Leadership in the Digital Era –An Exploration

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Abstract

Leadership is a complex and multifaceted phenomenon. The are ever-changing. This paper explores the critical competencies required to be an impactful leader in the digital era. This period is marked by rapid technical developments in the fields of machine learning, AI, and the internet of things.

The COVID-19 pandemic and digitalization have disrupted workplace dynamics and traditional business models, needing novel leadership approaches. Leaders today foster Hybrid and virtual teams and face challenges of communication, collaboration, and employee engagement.

The paper examines the critical need for ambidextrous leadership , leadership agility with focus on Health and well-being to leverage the transformative potential of digitalization.

Keywords: Leadership, Digital Era, Leading Virtual teams, VUCA, Leadership Agility

1. Introduction

The world today is constantly facing disruptions at a large scale. Disruptions caused by technology, politics, war, climate change and much more. The first major industrial disruption was when we mechanised production using steam engines which was invented in the 18th century. The Second industrial disruption began with the invention of electric engines and the transition from steam power to electrically powered production processes, which took around a century (Devine 1983).

Industry 4.0, or the tech-driven world we live in today, is giving way to Industry 5.0, which is also known as the value-driven sector (Xu et al., 2021). The world is moving at such a fast pace that unlike previous industrial revolutions which took place one after another, industry 5.0 is considered to co-exist with industry 4.0 to create a socio-techno revolution (Xu et al., 2021). One that combines technology with a value-driven industry (Xu et al., 2021).

Organizations are required to cope with the fast-paced nature of disruptions and those that fail to cope, go out of business. A classic example of this is Nokia, once a leader in the industry but now has lost the race to other companies that rode the wave of disruption. Multiple scholars have analysed the case of Nokia and the following themes have emerged as some of the leading causes for their downfall: failure to innovate, top management lack of technical abilities, and leadership's

decision to invest in new phones rather than an evolved operating system (Doz, 2017). This shows us the importance of a strong leadership in an organization, their role in anticipating and envisioning the future, especially during times of change and disruptions.

For many years, leadership has been the subject of in-depth research due to its complexity and multifaceted nature (Benmira & Agboola, 2021). Avolio et al. first used the term "e-leadership" in 2000 when they examined the function of leadership in relation to advanced information technology (AIT). They explored how leaders can make use of technology to influence their teams, make decisions, and collaborate with others (Avolio et al., 2000). Leaders have an impact on how technology is integrated into businesses, and technology also changes leadership by altering organizational procedures and structures (Avolio et al., 2000). We live in an ambiguous world that is constantly changing, otherwise famously known as the VUCA world (Millar, Groth, and Mahon 2018). Technology can help leaders navigate through the complexity by providing empirical data which can help make better-decisions (Avolio et al., 2014). In contrast, this widespread use of technology also rises concerns amongst employees. Around 30% of employees worldwide fear that AI will take over their jobs (WEF, 2024, PWC, 2022). On the contraty, researchers have found that there is no need to worry as automation will only replace repetitive tasks and most likely augment problem solving and complex-thinking (Shine, 2023).

Human-machine partnership is necessary as we enter Industry 5.0 in order to continue being a major contender in the sector (Kolade & Owoseni, 2022). Employees are finding it more difficult to keep up with the rapid speed of digitization, which is also increasing the gap in digital skills. A survey by Rumbens (2024) found that employers majorly lacked 4 out of 5 important digital skills. The top 5 skills are data science, coding, cyber security, and generative artificial intelligence (AI) and machine learning (Rumbens, 2024). Among employees polled on a variety of digital abilities, 29–36% claimed they lacked the necessary degree of expertise or that their skills were outdated (Rumbens, 2024).

Leaders must focus on augmentation instead of replacement (Davenport & Kirby, 2015). Companies like Amazon, AT&T, Cisco, and Microsoft have begun to reskill their employees to train them in digital skills for the future and close the global digital skills gap.

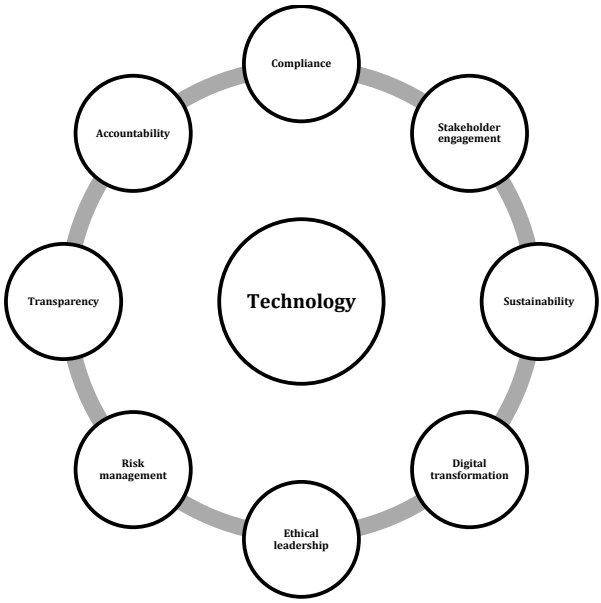
To thrive and excel, organizations must focus on upskilling and reskilling their workforce to adapt to the changing industry requirements (Kane et al., 2017; Mahapatra & Dash, 2022). There are five

ways to ensure effectiveness in upskilling programs: having a niche training program that targets the role of the employees, real life simulations, apprenticeships, celebrating small wins, and business led programs (Elk 2024).

Organizations must evaluate the current skills of the employees to understand what skills they should be trained in. Leaders must know how to measure the training return on investment (ROI), this will help them re-evaluate the efficiency of their training modules (Rumbens 2024).

As digitalization takes centre stage and enables human-tech interfaces, the issues of ethics and governance are receiving increased attention (Kantar and Bynum 2021). If ethics are not adequately addressed, machines could take over. If leaders are not vigilant about the human dimensions and the ethical aspects of business and society, machines could take decisions that may have adverse impacts on the organization, society, employees, and groups. Achieving a balance between ethical responsibilities and technology advancements is essential to be an impactful leader in the tech-driven era (Lin et al. 2020). They must establish relevant policies and regulations to safeguard the data of their companies and customers. As technology advances, organizations must also develop policies that promote ethical tech use as it will maintain the integrity of the organization (Noor 2023). Organizations can ensure that they provide ongoing training on digital ethics so that employees are aware of the right way to use the technology they work with (Bhatta, 2021).

Fig 1: 8-level framework for corporate governance, tailored for ethical leadership and technology influence



To run a successful organization in the technological era, leaders need to be mindful of the 8 levels of corporate governance that is now influenced by technology. The levels are: compliance, accountability, transparency, risk management, ethical leadership, digital transformation, sustainability, and stakeholder engagement (Harvard Law School 2016). Being compliant helps in ensuring that the organization adheres to the laws and regulations of the government and upholds the integrity of the firm and its leaders. Accountability establishes clear roles and responsibilities and makes leaders answerable for their actions (Andy and Ventura 2021). Transparency fosters a good working culture with open communication with all the stakeholders and builds trust. It also enhances employee engagement, performance, and well-being (Hadziahmetovic and Salihovic 2022). Risk management helps leaders prepare for unforeseen events and minimise costs (Kuder-Pucka and Castanho 2022). It involves identifying and assessing risks to mitigate it at the earliest. Ethical leadership promotes moral decision-making and fosters a culture of integrity throughout the organization. Digital transformation leverages technology to optimize processes, improve decision-making, and create value responsibly. Sustainability is ensuring that the values of the

organization align with environmental, social and government (ESG) principles (Liao 2022). All parties involved in the process of making decisions are included through stakeholder engagement. (Kujala et al. 2022).

2. Possible Derailers for Leaders the Digital Era (Points and counter points)

Quite often, leadership as a process is viewed positively. However, the past practices and research have demonstrated that leadership actions not necessarily lead to desired outcomes. There are derailments and challenges that lead to employee setbacks, and organizational failures (Mackey et al. 2021). According to Ready et al., (2020) there are three main reasons why leaders might fail in the digital era. According to emerging research three leading areas for possible derailment are: Outdated skills and mindsets, lack of self-awareness, inability to work with a multigenerational workforce (Ready et al., 2020; Hill et al., n.d.)

2.1. Outdated skills and mindsets

There is a need for every employee to be tech-savvy and the role of technology is no longer constrained to the IT department. Digitally literate leaders will be better equipped to integrate pertinent technologies into their plans (Erhan, Uzunbacak, and Aydin 2022). This is especially important as leaders have to lead virtual teams (Madden, 2024).

A report by Deloitte's Center for Board Effectiveness (2022) found that companies with tech-savvy boards experienced 5% greater revenue growth over a three-year period than companies with a non-tech savvy board (Saif et al., 2022).

94% of leaders have reported to have "tech anxiety" this is mainly because they feel that technology is evolving at an alarming rate and that they are unable to cope up (Madden, 2024). This fear is mostly among business leaders who have gotten sued to working in a traditional setting (Wood 2024). Davenport and Kirby 2015 suggest that leaders need to replace their tech-anxiety by cultivating a growth mindset. They must view technology as a leverage to make better decisions rather than a threat. They can learn from others who are tech-savvy by fostering a

collaborative work environment. They can also seek help from experts that are outside the organization (Johnson 2024).

2.2. Lack of self-awareness

Emotional intelligence is a key leadership skill. According to Goleman et al. (2001), there are five components of emotional leadership. They are knowing oneself, regulating ones emotions, internal drive, understanding the emotions of others, and social skills (Goleman et al., 2001). Being aware of oneself is essential to comprehending how one's emotions impact oneself and others. A leader's emotional condition is reflected in the organization's culture and productivity. (Goleman et al.,2001).

A lot of today's leaders lack the necessary self-awareness: Blind spots interfere with their capacity to prepare for the demanding and digitalization-induced competitiveness that is unfamiliar. There are four kinds of blind spots as identified by research and they are: personal, cultural, human capital and strategic (Ready et al., 2020).

2.3. Working with a multigenerational workforce

There are currently four different generations working together, each with different unique traits and attitudes (Waldman, 2021). This has happened for the first time in modern history and sets a precedent for future workforces (Waldman, 2021).

- Baby boomers (1946 to 1964) – known for their work ethic, commitment to work, and loyal to their organizations (Gordon, 2016).
- Generation X (1965 to 1980) – value independence and work-life balance, prefer open-communication (Simonyan, 2023).
- Millennials (1981 to 1994) – proficient in technology, collaborative, value work-life balance and continuous learning (Simonyan, 2023).
- Generation Z (1995 to 2009) – Digital natives, prioritises mental health and work life balance, challenges the status quo, expects change and disruption (De Witte, 2024; Mahapatra et al., 2022)

Each of these generations are in a different phase of their careers. Baby boomers are planning for retirement, Gen x is moving into leadership roles, Millenials make up most of the workforce demographic and Gen Z is beginning their professional journey (Stanchak, 2024). In order to successfully lead a multigenerational team, leaders have to be open to understanding them and must challenge preconceived notions about generational preference (Srinivasan 2012; Stanchak, 2024).

Having a multigenerational workforce brings in a plethora of advantages: perspectives are varied and boosts innovation, having different age groups translates to more mentorship opportunities making knowledge transfer a seamless process, it also helps in succession planning by having a strong talent pipeline (Castrillon, 2024).

3. Leading Hybrid and Virtual Teams – an emerging phenomena

Technology has enabled leaders to make the shift from traditional management to having strategic oversight of business practices. As technology is advancing, it could support a few of the leadership functions like task-oriented and relational leadership (Quaquebeke and Gerpott 2023).

When the Covid-19 outbreak struck, businesses had to switch to a completely remote working strategy. This was previously never explored (Pabilonia and Redmond 2024). Once the pandemic subsided, organizations transitioned to a hybrid working model, introducing flexible work options. In order to successfully manage hybrid working employees, leaders who were used to overseeing on-site staff had to adjust and retrain themselves. Strategies that previously worked in traditional workplaces had to be modified to work in digital organizations. Below are six areas from research that leaders can incorporate into their strategies to effectively succeed in leading hybrid workforces.

Hybrid working and flexible work arrangements have become the new norm for all. It has implications in six critical areas of leadership. That are elaborated below:

3.1. Communication

Leaders have to find new ways to communicate to and engage with their teams. Having a suitable platform for every type of communication is necessary while making the switch to virtual communication. Some problems might need help right away, while others would call for departmental cooperation (Janssen and Carradini 2021).

3.2. Meetings

Employees working remotely might not all be in the same time zone. So, it is important that leaders are mindful of everyone's availability when scheduling a meeting. For important meetings it can help to set the date and time beforehand and communicate it to the team to ensure that they can plan ahead (Rathore 2022).

3.3. Work arrangements based on tasks

The drivers of productivity like energy, focus, and coordination varies among different roles. It is important to customise work arrangements keeping in mind the drivers most needed for the task. For instance, those involved in strategy might require focus and collaboration while team managers might require synchronous communication for effective coordination (Gratton, 2021).

3.4. Consider Employee Preferences

Workplaces of today are hyper-personalised and put their employees first (Karra 2024). Given the nature of the work, it is crucial to comprehend employees' preferences (work-life balancere, health, recognition, etc., flexible time out, learning opportunities, etc.). This can be done with the help of surveys and interviews. Few employees might work better when they are at home while others may work better when they are at office. Acknowledge that preferences can vary

significantly based on personal circumstances, such as living situations and tenure with the company (Gratton, 2021). This has been implemented by many organizations like Google, SAP, Amazon (Kitterman 2024).

3.5. Reimagine Projects and Workflows

Hybrid arrangements work best when workflow is streamlined. This gives a chance to remove the existing inefficiencies in the process. Technology can be used to enhance coordination and communication among team members. This ensures that everyone is connected and aligned with the work being done regardless of their geographic location (Kane 2019; Gratton, 2021).

3.6. Promote Inclusion and Fairness

One of the benefits of hybrid work culture is having access to a diverse set of employees. So, it is important that this diversity is taken into consideration when formulating hybrid work policies. There should be a forum where employees can voice their concerns freely knowing that they will be heard equally. It's critical to continuously assess how hybrid practices affect team spirit and performance (Trevor & Holweg, 2022).

4. Leaders shifting from resilience to agility

The capacity of leaders to successfully learn and adjust under challenging and changing circumstances is known as leadership agility (AlNuaimi et al. 2022). According to Mahapatra et al. (2024), there are seven elements that enable leaders to respond to environmental shocks with agility and effectiveness. They are divided into three inward focus dimensions and four outward focus dimensions.

The three aspects of inward focus are purpose and fulfilment, strong value orientation, and empathy (Mahapatra et al., 2024). These categories relate to the leader's internal focus, which

offers a sense of equilibrium, serenity, and poise to deal with upheavals and unpredictability. Practical mindset, coach, change advocate, and collaboration mindset are the four outward focus dimensions (Mahapatra et al., 2024). According to Mahapatra et al. (2024), these four categories relate to the leaders' capacity to foresee disruption, effectively handle external forces, and form coalitions in order to successfully navigate through crises.

5. Employee wellness in the digital era

While traditionally many organizations looked at health of the employees as an extra welfare activity and not as a core. With the pandemic, health and well-being have become a central focus for many leaders, emphasizing both employee welfare and business outcomes.

A positive state of being is what international health organizations refers to as wellbeing. Similar to health, it is a daily resource that is impacted by social, economic, and environmental factors. (World Health Organization, 2024). Wellness includes both the standard of life and the ability of individuals and communities to contribute meaningfully and purposefully to the world (World Health Organization, 2024).

The pandemic forced us to work virtually for the first time and lead us to rethink our working habits and prioritize our mental and physical health (Brenton, 2022). As businesses change their priorities to better serve their people, we are witnessing a corporate revolution. For years, mental health has been stigmatized, and up until recently, it wasn't given enough attention at work. According to data, Gen Z prioritizes mental health while searching for a job, so cultivating a wellness-focused culture could also be a successful recruitment and retention practice (Brenton, 2022).

The amount of time spent on screens at work has increased by 30% since 2020, and one of the main consequences of this change in workplace culture has been technostress (Blankson, 2024). Organizations frequently ignore the negative impacts of extended screen time on productivity and health, despite the obvious indicators (Blankson, 2024).

Leaders can encourage employees to take breaks and time off, spread awareness about the negative implications of excessive use of technology on their mental and physical health, equip them with practices like digital detox and other tools to disconnect from their devices and make positive changes (Franca, 2024).

5.1. Work-life balance

With digitalization, most of the work is now done on technological devices. This has blurred the lines between work hours and non-working hours. In such a time, it is crucial to have well defined boundaries. Boundaries can be physical, psychological, or emotional (Kossek 2016).

Research demonstrates that having strong work-life boundaries can offer a way to lessen role conflict and improve the wellbeing of teams, organisations, and individuals (Kossek 2016). In addition to lowering work-life disputes, good work-life boundary management can improve mental and physical health and lower stress, burnout, addictions, and mood disorders. Effectively managed work-life balance can benefit organisations by increasing employee engagement, lowering attrition, attracting talent, creating a more diverse workforce, and lowering absenteeism and health care expenses (Kossek 2016).

5.2. Mindfulness

86% of workers reported having faced stress in the previous year, and 83% of those in the high stress category said that their stress was caused by their jobs, according to a survey by Kohler (2024). Practicing mindfulness at the workplace is a great tool to help mitigate stress and anxiety as it boosts well-being and resilience (Mahapatra et al., 2024).

Digitalization has lead to a constant influx of information which can be overwhelming (Arnold, Goldschmitt, and Rigotti 2023). Mindfulness can be the antidote in such situations as it helps regulate the nervous system and increase focus in the present moment (Dane 2010).

Mindfulness is also useful in the digital age as it helps in building a robust digital infrastructure and helps foster meaningful connections (Li et al., 2019). However, organizations need to be

supportive of mindfulness programmes and create routines to ensure that employees can efficiently incorporate them into their daily lives (Chin et al. 2018).

6. **Methodology**

A targeted literature review served as the foundation for this conceptual work. The paper is also influenced by the primary author's current research on leadership agility, leader as a coach, talent management, and three decades of industry experience as an HR leader across many industries and teaching experienced MBA students on Leadership in the Digital Era in a premier B-school in India for a couple of years and senior business leaders on the opportunities and challenges of leadership over last two decades. The paper also utilizes insights of active industry presentations by MBA student projects and executives to gain deeper insights.

7. R**esults and discussion**

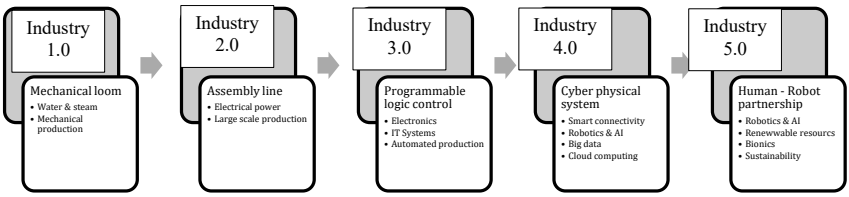
Leaders in the Digital Era use communication tools to enrich virtual teams, use data-driven decision-making, and leverage technology to streamline processes creating business value (Ciaramello, 2024).

Effective leadership necessitates strong technological, interpersonal, and organizational abilities (Ciaramello, 2024). Job loss due to technology has been a significant stressor for employees. The leaders need employment pathways for future job creation (Gratton, 2018).

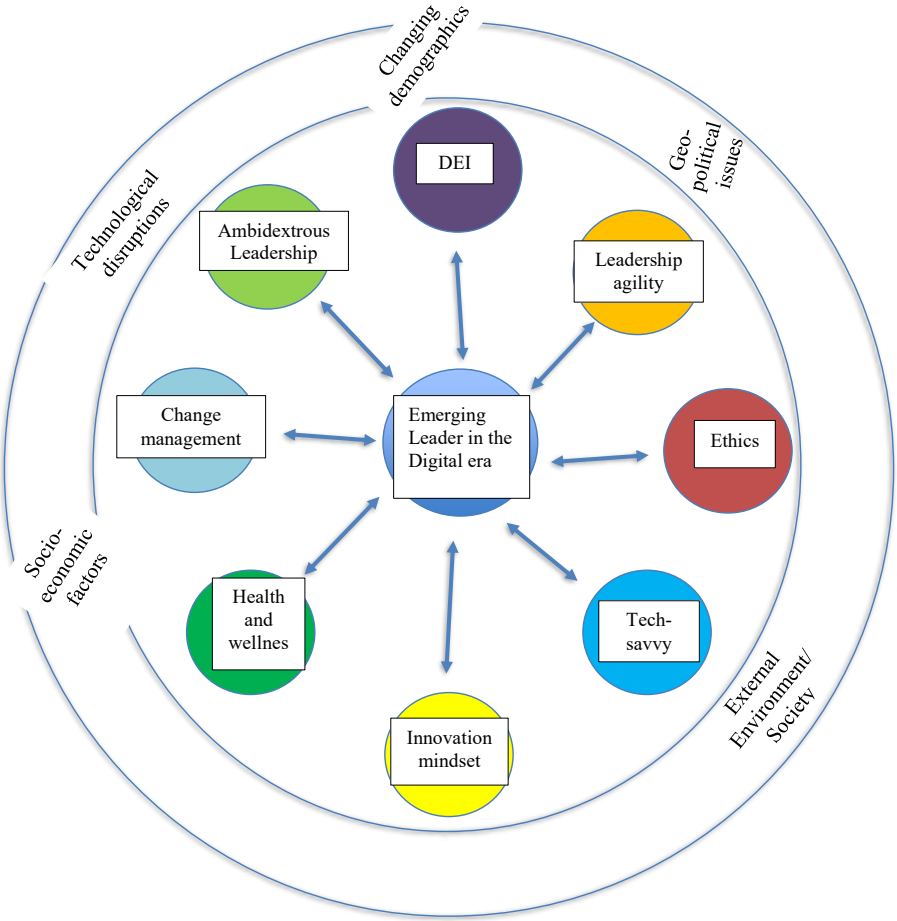
The leaders need to build learning organizations that continuously develop their employees and organization . With the evolution of work, leaders must be role models for flexibility by embracing remote work and developing leadership agility (Gratton 2018; Joiner 2019).

8. Models

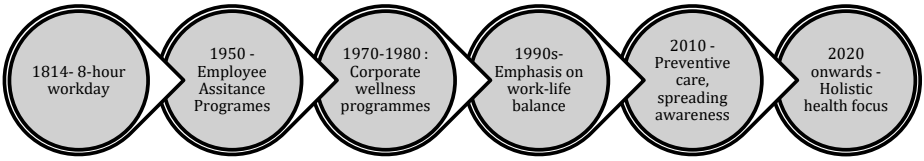
8.1. *Fig 2:* Progression across the industrial revolutions



8.2. ***Fig 3:*** **Integrated Leadership framework – a holistic perspective**



8.3. ***Fig 4:*** **Evolution of Workplace Wellness: From Traditional Practices to the Digital Era (Pre-Globalization to Post-Pandemic)**



9. Limitations of the current paper

This is a conceptual paper and builds on findings by experts in the field and the expertise and experience of the author. Which may make it difficult to generalise across industries. The leadership dynamics discussed might not fully account for regional and cultural differences in digital adaptation and leadership practices.

10. Areas for future research possibilities

Future research in this area could be empirical to gain more insights. Expanding the study to explore how leadership in the digital era varies across different cultural and economic contexts. Research might also be conducted in each industry, such as academia and healthcare, to gain a better understanding of how tech-enabled leadership affects those industries.

11. **Conclusion**

The digital era is fast-paced with constant disruptions. Organizations and leaders are leveraging it to scale to new heights. This brings with it, tech-anxiety among leaders and growing digital skills gap among employees. To thrive in a constantly changing digital environment, leaders need have a growth mindset, be ambidextrous ,agile, and proactive, taking on the role of a coach . They need to enable the holistic well-being of their employees and focus on creating an environment conducive to continuous learning and reskilling.

They must build a DEI-centric organization to guide hybrid, multi-generational teams; including the gig workers. Corporate governance and ethics with sustainability will demand greater attention. Although this digital transition may initially seem daunting, it has great potential to transform organizations. It is crucial to fostering innovation, sustainable growth, and staying ahead of the competition.

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