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We Have Enough Neurotypical Thinkers Already: Why Accommodating and Developing a Neurodiverse Workforce is the Right Strategic Approach to Navigating the Fourth Industrial Revolution

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Abstract

With the development of advanced technologies such as Large Language Models (LLMs), 3D printing, the Internet of Things, blockchain technologies, advanced robotics, material ecology and driverless vehicles, the requirements from the workforce of the future will be significantly different from the workforce we have today. This paper explores the potential for organisations to proactively manage this problem by adopting an approach that accommodates a neurodiverse workforce more effectively. Placing the fourth industrial revolution and volatile, uncertain, complex, and ambiguous (VUCA) economy in a broad historical context informs the discussion on why and how this accommodation may be effectively achieved. This paper adds to the knowledge by identifying positive correlations between the emerging labour market and the underleveraged potential of neurodiverse employees. In addition to its constructive recommendations to employers and educators, this paper offers positive guidance to young neurodiverse people entering the labour market.

***Keywords/key phrases*:** VUCA, neurodiversity, Industry 4.0, workplace accommodation, organisational strategy

1. Introduction

We exist in an era of rapid change and global uncertainty. Long-held assumptions are being challenged for individuals and organisations, and many old certainties no longer hold true. The pace and extent of the changes made possible by rapid technological advancement and the enabling capacity of neoliberal orthodoxy are unprecedented. In 1955, in response to escalating geopolitical tensions that seemed similarly unpredictable and intractable, the philosopher Bertrand Russell and scientist Albert Einstein co-authored a letter with a simple exhortation for its readers, “We have to learn to think in a new way” (p. 2).

This perspective paper will draw upon a broad range of extant literature to propose a thoughtful, inclusive, and forward-looking approach to employing neurodiverse individuals in response to the evolving challenges of the fourth industrial revolution. Narula (2024, p. 253) writes that "perspectives papers are intended to be 'high impact' and should have the potential to institute (or at least catalyse) new lines of enquiry. They can be a very powerful and useful way to influence the field at large", which is this article's intention. In keeping with this intention, while being academically rigorous, this paper is intended to be accessible and helpful to policymakers, thought leaders, businesspeople, and particularly for young people who identify as neurodiverse.

The first section of this paper is a literature review. Given the sheer breadth of literature available (over 400,000 academic journal articles on ADHD alone), this is not a comprehensive review but offers a representation of contemporary understandings of work and neurodiversity. The literature review opens with a broad review of the scholarship on the evolution of work and the future direction(s) that are considered possible and likely. In this section, the workplace of the future is considered from the perspective of both organisations and employees. This is followed by a review of the literature on neurodiversity and the challenges experienced by (and advantages uniquely available to) neurodiverse people. Following this is a discussion of the intersection of these two bodies of literature and the positive correlations and opportunities that arise from this. The concluding section of the paper reflects Narula's (2024) call to catalyse enquiry by positing specific recommendations for effectively accommodating and developing a neurodiverse workforce.

2. Literature Review

The literature presented in this review is representative of the author's reading of the literature identified on Google Scholar and ResearchGate. Other than where contextually appropriate or to draw attention to seminal scholarly work, more recent works have been cited (Paul et al., 2021), and non-Eurocentric voices have been highlighted as a decolonizing research methodology (Thambinathan & Kinsella, 2021).

2.1. Work

2.1.1. The Fourth Industrial Revolution

Although it has been used in academic literature since the 1990s (for example, by Monlouis, 1998; Smith, 1999; Takeda, 1991), the term 'Fourth Industrial Revolution' (which is used interchangeably with 'Industry 4.0', particularly in the tech industry) entered the mainstream as the title of a 2016 book by Klaus Schwab, the Founder and Executive Chairman of the World Economic Forum. The conceptualisation of Industry 4.0 is that rapid advancements in advanced technologies will fundamentally realign global economic modes of production and, consequently, the work humans are required to do. In the brief time since the publication of this book, the widespread adoption of Large Language Model (LLM) technologies has intensified the pace of change beyond the predictions of Schwab's book. Indeed, some theorists argue that such is the seismic shift that we may already be experiencing a fifth industrial revolution (see, for example, Chakir et al.'s 2024 book entitled "Industry 5.0 and Emerging Technologies: Transformation Through Technology and Innovations"), which seeks to complement and extend the theories related to the concept of Industry 4.0.

The first 'industrial revolution' was the transition of humans from foragers to farmers some 10,000 years ago. This reconceptualization of the human role from consumer to producer is unparalleled in the animal kingdom and created defined roles for humans using animals and rudimentary tools

to produce, transport and distribute foods necessary for survival (Barker, 2006). In the mid-eighteenth century, a second industrial revolution was catalysed by the construction of railroads and the invention of the steam engine. At this point, machine power begins to supplant human (and animal) muscle power, which, again, recasts the role of human workers as complementary to more powerful – and, at scale, cheaper industrial engines (Zhang & Yang, 2020). The third industrial revolution began with the harnessing of electricity and the development of the production line model, which further removed humans from direct production to ancillary tasks and created the resource capacity for the so-called knowledge economy to develop (Mohajan, 2021).

Xu et al. (2018, p. 91) write that "a Fourth Industrial Revolution is building on the Third, the digital revolution that has been occurring since the middle of the last century. It is characterised by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres." The development of technologies such as 3D printing, the Internet of Things, blockchain technologies, advanced robotics, driverless vehicles, material ecology and, as mentioned previously, LLM technologies offer the potential to reimagine organisations completely, eliminating entire professions (Wang, 2023), enabling rapid prototyping (MacDonald et al., 2014), and disrupting long-established macroeconomic norms (Zubair et al., 2023). Indeed, the potential for developing Artificial General Intelligence (AGI), a technology that can learn autonomously beyond human capacity and iteratively improve itself, threatens to supersede even these advanced technologies. However, it is speculated that this development is unlikely to emerge until some point between 2040 and 2070 (McLean et al., 2023). Inevitably, the disordered and rapidly evolving nature of the economy will continue to evolve at a disorienting pace for the foreseeable future, and the skills needed to navigate this landscape will be of ever-greater importance.

2.1.2. The History of Work and Dialectical Materialism

Rapid and fundamental shifts in the means of production within capitalist economies derive from, respond to, and inform broader social and economic contexts, which are perpetually evolving from and responding to external factors and their internal contradictions. Marx and Engels described this process as dialectical materialism, and this conceptual framework underpins their various works that examine capitalism, production, human nature, society, and the economy (Spirkin, 1983).

The history of work demonstrates the responsiveness of humans to the environmental and technological advancements of their age. From the organisation of Guilds to regulate the access of workers to lucrative trades in the medieval era (Ogilvie, 2014) to the rise of organised labour in response to the industrialisation of production in the late Victorian era (Ackers, 2015), humans have been an active participant in these dialectics. The most famous specific example of a human response to technological innovation was the Luddites' destruction of the textile machinery that would end their skilled employment and undermine their ability to provide for their families. While the phrase Luddite is now "a handy term of derision" (Linton, 1992, p. 529) that is synonymous with an ill-considered hostility to technical innovation, the Luddites, in fact, offered a planned and viable alternative model to extractive capitalism, where a few become rich, but many starve (McGowan & Geobey, 2022). The Luddites stood, as we now stand, at a crucial inflexion point in the history of industrial production and responded by offering a vision of a different and more human-centred path forward. Westley et al. (2013) argue that individuals and groups have agency within social-ecological systems to effect change and bring about a sustainable future by shaping our working context just as the Luddites attempted to and as this paper urges its readers to do.

2.1.3. COVID-19 and its Disruptive Influence on Work

The COVID-19 pandemic and particularly the measures introduced by governments to balance the necessity of mitigating harm to public health with the political imperative to maintain economic activity, produced the most significant single upheaval to work since the Second World War (Collins, 2023). In addition to highly visible changes, such as the rapid implementation of working from home where possible (Pichler, 2023) and government subsidisation to prevent mass unemployment and company liquidation (Dörr et al., 2021), there were more subtle though equally profound changes such as the definition of an 'essential' worker (Collins, 2023), the negative impact on employees trust in managers and organisations (Drange et al., 2023) and the highly disrupted social and educational formation of a generation of future employees (Schoon & Henseke, 2023). While further investigation of these phenomena is outside the scope of this paper, it is necessary to remain cognisant that workplace relations and established employment norms are emerging from an unusually fractious period, even without the disruptive influence of the technologies driving the fourth industrial revolution.

2.1.4. The Fourth Industrial Revolution and the Future of Organisations

The apparent rapid advancements of generative AI (LLMs) create great uncertainty for organisations aiming to plan for the medium and long term. Accounts of the impact of these technologies range from "one-third of today's jobs will disappear by 2025" (Pauceanu *et al*., 2020) to "automation promises a future of higher income that stems from the higher productivity that artificial intelligence will provide" (Stevenson, 2019). Some commentators in tech journalism argue that the inevitability of an epochal shift resulting from LLM technology has been overstated due to the tremendous expense and inconsistent productivity inherent in these models limiting their cost-effectiveness (Bender & Hanna, 2025; Epstein, 2024; Zitron, 2024). The same arguments, however, contain the subtext that so much resource and goodwill have been directed towards LLM technology by monopolistic tech giants that the investments made will not be allowed to fail (O'Donnell, 2024). Indeed, while the impact of these innovative technologies remains far from certain, we can be assured that the race to be at the forefront of these technologies is accelerating. The Financial Times wrote in August that the $100bn invested by big tech firms in 2024 was "just the beginning" (Morris *et al*., 2024). Fosso Wamba et al. (2023) explain that empirical literature on the challenges faced by organisations is limited and where it does exist (e.g., More, 2024; Rane et al., 2024; Sanyal & Sathis Kumar, 2025) the findings are speculative drawing on data generated from older iterations of LLM models. For business leaders, the likelihood is that operating models will be significantly altered, the requirement for human resources will diminish, and changes will be possible at short notice, making long-term planning an exercise in profound uncertainty.

2.1.5. Origins of the VUCA Economy and the Future of Work

For organisations removed from the race to develop innovative technologies but having to prepare for their impact, the oft-used definition of the economic climate as volatile, uncertain, complex, and ambiguous (VUCA) could not be more apt (Bennett & Lemoine, 2014). While the future for organisations is uncertain, the future is rather more predictable for individuals who operate within the labour market. The VUCA economy is not, it should be made clear, a consequence of either the fourth industrial revolution or the COVID-19 pandemic; it is a product of political decisions and social changes over the last fifty years. The large-scale shift from production-based to knowledge-

based work in developed countries driven by globalisation and automation disrupted established industrial relations models and stratified the working-age population (Hyman, 2007). The erosion of human input into physical production processes and legislative attacks on workplace collectivism under successive governments weakened the ability of workers to exert power through the organised withdrawal of labour (Bean, 2021), which led, in turn, to a systemic weakening of employment rights and protections (Visser, 2023).

At the same time, a dramatic increase in the labour supply as women, immigrants, and older people sought employment (Grabarski & Schwartz-Asher, 2022) further eroded the bargaining position of workers. The era of neoliberalism, beginning with the election of Thatcher in the UK in 1979 and Reagan in the USA in 1980, saw widespread legislative reforms to reduce regulatory oversight of organisations under the now-discredited pretext that strong economic growth would trickle down to enrich everyone (Greenwood & Holt, 2014). One of the architects of neoliberal economics and a key advisor to Reagan, Milton Friedman, had argued as early as 1970 that the only social responsibility of a business is to increase its profits. Consequently, the promised 'trickle-down' effect did not happen as consistently strong economic growth generated higher profits and exacerbated socioeconomic inequalities (Stiglitz, 2019). For employees, these neoliberal policies have resulted in wage stagnation, weakened employment protections, fewer 'quality jobs,' and increased precarity of employment (Greenstein, 2020). A key feature in the shift in employment relations came the breakdown in what is called the 'psychological contract' in which firms offer job security in return for employee loyalty (Baruch & Rousseau, 2019) with the consequence that "individuals could not expect or rely on the organisations to manage their careers anymore" (Grabarski & Schwarz-Asher, 2022, p. 4). Consequently, career development and skills acquisition became something that individuals became required to pursue outside of their employment and at their own expense to gain a labour market advantage. For educators, this desire for individuals to develop employment capital is reflected in the heightened attention paid to graduate employability and job-readiness as a desirable outcome of higher education (Fellows, 2023) in preparation for a labour market dominated by "skills-biased-technological change" (Means, 2017, p. 252).

For individuals working in the VUCA economy, the future is widely expected to be characterised by increased precarity, portfolio careers, multiple profession changes, short-term contracts, and career shock events (Hite & McDonald, 2020). In this context, the employability skills necessary for career success have evolved. New concepts such as grit, resilience and context adaptation are now considered necessary along with more traditionally recognised attributes such as teamwork, problem-solving, and effective communication (Fellows, 2024).

2.2. Neurodiversity

2.2.1. The Term 'Neurodiversity'

There are critiques of the term neurodiversity and its implications (see, for example, Maynard (2024), Russell (2020), and Nelson (2020)). However, the current consensus in the literature favours the use of the term. Therefore, neurodiversity is used here with the acceptance that this may be terminology that falls out of favour or is superseded in the years ahead. It is also acknowledged that the extends to include conditions beyond the most widely researched conditions (autism, ADHD, and dyslexia) to include hyperlexia (Grigorenko et al., 2022), developmental coordination disorder

(Castellucci & Singla, 2025), Tourette syndrome (Johnson et al., 2023), obsessive-compulsive disorder (Blanco-Vieira et al., 2023) and bipolar disorder (Nierenberg et al., 2023).

2.2.2. Awareness of Neurodiversity

While there is disagreement on when the term neurodiversity first entered the academic literature, awareness of the term and, more importantly, the concept of neurodiversity has been a subject of discussion within impacted communities since at least 1996 (Botha et al., 2024). Neurodiversity is an umbrella term encompassing "neurodevelopmental disorders that are considered variations of the brain and … may include sensory processing, facial recognition, visual imagery, attention, and coordination. Strengths can include empathy, creativity, visual perception, and memory. It is important to note that, as well as neurodiversity being a spectrum, there is a broad range of cognitive profiles within each of the neurodiverse disorders themselves" (Johnson & Ahluwalia, 2024, p. 1). The understanding that neurodiverse individuals benefit from different and specifically designed accommodations is derived from the Social Model of Disability (SMD), which was defined initially by Oliver (1982, p. 31) as "a switch away from focusing on the physical limitations of particular individuals to the way the physical and social environments impose limitations upon certain groups or categories of people". In the period since 1982, there have been legislative developments to enshrine and protect the rights of neurodiverse individuals in countries across the globe, though the effectiveness of the legislation is disputed (Nisco, 2024; Pinilla-Roncancio & Rodríguez Caicedo, 2022; Ruppel, 2024). In recent years, social and medical understanding of neurodiverse conditions has developed with more inclusive criteria and greater awareness, leading to an increase in the volume of diagnoses and a particular increase in previously under-diagnosed communities such as girls and adult women (Johnson & Ahluwalia, 2024).

2.2.3. Deficit-based Medical Perspectives of Neurodiversity

Traditionally, diagnoses of neurodiverse conditions have been framed from a deficit-based perspective that defines the neurodiverse individual by the attributes or characteristics that are lacking or less pronounced than is true for non-neurodiverse (neurotypical) people (Brown et al., 2021; Climie & Mastoras, 2015; Davis & Deponio, 2014). Bottema-Beutel et al. (2021, p. 8) argue that this deficit-based medical model of understanding situates neurodiversity (specifically autism in their paper) as inherently inferior and prompts language indicating that they "lack something fundamental to being human" with the inevitable outcome of the condition being seen as "something to be fixed, cured, controlled or avoided". The pathologisation of neurodiverse conditions from a deficit-based perspective plays a critical role in the experiences of neurotypical people as these dominant narratives are "heard and internalized by families, autistic children and society as a whole" (Brown et al., 2021, p. 1171).

2.2.4. Socially Constructed Understanding of Neurodiversity

In a Forbes article entitled ADHD: The Entrepreneur's Superpower, psychiatrist Dr Dale Archer argued that "in our over-diagnosed, over-medicated culture, we choose to only focus on the negative aspects of ADHD" (2015); this is a clear representation of how, even where a highly qualified person intends to convey positive advocacy, the socially constructed understanding of neurodiversity has such a deleterious impact. Stereotypes of neurodiverse people are often based on popular culture, for example, the 1988 film Rain Man's depiction of autism (Grey, 2020) or inaccurate representations in news media, including ADHD being "the

consequence of poor parental, school discipline, diet or lifestyle" (Horton-Salway, 2011, p. 545) with the consequence that society perceives neurodiverse conditions as being "at odds - to varying extents - with both wellbeing and flourishing and hence incompatible with both objective and subjective conceptions of the good life" (Chapman & Carel, 2022, p. 2). Such is the negativity around neurodiversity that exists in society at large that the diagnosis of a child can be experienced as "intense distress akin to grief" (Brown et al., 2021, p. 1171) by the child's parents, though it has been over thirty years since Sinclair's (1993) article 'Don't Mourn For Us' had first challenged this damaging narrative.

A key aspect of the socially constructed understanding of neurodiversity is a common overestimation of the capability of neurodiverse people or the ability of those people to leverage the strengths associated with their conditions without adequate accommodations. Scholars argue that these misconceptions are based on the overrepresentation in popular media of uncommonly gifted outliers such as iconic entrepreneurs Elon Musk (autism), Richard Branson (dyslexia) and James Dyson (ADHD) (Brown & Fisher, 2023). Consequently, many people tend to underestimate the true impact of neurodiverse conditions upon people, a phenomenon characterised by Barkley thus: "Adult ADHD is one of the most impairing disorders we treat on an adult outpatient basis, and people think it's just some trivial little problem that a cup of Starbucks is going to solve" (Ward, 2022).

2.2.5. An Alternative Paradigm for Neurodiversity

Milton (2012) offered a distinct perspective on neurodiversity when he posited that the double empathy problem presents a different paradigm for neurodiversity. One of the consequences of the combined impact of the medical and socially constructed paradigms of neurodiversity is attributing the blame for misalignments of perspective to the neurodiverse individual as the one who is impaired. The 'double empathy problem' concerns "a breakdown in mutual understanding (that can happen between any two people) and hence a problem for both parties to contend with"; however, when one of the people is autistic the breakdown is "primarily framed in terms of [autism being] a social communication disorder, rather than interaction between autistic and non-autistic people as a primarily mutual and interpersonal issue" (Milton, 2022, p.1901). As Murray (2024) argues, "it makes no sense to claim that autistic people have impaired empathy, not once you realise that we autistics have no more trouble empathising with non-autistic people than they have in empathising with us".

In the neurodiverse community, this negative framing is subverted with the satirical "neurotypical personality disorder", in which the traits that are common differentiators for neurodiverse individuals are norms from which neurotypical individuals diverge, for example, the neurotypical individual "Blindly follows social conventions without even pondering if those are good for their being or even useful at all" (Sefsermak, 2011). The academic approach taken by Milton (2012) and the informal, experience-informed social commentary of "neurotypical personality disorder" highlight the pervasive and unspoken norms of othering that neurodiverse individuals experience when, in fact, the situation is often reciprocal and accommodating neurodiverse individuals is both mutually rewarding and socially just.

2.2.6. Neurodiverse People Entering the Workplace

The labour market of the 21st century will be directly impacted by the VUCA economy, with a higher incidence of career shocks, portfolio working, and short-term freelance contracts (Pauceanu et al., 2020). For neurodiverse people, entering this environment will present additional challenges when reasonable accommodations to enable their employment centre around lessening ambiguity and uncertainty (Bruyere & Colella, 2024). While theorists in Human Resource Management have identified that the strengths that neurodiverse employees bring are essential in navigating a VUCA economy (Kune, 2024), employers remain mostly unwelcoming to neurodiverse employees "expecting the same support in the workplace that they received for such conditions at school or university." (Ring, 2024). Emphasising this point, the provision of accommodations for neurodiverse students offered by schools and universities has been described as "a disservice to employers" because "at a certain point, we all have to accept that life is just irremediably unfair" (Noia, 2024).

In response to the demands of the labour market in a VUCA economy, contemporary accounts of employability emphasise "desirable characteristics such as grit (Ismail et al., 2023), resilience to career shocks (Khannas et al., 2022) and context adaptation (Coetzee & Engelbrecht, 2019) … alongside more traditionally recognised employability skills such as problem-solving, communication, and team-working (Tushar & Sooraska, 2023)" (Fellows, 2024). In this context, the responsibility for navigating hostile workplace environments is conceived as wholly individualised, undermining the legislative and regulatory requirements placed upon organisations. For neurodiverse people, the prospect of entering such a hostile environment for which they are not necessarily suited without support can be debilitating.

The challenges faced by neurodiverse people entering inappropriately configured working environments or being faced with colleagues and superiors who lack the necessary understanding of neurodiverse conditions exacerbate the existing barriers as the 'blame' for maladaptive emotional responses or difficulty understanding social interactions and implicit communications tends to be individualised rather than recognising the contributory systemic factors (Waisman-Nitzal et al., 2021).

2.2.7. Provision of Workplace Accommodations

To support neurodiverse individuals in thriving in the workplace, legislation requires employers to provide accommodations that may be deemed reasonable. Reasonable-ness is a subjective and "vague" construct (Waisman-Nitzal et al., 2021) that implies some degree of reciprocity and negotiation between employer and employee (Hickox, 2016) despite the significant power imbalance inherent in the relationship. As such, neurodiverse individuals may be placed in a position of having to advocate successfully on their own behalf or be held to performance expectations which are unreasonable without necessary accommodations (Nevala et al., 2024). A range of literature cited by Maestas et al. (2019) identified that even for long-standing and valued employees who develop a disability during their employment, there is a wide variance in the provision of accommodations by employers. Anand and Sevak (2017) found that providing accommodations that would enable success in the workplace is positively correlated with finding and maintaining employment. In other words, an individual is more likely to receive accommodations from an existing employer than a new (or prospective) employee, and even then, the provision of accommodations is highly dependent on the approach taken by the employer.

Data gathered by Bewley and George on behalf of the National Institute of Economic Research indicates "a general lack of awareness about how challenging effects associated with particular conditions could be minimised and accommodated with the right support" (2016, p. 18). Simple accommodations for neurodiverse employees that employers may make include software "that keeps deadlines, segments work objectives into smaller tasks and organizes the employee's assignments" (Robbins & Ratajczak-Mrozek, 2017, p. 7), support for "different work hours or the ability to work from home" (Abreu, 2018, p. 6), "reporting relationships could be streamlined to eliminate confusion" (Sarkis, 2014, p. 28), and "communicating in an unambiguous manner" (Bewley & George, 2016, p. 48). Unsurprisingly, given the generally applicable nature of the accommodations suggested, "actions taken to accommodate neurodiverse people often spill over into benefits for all employees" and thus positively contribute to organisational productivity (Krzeminska et al., 2019, p. 456).

Providing appropriate support for neurodiverse employees extends beyond their employment and incorporates a broader well-being consideration. While all employees will experience challenges during their careers, neurodiverse people are subject to the additional stresses of navigating a socioeconomic environment that is not conducive to the well-being of someone with their condition (Sulaimani & Gut, 2019). Moreover, neurodiverse individuals are statistically significantly more likely to have additional, coexisting conditions "such as ADHD, learning and language disabilities, sleep disorders, impulse control personality disorders, anxiety disorders, intellectual disabilities, substance use disorders, mood disorders, and autism spectrum disorders" (Ker & Van Gorp, 2023, p. 37). For employers, providing suitable support mechanisms may appear more complex and resource-intensive than for neurotypical employees due to the individualised nature of those accommodations. For neurodiverse employees, therefore, the provision available to them is often partially suitable, subject to delays, and othering practices such as "a pre-determined checklist of modifications, facilities that underscore, rather than support, need, and disturbingly discriminatory practices such as overt labeling" (Friedman & Nash-Luckenbach, 2023, p. 1907).

Brown and Melcher (2021, p. 179) argue that many of the rapid adaptations made in response to the Covid pandemic were beneficial for neurodiverse people, offering "the ability to determine the lighting, sound, seating, and other types of sensory requirements in the learning environment" and offer a simple template for practical accommodations, but have regrettably been discarded in the rush to return to existing working practices.

2.2.8. Barriers to Employment

The transition of global economies, led by the United States, from industrialised to financialised knowledge economies (Dominguez Lopez & Barrera Rodríguez, 2023) has presented challenges and opportunities for neurodiverse individuals. LeFevre-Levy et al. (2023, p. 5) present the argument that "with increased technological advancement and automation, skills … associated with some of the strengths of neuroatypical individuals (e.g., novel thinking, creativity, computer coding, and scientific thinking) are becoming more important", but Austin and Pisano (2017, p. 100) make the point that "the behaviors of many neurodiverse people run counter to common notions of what makes a good employee… These criteria systematically screen out neurodiverse people." Employers who recognise how "neurodivergent people foster increased creativity, novel approaches to problem-solving, and the development of a broad skill set in organizational settings" (Tariq, 2024, p. 183) are more likely to create opportunities and

institute accommodations that enable neurodiverse employees to thrive. There are, however, occasions where the accommodations provided by employers are offered reluctantly, and many workplaces remain "unwelcoming to neurodiverse workers" (Patton, 2019). In addition, neurodiverse individuals face barriers to gaining employment due to hiring manager prejudices, systemic biases in recruitment practices, and the perceived costliness of making accommodations (Ali et al., 2024). The inevitable consequence of these barriers is that neurodiverse people experience significantly higher rates of unemployment (Office for National Statistics, 2022) and consequent social and economic disadvantage.

In a combined paper on two long-term studies, McArdle et al. (2007) identified strong positive correlations between re-employment rates among the unemployed and higher levels of self-esteem and beliefs about one's employability. Nguyen et al. (2020) found that while autistic adults generally have lower levels of self-esteem than neurotypical individuals, this gap is significantly mitigated where the individuals have a more positive self-appraisal of autism (recognition of associated strengths and lower perceived helplessness), while Ferenc et al. (2022) found that this is a protective factor against negative self-perceptions and thus has the potential to become a virtuous circle in positive social or professional environments.

Although there are imminent threats from legislators in Western countries to roll back the progress made in recent decades, Bruyere and Colella (2024, p. 190) state that "most larger companies have Equity, Diversity, and Inclusion programs which provide awareness training. However, the issue of neurodiversity is not covered in many of these programs" indicating that broader structural barriers remain in workplaces despite social and legislative progress. In the UK, the Financial Times reported a consequent rise in employment tribunals related to discrimination due to a claimant's neurodiversity "with 278 judgments issued by the employment tribunals in England, Wales and Scotland in 2023… compared with 193 in 2022 and just 3 in 2016" (Ring, 2024).

2.2.9. Higher Education and Neurodiverse Graduates

The increase in awareness (and diagnoses) of neurodiverse conditions has happened at the same time as a significant increase in the proportion of students in higher education globally. According to Cunningham and Samson (2021, p. 1), during this period, "universities more aggressively aimed to recruit 'non-traditional students'… [who] had not been able to either consider university education or meet the academic entry requirements". Inevitably, the number of students with a diagnosed neurodiverse condition has also increased significantly during the period (Clouder, 2020). However, relatively little academic attention has been paid to appropriate pedagogical responses to the needs of neurodiverse students (Cox et al., 2020; Hamilton & Petty, 2023). The structure, practices and culture of higher education are derived from a teaching tradition copied from long-established Higher Education institutions by more modern seats of learning, where non-traditional students are significantly more likely to attend (Bandow et al., 2007). As such, while educators may seek to develop innovative and student-centred approaches to teaching in their practice, they remain constrained by institutional customs and "an inbuilt distrust of radical innovation" (Nygaard et al., 2014, p.1). Higher Education has struggled to adapt effectively to the growth of non-traditional students, especially neurodiverse students (Clouder et al., 2019). The challenge for Higher Education in supporting their neurodiverse student body is exacerbated by many students deciding not to declare their diagnosis to their institution (von Below et al., 2021).

The massification of Higher Education was, of course, a political decision and, as such, has both political and economic rationalisations. It has been argued that the transition to a marketised system of provision that shifted the ultimate responsibility for funding Higher Education from the state to the individual "from a publicly financed collective good with broad educational and intellectual aims for a smaller student body to a commodity sold within a distinct economic 'sector' to a widened population" (Cunningham & Salmon, 2021, p. 2). Therefore, the purpose of Higher Education for students has been explicitly linked to the financial reward of higher remuneration (Jackson & Bridgstock, 2021). The graduate labour market is highly competitive with, for example, 140 applications for every vacancy in the UK (Bradley, 2024), which compounds the challenge for neurodiverse students who are already faced with structural barriers to securing and sustaining employment.

2.2.10. The Value of Neurodiverse Employees in a VUCA Economy

"According to researchers, the top five job skills in 2025 will consist of analytical thinking and innovation, active learning, complex problem-solving, critical thinking and analysis, and creativity" (LeFevre-Levy et al., 2023, p. 5).

Lorenz and Heinitz (2014, p. 1) suggested that autistic people's "skills of concentration during long-lasting routine work, identification of logical rules and patterns, processing visual information, and the ability to remember facts, surpass neurotypical individuals". Similarly, Robbins and Ratajczak-Mrozek (2017, p. 4) argue that "adults with ADHD may be better equipped to perform in nonsedentary jobs, like sales, or in highly creative jobs, such as advertising and graphic design, than their non-ADHD peers" and Logan and Martin (2012, p. 57) state that dyslexic people "are able to network with others, explain their business vision and generate enthusiasm for their new venture. They are also often good sales people because they have an interest in others." In stark contrast to both the deficit-based medical model and socially constructed understandings of autism, the literature suggests that neurodiverse individuals have capabilities that, when fitted to a suitable role, would make them uncommonly valuable to an organisation. Indeed, a key finding by Lorenz and Heinitz (2014, p. 5) is that the integration of autistic individuals "can and should include more occupational areas than natural science, engineering and IT," which are indicated in the study as being typical expectations both socially and in the prior literature.

2.2.11. Skills Development

In a fourth industrial revolution where automation and advanced technologies such as LLMs have rapidly altered the employment landscape, the requirements that organisations have of their employees are likely to become more specialized and less reliant upon 'generalists.' Green *et al.* (2019, p. 1) call for educators preparing graduates for employment in a VUCA economy to "avoid developing generalists deficient in the depth to deliver in specialist fields" and to create "a climate where students and staff are Ambiguity-adverse". This accords with the findings of Wright (2016, p. 64), who quoted a management consultant working on the recruitment of autistic people for major corporations such as Hewlett-Packard, SAP, and Freddie Mac: "We see them as a highly valuable, underleveraged talent pool predisposed to take on certain tasks". The common theme is an emerging demand for employees with traits commonly found in neurotypical employees, who are currently underrepresented in those roles. Similarly, Krzeminska et al. (2019, p. 455) report that a "talent scarcity problem in certain key areas (e.g., cybersecurity, business analytics) … overlap appreciably with talents possessed by (some) neurodiverse people" while Adamczewski (2020) highlights those specific areas as

being fundamental to organisational success in a VUCA economy. Austin and Pisano (2017) offer examples of neurodiverse employees driving profound productivity gains simply by being intolerant of chaotic processes or compelling management teams to understand better how to leverage the best performance by all employees based on their understanding of accommodating neurodiverse individuals. Shet (2023, p. 684) found that "in a VUCA environment, complex problem solving and creativity are the analytical competencies essential for success", while LeFevre-Levy et al. (2020, p. 6) state that "certain groups of neuroatypical individuals actually have some advantages when it comes to innovation, problem-solving, and/or creativity in certain disciplines because of the unique way their brains are wired".

3. Discussion

3.1. Personal Disclosure

The author of this paper is neurodivergent, having a diagnosis of ADHD, and has close family members who are autistic. Furthermore, the author has experience successfully employing and working with neurodivergent individuals and attributes their professional success to effectively leveraging the attributes related to their neurodiverse condition. Accordingly, while the previous section offers an impartial reading of the scholarship, the following discussion is naturally informed by the author's experience and perspective.

3.2. Limitations of this Paper

This paper's most significant limitation is the simple unknowability of how technological, sociopolitical and socioeconomic developments disrupting a VUCA environment will shape the future. Furthermore, the nature of disruptive technologies is such that the publication time of journal articles can render specific references to leading-edge technologies redundant; for example, the emergence of DeepSeek in January 2025 completely confounded market expectations for LLMs (Olcott & Wu, 2025) with a consequent single-day market capitalisation loss of $589bn for the leading AI semiconductor manufacturer Nvidia (Munir et al., 2025). Given the potential scope of literature available in the fields of work technology and neurodiversity, it is also acknowledged that the literature reviewed here, whilst illustrative, is fractional and incomplete. Finally, it must be acknowledged that the highly individualised nature of workplace accommodations and the ongoing technological advancements in this field have necessitated that they be discussed in an allusive and non-prescriptive way.

3.3. The Workplaces of the Future

Every reliable indicator that we have in the scholarship and the industrial press warns that the workplaces of the future will be configured in radically different ways even than today. Significant upheaval is inevitable for employers, employees, governments, and societies that must respond to rapidly evolving change. Nevertheless, while change is inevitable, the shape and nature of that change is unknowable. As we have seen, educated predictions of the future impact of automation are unclear, contradictory, and couched in the equivocal language of uncertainty. Even successful organisations find predicting the future to be a speculative exercise. For instance, Facebook rebranded as Meta in 2021, anticipating that the virtual reality Metaverse would become the "next big thing" (Henry, 2024). However, the rise of generative AI soon overshadowed this vision, rendering it a significantly lesser priority. Similarly, in 2014,

Elon Musk predicted that self-driving cars would be available by 2015, claiming that "90% of your miles could be on auto" (CNN Business, 2014).

Sundaram et al. (2020, p. 23) hold that businesses change "as a response to explicit troubles or opportunities faced by the organisation due to interior or exterior stimulants". In the Meta example above, change was spurred by a perceived opportunity, the classic characterisation of entrepreneurial innovation. However, this is an outlier. Changes in response to exterior stimulants (for example, evolving customer behaviours, increased competition, or emerging markets) are far more common (Solis et al., 2014), with cost-saving changes to operating models being commonly adopted by competitors and across sectors (Ekekwe, 2012).

Business change, therefore, follows a simple pattern of innovators achieving success with imitators embedding the changed model as a new norm. This has been shown by the changes to workplace relations outlined in the section on the origins of the VUCA economy and the future of work, where employer-employee relations continue to evolve as briefer, more transactional arrangements. While predicting the future of business is, as we have seen, imprudent, it is hard to envisage the return of longer-term employment relations, collaborative career management, generous pensions, and strengthened unionisation as the norm in the current political climate. In preparing for the workplaces of the future, then, the more responsible course of action is to envisage an extension of prevailing trends of outsourcing to freelancers, implementation of LLM technologies, and a strong government focus on reducing the autonomy of educators in favour of skills planning.

3.4. Implications for Organisations and Neurodiverse Individuals

A business model predicated on short-term inputs of specialised skills to meet transient business needs offers an opportunity for organisations to adopt novel approaches to talent acquisition. The prevailing wisdom of recruitment strategies has been to select individuals based on 'fit,' a concept heavily influenced by a job candidate's people skills. However, this is less of a salient issue when recruiting for short-term, often satellite, specialised roles. As such, the traditional in-person interview recruitment process that actively inhibits the employment of neurodiverse individuals is redundant. The opportunity here is for organisations to adopt more inclusive recruitment practices that effectively facilitate considering a broader range of candidates and, by implication, enhance the talent they can recruit. It is well-established that neurodiverse people are extensively underrecruited by organisations using traditional selection methods and that, in specialised roles, neurodiverse people can considerably outperform neurotypical people. The natural consequence of actively undoing this pattern would be improved employment outcomes for neurodiverse individuals and higher performance levels for organisations.

3.5. Psychological and Emotional Impact of Working in a VUCA Economy

It is well-established that neurodiverse individuals benefit from regulated, predictable, and supportive working environments, and a volatile, uncertain, complex, and ambiguous economy is incongruent with those needs. Invalidating professional or social environments will tend to generate maladaptive emotional responses in neurodiverse individuals because of the challenges we experience in emotional regulation. It is fair to say that neurodiverse individuals can be exceptionally productive in suitable roles but may become highly dysregulated during the periods of uncertainty and pressure that securing those roles entails. This systemic issue is

irresolvable by individuals or individual organisations, but it must also be considered by organisations when selecting and onboarding recruits.

Given the importance of self-esteem in re-employment rates for unemployed individuals and how the self-esteem of neurodiverse individuals may be positively impacted by a more favourable assessment of their condition, it follows that success in securing and performing a role will lead to an increased likelihood of securing similar roles in the future. Of course, this is a 'chicken and egg' situation for which there is no straightforward solution available to the individual and is dependent on implementing more inclusive practices from employers, lowering the barriers to successful employment and on-the-job performance.

3.6. Adopting an Unconditional Commitment to Accommodation

In 'Don't Mourn for Us, (1993, p. 2), Sinclair writes, "The ways we relate are different. Push for the things your expectations tell you are normal, and you'll find frustration, disappointment, resentment, maybe even rage and hatred. Approach respectfully, without preconceptions, and with openness to learning new things, and you'll find a world you could never have imagined." As the workplace evolves beyond recognition in the fourth industrial revolution era, it makes no sense for recruiting organisations to push for things that their expectations tell them are normal. Indeed, there are (at the time of writing) over 85,000 journal articles available on Google Scholar that refer in their title to the post-pandemic era as 'the new normal'. The ground is shifting under our feet, and this is an opportunity to adapt and respond in a manner of one's choosing.

Employers generally perceive the types of accommodations that are beneficial for neurodiverse individuals to be expensive and problematic but which, in reality, are low-cost investments that develop into more efficient means of communicating and operating for all employees. Suppose the cost of accommodating a neurodiverse colleague is to produce information in a timely and accessible format or to support workplace flexibility that reduces discomfort and enhances focus. In that case, it is hard to articulate a persuasive counterargument. Indeed, persisting with "the things your expectations tell you are normal" would be inexplicable. Similarly, maintaining recruitment practices that impede that section of the workforce most suited to specific roles would be inexplicable.

3.7. Unconditional Commitment Stems from Awareness and Understanding

Consistently apparent in the literature is that the most successful and supportive workplace accommodation for a neurodiverse employee is to develop a greater awareness and understanding of their condition. From there, the effective creation of an accessible and productive environment readily follows. For organisations and educators, developing a greater understanding of and responsiveness to the neurodiverse community offers an outsized reward.

4. Conclusion

This paper has offered a positive and affirming vision for employers, educators, neurotypical individuals and neurodiverse individuals, highlighting the opportunities resulting from the emerging economic landscape. For employers, there is a clear and straightforward path to making the most of as-yet underleveraged reserves of specifically skilled workers. For educators, the opportunity to offer more appropriate and specific developmental support for students and develop one's pedagogy is potentially transformative. For neurotypical individuals, the beneficial impact gained from employers' implementation of accommodative

protocols such as flexible working and clarity of communication is well-established in the literature, and the opportunity to work more effectively alongside a more diverse cohort of colleagues with complementary skills will be both mutually beneficial and rewarding. For neurodiverse young people entering the labour market, this paper's message is that your natural divergence from most people you will work with and for is a precious and rare commodity if directed appropriately and accommodated effectively. The effective accommodation of neurodiverse employees, based on this paper's recommendations, will help organisations find a path to ongoing success in an unpredictable economic landscape and should be adopted immediately as a key strategic objective.

The prevailing discourse around neurodiverse employees is and has been predicated on providing them with sufficient support to minimise the impact of their condition and enable the performance of normalcy. This is a perverse approach in an economy that celebrates difference as a commercial advantage (USPs, Purple Cows, outliers, unicorn start-ups) for businesses seeking optimisation and hyper-productivity, overlooking the commercial advantages of harnessing the talent available to them and failing to develop a diverse and specialised workforce is, at best, foolhardy and often actively harmful.

We have enough neurotypical thinkers already.

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