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## **"As Work In Organisations Becomes Increasingly Automated and Digested, Are Human Workers Still Relevant?"**

### ***Introduction:***

The current period we are living in is referred to as the Fourth Industrial Revolution. We have moved into a world where technology is relied on for the smooth running of society. For example, "Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate. Something interesting is happening." (*Goodwin, 2015*)

The concept of the computer was invented in 1822 by Charles Babbage, however, the first personal computer wasn't released until 1971 (*Javatpoint, n.d*). Since then, we have seen major advancements in the technological world that exceed anything believed 40 or 50 years ago. These changes have caused many to question the value that humans have and whether technology has escaped our control.

In this report we will look at a variety of workforces, discussing different organisations and reflecting on the author's own company to understand and answer the all-important question; are human workers still relevant?

### ***Overview of Organisational Behaviours:***

The first Industrial Revolution in the 20<sup>th</sup> century saw the introduction of bureaucracy into the workplace. Defined as "Official aspects of an organisation, such as the hierarchical structure, rules procedures and paperwork which allow control to be exerted over the whole organisation" (*King, D. and Lawley, S., Pg 28*), bureaucracy saw the rise of formality and structure within organisations. This was a very rational approach to how workers were expected to carry out their day-to-day duties. Performance was prioritised over personal aspects.

An example of this structured layout is Ford and the assembly line (*King, D and Lawley, S. Pg 94-95*). Henry Ford physically placed tasks in front of his workforce in the order they needed to be completed in. Workers did not have to move from their spot, while the car parts moved throughout the factory floor. This allowed for Ford workers to become specialised in the task they were designated to, which, in turn, increased the efficiency and saw more cars being produced at a faster rate.

Many criticise this form of work, claiming it dehumanises the workforce, where maximum work is met with minimum motivation. These people favour the social organisation layout, where they believe that

social relations between people are a key factor in shaping how people act in organisations. This was highlighted in the Hawthorne studies.

The Hawthorne Studies was a series of studies that were carried out by Elton Mayo from 1924 into the late 1930s. These studies discovered that workers were motivated by social factors, such as group norms, communication and supervisory skills (*Elton Mayo, 1924*). The results led to many organisations applying a more human approach to management, putting workers' wants and needs over productivity and results.

#### A) Background of Automation and Artificial Intelligence:

Automation was first introduced to the workplace during the Third Industrial Revolution when computer technology helped to automate areas of office work and manufacturing (*King, D and Lawley, S. Pg 139*) During this period, we saw the beginning of Neo-Fordism. This relates to the fact that Ford continued with the assembly line, however flexibility was achieved through technology. Robots helped improve efficiency even further, which outperformed human workers.

Artificial intelligence has become a topic of discussion in recent years. More and more everyday tasks are being carried out through automation. A key example of this is Tesla. Today, Tesla Automation is recognised as one of the world's leaders in highly automated production lines (*Tesla, n.d*). With its key focus on sustainable energy, the electric car company states that "automation processes provide several advantages, including increased precision and consistency of parts produced, increased production speed and improved worker safety." The creation of the car relies on automation, from small features such as automatically unlocking when you approach the vehicle, to larger-scale features such as autopilot, which requires minimum driving from the user. Tesla is a prime example of how far we have come from the first industrial revolution and the extent of change made in the technological world.

#### B) The Human Point of View:

While these technological advancements are an incredible achievement, reservations can be made about the human workforce and the affect that these advances are having. As mentioned, Neo-Fordism (*King, D and Lawley, S. Pg 106*) provides organisations with the opportunity to replace human workers with robots. Many businesses are starting to make the switch after reviewing results from other companies, such as Ford. Instead of having workers use their specialised skills and work on the cars, assembly line workers monitor and operate machinery that carries the job at a faster rate.

In some areas of the world, robots have completely taken over humans. This is evidenced by Flippy, an advanced robotic system powered by AI and developed by Miso Robotics. Flippy has been designed to

operate continuously to meet demand while taking food from three different dispensers as required ([www.bcs.org](http://www.bcs.org), n.d.). However, many could argue that while robots provide efficiency and accuracy, they lack emotional intelligence. They are unable to sympathise or provide an emotional service that human workers can provide.

### ***Examples of Contemporary Organisations:***

When contemplating the question, "*As Work In Organisations Becomes Increasingly Automated and Digested, Are Human Workers Still Relevant?*" it is important to consider both sides. Within this section, two organisations are going to be explored, one company that has adopted AI, and another that wouldn't be able to survive if AI took over the workforce.

#### ***A) Case Study 1 – Amazon***

Amazon is known for their bureaucratic approach to their organisation. They are data-driven; their workers have performance reviews based on their metrics and records. In 2023 Amazon announced they were introducing robotic solutions to their warehouses. Posted on their blog, About Amazon, they announced that 750,000 robots worked collaboratively with their employees, taking on repetitive tasks and freeing employees up to better deliver to their customers (*About Amazon, 2023*).

Their most recent updates can be used as an example of Neo-Fordism. Amazon uses modern technology to take over human responsibilities such as picking and transferring goods around the warehouse. Workers are expected to stay at their 'power stations' while the robots bring and move goods for them. These advancements have seen a 25% reduction in time spent processing orders, allowing Amazon to improve their shipping predictability and increase the number of items they can offer for same-day or next-day shipping (*About Amazon, 2023*).

Another example of how they have used AI is through their Amazon Go high-street stores. While best known for being an e-commerce business, Amazon has opened a store based solely on technology (*Amazon, 2016*). Customers can scan an app to enter the store where they are then tracked by hundreds of cameras and sensors on shelves. These then link with computer systems to work out what items each customer has placed in their bag and add their bill, which is deducted from the card connected to their Amazon account. This new style of shopping could revolutionise the supermarket industry. Many stores such as Tesco and Morrisons are following Amazon's footsteps by expanding their self-checkout areas and reducing manned tills. This is a great example of how human workers are slowly being replaced within society.

While these advancements are admired by many, some have concerns about how these continued advancements are affecting employees. In October 2023 Amazon introduced Digit, a two-legged robot

that can grasp and lift items. Published in an article by The Guardian, Chief Technologist at Amazon Robotics, Tye Brady, claimed that “although it will render some jobs redundant – the deployment of robots would create new ones” (*The Guardian, 2023*). The value that human workers provide has decreased with the introduction of robots, however, he insists that people are central to the fulfilment process and that the introduction of these robots was to eliminate the mundane and repetitive tasks.

### B) Case Study 2 – The NHS:

The NHS is a large organisation made up of a multitude of departments. Some areas of the NHS have turned to automation, however, for several reasons, this government-run corporation wouldn't be able to survive just by using AI. Before reviewing why it will be a few years before robots can replace doctors and nurses, it is important to look at what elements of the NHS are currently run by automation and why this can benefit us as users and also the staff that work there.

Many know that patience and staff experiences aren't always the best. A majority of patients are filled with anxiety from the first step, the 8 AM call to book an appointment. Reception staff are viewed as gatekeepers of GP appointments, despite only following company policies and handling the strain that's placed on the NHS. These interactions set the tone for the patient's health journey. The public has called on the government to improve the accessibility of doctors' appointments.

According to the NHS Providers blog, several automation and digital workforce have been introduced to help alleviate the issues. 'Intelligent automation has enabled healthcare organisations to navigate around outdated operating models and increase transparency and engagement through digital services' (*NHS Providers blog, n.d*) through this change, patients can receive online consultations, book their appointments through new computer systems, and the ability to chat with healthcare professionals through live chat functionalities. This allows patients the opportunity to speak directly with doctors, without having to repeat information.

While this has eased the opportunity to speak to a healthcare professional when needed, not everyone is happy about the changing systems. In 2021 there were over 11 million people aged 65 and over (*Office for National Statistics, 2023*) It's common for many people from the older generation to struggle with keeping up to date with the changing technological advancements. With many preferring their old-fashioned ways, the new updates could affect the number of old people who reach out for help with their health.

Automation and AI provide many opportunities such as analysing patient feedback, reviewing X-ray images, or carrying out complex and intricate operations. However, there are reservations about the accuracy of the information. For example, a machine could malfunction in the middle of the surgery, or

incorrectly diagnose an illness from an X-ray. In an instance where a cancer diagnosis has to be relayed to a patient, a robot wouldn't be able to provide the same sensitivity, sympathy or personable approach that a human would. The Health Foundation carried out a survey that found 21% of the public and 14% of NHS staff would like to see less AI in the healthcare future with their main concern being that healthcare was becoming more 'impersonal' with less human contact. (*The Healthcare Foundation, 2021*).

### ***AI and Automation in Education:***

It is interesting to consider how automation and AI could affect the education industry. Many external factors can affect the way an education provider organises their company. Advancements and innovation of new technology are external factors that education leaders have to monitor. We can use the PEST analysis (*Asana, 2024*) to review Technological factors such as Chat GPT and other AI writing sources, as well as other elements. We can use the author's organisation, Inspire Education Group (IEG) as an example of how education has had to adapt to automation and AI.

#### ***Inspire Education Group (IEG):***

Inspire Education Group runs similarly to a post-bureaucratic organisation with two sides, the teaching and the business. Post-bureaucracy moves away from traditional bureaucracy and towards a more fluid form which is more responsive to the contemporary environment (*King, D. and Lawley, S., Pg 28*). There is a level of hierarchy on both sides, with teaching including Head Of Faculty, Assistant Head of Faculty, tutors and student mentors. The other side of the organisation has dedicated staff members for specific skills, for example, finance, marketing and HR. Performance reviews are based on objectives set by senior staff, with specific targets needed to be met, for instance, marketing has the goal to achieve a set enrolment number and success is measured against this.

However, IEG's strategic objective provides a social element to the organisation. They put people at the centre of everything they do (*ANNUAL REPORT CONTENTS, 2022 - 2023*). IEG provide staff with the opportunity to access funding to do degrees and master's qualifications. Wellbeing is also a top priority with an established Mental Health and Wellbeing Committee which is responsible for staff support throughout the organisation. Inspire Education Group also has an annual staff survey, where senior members of staff review and amend how the organisation runs based on the feedback provided. For example, in a recent survey, staff felt upper management wasn't accessible enough, in response to this the CEO, Rachel Nicholls, now offers termly sit-downs where staff can book an appointment within a time frame to sit down and discuss concerns or considerations.

### A) AI Chatbots:

The introduction of AI chatbots, such as Chat GPT and Google's Gemini has caused concern for many within the education industry. Some view this new technological development as a useful tool that will help enhance the work students do, while others see it as a threat to originality, allowing students to cheat on their homework or exams ([www.educ.cam.ac.uk](http://www.educ.cam.ac.uk), n.d.).

For many, it provides the ability to put ideas into words, or prompt sentences for assignments. Dr Vaughan Connolly said, "The question is not whether to use ChatGPT in schools, but how to do so safely, effectively and appropriately" ([www.educ.cam.ac.uk](http://www.educ.cam.ac.uk), n.d.). While many say to ban Chat GPT from schools through firewalls and blocked websites, this doesn't prevent students from using the AI chatbots at home. *Education systems need to learn and understand how to effectively introduce these AI tools into the classroom.*

While the debate about AI chatbots continues, the software isn't risking the human workforce. It provides a large portion of the thinking power, however, the user's creativity and knowledge is needed to request answers. This new tool has meant that teachers have had to change how they check work, using software such as Turnitin, which provides educators with a percentage of how much work is authentically written, and how much has been provided by an AI chatbot.

### B) Virtual Reality:

Another example of AI making its way into the classroom is through Virtual Reality. In June 2023, IEG announced the installation of a Virtalis VR wall in Stamford College, making them one of the first Further Education providers in the UK to install such technology (*Stamford College, 2023*). The advanced tracking system and high-resolution projectors enable students to take a hands-on approach, expanding their learning possibilities and providing a deeper understanding of their chosen subject area. While this provides an exciting opportunity for IEG students, many consider the implications this could have on teaching staff.

This new way of learning means educators need to adapt how they deliver their lessons. They need to understand this new form of technology whilst continuing to provide a high level of education. This advancement in technology could look to take on a large portion of education from teachers. Rather than in-person demonstrations, students can learn from virtual demonstrations, which can cause a detachment from reality ([www.linkedin.com](http://www.linkedin.com). n.d.).

However, this form of learning isn't completely replacing teachers. Many further education teachers come from a long history in their respective industries. The knowledge and skills they have learnt from

experience are invaluable to the students. Learning from industry professionals and gaining an insight into life after college allows students to prepare for the real world.

**Conclusion:**

We can see that automation and AI have human-like capabilities, for example the car manufacturing industry. While Henry Ford helped to shape the Second Industrial Revolution with the introduction of the assembly line (*King, D and Lawley, S. Pg 94-95*), the Third Industrial Revolution saw machines take on jobs that were once manned by human workers. These robotic systems are capable of increasing efficiency and productivity, while humans are hired to monitor the machines, rather than carry out the tasks themselves.

Similarly to Ford, Amazon have introduced AI and automation into their warehouse, whereby staff are expected to stay in their "power stations" (*About Amazon, 2023*) while robots pick stock and travel across the warehouse to deliver the goods to workers, who will then pack the items and return the packages to 'Digit' who then lifts them into boxes, ready to be shipped. This has seen a 25% reduction in time spent processing orders, allowing Amazon to improve their shipping predictability and increase the number of items they can offer for same-day or next-day shipping.

While the warehouse and manufacturing industry may be at risk, other industries won't be fearing for their jobs for a while. One organisation that isn't worried is the NHS. This is evidenced by a survey carried out by The Healthcare Foundation, which found that 21% of the public and 14% of NHS staff would like to see less AI in the healthcare future with their main concern being that healthcare was becoming more 'impersonal' with less human contact. Human interaction still plays an important role.

To conclude this report is based on the question; "As Work In Organisations Becomes Increasingly Automated and Digested, Are Human Workers Still Relevant?" Technology continues to grow and advance at a rapid pace. Within today's environment, a changing workplace is inevitable. Constant improvements and innovative designs, such as AI and Automation, provide incredible opportunities. However, there is still a need for human relevance within the workplace. Trust needs to be built with AI machines, where zero malfunctions can be guaranteed. There is cause to believe that human workers will still play a role within some industries, specifically where human emotions are needed, such as counselling, education or healthcare. Despite the incredible technological advancements, there is still room for improvement.



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