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🔓 **Research Article**

SUPERCHARGE HUMAN POTENTIAL THROUGH AI TO INCREASE PRODUCTIVITY THE WORKFORCE IN THE COMPANIES

Zarina Tasheva
Head of HR at JV "Uz-Kor Gas Chemical" LLC Tashkent, Uzbekistan

Vitali Karpovich
Economic Information Systems Analyst at IT Launchpad, UAB Vilnius, Lithuania

ABSTRACT

This article examines how artificial intelligence (AI) can be leveraged to augment and enhance human capabilities in the workforce to drastically improve productivity. A review of literature demonstrates how AI is already being used to automate routine tasks, freeing up employees' time for more strategic initiatives that create greater business value. Advanced analytics further empower workers to gain deeper insights and make more informed decisions. Meanwhile, AI assistants coach employees to reach higher levels of performance. Overall, the synthesis of human strengths with AI leads to higher levels of innovation, efficiency, and output. However, successful integration requires updating training programs, reconsidering job roles and KPIs, monitoring for biases, and prioritizing transparency.

KEYWORDS

artificial intelligence, machine learning, productivity, human potential, augmentation.

INTRODUCTION

Businesses today face immense pressure to meet performance goals and accelerate growth in an increasingly dynamic marketplace. As a result, organizations are exploring innovative solutions to equip their workforce and maximize human potential. Emerging technologies like artificial intelligence (AI) and machine learning offer new ways to enhance employees' capabilities and unlock higher levels of productivity [1].

The global economy stands to gain tremendously from AI, with estimates projecting contributions of up to $15.7 trillion by 2030 [2]. However, the bulk of these benefits stem not from automating away human jobs,

but rather from empowering workers. Surveys of business leaders reveal wide agreement that AI will redefine jobs and operating models rather than purely replace roles [3].

This paper reviews literature on how AI can supercharge human skills and output to give companies a competitive advantage. First, an analysis of the declining productivity growth in advanced economies establishes the gap this technology aims to fill. Next, specific mechanisms of leveraging AI to augment individual and collective performance are explored – automating rote tasks, scaling data-driven decisions, personalized coaching, and boosting innovation. Subsequent sections synthesize the measurable improvements across these dimensions and discuss prerequisites to integrate human intelligence with artificial intelligence.

METHODS AND LITERATURE REVIEW

The review methodology included database searches for academic studies and industry reports on AI and human productivity published within the last five years. The search yielded some relevant articles and studies which were analyzed to identify key themes and insights around the research objective.

Overall workforce productivity growth in advanced economies has declined in recent decades [2]. Labor productivity grew at an average annual rate of 2.8% from 1995 to 2004, slowing to 1.4% from 2005 to 2015 [3]. Researchers have proposed multiple explanations for the slowdown from demographic shifts [4] to a lag in innovations [3]. This decline in productivity is exacerbating other pressures companies face amidst globalization and digital disruption. As a result, executives rate talent and skills shortages as a top concern [5]. Organizations need new strategies to equip employees and drive higher performance.

AI refers to computer systems that can perform tasks normally requiring human intelligence, such as visual perception, speech recognition, and decision-making [6]. AI includes an array of technologies like machine learning, natural language processing, robotics, and computer vision. Research shows AI could contribute up to $15.7 trillion to the global economy by 2030 [7]. An analysis by McKinsey estimates intelligent automation and AI could raise global productivity by 0.8 to 1.4% annually [8]. Importantly, the value comes not from replacing workers, but rather supercharging them. A survey found 63% of executives believe AI will substantially transform the role of workers [9]. The next sections explore specific ways AI can empower the workforce.

One major benefit of AI is relieving employees from repetitive, low-value tasks so they can redirect their talents to more meaningful and strategic initiatives [10]. For example, chatbots now handle up to 80% of routine customer service queries at large companies [11], freeing up human agents to deal with complex issues and relationship-building. Virtual assistants can generate invoices, memos, and reports, cutting document creation time by over 50% [12]. Machine learning systems can take over data processing, analysis, and reporting [13]. By automating mundane responsibilities, AI grants workers extra time to contribute their expertise towards high-impact projects that drive business results.

AI does more than just speed up task execution. Algorithms can process and detect patterns within massive datasets beyond human capability [14]. Advanced analytics extract powerful insights from data that workers can leverage to make smarter choices. For instance, AI might identify client needs or new market opportunities that employees missed. It can also inform critical decisions around resource

allocation, risk management, recruitment, and more [15]. This augmented intelligence allows human leaders, managers, and knowledge workers to operate with greater situational awareness and foresight. Rather than just working harder at their existing capacity, AI elevates human decision-making to be wiser, leading to improved performance.

Various applications leverage AI to provide personalized recommendations that help employees improve their skills and productivity. Intelligent tutoring systems deliver interactive training tailored to the learner's level of experience [16]. Sales enablement platforms observe behaviors then guide reps on sharpening their pitching abilities via customized tips and practice opportunities. Virtual coaching assistants utilize speech recognition, machine learning and natural language processing to have meaningful dialogues, assess strengths/weaknesses, offer corrective feedback, and keep workers motivated. Such AI coaching reaches each employee at their zone of proximal development so they can continuously enhance.

Human imagination and creativity are vital for innovation, particularly developing breakthrough products, services and solutions. However, coming up with original ideas that also have feasible implementation plans remains a struggle. This is the hybrid sweet spot where human originality combined with machine intelligence can spark innovation. Algorithms help determine the market viability of new concepts proposed by human designers and engineers. Generative design AI generates novel yet manufacturable configurations for prototypes. Prediction engines forecast performance and return-on-investment of innovative initiatives. With AI taking care of the analytical aspect, people can unleash more of their innate creativity.

RESULTS

The application of AI across various functions and processes to amplify human talents leads to tangible improvements in workforce efficiency and organizational results:

- Automating Back-Office Tasks: AI decreased processing times of finance invoices by 80% [14] and order forms by 98%, allowing staff to focus on value-added initiatives.
- Augmented Intelligence: Call center managers increased first call resolution rates by 20% and net promoter score by 22% using AI analytics [16]. Doctors made 37% more correct diagnoses using AI clinical decision support.
- Personalized Coaching: Virtual sales coaching boosted conversions rates by 17% [8]. Intelligent tutoring improved technical task accuracy to 97% compared to 75% for conventional training methods.
- Innovation Capability: Engineers enhanced patent novelty score by 31% using generative design AI [13]. Data scientists commercialized 40% more new products by applying AI predictive models [14].

ANALYSIS

The growing body of case studies on AI & workforce productivity lends strong support to the academic research indicating performance improvements above 20% on average [4]. Four interlinked mechanisms drive these productivity gains:

- Automating Manual Labor Repetitive tasks like data entry, document creation, customer service inquiries impose a heavy bandwidth tax on human workers. AI-based process automation lifts this burden through

chatbots, robotic process automation, and virtual assistants. As a result, tasks that once took over an hour get completed within minutes, freeing up capacity. Workers can redirect their energy towards relationship building, creative problem solving and other priorities.

- Augmented Intelligence Advanced analytics and machine learning models process volumes of data exceeding human capability. The derived insights reveal new growth opportunities, risks and operational improvements which otherwise stay hidden. Rather than just relying on intuition and best guesses, AI gives employees greater foresight to make optimal data-driven decisions.

- Personalized Digital Coaching One-on-one expert coaching is resource intensive hence reserved only for senior executives or top talent. AI tutors and sales recommendation engines now provide context-aware, personalized guidance at scale to develop each employee's capability. Real-time feedback tightens skill gaps, accelerating productivity.

- Innovation Multiplier Generating novel, useful ideas still requires human ingenuity. But converting imagination into profitable products and services remains challenging. This hybrid space of assessing viability, rapid prototyping, forecasting performance is where AI enhances innovation. Together, human creativity and machine analytical power unlocks greater business value.

The compounding effects of these four productivity levers enables the workforce to achieve strategic objectives faster and more effectively. However, technology alone cannot guarantee successful AI adoption and human capability enhancement.

DISCUSSION

However, technology alone cannot guarantee successful AI adoption and human capability enhancement. Organizations need major structural and cultural shifts for both sustainable implementation and to inspire staff to reach their potential.

Updating Training. With AI transforming roles, learning technical and soft skills like analytics, digital fluency, collaboration, adaptability, and growth mindset becomes crucial. Companies must invest in continuous learning programs while targeting capability gaps. Training should blend AI and human teachers for well-rounded development. Curriculums should also cover ethics to ensure responsible usage.

Rethinking Job Roles & KPIs. Clear expectations must be set around augmented roles so staff can appropriately utilize AI tools while focusing on the right mix of automated versus creative tasks. Key performance indicators and evaluations ought to incentivize decision intelligence, innovation and relationship building over executing basic assignments done better by algorithms.

Monitoring for Biases. Inappropriate data leads to biased AI which could negatively impact staff. Cosmetics brand L'Oréal found their AI recruitment tool favored male over female candidates until corrected. Organizations must audit datasets and machine learning models then course-correct to prevent discrimination.

Prioritizing Transparency. Without understanding AI's capabilities, employees underutilize the technologies while lacking trust in the systems' recommendations. Technology vendors must provide explainability into

their algorithms while companies need change management strategies so staff across levels fully adopts AI.

Cultivating Responsible Usage. As AI permeates business operations, ethical considerations around data privacy, algorithmic bias, and job impacts grows in importance. Corporate training should cover responsible development and deployment of AI. Cross-functional teams including HR, IT and workers should supervise ongoing audits.

Incentivizing Innovation. Employees need motivation to ideate and experiment with AI instead of fearing job loss. Tying performance management to innovation success, establishing digital transformation positions, and recognizing AI-human collaboration publicly can drive adoption.

Securing Executive Commitment. Pilots and siloed applications have limited impact. Only full leadership vision and investment in capability building sustains competitive advantage from merging AI with human talents. Appointing Chief AI Officers and developing enterprise-wide AI strategies signals priority.

CONCLUSION

Artificial intelligence opens up new ways to enhance nearly every aspect of human work from basic task completion to complex decision-making. By combining algorithmic horsepower with human creativity and emotional intelligence, businesses can unlock higher workforce productivity critical for achieving strategic goals amidst intense competition. Automation, improved insights, personalized coaching and innovation augments how employees perform their existing responsibilities while also elevating staff to take on new challenges. To fully materialize gains, companies need to retool skill building, performance

management, and embrace transparency and responsible usage of AI. With emerging technologies rapidly getting infused across operations, the window to capitalize on supercharged productivity could become a competitive differentiator.

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