Re-skilling talent at scale in the age of AI

Solving an intense, unmet need for today's large enterprises

While the desire to take advantage of artificial intelligence (AI) remains high, we still see constraints in the levels of adoption. The problem does not lie in the technology itself, but rather with lack of people who can implement it. As a result, there is an unforeseen talent gap emerging, which we need to address, especially considering the following:

- **The stakes are enormous**. Skill shortages will be a defining factor of enterprise competitiveness in the future. Technology can become a great equalizer, exposing established companies in developed markets not only to disruptive competitors at home but also to those coming from fast-growing markets where players can leapfrog stages of development and avoid the burden of legacy systems and processes. For instance, as MIT Technology Review noted recently, operating models built by new firms in China are often remarkably more efficient than existing ones and may over time displace everyone else. If we do not have the right talent, then we cannot level the playing field.

- **The scale of the issue is overwhelming**. It is not just that we don't have enough people with the right skills. The half-life of learned skills has shrunk dramatically down to five years, in a world where we see careers spanning 60 to 70 years. Consequently, the number of people impacted is huge: tens of thousands in each large company, from finance and research and development, to sales & marketing and supply chain. In aggregate, this accounts to tens of millions of people or more.

While top management grapples with these issues, workers are growing restless. The second edition of Genpact's global AI research study presents a few interesting insights.

More than half of workers (59%) indicate they would be more comfortable with AI if they understood it more, and 80% of workers say they are willing to learn new skills to take advantage of AI in their current job. Yet, when it comes to how companies are addressing re-skilling for AI and technology disruption, there is room for improvement. More than half of senior executives (53%) say their organizations provide employees with re-skilling opportunities, which is up from 38% in 2017. Yet despite more senior executives saying they offer re-skilling, only 35% of workers say re-skilling options are available at their companies – and only 21% of these respondents say they have participated in that training.

There is clearly a disconnect here. Employees want training, executives say they are providing it, but the needle doesn't move. What's going on? At the core of the issue sits learning and development (L&D) organizations that struggle with the fast speed of technological change coupled with - by historical standards - older learners.

The solution will likely be a paradigm shift from what human resource (HR) organizations and senior executives are used to. Instead, we will redefine employee re-skilling away from learning altogether. It will likely be the creation of a new muscle that continuously curates, crystallizes, disseminates, and enhances knowledge – thereby generating a collective intelligence architecture that will become part of the nervous system of an instinctive enterprise.

A new architecture for re-skilling

By combining the contemporary understanding of the science of learning with new operating models derived from MIT's Center for Collective Intelligence work, Genpact has designed a scalable infrastructure that delivers customized re-skilling paths for tens of thousands of employees.

A few important and often unconventional tenets were at its inception:

Change the WHY

- Change the conversation from "educating every individual through L&D" to re-skilling groups of people who work together - and increase their collective, not individual, intelligence. Specifically, in departure from traditional up-skilling that is mostly "I-shaped" (narrow domain but deep expertise), there is a strong focus on "T-shape" re-skilling, whereby people learn the basics of the skills that others have (the flat side of the T), enabling them to interoperate better and hence express better collective intelligence as groups

- Avoid mixing intrinsic with extrinsic incentives. The program must avoid portraying the learning as "compliance" and "mandatory." Instead, all senior stakeholders must highlight (in words and practices) how the success factors for employees' careers hinge on the mastery of these new skills and show the re-skilling mechanisms as enablers at the service of the individual worker. Similarly, leaders should take care in applying "testing" and "checking." In other words, they should treat employees as adults, not schoolchildren, which however means that negligence or lying is met with severe personal consequences

Change the HOW

- **Design the process as journeys** for - in design thinking terms - key personas. Learning is an intensely personal experience for people and can be a terrifying one at this scale and intensity. Additionally, people learn better from other people, so a "master/apprentice" model can help as well
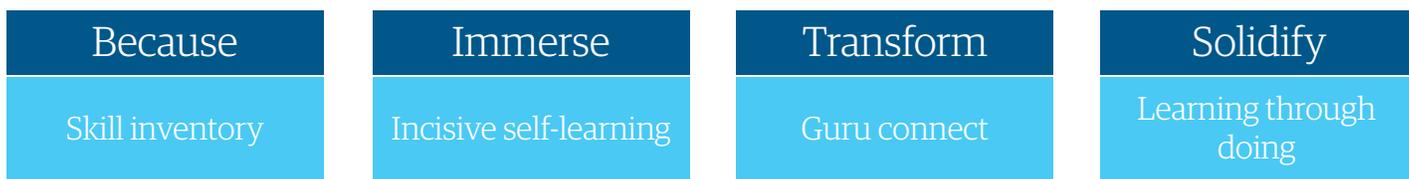
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- **Enable learning in the flow of work**. Adults struggle with finding time, so we must find nuggets of learning that can be absorbed "in the flow of work," as employees prepare for the next task, project, or meeting

- **Utilize the knowledge that already resides within the organization**. Identify the key individuals who either possess or broker the new skills and leverage them

- **Eliminate artificial barriers in the flow of knowledge**, namely, between L&D, knowledge management, and subject matter expert (SME) groups. The flow of collective intelligence needs to be unobstructed

- **Heavily contextualize new knowledge**. Without contextualization, adults struggle with understanding and retaining concepts that are not connected with their existing knowledge – and that is why we must identify

links between existing and new knowledge. Think of learning about natural language processing in a vacuum or learning about it after understanding what it does in your job domain

- **Adopt an agile development approach**, in which the creation of the re-skilling processes follows a series of sprints, to enable fast feedback and deliver early value to internal customers

The resulting architecture creates a connected ecosystem of people and data, and rests on four pillars depicted below, and we will explore each stage in turn: B for "because" (of a knowledge gap); I for "immerse" (in the e-learning modules); T for "transform" (through the connection with SMEs); and S for "solidify" (through application in real life). Collectively, reskilling happens in "BITS."

Because	Immerse	Transform	Solidify
Skill inventory	Incisive self-learning	Guru connect	Learning through doing

The progression to higher levels of proficiency requires learners to go through these four pillars, as indicated below.
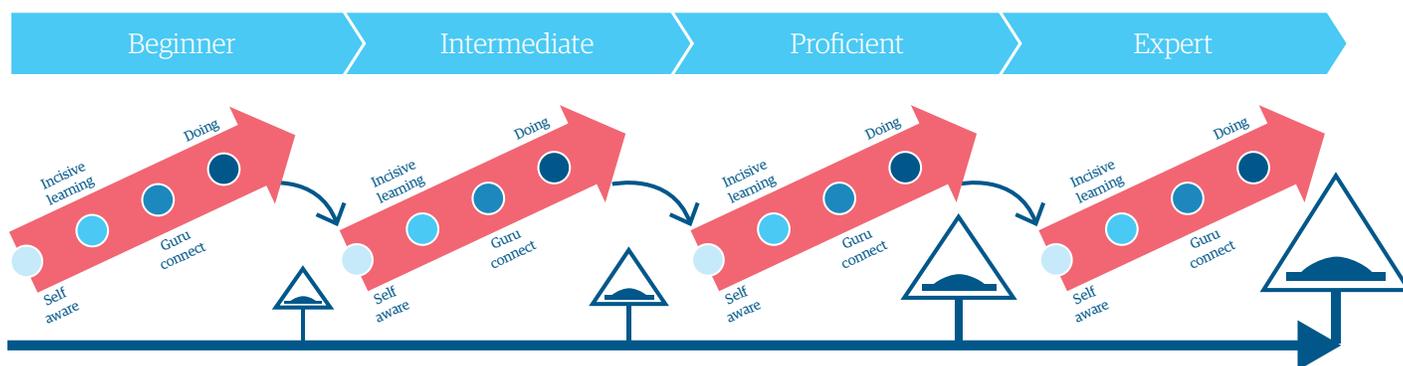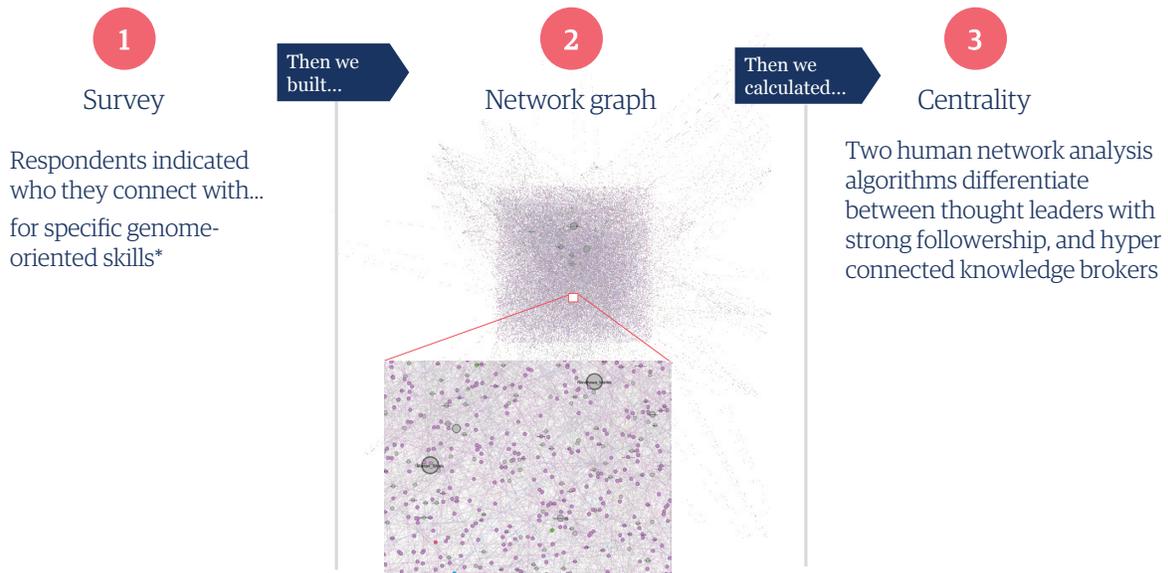

Because – skill inventory

Skill inventory identifies what skills the collective intelligence has already. This exercise starts with the definition of a capability framework that identifies, for each relevant logical role in the company, the proficiency level across the new skills and capabilities (and the established ones that enable the new).

The resulting self-assessment creates a baseline not only for individuals but also for groups (such as departments

and regions) that drives the prioritization of learning interventions – in addition to generating additional benefits for staffing and workforce planning.

Importantly, we use advanced network analytics techniques to understand the structure of the networks where the new knowledge is present and is shared, for instance, to identify "knowledge gurus" and "knowledge brokers" – i.e., people who are accessible to many of their colleagues.

Network analysis to identify nodal/central knowledge experts

1 Survey

Then we built...

2 Network graph

Then we calculated...

3 Centrality

Respondents indicated who they connect with...

for specific genome-oriented skills*

Two human network analysis algorithms differentiate between thought leaders with strong followership, and hyper connected knowledge brokers

* Analytics, Artificial Intelligence, Automation, CORA, Customer experience, Digital Transformation, Future of Your Industry, Innovation and Design Thinking, Introducing (the new) Genpact, Storytelling
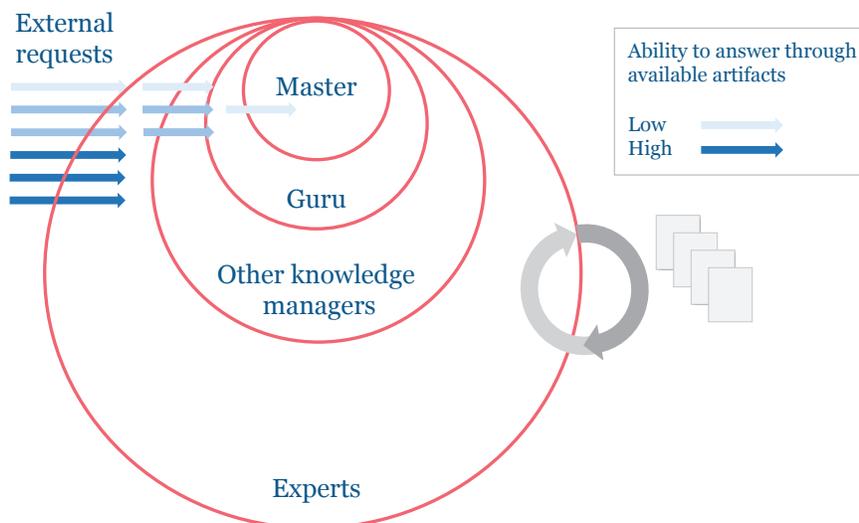
Immerse – incisive self-learning

A skill inventory enables learners to access the right learning resources. Instead of a standard massive open online course (MOOC) and external provider approach, much of those resources come from the curation of the knowledge of internal experts.

The identification of knowledge brokers through the network analysis enables the creation of communities of interests centered on them. The role of subject matter experts (both masters and other gurus) is paramount in the re-skilling architecture as shown in the following diagram. In it, it is also visible how the learning mechanisms and the general knowledge management processes reinforce each other, which drives stronger connections between the respective organizations.

Masters and gurus have their collaborative environments, supported by an L&D shared service. In those, and with the help of experts who are interested in becoming gurus, we can crystallize and curate new knowledge.

External requests

Master

Guru

Other knowledge managers

Experts

Ability to answer through available artifacts

Low
High

Transform – knowledge node connects

Masters and gurus start engaging with the learners as the latter complete their self-learning efforts. The initial interaction happens through virtual, video-conferencing webinars that make strong use of multiple collaboration tools.

Solidify – learning through doing

Here, learners practice critical skills in actual projects with the light supervision of gurus (who may be otherwise involved in their normal functions). They leverage the supply of relevant opportunities across the company.

Upon satisfactory completion of those tasks, gurus, team leaders, and HR coaches assess the level of completion and "certify" the learner.

A new operating model for knowledge

Such a collective-intelligence-based re-skilling machinery creates an operating model that continuously helps source, crystallize, propagate, and absorb knowledge - a connected ecosystem that helps the workforce, and the company, adapt to a continuously changing world - much better than what HR experts could do in isolation. We can then cultivate and sustain the skills necessary for employees to thrive in the age of AI, filling in the talent gap and driving real-world innovation at scale.

About Genpact

Genpact (NYSE: G) is a global professional services firm that makes business transformation real. We drive digital-led innovation and digitally-enabled intelligent operations for our clients, guided by our experience running thousands of processes primarily for Global Fortune 500 companies. We think with design, dream in digital, and solve problems with data and analytics. Combining our expertise in end-to-end operations and our AI-based platform, Genpact Cora, we focus on the details – all 87,000+ of us. From New York to New Delhi and more than 25 countries in between, we connect every dot, reimagine every process, and reinvent companies' ways of working. We know that reimagining each step from start to finish creates better business outcomes. Whatever it is, we'll be there with you – accelerating digital transformation to create bold, lasting results – because transformation happens here.

For additional information visit https://www.genpact.com/digital-transformation/artificial-intelligence-ai

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