THE FUTURE OF THE WORKFORCE:

HOW INDUSTRY 4.0 WILL AFFECT THE FUTURE OF THE WORKFORCE

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WHAT IS INDUSTRY 4.0?

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We are living in a world of unprecedented technological advancement. The speed and complexity with which technology is evolving is affecting every aspect of how we live work and play. Industry 4.0 as a concept was first coined by the German government as a way to describe this new technology driven world. It is often also referred to as the fourth industrial revolution due to its impact on business and the work environment.

Throughout history technology has evolved to make businesses more efficient and optimise production. The first industrial revolution was driven by steam power, the second industrial revolution was characterised by electricity, mass production and the assembly line, while the third industrial revolution was the introduction of computing and automation.

The fourth industrial revolution is characterised by completely connected cyber-physical systems, where a network of devices monitors, tracks and regulates all activity to create an efficient and optimised work environment.

Industry 4.0 is about the increased usage of data and automation in a variety of business contexts, and is generally supported by cloud computing, digital devices, the IoT, augmented reality, data analysis, and cognitive computing.
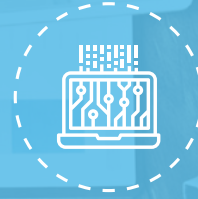
Decentralisation – as technology moves into the cloud businesses don't need a large centralised IT infrastructure. Remote workers and satellite offices can easily connect to communicate and share data.

Service-orientation – with the democratisation of technology companies are looking for other ways to differentiate themselves. An increased focus on the serving the customer is augmented by greater capabilities around segmentation, consumer analysis, personalisation, and engagement.

Real-Time – connected devices can monitor and track all aspects of the business, feeding back information that can be reviewed and analysed in real time.

Virtualisation – increasing numbers of products and services are becoming 'virtual' as companies move in to the online 'as a service' space. Streaming services are replacing physical media, Software as a service is replacing legacy IT infrastructure and public facing brick-and-mortar locations are becoming increasingly redundant across a number of industries.

Information is available in real time, communication is always-on always-available, and tasks and processes are increasingly optimised and automated. This has created a fundamental shift in business operations and workforce dynamics and is causing significant disruption in the workplace as companies must adjust to new ways of doing business.
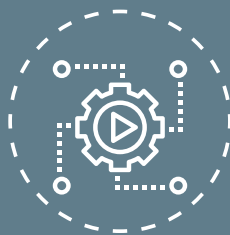
With technology becoming increasingly advanced, and major progress being made in automation and artificial intelligence, many people are worried that machines and computers will replace them in the workplace.

But while it is possible that automation will reduce the number of jobs available, it is just as likely that it will create more jobs than it destroys. As machines learn to run themselves, middle-skilled jobs may disappear, but more jobs will be created in both higher-skilled and lower-skilled areas. Rather than destroying the job market, technology will simply transform it.

THE CHANGING NATURE OF THE WORKFORCE

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While industry 4.0 is a significant driver in workforce change, other factors are also influencing workplace transformation. These include changing demographics, new technology such as automation and AI, emerging skill sets, and evolving employment models.

As the workplace changes, a new social contract will emerge with workers. Companies must work pro-actively to shape and mould this social contract so that it is beneficial to both the employees and the organisation.

In this period of rapid change, it is important to engage with the workforce or risk alienating it. By bringing in labour organisations and governmental bodies to help develop new workforce strategies it is possible to redesign the workplace to fit the new digital reality.

TRANSFORMATION DRIVERS: CHANGING DEMOGRAPHICS

Millennials are projected to occupy more than two thirds of the workforce by 2025. As demographics shift, millennials are making up an increasing portion of the workforce. This means that companies have more young employees coming in with new ideas, values, and perspectives around employment and the workplace.

It is important for companies to understand and adjust to this new generation to get the best out of their employees.

Generally speaking, millennials are less concerned with job security and structure and are more interested in employability and flexibility.

There is also an increase among millennials of serial-careers, rather than working their way up a corporate ladder they will jump around between different jobs, picking up new skills and expertise, with no clearly defined strategy or path.

On the other hand, millennials have a more collaborative mindset and appreciate flat structures where they have a mentor rather than a boss. They also appreciate a flexible workplace including the option to work from home, to shift their hours or to leave the office when their work is completed.

The workplace therefore needs to adjust to these new expectations. Encouraging a more flat and collaborative structure which encourages learning and skill development will go a long way in retaining millennial talent and keeping them engaged.
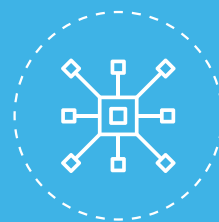
TRANSFORMATION DRIVERS: AUTOMATION AND AI

Automation and AI have the potential to create extensive optimisation in the workforce.

Humans and machines will work together to create differentiated services and products for the business.

It is important for companies to be deliberate about how this technology is introduced into the workplace. While in the past new business technology was mostly the concern of IT, automation and AI will cut through every aspect of a company.

Companies will also have to rethink about how they organise and distribute work. Demand for certain skills will change with increasing levels of automation, and people must increasingly interact with smarter machines. While this will result in higher productivity and improved corporate performance, it will also require a number of changes from the workforce in terms of skills and competencies.

TRANSFORMATION DRIVERS: SKILLS

The workforce of the future requires not only new skills but also a new approach to skills, with upskilling and lifelong learning becoming essential if companies want to remain relevant and keep up with fast pace of technology change.

A skills shift will always follow the introduction of new technology in the workplace. As AI, machine learning, and automation becomes more advanced a range of basic cognitive, physical, and manual skills will no longer be needed, as technology driven systems take these tasks over. The knowledge needed for human workers to avoid being substituted for mechanical workers will also become increasingly specialised.

Works will therefore need to deepen their existing skillset or acquire new skills. Two of the most important areas where skills will be needed include:

Technological skills - as the technology becomes more advanced and complex, businesses will need to take a continuous learning approach to keep up with it. This will be seen most starkly in advanced IT and programming skills.

Cognitive skills - there will be an increased need for so called 'soft skills' these include the social and emotional skills that cannot be replaced or automated by the technology. This includes higher cognitive skills such as creativity, critical thinking, decision making, and complex information processing as well as interpersonal skills such as advanced leadership, negotiation, sales, management, and adaptability.

The act of skilling and reskilling however is also becoming easier. Online courses, tutorials and training material have made it easier than ever for people to learn just about any new skill at any time from anywhere. People also have more control over what they can learn and barriers to access around learning and training are reduced. Employees are therefore demanding access to dynamic learning opportunities that fit their individual needs and schedule. This is enabling them to constantly learn and share knowledge.

HOW TO RESKILL

Prioritise which skills need development – the skills and training that a company will need depends on a number of factors including the size of the company, the sector, and the existing levels of skill within the organisation

Reskill from the top – the management and executive teams are not exempt from learning new digital skills, they must take the lead in embracing new technology

Build on what you have – identify which skills are already established within the organisation and work to close any gaps where skills are lacking.

Create a change mindset – the company must have a mindset of continuous growth and learning to keep pace with rapidly changing technology

TRANSFORMATION DRIVERS: CONTINGENT WORKERS

In the new technological driven workplace there is a trend towards increased freelance, contract, and project based, contingent workers.

In the past work was a place where you go, but now work can be somewhere we connect to. The idea of set work hours or a set work location are becoming less rigid and defined.

Because of this both companies and employees will have to reconsider how they approach career paths, full time employment and job security.

For many people one key aspect of a job is security, in the new workforce where there is increased freelancing, job hopping, project based work, and serial careers, the sense of security that a job provides is often missing.

This could potentially cause problems in motivation, moral, and focus for the workforce. On the other hand, it makes the workforce more competitive, more engaged in what they are doing and less bored or complacent in their tasks. Companies must therefore look at ways of mitigating the stress induced by this lack of security while maximising the productivity of the workforce to create a balance between engaging and unstable work environments.

FINDING THE SKILLS FOR INDUSTRY 4.0

To deal with the changes that industry 4.0 will bring to the workplace, businesses will have to find new talent pools, and take new approaches to recruiting and growing talent. The need for new skills means that companies need to rethink how they build their talent pipeline.

Some of the key ways to source new talent include:

Upskilling - Tap into the current workforce, and use upskilling and reskilling to create the skills needed in the organisation.

Partnerships – By building partnerships and sourcing help and technical skills from partnering companies it is possible to gain more specific an niche skills that re not widely available

Freelancers – Creating a network of freelance talent will provide skills as needed on a project by project basis, it also widens the potential talent pool as freelancers can often work remotely and are not constrained by location.

Crowdsource – by crowdsourcing solutions or setting open challenges or competitions to solve specific business problems it is possible to create a broader community and build collaborative solutions.

In addition to these strategies companies must also work to build a skilled talent pool for the future. This may involve encouraging national and cross border programs to develop skills or uniting industry groups to encourage training and development. Companies scan also collaborate with learning institutions to build taking and development programs that are in line with their future talent needs.

THE WORKPLACE OF THE FUTURE

Companies must also consider what the workplace of the future will look like. Workspaces will change as the model for how people work changes. A more flexible, intelligent and collaborative workspace is likely to emerge.

The new workforce will expect a mobile work environment. The always-on, always-available nature of digital technology means that workers can sign in from anywhere. By combining virtual and physical environments it is possible to build dynamic teams where location is no longer a barrier.

This will affect both what the workspace looks like and how it is used. Office hours will become less rigid as employees can work from anywhere, and the mobile nature of devices makes assigned workspaces less necessary. Instead many companies will move towards different types of work 'zones' specifically designed for different types of work, e.g. break-away rooms for team work and brainstorming vs dedicated quiet areas for focused individual work.

One of the key influences industry 4.0 will have on the workplace of the future is the increased collaboration between humans and machines. Robotics and cognitive technology are creating a world where many employees will work and collaborate with technological components and thinking machines on a daily basis. It will be important to not only train employees to use these technologies, but to work alongside them and see them not as a threat but as a tool to help them do their job better.

Finally it is important to use the workspace as a way to improve employee experience and productivity. I eh new gig economy where employees don't stay with companies as long, a compelling and flexible workplace can create an increased sense of loyalty in employees and help with retention and sourcing of talent.

HOW TO APPROACH WORKFORCE TRANSFORMATION

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There are three key areas that will assist with workforce transformation as a company makes a digital transformation.
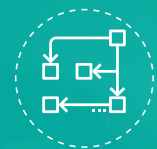
5.1 Company priorities

It is important for a company to look at its priorities when implementing large scale digital transformation. It needs to know what it is trying to achieve, and where everything is in place to make that a reality.

Strategy – consider whether the company has a clear strategy around workforce transformation. This strategy should not only accurately define the purpose and value of the organisation but also make sure the necessary organisational structures and capabilities are in place for the future.

Organisational design – the company must design and implement the business structure as set out in the strategy. This includes ensuring that all the needed skills and capabilities are in place and working optimally.

Process – the company must look at using new digital technology to simplify, standardise, and automate business processes while training and empowering process owners across key business units. This must be done in alignment with organisational goals to ensure efficient and optimised processes.

IT IS IMPORTANT FOR A COMPANY TO LOOK AT ITS PRIORITIES WHEN IMPLEMENTING LARGE SCALE DIGITAL TRANSFORMATION.

Company Culture

To create a productive and sustainable working environment it is important to address the overall company culture. Technical skills will not be sufficient by themselves, many problems will be solved by teamwork and collaboration.

Leadership – company leadership will be essential in building the workforce of the future. The ability to embrace change and take a digital approach will need to come from the top if the company is going to see successful transformation.

Mindset – an authentic and engaged workforce will provide the best possible outcomes. They should also have a collaborate approach to working with technology and each other, and value creativity and problem solving.

Skills - The workforce should value the idea of lifelong learning, with a willingness to grow and acquire new skills. Teams should also have complimentary skills with each member having a combination of broad and deep knowledge on different topics and areas.

HUMAN-TECH CO-OPERATION

As more digital tools and processes are introduced into the work environment employees will increasingly have to learn to work alongside technology. This includes not only optimising usage of digital devices, but also collaborating and co-operating with increasingly smart cognitive technologies such as Ai and machine learning.

Technology experience – employees must be digitally savvy and technologically experienced. It is important to not only use the technology well but also be able to evaluate the various types of technology that are available and see how they are influencing workforce communication, engagement, and productivity.

Technology leveraging – employees must be able to harness technology so that it is used optimally making certain technology enables core, common, and consistent process.

Technology co-operation - A workforce that can successfully adopt automation and AI will be a major asset to a company. workers should be co-operating with technology not just using it.

CONCLUSION: PLAN FOR CHANGE

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You can't plan for a static future, you can only plan for change. Companies need to develop a keen insight for what is coming and plan for multiple emerging visions for the future.

Understand how different futures will have different requirements for the workforce development and build a cooperative and collaborative environment that is both flexible and task based.

The workforce of the future will be both digital and human. Companies must prioritise not only knowledge but a willingness to grow and learn new skills as employees will have to continuously adapt to technology that is constantly changing and evolving.

Companies need to redesign traditional 'one-size-fits-all' HR programmes and policies to deliver on new learning and development models, career paths, capability models and the design of jobs and compensation frameworks.

Start a conversation with your workforce and be open about what is coming, what they can expect, and what is expected of them. Most importantly protect people not jobs and nurture agility, adaptability and reskilling.

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