Future of Workforce- Aligning People and Machines

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Abstract: *We are living through a fundamental transformation in the way we work. Automation and 'thinking machines' are replacing human tasks and jobs, and changing the skills that organisations are looking for in their people. These momentous changes raise huge organisational, talent and HR challenges, at a time when business leaders are already wrestling with unprecedented risks, disruption and political and societal change.*
The emergence of incredible new techniques such as automation, robotics and the emerging development of Artificial Intelligence (AI) has caused optimism and concern across the world in equal measure. Plenty of academics and industry analysts predict ruthlessly swift and sizeable job takeovers by technology, to the tune of as much as 25% of all current jobs. Others predict that the integration of said technology will be much more harmonious, creating new jobs and opportunities even as a widening range of tasks are absorbed by machines.
Appropriate Workforce planning needs to be done by considering the need and preparing strategies for preparing future ready workforce to work in companies, regarding updating and adapting established work patterns and processes all need to be taken into account when building a future workforce. While all the technological trends previously outlined offer enticing possibilities in terms of operational cost savings as they replace jobs and improve efficiency, the truly exciting element of their potential lies in inspiring a change in business attitudes and empowering employees to achieve more in their revitalised and reimagined roles.
This research article studies the need for strategic workforce planning which can help organisations to adapt to changing technology.

Key words: Technology, workforce planning, HR Challenges, leadership.

I. Introduction

Emerging technologies are beginning to embed in various sectors as early adopters demonstrate their ability to fundamentally alter operational structures and processes. Currently, the majority of companies find themselves right in the middle of this vital but complicated technological shift. 31% of participants in the 2017 Deloitte Global Human Capital Trends survey said that they are in the process of implementing AI and robotics, while 34% are piloting these technologies in a much more limited fashion. Only 10%said that they are either fully automated or highly advanced in this area, so there is still a lot of change to come as companies wrap their heads around the possibilities and how best to leverage them.
In the midst of such monumental change, both employers and employees need to face the reality of their situation and accept that they must adapt with the times or become, at best, outpaced and at worst, irrelevant. Considerations regarding skills, training, qualifications, embracing and integrating technology, updating and adapting established work patterns and processes all need to be taken into account when building a future workforce. While all the technological trends previously outlined offer enticing possibilities in terms of operational cost savings as they replace jobs and improve efficiency, the truly exciting element of their potential lies in inspiring a change in business attitudes and empowering employees to achieve more in their revitalised and reimagined roles.
While predictions vary wildly, both sides of this Digital Age argument can agree that technology is already disrupting the world of work and will continue to do so more emphatically and tangibly in the coming years. Similarly, they agree that this level of impactful change brings with it risk and opportunity: two sides of the same coin that both need to be acknowledged and understood by businesses hoping to properly prepare for the future of the workforce.
The development of automation enabled by technologies including robotics and artificial intelligence brings the promise of higher productivity (and with productivity, economic growth), increased efficiencies, safety, and convenience. But these technologies also raise difficult questions about the broader impact of automation on jobs, skills, wages, and the nature of work itself. Many activities that workers carry out today have the potential to be automated. At the same time, job-matching sites such as LinkedIn and Monster are changing and expanding the way individuals look for work and companies identify and recruit talent. Independent workers are increasingly choosing to offer their services on digital platforms including Upwork, Uber, and Etsy and, in the process, challenging conventional ideas about how and where work is undertaken.

II. Objective and Research Methodology

The objective of the study is to understand the impact of Technology on Future Workforce and what HR needs to do to align the skills of People (employees) to machine technology used by organisations.

The research methodology is the study of secondary published data published by organisations for aligning their workforce in the technical era.

The Technologies Impacting the Work:

Technology is always an important topic and trend in every part of business and HR is also not far behind. Today many organizations are looking for metrics or analytics in HR which are related to workforce planning and its processes such as recruitment, retention, compensation, succession planning, benefits, training & development, performance and appraisal and many others. In short future of workforce awareness is becoming more popular these days as companies are doing lot of efforts to cultivate and align HCM with core business objectives in order to achieve a competitive advantage by using the following Technological tools in workforce management:

III. Robotics

While robots have been playing an integral role in the likes of the automotive industry for years now, the advent of more versatile, portable and affordable robotics has led to a far greater widening of the technology's opportunities for deployment. From picking out orders in warehouses to accurately sorting and preparing prescription medicines in the pharmaceutical industry, companies are finding more widespread and sophisticated uses for robotics in their operational processes.4 The industrial robotics market is predicted to be worth almost $73 billion by 2023, with a CAGR of 9.6%, underlining the swiftness and scale of the technology's implementation growth

IV. Automation

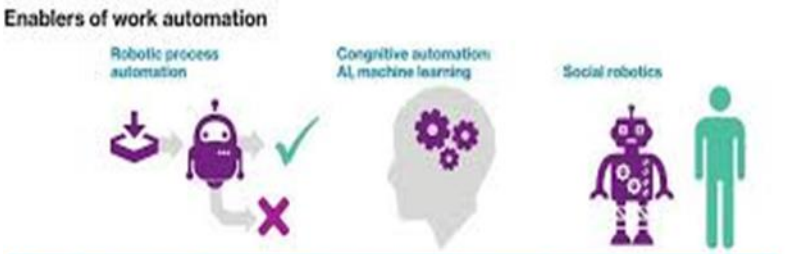
The trend of automating jobs or parts of jobs extends beyond the work of physical, mechanical robots, to encompass the use of automation software that is already revolutionising the working processes and outcomes of dozens of industries. As volumes of collected data expand exponentially, using humans to manually check and analyse such vast data sets is becoming a wholly untenable approach. Instead, automation programmes empowered by the principles of machine learning can absorb and analyse thousands or even millions of records and transactions within a fraction of the time that it would take a dedicated team of skilled humans.

This capability makes automation a must-implement innovation for practically any organisation that owns a lot of data but doesn't have the proper capacity to process or make sense of it. Automated robots will never tire, they will never make mistakes (their only flaws are those inherent in their programming) and they can achieve a level of efficiency that humans simply cannot contend with. The inherent value of this capability is represented by the explosive predicted growth of the automation-as-aservice market from $1.80 billion in 2017 to $6.23 billion by 2022, at a CAGR of 28.1%. Furthermore, by eliminating the mundane, repetitive data-based tasks, automation frees up human employees to do more meaningful, creative and insightful work. This may take the form of customer-facing roles, more strategic oversight and planning tasks, or entirely new and creative directions, as befits their individual skillsets.

V. AI – Artificial Intelligence

While developments like current machine learning-based automation programmes demonstrate the first spark of artificial intelligence capabilities, achieving true AI is the end game. Current AI innovations take many forms and enjoy significantly different levels of market success from provider to provider. Already, limited successes are occurring with increasingly sophisticated AI chatbots in areas like HR, utilities, customer support and insurance. There are also plenty of companies looking to add a little more "sci-fi style" to their AI innovations, such as major hotel chains implementing AI concierges who are programmed in a way that displays a believable facsimile of human charm and warmth. While achieving true AI may be a distant or non-existent outcome, companies need to acknowledge the current capabilities of this nascent technology and assess whether it can be applied to their own operational setup. Staying informed and (if appropriate) involved in the development of AI will present organisations with the chance to achieve revolutionary new capabilities and offerings, or at least anticipate AI's impact on their business climate.

Figure 1. Enablers of work automation



Tasks	Routine, high-volume	Nonroutine, creative	Routine, collaborative
Maturity	High	Emerging	Medium
Impact	Medium	High	High

Source: Willis Towers Watson

New Skill Creation

Employees are aware that technology is changing the workplace, and most are eager to master new technical skills. Leaders should ensure that any new technology is user-friendly and matches the company culture. For example, workers who travel frequently and rely on their mobile phones are more likely to benefit from an app than software that must be used on a desktop computer.

When it comes to the cognitive technologies that leverage AI that are currently available in the market, their main impact so far has been to augment existing job functions, not to eliminate workers. The machines or systems that can reason, learn, and interact naturally with people will likely continue to eliminate repetitive tasks, help the workforce to do their jobs better and faster, and free up time for more interesting tasks.

For most workforces, cognitive technologies will likely enable them to move into new and more rewarding roles. Therefore most organizations and their employees are likely to experience positive effects from the AI-based technology and automation.

Workers who have no technical skills may struggle to adapt to workplaces that increasingly rely on digital or technical tools. Thus some new skill creation needs to be designed as follows:

Study the changing Automation:

Automation and AI are paradigm-shifting innovations that will impact practically every major industry worldwide. This is an issue that cannot be ignored, side-lined or approached in a piecemeal manner. It is a necessity for any company to achieve a sufficiently deep understanding of how automation and AI will affect their industry and their place within it. Then, a comprehensive adoption strategy that involves all departments and stakeholders needs to be discussed, formulated, delivered and continually revisited in light of further technological developments.

Encourage the transition:

While many employers and employees are anxious about the future, more than twice as many of them appear to be excited by the new vista of opportunities that is opening up. For Leadership positions, it's essential to highlight the positive and exciting aspects of embracing technological innovations. The prospect of working for an organisation that gives its employees the tools and working environment to carry out meaningful, engaging and enjoyable roles is a concept that should be understood and promoted as widely as possible.

Adjust leadership style to embrace digital:

Making the transition to incorporate such radical change will not be easy for most organisations. While senior leadership buy-in is essential to the success of such an endeavour, it's equally important to ensure that the right skills and attitudes towards future innovations are instilled across the entire company. Every leader should be a digital leader, every function should be actively involved in the process of change.

Prepare for more volatility:

Change makes waves, and bigger changes make for even larger waves. If Digital Age technologies are to have the kind of impact on the world of work that is currently predicted, then companies across all industries can expect to encounter an increasingly turbulent business climate and must view resilience a higher strategic priority.

Develop technical skillsets:

Digital technologies will touch on every element of the future workforce, meaning that early and significant investment in developing technical skills will pay off. Established employees are willing to make the adjustment too: 95% of people globally believe that they need new skills to stay relevant at work, and 85% would invest free time in order to learn the right skills needed to do so.

Better utilise "human touch" tasks:

While robotics and automation are developing at pace and already enjoying marked success across various global industries and regions, AI remains a more tentative prospect. Achieving true AI may still be many years or decades away, if it's even possible at all. In fact, 73% of participants of a recent PwC survey believe that technology will never be able to replace the human mind.

Therefore, companies will have to make the most effective use of their human workforce's capabilities that are as yet unmatched by machines. Job roles that require innate creativity, the application of ethical thinking, empathy, inference and other intuitive interactions will still require the power of the human mind, which must be utilised by employers in the most effective and intelligent manner.

Radically rethink job roles:
As digital technologies continue to be refined and demonstrate their growing capabilities, the onus will fall on employers to think beyond what jobs machines will fully or partially take over, and look towards the point where humanity and technology meet. To get the best out of emerging technology, employers must think in a radically different manner when designing how their human employees can best utilise the incredible tools at their disposal.

Creating an Empowered and Augmented Workforce of Future:
Digitisation has already made a massive and undeniable impact on the workforce and there's a lot more change to come. The very concept of work is being redefined as employees adjust to a rapidly changing technological landscape. However, only those working for proactive, decisive and responsible organisations are reaping the benefits of this wave of new technology.
Organisations that can comprehend the possibilities offered by innovations like automation,
AI and robotics are ideally suited to leverage them for the creation of a workforce that is more efficient, focused, resilient and capable than ever before. While machines take on the
heavy carrying work of data entry, collection and analysis tasks, not to mention repetitive physical tasks, human employees are able to concentrate on directing their innate creativity
and cognitive abilities towards the more subtle and strategic tasks that will propel the organisation onwards. With the right digital tools at their disposal, and the freedom to apply
themselves without the traditional obstacles of a restrictive and non-innovate workplace, they will become the "augmented workforce" of the future. The successful creation of this workforce will separate the pioneers and industry leaders of the Digital Age from the imitators.

VI. Case Example

1. Workforce Planning:
Dow Chemical has evolved its workforce planning over the past decade, mining historical data on its 40,000 employees to forecasts promotion rates, internal transfers, and overall labor availability. Dow uses a custom modeling tool to segment the workforce and calculates future head count by segment and level for each business unit. These detailed predictions are aggregated to yield a workforce projection for the entire company. Dow can engage in "what if" scenario planning, altering assumptions on internal variables such as staff promotions or external variables such as political and legal considerations.
2. Global training with local experts
Essilor International, a global maker of ophthalmic lenses, created an internal training program that mixes in-person and Web 2.0 formats to transmit best practices among 102 sites in 40 countries. The company says that a mastery level that once took three years to achieve can now be reached in about one. A lens-processing center in Thailand, for example, developed a game to teach new workers how to understand the shape of a given kind of lens; now it's used in Brazil too. A social-network feature enables coaching across multinational locations. The system is called "Entangled Talents" because the company said "the talents of individual employees across the globe have become entangled, creating a web that supports the company's daily operations."

VII. Conclusion

People are vital to the success of any company. For policy makers, business leaders, and workers themselves, these shifts create considerable uncertainty, alongside the potential benefits. This briefing note aims to provide a fact base on the multiple trends and forces buffeting the world of work drawing on recent research by the McKinsey Global Institute and others. There's no doubt that any business which can attract the right competencies, manage talent effectively, utilize capacity efficiently, and retain employees is setting itself up for long-term success.
HR departments are generating more data than ever before but at the same time they often struggle to turn their data into valuable insights. Based on the work companies all over the globe it has identified some of the most important analytics managers can use to better understated the people-related side of their business.

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