

How Companies are Responding to the Impact of Technology on the Future of Work

Qiwen Shen

The University of Nottingham - Ningbo, Ningbo, 315100, China

Abstract. The rapid development of digital technologies, particularly artificial intelligence (AI), automation, and robotics, is profoundly reshaping the nature of work and organizations. This paper examines the impact of these technologies on the future of work by first introducing the theoretical foundations of technological disruption and human-AI collaboration. Automation and AI can perform not only routine manual and cognitive tasks but also more complex knowledge work, leading to predictions of widespread job displacement. However, digital technologies have also facilitated the emergence of new forms of work and employment, such as the platform economy and remote work. In the face of technological disruption, companies face both opportunities and challenges, needing to leverage advanced technologies to drive innovation, efficiency, and resilience while actively addressing the implications for the workforce and organizational change. By analyzing cases from DBS Bank and Stitch Fix, this paper demonstrates how enterprises optimize human-AI collaboration through workflow reengineering, job redesign, and workforce retraining during their digital transformations. DBS Bank has achieved efficiency gains and workforce skill upgrades through its "digital-to-the-core" strategy and the "DBS Skill Enhancement Education and Development (SEED)" program. Stitch Fix showcases the power of human-AI collaboration through its online personalized styling service that combines algorithmic recommendations with human judgment. Finally, this paper provides recommendations for organizational leaders, including making bold investments in workforce retraining and upskilling, optimizing job and process designs for human-AI collaboration, cultivating a culture that welcomes technological change, and emphasizing digital ethics and human-centered design.

Keywords: digital technologies; human-AI collaboration; enterprise practices; organizational change; digital ethics.

1. Introduction

The rapid advancement of digital technologies like artificial intelligence (AI), automation, and robotics is dramatically reshaping the nature of work and organizations. As Santana, Valle-Cabrera and Ulrich (2021) emphasize, technology is one of the key forces driving the evolution of work in the 21st century. While some predict widespread job losses from automation, others foresee technology augmenting and elevating human capabilities in the workplace (Wilson and Daugherty, 2018). This essay examines how companies are responding to the profound impact of technology on the future of work. It first lays out the theoretical foundations, discussing key concepts around technological disruption and human-AI collaboration. It then illustrates the practical implications through case studies of DBS Bank and Stitch Fix. Finally, it provides recommendations for organizational leaders navigating this technological transformation of work.

2. Theoretical Foundation

2.1. Technological Advancement and the Future of Work

Digital technologies are transforming work and organizations in fundamental ways. Automation and AI are increasingly able to perform not just routine manual and cognitive tasks, but also more complex knowledge work (Santana, Valle-Cabrera & Ulrich, 2021). This has led to predictions of significant job displacement. A 2013 study by Frey and Osborne estimates that 47% of US jobs are at high risk of computerization in the next two decades. While such forecasts have been criticized as alarmist,



most experts agree that technology will substantially disrupt jobs, even if it ultimately creates more than it destroys (Autor, 2015).

At the same time, digital technologies are also enabling new forms of work and employment. The growth of the platform economy and gig work, exemplified by companies like Uber, is only possible because of mobile computing and algorithms that can coordinate labor on-demand (Gandini, 2019). Remote work and digital nomadism, which exploded during the COVID-19 pandemic, likewise rely on communication and collaboration technologies. As Hannonen (2020) notes, "digital nomadism is driven by important societal changes, such as the ubiquity of mobility and technology in everyday lives and increasingly flexible and precarious employment."

In this context of technological disruption, companies face both opportunities and challenges. They can harness advanced technologies to spur innovation, efficiency and resilience. But they must also proactively address the workforce and organizational implications. This requires major investments in reskilling to prepare workers for the jobs of the future. It also necessitates redesigning jobs and processes around human-machine collaboration. A narrow focus on automation risks ignoring the crucial role of human skills and alienating workers (Frey, 2019). A more promising approach, as the next section explores, is to thoughtfully combine the unique strengths of humans and intelligent machines.

2.2. Collaborative Intelligence and Human-AI Interaction

Even as machines become more capable, humans remain essential to the workplace of the future. The concept of collaborative intelligence envisions humans and AI working together synergistically, leveraging their complementary abilities (Wilson and Daugherty, 2018). Humans excel at leadership, teamwork, creativity, social interaction, and coping with complexity and unpredictability. AI systems are unmatched in their ability to rapidly process vast amounts of data, identify patterns, and optimize solutions.

When humans and machines collaborate, the whole is greater than the sum of its parts. For example, an AI system can scan thousands of résumés to surface promising job candidates, but human recruiters can then apply sophisticated judgment in interviewing and assessing their fit. AI-powered clinical decision support tools can help doctors rapidly analyze symptoms and medical records to recommend personalized treatments, but human physicians are crucial for interpreting results contextually and communicating empathetically with patients. The most productive forms of human-AI interaction are designed to enhance rather than replace human agency (Abbass, 2019).

Companies at the forefront of the future of work recognize that realizing the full potential of AI depends on actively promoting human-machine collaboration. This requires focusing on both the technological and human elements - building powerful AI solutions but also preparing the workforce to effectively interact with AI through training and thoughtfully redesigning workflows and interfaces (Wilson and Daugherty, 2018). With the right approach, as the company examples illustrate next, human-AI interaction can drive significant performance improvements.

3. Company Examples

3.1. DBS Bank: Digital Transformation and Workforce Reskilling

DBS, a leading financial services group in Asia, embarked on an ambitious digital transformation in the mid-2010s to stay competitive in an increasingly tech-driven industry. A key pillar was becoming "digital to the core" by embedding AI and automation across its businesses (DBS, 2021). For example, DBS uses AI to detect money laundering, recommend products to customers, and predict branch traffic. Automating repetitive tasks has boosted efficiency - straight-through processing of payments increased from 60% to 90%.

Notably, DBS integrated its AI initiatives with significant investments in workforce transformation. It rolled out the "DBS Skill Enhancement Education and Development (SEED)" program to reskill and upskill employees for digital roles. Employees can also take AI courses and get professional certifications in the areas of data analytics, machine learning and agile development through SEED. DBS also collaborated with AWS, Google and others to personalize training. SEED had helped over 1200 staff to take on new positions like data scientists, scrum masters and UX designers by 2020.

DBS's human-centric method of digital transformation earned it the prime position of "World's Best Digital Bank" and "World's Best Bank for AI" in the 2021 Euromoney Awards for Excellence. DBS exhibits how an AI-empowered workforce can be created by proactively reskilling employees to work effectively with AI rather than being removed by it.

3.2. Stitch Fix: Human-AI Collaboration in Fashion Retail

Stitch Fix, an online personal styling service, demonstrates the strength of human-AI collaboration. For a \$20 styling fee, Stitch Fix sends to customers a curated box of five clothing items and accessories chosen by a blend of algorithmic recommendations and human judgment (Hsiao, 2018). Customers keep and pay for what they like and return the rest.

The Stitch Fix algorithms are able to process tons of customer data, including answers to the style quiz, measurements, previous items feedback, and even social media activity. The AI then suggests the personalized clothes which is according to the customer's style, fit and price preferences. Nevertheless, the AI does not fully automate the process. The algorithmic outputs are given to human stylists who make the final call as to what goes into each customer's "Fix." The human stylists can go against the AI recommendations with their knowledge of current fashion trends, styling expertise and ability to understand emotions. They write a personalized thank you note to be enclosed with each Fix, where they explain their choices and suggest outfit combinations.

This human-AI integration is the main reason for the popularity of Stitch Fix in a difficult industry for online players with more than \$1.7 billion annual revenue and 4.1 million active clients as of 2021 (Stitch Fix, 2021). The AI enables Stitch Fix to obtain and use millions of customer interactions' insights while the human stylists keep the curations personalized and enhance customer closeness. As Founder and CEO Katrina Lake puts it, "We have found that there is a big power in human and data combination" (Hsiao, 2018). Stitch Fix aims to keep merging AI with human intelligence while it broadens its product categories and markets.

4. Implications And Recommendations for Organizational Leaders

As the DBS and Stitch Fix examples illustrate, organizational leaders must proactively prepare their companies and workforce for a future in which human-AI collaboration is increasingly the norm. Four key imperatives stand out:

First, invest ambitiously in workforce reskilling and upskilling. As repetitive tasks are automated, focus on building distinctively human skills like critical thinking, creativity, communication and problem-solving (Daugherty and Wilson, 2018). Launch comprehensive retraining initiatives, partner with educational institutions, and incentivize continuous learning.

Second, redesign jobs and processes to optimize human-machine collaboration. Deconstruct work to assess which tasks are best performed by humans or machines. Then re-engineer roles and workflows to harness the strengths of both while keeping humans firmly in the loop. Develop AI systems that augment and empower human workers rather than fully automating them away.

The third point is to instill the culture of the organization where the IT changes are welcomed. Highlight human potential as the ultimate beneficiary of technology, and not an adversary. Encourage experimentation and innovation. In addition to change management support, ensure that new human-AI processes are up and running properly.

Last but not least, emphasize digital ethics and humanity-orientatedness. Draft strong ethical and governance principles for effective AI product development and usage. Strictly ensure by way of counter experiments that there are no unintended consequences or bias involved in the AI system. Design AI interfaces and interactions through placing the needs of end-users at its core. In the end, we should strive for humanization of work, not only on the one hand, to achieve increased efficiency of labor, but on the other hand, to preserve the human experience.

5. Conclusion

The influence of the technologies like AI and automation on the world of jobs in the future is great. It is deep rooted. The leading organizations take these quite responsibly by implementing thoughtful strategies of those technologies to enhance and elevate the capabilities of the human workers. A concept of collaborative intelligence which involves a human cognition capabilities blending or integrating with artificial intelligence powered systems is the one that lights the way forward.

Organizations can succeed in the future by investing in new technology and also focusing on employee skills and designing technology around human needs. Work in the future will involve collaboration between humans and machines. Organizations that do this well will see major performance improvements. They will also create new and powerful ways for humans to be productive and thrive in the digital age

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