Is AI a boon or bane for employee productivity?

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Does technology handicap productivity? History says yes. Economist Robert Solow famously quipped in 1987, “the computer age is everywhere except in the productivity statistics”. Solow’s paradox may be recurring with AI. The debates in the measures of productivity in the digital era aside, the common quantification of it as output per unit of labour input, indicates that productivity has declined globally and continues so in developed economies. Meanwhile, AI capabilities advance to superhuman levels: Google’s DeepMind beat Korean Go master Lee Se-dol while DeepStack AI beat humans at poker. Similarly, an AI-generated painting won top spot in an art competition in Colorado, leaving artists furious about AI disrupting art.

Leaders remain excited about the opportunities for technology advancement while being concerned about the fate of workforce. Automation may substitute or complement labor; some studies indicate that 50% of American jobs may be automated in two decades. Others consider AI a utopia where more jobs are created than destroyed. Scholars remain ambivalent around how AI impacts worker productivity, design of new firms and markets, and how this rolls up into economic impact. We believe this is an imagined dichotomy; an oversimplification of a multidimensional issue that ignores larger questions around the skills employees need to remain productive in the AI age, new forms of jobs, and how to bring workers along at all stages of AI integration.

Singularity – a state where machines emulate human cognition – may be nirvana for productivity enthusiasts; imagine a world where algorithms become our second brain, offloading mundane tasks while leaving space for meaningful intellectual pursuits! AI optimists argue that productivity slumps may be attributed to the shortcomings of measurement techniques and that the digital bounty offered in terms of convenience and

higher living standards remains unaccounted. However, these benefits may be distributed unevenly; specific sectors and market leaders may achieve productivity gains faster than others. Are there simple solutions applicable across organizations? No, and we doubt if they would ever be; we look forward to more academic and practitioner studies analyzing the true relationship between productivity and technology.

Meanwhile, what can leaders do to enhance employee productivity? Scholars offer three broad suggestions:

1. **Identify opportunities where technology augments employees' skills:** To keep employees productive, leaders need to reframe AI's role as transcending substitution and shifting towards augmentation. AI may be assigned a role where it operates as a useful helper organizing the non-value adding minutiae of employees' workdays (like timesheets) freeing them for up intellectually challenging tasks. Complex mathematical tasks may also be AI's forte: Autodesk's Dreamcatcher takes a designer's specifications for furniture as inputs (cost, material etc.) and churns out thousands of matching designs surpassing the designer's imagination and sparking new ideas for aesthetic work. Aida, a virtual assistant at a Swedish bank is another example: it accesses vast stores of information and handles natural language conversations. When humans are required to solve the customer's problem, Aida monitors these conversations to better prepare itself.
2. **Rethink organizational design:** What will jobs of the future look like? Leaders must answer this through a company-wide assessment of jobs that remain relevant and by anticipating what jobs can be transferred to AI. Employee displacement only creates short-term productivity gains; longer-term productivity improvements arise from human-AI collaborative intelligence. Use employees for AI training: preparing voluminous datasets and repeatedly directing AI to detect

disease or make financial recommendations based on data patterns are examples. Explaining AI results is another avenue especially in highly regulated industries: algorithms are complex black boxes and customers face challenges when understanding why the algorithm made specific decisions on their health or insurance. Finally, deploy sustainers: individuals who ensure that AI works as expected without causing physical damage or ethical breaches. Leaders may benefit from flattening their organization structure and incorporating training, explaining, and sustaining in employees' work profiles to enrich their jobs and enhance productivity.

3. **Train employees in new skills:** Leaders must invest in employee training as they transition to a 'smart' enterprise. Studies show that employees are eager to learn, for reasons bigger than employability. Teaching them 'fusion skills', those that enable them to work effectively at the human-machine interface, will help. Delegation to AI comes first, followed by combining human skills like empathy and judgment with numeric data. For example, an organization planning to build an AI-based yield prediction system for farmers changed its strategy after its employees interviewed farmers and recognized a more urgent need for real-time recommendations on farming. Co-creating a solution using human and AI inputs resulted in happy farmers, productive employees, and higher profits.

The debate between technology and productivity will continue. Keeping employees productive requires leaders to do different things and do things differently. Using AI to merely replace workers may decrease the organization's productivity as the potential of co-creation remains unexplored. We believe the key to a productive future workforce is for leaders to embrace collaborative intelligence by transforming their organization's structure and more importantly, the AI-employee interface.