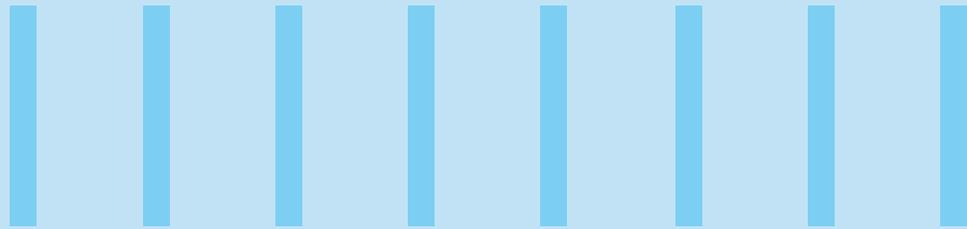




RESKILLING EMPLOYEES IS AN ENTERPRISE IMPERATIVE TO SUCCESSFULLY NAVIGATE DIGITAL TRANSFORMATION



I. Foreword by Sundar KS



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As we enter the era of wide-scale digital transformation, as part of the fourth industrial revolution, it is no longer enough for enterprises to retain traditional

recruitment strategies when attempting to meet the skillset demands of the future. Today, the rate of technological change and automation is too fast, and the traditional development of skillsets required to underpin such technological advancement is too slow for this strategy to continue to be effective. Therefore, for companies who hope to remain resilient, adaptable and ahead of the curve when navigating the waves of digital transformation and technological uncertainty, we believe the only true, long-term option available is investment in a market-leading next generation talent transformation platform. Such a platform must (at a minimum) be:

- Able to deliver market-leading content in a form that promotes a personalized learning experience
- Effective and efficient in re-training existing talent / workforce
- Capable of leveraging technological advancements and automation
- Sufficiently flexible, adaptable and agile so that it can grow alongside the business and meet the workforce demands of the future
- Able to evaluate new skillsets in a real-world context, and against real-life problems



II. The Market Now Demands Continuous Reskilling Capabilities



"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."

- Alvin Toffler

Since the 18th century and the beginning of the first industrial revolution, humanity has understood that workforce re-composition and the associated re-skilling of employees is a necessary by-product of technological advancement, automation and industrial progress. History has shown the long held concern that automation will decrease the overall size of the labor market to be false. In fact, a new report from the World Economic Forum (WEF) argues that machines and algorithms in the workplace are expected to create 133 million new roles, but only cause 75 million jobs to be displaced by 2022 – creating a net growth of 58 million new jobs in the next few years. This means the total number of jobs will not, but the composition and requirements of the workforce will be subject to significant change. It is the pace of this change that is concerning for companies trying to build a workforce skillset that allows them to take advantage of the opportunities presented by digital transformation, automation and innovation.

For example, up until the turn of the 21st century it remained a common practice for an employee to only learn one core skill, and this skill would be implemented in the duration of their career (usually for one employer). At that time, companies could meet the demand for new "tech savvy" skillsets because the rate of technological change was such that the skillsets of the future could be obtained as part of their standard hiring cycle (that is hiring young, fresh university graduates or lateral hires who had already been up-skilled). Since then, the pace of technological advancement, automation and process disruption has increased at an exponential rate, creating the need for employees to re-skill at various points throughout their careers. This rate of change has gone on to influence the demographics, business models, work attitudes and priorities of both companies and employees when they are looking to build the necessary skills to meet future demand.

In a recent joint article between Infosys and global research and advisory firm Gartner¹,

the skillsets of the past, the present and the future were broken down as follows:

- 1. Horizon 1 Skills (H1):** Core skills of the past which are increasingly making way for extreme automation (People + Software)
- 2. Horizon 2 Skills (H2):** New skills which are required to drive today's burgeoning need for new products, services and processes
- 3. Horizon 3 Skills (H3):** Emerging skills or skills of the future that underpin the engines of growth in the digital transformation era

When analyzing the lessons learnt from the wide scale adoption of cloud computing using these Horizon Metrics, we see that the traditional recruitment strategy used by the majority of companies to transition their workforce from H1 to H3 skills was significantly inadequate. This is particularly so in an era where the rate of technological change and adoption is occurring on an unprecedented scale, and the core skills developed by employees at the university level are becoming outdated in significantly shorter periods of time.

III. The Fourth Industrial Revolution?



"We had the computer revolution, the smartphone revolution, and the Internet revolution but AI will probably be the biggest technological shift we have ever seen."

- **Edouard d'Archimbaud**, Head of Data & AI Lab, BNP Paribas.

Now, there is no doubt that the era of digital transformation and the "Fourth Industrial Revolution" is truly upon us. Technology companies like Google, Microsoft, Apple, Facebook, and Amazon (all of whom are less than 45 years old) are now, on average, more valuable than the traditional stock market strong-holders of oil, gas and natural resource conglomerates. Today, most emerging technologies rely heavily on data availability. Artificial intelligence / machine learning, the Internet of Things (IoT), self-driving vehicles, nanotechnology, renewable energy, quantum computing,

biotechnology and augmented / virtual reality, dominate the technological advancement conversation. Given the knowledge and potential value that data can unlock, companies from all sectors and industries are racing to leverage data in their business models. By harnessing such knowledge, companies can create tech-enabled business processes, products and establish personalized, digitally-enhanced experiences for their customers, clients, employees and stakeholders.

Like the cloud, it is unknown how long it will take for these new technologies to be widely available and affordable for the

majority of users. However, there is no question that some (if not all) will form a normal part of business operations in the near future, and it is inevitable that these technologies will significantly affect the future workforce composition.

With most sophisticated companies pursuing a strategy that adopts digital transformation in some way, it is no surprise that a significant gap will develop between the H1 and H2 skillsets currently held by employees, and the skillsets required to take advantage of future technological demand.

IV. A Common Struggle: Companies & Employees

Today, it doesn't really matter which individual, company, industry, demographic, culture, race or religion technology affects. As a result, the new and ambitious workforce, which possesses H1 skillsets, are increasingly finding themselves unemployed or unemployable, as the industry today demands workforce with H2 and H3 skills. Likewise, employees who have a plethora of knowledge and work experience leveraging their H1 or H2 technical skillsets in the last 30 years, are now realizing that these skills are becoming increasingly redundant to make way for new technology-backed implementations and solutions, underpinned by H3 skillset.

A 2018 study published by the OECD² estimated that 46% of all jobs have at least a 50% chance of being lost or greatly changed. Given the above, it is clear both companies and employees face a common challenge – transitioning their core skillsets from H1 to H3 in order to meet the client demand created through digital transformation.

Companies in particular are struggling to maintain the correct balance between H1, H2 and H3 skillsets. This struggle translates into a company's initiative to develop a skill acquisition strategy.

It is likely that companies who fail to manage the "skills transition phase" of their

workforce, will see rising employment / recruitment costs, skills shortages, increased attrition and staff turnover, and more difficulties leveraging emerging technologies. Likewise, employees who fail to create a process of continuously upgrading their skillset from H1 to H3, face challenges of becoming obsolete in the near future. In our opinion, given traditional recruiting strategies did not succeed in replacing skill shortages in the transition to cloud-computing, the latter approach is the only long-term solution for companies. If this approach is not correctly implemented, then the countries where these companies operate may also experience rising unemployment and depressed wage levels.



V. Building a Culture of Curiosity

As mentioned in the WEF report, proficiency in new technologies is only one part of the skills equation. Now, when companies look to hire talent, they should look beyond their formal qualification or core skillset. Human skills such as creativity, originality and initiative, critical-thinking, persuasion and negotiation will likewise retain or increase their value, as will attention to detail, resilience, flexibility and complex problem-solving. Moreover, emotional intelligence, leadership and social influence, as well as service orientation, will also be subject to an increase in demand relative to their current prominence.

Supporting this is a report by Guthrie Jenson, who listed the top 10 skills needed to thrive in 2020, which are:

- (1) Complex Problem Solving
- (2) Critical Thinking
- (3) Creativity
- (4) People Management
- (5) Coordinating with Others

- (6) Emotional Intelligence
- (7) Judgement and Decision Making
- (8) Service Orientation
- (9) Negotiation
- (10) Cognitive Flexibility³

These skills can be bunched together under the intellectual trait of 'curiosity'. People are naturally curious and wired to explore the new and the unknown. Therefore, to be lifelong learners in the time of automation and AI, we must simply be more mindful of who we are, and indulge our natural selves, which will differentiate us from AI. Lifelong learning enables people to be flexible, adaptable, and learn on the job and we believe traits of curiosity underpin lifelong learning. Curiosity assists employees to delve deeper into the things they love to do, be aware of which jobs and skillsets which will be required in the future, and synergize with emerging technologies in ways which assist companies convert natural curiosity into business outcomes.

With the right tools and practices in place, particularly those that encourage ongoing curiosity and support lifelong learning, there is no reason employees of an organization cannot continuously upskill their skillset from H1 to H2 and H2 to H3. Once enterprise leaders recognize this, and implement a top-down culture of curiosity and learning whilst simultaneously taking advantage of community-based and technological innovations, organizations can create a model for prosperity that should last the rest of the 21st century.

While learning may slow down as physical age advances, it is vital to keep one's faculties sharp, adaptable, and receptive to change. In this sense, it is imperative to ensure employees have access to a market-leading learning platform that tailors learning to an individual's preferences, provides market insights as to the expended demand for skills (and where employees should focus re-skilling efforts), and links learning efforts with the overarching business strategy and priorities.



VI. The Need for Adaptability and Resilience when Navigating Digital Change

What is resoundingly clear in an era of digital transformation is that uncertainty will prevail – companies can no longer successfully predict what the market will look like in five or ten years, and employees can no longer develop a skillset that will serve them good for their entire career. This means a company's ability to control their situation and outcomes is substantially reduced. Likewise, the level of certainty an employee can obtain from any role they

may hold is finite.

However, by engaging a next generation talent transformation platform, companies are able to take full advantage of market opportunities whenever they arise as they possess the capability to re-train a certain percentage of the workforce in that emerging technology or skillset. Likewise, employees can take initiatives to re-skill themselves through a learning

and talent transformation platform and be ready to take advantage of opportunities as and when they arise. By adopting this process, companies can create a level of organizational resilience which will assist them navigate the waves of technological change and uncertainty that will no doubt occur throughout the fourth industrial revolution, whilst simultaneously protecting against the downside risk of expected skills shortages in the job market.



VII. Re-skilling is an Enterprise Imperative: Creating an Effective Training Toolbox



"The real power of interactive technologies is that they let us learn in ways that aren't otherwise possible or practical."

- David Lassner

Once a decision is made to adopt a strategy of workforce re-skilling to meet the growth demand of clients, it is imperative for companies to select an appropriate training provider, partner or platform to optimize an employee's chances of moving into a H2 or H3 skillset. We believe that the best way to remain ahead of the skillset curve is to invest in a next generation talent transformation platform that provides market-leading content in a form that effectively and efficiently re-trains existing talent with desired skillsets.

By adopting this approach, companies can

retain existing knowledge, experience and lessons learnt whilst also transitioning their skillset from H1 to H2, or H2 to H3. This has the added benefit of having a multi-skilled workforce made up of "experts-generalists" who together understand the interaction between the skillsets of the past, present and future, whilst also holding specialist skills in one area of demand.

By seriously investing in a learning platform with the capabilities mentioned below, companies can create an organic work culture and growth environment where curiosity is fostered and skill

development occurs through continuous learning, holistic collaboration and healthy competition. Indeed, providing such learning capabilities is fast becoming one of the key factors that employees look for when evaluating and selecting their employer of choice. To put it simply, by focusing on employee development and investing in a next generation talent transformation platform: people keep their jobs, companies keep institutional knowledge, and both are better prepared to exploit the opportunities of the fourth industrial revolution. This value cannot be underestimated.

1. Determinative Learning

Learning courses and content must be centered around conceptual and practical aspects of technology to ensure a thorough understanding of the fundamental building blocks before progressing to the next stage. When building such content, organizations should look for platforms that include extensive hands-on learning to aid the intelligent application of concepts in real world scenarios. Courses should also be directly linked to real-time, role-based offerings or projects within an organization to show a learner exactly how and where their upgraded skillset will be beneficial to the organization. In addition, the platform should also offer courses on professional skills to help students navigate the art of effective contextual response, interpersonal relationships, communication and email etiquette, among others.

2. Flexibility & Convenience

Any best-in-class learning platform must provide a learner with seamless access to the learning of their choice at anytime, anywhere and on any device. Today, this means content must be available from mobile-backed solutions where learning can be on-the-move and available regardless of Internet connection (that is online and offline availability). Learners now demand the ability to conduct a “bird’s-eye-view” or “try-before-you-buy” on topics that they may be interested in before choosing to invest their time and delve deeper into content, and actually building sustainable knowledge.

3. Personalization and Engagement

Everyone learns differently, so a best-of-breed learning platform should incorporate a learning style assessment and strive to tailor all learning around each user’s preferred style of learning. Additionally, learners must remain consistently engaged throughout the learning journey. This means using different forms of content to

provide opportunities for compounding learning in different forms. For example, a mixture of podcasts, text, reading, videos, practical tasks, questionnaires amongst others should be variably used throughout to retain a learner’s engagement. Other functionalities to assist a learner retain engagement include:

- ‘Goal Setting’ to achieve learning fitness (these can also be set by managers for their team members and track their progress)
- ‘Effectiveness & Time Spent’ is a measure of the amount of time spent on learning initiatives compared against an organization’s average. It may also track how long much course is left to be covered until different levels of proficiency (average, competent, senior, expert) are attained

- ‘Learning History’ feature which presents learners with the list of courses that they have commenced or shown interest in, and spurs them to complete them.

4. Content, Content, Content

Learners will not use a platform that does not have useable, digestible and productive content that allows them to actually upskill by the end of a course. Therefore, a good learning platform must engage learners with a curated library of best in-class content, usability, resources and teachers. The platform must have the capability to seamlessly integrate with an organization’s internal enterprise content or external third-party content. Learners are then recommended content in a format that best suits their personalized learning requirements such as PDFs, podcasts, rich HTML, interactive labs, questionnaires and



other content formats. Learners can also choose to learn bite-sized micro modules or dive deep into macro learning modules.

5. Connection Through Collaboration

Traditional classrooms provide opportunity for students to connect, debate and collaborate about the content taught in a classroom environment. Subject to a student's learning style, most learners no longer want to learn in an isolated environment when they are learning online or through digital means. This means any sophisticated learning platform must provide students with an opportunity to interact with their peers on topics of common interest. Similarly, students should have the capability to interact with experts in their field of study to get a better understanding of a specific topic or complicated issue.

6. Competition & Gamification = Motivation

Learners must be able to augment their competencies by competing against their

peers through various competition-based models that provide a ranking against their peers. Examples include technology playgrounds, leader scoreboards, customized (student set) assessments, timed challenges, problem-solving-based games, coding contests and hackathons, and other similar interactive medium. Fueled by gamification theory, learners should be able to win cool badges, formal employer-branded certification, and monetary products from an organization's in-house store by earning points after completing courses and topping learning leaderboard scoreboards.

7. Strategic Analysis and Insights

It is essential for a learning platform to provide an organization's leaders with deep analytics that can assist in driving impactful learning initiatives, tracking employee engagement with upskilling, and also keep a check on the overarching learning trends of the organization. This functionality will also assist leaders allocate appropriate

percentages of human capital towards H2 and H3 skills that will be needed in the near or distant future. Through extensive activity tracking, reports and personalized dashboards, managers and leaders can develop and manage talent productivity.

8. A Platform Must Itself Be 'Curious'

Any modern, best-of-breed learning platform should continuously evolve alongside the needs of both the learner and the organization. This is an imperative. The rate of technological change is such that the platform and technology underpinning it must also evolve to ensure it becomes fundamental to upskilling initiatives. Therefore, a true next generation learning platform should be able to:

- Recommend and provide access to new and market-leading technologies
- Give organizations an organizational change management capability
- Showcase the same curiosity that employees themselves require to upskill



VIII. Implementing Three 'Rs' – Redefine, Redesign & Refine

Organizations must be aware that implementing a next generation talent transformation platform is not the end of the learning journey. They must continuously look at their internal learning culture and top-down priorities to see whether the upskilling processes can be effectively maintained over the long-term. This is essential otherwise any investment in upskilling employees may not fetch the desired results.

1. Redefine

Leaders must define what it means to learn. No longer can employees be isolated in specialist roles where they only practice one skillset. The agile way of working must be adopted to ensure employees with diverse skillsets are learning from each other in diverse and multi-functional

teams. Likewise, the level of support that an organization gives to its employees for upskilling must be redefined. For example, weekly learning targets (such as 5 hours per week) or performance-based evaluations which evaluate an employee's competence at a new skillset, should be linked to bonuses or other incentive structures.

2. Redesign

Organizations must redesign the entire learning journey of their employees. Employees should, from the time of induction, embark on a learning journey that allows them to confidently build skillsets in the H2 and H3 categories. Any learning platform cannot exist for the sake of it. It must redesign its content offering to ensure users will actually upskill

themselves after completing the courses. This means testing learners in a practical environment to ensure the course is achieving the level of upskill required for operational competence.

3. Refine

Both the organization and its employees must embark on a continuous journey of refinement. This means feedback and data must be collected (either formally or informally) from all courses, learning products, initiatives and outcomes of the organization. Successfully implementing ongoing refinement is the only way an organization can ensure its learning culture and journey survive the numerous changes that the fourth industrial revolution (and beyond) will bring.



IX. Conclusion

In summary, organizations can leverage both the Internet and education to upskill their employees. If implemented correctly, this upskilling can be a key enabler for driving the data, digital, and technology growth of a company through the entire digital transformation journey. Upskilling also allows employees secure their own personal future and relevance within an organization. While employees must own their own upskilling experience by investing appropriate time and effort which is necessary to acquire the knowledge and new skills required to be competent in a new role, leaders also must invest in the appropriate toolbox to allow this to happen. This means leaders committing to not leaving anyone behind, and to making investments in a next generation talent transformation platform that will provide the backbone of an organization's lifelong learning for the 21st century workplace. This is not a one-stop solution, but rather a continuous effort that companies must address now to set the foundations for a prosperous future.



"There are two equalizers in life: the internet and education."

- **John Chambers** (ex CEO and Chairman of Cisco)

References

¹ <https://www.gartner.com/technology/media-products/pdf.jsp?g=Infosys-1-6CYY5QG>

² https://www.oecd-ilibrary.org/education/skills-matter_9789264258051-en

³ <https://guthriejensen.com/blog/skills-future-2020-infographic/>

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