you can continually communicate on progress and risks along the way.

What data is there already in the organisation?

Most organisations have skill data already existing within their HR, Learning, project management, and file storage systems.

Every time a worker completes a task, sends a public message, finishes a course, or offers feedback on a peer, they generate skill data. Understanding what you have to start with means you can make smart decisions about what you need to do next.

The quality of the data is what is of paramount importance. You need to assess what data would be most valuable to improve in terms of the overall strategy and direct the majority of your efforts to those high impact areas. Again, this can be a journey with data added and improved over time.



03. —————> 04. —————>

Is the data easily accessed?

Data can be scattered in silos and departments across an organisation. You just have to unlock it and create a universal language to make them interoperable and efficient.

You also need to consider the different types of data and responsible and ethical usage. For example, data on courses might be considered benign but any employee data might fall under GDPR and so the appropriate data privacy steps should be taken. Before embarking on your SBO journey, it's time to clean house on your skill data, ensuring that you are working only with high quality, relevant and timely information that is free from bias and fit for the future needs of your business.

This is where AI can help transform your unstructured and disparate skill data into an actionable, structured skill framework.

What does my organisation need from a skill framework?

To build a good skill framework that can withstand the test of time, starting with the skill data itself is crucial. You can then observe the structure already there in the data to help get you started.

In fact, you can boil down the main features of a skill framework into three areas:

- 1 **Tailored** to the specific needs of your organisation;
- 2 **Comprehensive**, connecting to the skill data you have in-house as well as the external market;
- 3 **Dynamic** and built to evolve continuously as jobs and the workforce change.

TECHWOLF

Interested to know more about TechWolf?

TechWolf puts organisations on the fast track to becoming skill-based. TechWolf's Skill Engine™ connects existing systems via an API-first approach to get an instant, up-to-date, and unbiased view of skills and skill gaps in an organisation.

A total view of skills is surfaced through:

1

Inferring skills;
providing skill data

2

Structuring skills;
providing a skill
framework

3

Distributing skills;
connecting to
applications

Get your skill data business ready.

Reach out to our team today at techwolf.com/contact