WAPS

WORLD ACADEMY OF PRODUCTIVITY SCIENCE

A Collection of Short Essays on Productivity in Practice

Fellows of WAPS
presenting their perspectives and experience on Productivity

Volume One

September 2024

World Academy of Productivity Science

The World Academy of Productivity Science (WAPS) is a division of the World Confederation of Productivity Science (WCPS). It is comprised of individual members who support the goal of WCPS and who wish to contribute to its work.

WAPS' **Vision** is to become the premier global body for the promotion and development of productivity towards achieving worldwide collaboration and sustainable growth.

WAPS' **Mission** is to create, enhance, and disseminate the body of knowledge (BOK) for global productivity through WAPS' worldwide network.

WAPS is an academic body focusing its activities on knowledge management, capacity building, research, and recognition of productivity professionals by inducting them as Fellows of WAPS.

Fellows of WAPS are carefully selected and honored. They are individuals who are recognized by their peers and their communities for their knowledge creation and sharing, performance results achieved and/or policy implementation accomplishments that distinguish them as contributors to the field of productivity science.

Once inducted, Fellows become Honorary Members of WAPS. The Academy maintains its global Honorary Membership to a maximum of 500 active Fellows at any one time.

The consistent hard work and collective sharing of its Fellows are the driving force that help the Academy's continual contribution to the development of productivity science.

Web Site: www.waps.info
Email: Secretariat@waps.info
LinkedIn: https://www.linkedin.com/company/96334213
YouTube: https://www.youtube.com/@WAPSInfo2024

A Collection of Short Essays on Productivity in Practice

Volume One – September 2024

Productivity is one of the primary sources of economic growth and competitiveness, whether it is being measured in a business, an industry, or a nation. The effectiveness of productive effort, especially in industry, is measured in terms of the rate of output per unit of input.

Productivity Science is a management discipline, it is about reducing the input of resources necessary for a prescribed output.

As noted by Dr. Joseph E. Faraday, Founder and First President of World Confederation of Productivity Science, "The systematic approach of the disciplines in productivity science distinguishes them from others which may achieve the same objective by trial and error, experience, intuition, ingenuity, etc."

Productivity is an Essential Aspect of Our Daily Life

People often associate the word productivity with work, corporate culture or government. Productivity is not just a buzzword but an essential aspect of our daily life. Whether we are managing tasks, optimizing our routines, or finding ways to work smarter, productivity plays a significant role.

A Collection of Short Essays About Productivity

To bring about awareness of Productivity to the public, the World Academy of Productivity Science is publishing a collection of short essays by our Fellows. These essays represent our Fellows' perspectives on productivity, which can be a shared experience by many in our daily lives.

When the concept and reach of productivity are better understood, one will see the benefit of learning and applying productivity science as a management discipline. WAPS advocates for higher education institutions to include productivity science in their programs so that students can be equipped early to contribute to economic growth and competitiveness wherever they are.

"Productivity isn't everything, but in the long run, it's almost everything."

— Paul Krugman, 2021

The Collection of Short Essays provides a forum for sharing our experiences with individuals from all walks of life, transcending boundaries of geography, race, age, gender, social status, education, and more.

While productivity is not everything, it is intricately connected to nearly every aspect of our lives. Until we recognize that productivity is embedded in our daily routines rather than being an abstract concept, the field of productivity science may seem distant to many. A deeper comprehension of productivity will encourage a greater interest in productivity science as a means to enhance our efficiency.

Much like economics, where the price of groceries, for example, is a tangible aspect of daily life yet part of a broader economic framework, an average shopper may prioritize grocery prices without considering their economic implications. However, once one understands that these prices are influenced by economic principles, their perspective on how economics and global development affect pricing may shift significantly.

One of the primary goals of the World Academy of Productivity Science is to broaden the Productivity Toolbox for the advancement of our society.

Table of Contents

The Green Evolution of the Productivity Concept

Mevlut Hurol METE, Fellow of WAPS, TURKEY

The French scientist Prof. Jean Fourastié investigated when the word “productivity” was first used in the literature in a sense close to today's meaning. The word “productivity” was first used in its present meaning in the book “De re Metallica”, published in 1556. In this book by Georgius Agricola, who is considered the founder of the science of mineralogy, there are statements such as “the following methods increase productivity” while focusing on mining and enrichment methods.

With the studies of economists in the 18th and 19th centuries, the word productivity began to take on a clearer meaning. Le Littré defined productivity as “the ability to produce”. Francois Quesnay, in his “Tableau Économique" (Historical Perspective on Economic Theories), considered productivity in agriculture as the source of real prosperity. Adam Smith, in “The Wealth of Nations”, carefully analyzed the relationship between labor and division of labor and presented productivity as a concept applicable to the modern world.

Let us look briefly at the historical development of the concept of productivity:

⇒ In the early 20th century, productivity was defined as producing more with the same resources.

⇒ After World War II, not only producing more, but also the quality of production began to be taken into consideration.

⇒ From the 1970s onwards, the humanization of working conditions began to be referred to as another dimension of productivity.

⇒ With the increase in environmental sensitivities since the 1980s, the new approach to productivity has been to produce more and better-quality goods and services in a humane environment without harming the environment.

⇒ From the 1990s onwards, “efficiency” and “flexibility” in production started to be considered as dimensions of productivity.

⇒ The 2000s brought a new dimension to productivity: “innovation”.

⇒ In the 2010s, productivity started to be mentioned together with the concept of sustainability. The importance of energy efficiency, water efficiency and resource efficiency increased. The concept of Industry 4.0 emerged.

⇒ In the 2020s, the concept of productivity is now defined together with digitalization and sustainable production including circular economy.

In its most general definition, productivity is the production of the right product or service, at the

right time, in the right place, in the right quantity, by the right people, at the lowest cost, with the highest quality, in a way that creates higher added value, considering human resources (occupational health and safety, fair wages, etc.), without harming the environment. Nowadays, with the effects of ecosystem degradation reaching tangible dimensions and being recognized as a global threat, the new approach to productivity needs to become better-quality production in more humane conditions without polluting the environment.

The first response to the need to internalize environmental sensitivities into the concept of productivity came from the Asian Productivity Organization (APO). In 1993, the APO initiated a study on Productivity and the Environment. This study resulted in the decision to develop productivity activities in a way to balance environmental and economic requirements. The 1999 Asian Productivity Conference on "Green Productivity" emphasized the motto: "Environmental protection must be achieved without compromising productivity." This decision paved the way for the emergence of what was later called "green productivity". The European Association of Productivity Centers (EANPC), which followed the green productivity practices that first started in Asian countries for a few years, stated in a declaration published in 1999 that the environment is a concept related to productivity and that green productivity has become a necessity for businesses.

Concepts such as sustainable production, eco-efficiency, clean production practices, etc. have started to be frequently mentioned in the industry. The issue of pollution control in industry was addressed with a holistic approach with the Integrated Pollution Control Directive (IPPC), which entered into force in 1996 in the European Union, and has now become the Industrial Emissions Directive. One of the most important ways to reduce industrial pollution is resource efficiency, which can be defined as both reducing environmental impacts and achieving production profitability through processes that provide savings in all kinds of production inputs (raw materials, water, energy, etc.). Using techniques that are defined as Best Available Techniques (BAT) and have proven benefits can often be possible with small investments and labor and can provide significant savings to businesses.

In addition, countries have started to adopt the green growth model. With growth strategies that prioritize the circular economy and target lower carbon emissions in production, the concept of green productivity has become more important today. International organizations such as OECD and UNEP define "green growth" as an understanding that prioritizes investment and consumption of goods and services that contribute to environmental improvements. Green growth can be achieved by increasing resource efficiency and decoupling resource use from economic growth. Resource efficiency is one of the most important indicators in the green growth process.

In order to accelerate green growth, it is now an inevitable necessity for all countries to adopt a

circular-economy model in all sectors, to create a new industrial strategy, to base a sustainable product policy that includes reusable and recyclable products with less raw materials, to limit the use of resources in production and to encourage reuse. In addition to all these, the concept of green productivity has become more important for businesses, which are the cornerstone of the economy.

In today's conjuncture, it is no longer sufficient for businesses to produce more with less cost to achieve “high productivity”. Many factors such as customer demands, increase in legal regulations (Green Deal, etc.), environmentalist movements and increasing pressure from the public, emergence of the concept of green marketing, increase in social responsibility, carbon taxation, emission limitations, etc. have changed the definition of productivity and put “green productivity” concept at the center of competitiveness. Therefore, it has become necessary for businesses that want to grow sustainably and gain competitive advantage to adopt green productivity and review their processes accordingly. With individual businesses achieving green productivity, it will be easier for the entire economy to achieve green growth targets.

About the Author

Dr. Mevlut Hurol Mete has been working as a senior expert in the Ministry of Industry and Technology (MoIT) of Turkey since 2011 and working as part-time lecturer at TOBB University of Economics and Technology since 2020. In this context, he is lecturing on a course titled "Productivity and Sustainable Production". He has a mission both in the field of developing green industrial policies and building human resource capacity for the transition to a green economy in Turkey.

Mete is an industrial engineer, he has a Master’s degree in Business Administration, and a Ph.D. in the field of Management Information Systems.

Exchange Rates
Invisibly Impact Our Daily Life and Productivity

Anita Y. TANG, Fellow of WAPS, U.S.A. / SINGAPORE

Many people do not usually pay attention to exchange rates because their daily life is conducted in their domestic currency. However, international trade plays a significant role in today's interconnected global economy, which means there is a high likelihood that more than a few of each person's or household's consumptions are imported goods and services. It is also important to note that value of a country's currency directly impacts the purchasing power of individuals and businesses within the country.

Exchange rates directly affect the cost of goods and services in international trade and can have a substantial impact on a company's revenue and profit margins. Companies with cross-border operations are particularly sensitive to foreign-exchange risk. Costs related to manufacturing and supply-chain operations, for example, are directly affected by exchange-rate fluctuations. Companies that import raw materials or goods will face higher costs when their domestic currency weakens, thus negatively impacting the cost of goods sold and profit margins.

It is key, therefore, for companies to manage foreign-exchange risk relating to their business operations.

Speculators Play a Key Role in the Markets

The word "speculation" carries a connotation of negativity, as noted by Lawrence Mitchell, Professor of Law, Case Western Reserve University. "And it's probably fair to say that pretty much every financial crisis since the tulip mania of the 1630s can be attributed to some sort of mass speculation. There is no question that speculation caused the financial crisis of 2008, first in housing, and then in derivative securities." [1]

But speculators take on risk, provide the markets with liquidity, and aid in price discovery.

Speculators take on risk, especially with respect to anticipating future price movements, hoping to make large gains to offset the risk. They utilize strategies and typically target for a shorter time frame in an attempt to outperform traditional longer-term investors.

Darrell Duffie, professor of finance at Stanford Graduate School of Business and a national expert on financial regulation, pointed out that speculators provide liquidity to the market. "They

are willing to take on risks that airlines and many other kinds of companies want to reduce. Trying to isolate and stop speculators who are trading against each other, if that's even possible, would make it much harder for others who want to reduce risk." [2]

Speculators aid in price discovery by driving the process of establishing the price of specific assets, securities, commodities, and currencies. It is through the price-discovery mechanism that markets determine a fair and accurate price for these financial instruments, ensuring the efficiency and functionality of financial markets.

The Global Foreign Exchange Market

The foreign exchange (forex) market is the largest financial market in the world with a daily trading volume of US$7.5 trillion in April 2022, up from US$6.6 trillion in 2019[3]. Major players in this market tend to be financial institutions like commercial banks, central banks, money managers and hedge funds. Global corporations use forex markets to hedge currency risk from foreign transactions. Individuals (retail traders) are a very small relative portion of all forex volume, and mainly use the market to speculate and day trade. [4]

What do these different types of institutions and traders do in the forex market? [4]

- Commercial and Investment Banks: The greatest volume of currency is traded in the interbank market. Big banks account for a large percentage of total currency volume trades. Banks facilitate forex transactions for clients and conduct speculative trades from their own trading desks.
- Central Banks: A central bank is responsible for fixing the price of its native currency on forex. Their open-market operations and interest-rate policies influence currency rates to a very large extent. Any action taken by a central bank in the forex market is done to stabilize or increase the competitiveness of that nation's economy.
- Investment Managers and Hedge Funds: This group makes up the second-biggest collection of players in the forex market. Investment managers trade currencies for large accounts such as pension funds, foundations, and endowments. Investment managers may also make speculative forex trades, while some hedge funds execute speculative currency trades as part of their investment strategies.
- Multinational Corporations: Firms engaged in importing and exporting conduct forex transactions to pay for goods and services. They trade forex to hedge against the risk associated with foreign-currency transactions and on their offshore investments.
- Individual Investors: Retail investors base their currency trades on a combination of fundamentals and technical factors.

Take Away

Foreign exchange is vital in shaping international economies. From a nation's perspective, the value of a country's currency plays a crucial role in determining the competitiveness of that country in international trade, influencing its trade balances.

From a global supply-chain perspective, the ability for entities to hedge forex risk against the costs of inputs, transportation, and the final price of goods along the supply chain can give them some certainties of cost structures and project margins.

For individuals and households, even though they conduct daily lives in their domestic currency, are still affected by foreign exchange in terms of their purchasing power, cost of living, household income, interest income and/or expenditure, and more. While most individuals and households may not trade in the forex market, their lives are impacted by the different types of players in the market — whether for the purpose of policy setting, hedging or speculative.

References

1 "Financial Speculation: The Good, The Bad and The Parasitic," Lawrence Mitchell, The Conversation, November 11, 2014. https://theconversation.com/financial-speculation-the-good-the-bad-and-the-parasitic-33613

2 "Should Financial Speculators Be Stopped?" Edmund L. Andrews, Stanford Business, January 26, 2015. https://www.gsb.stanford.edu/insights/should-financial-speculators-be-stopped

3 "Forex Trading Statistics," Justin Grossbard, Compare Forex Brokers, June 9, 2024. https://www.compareforexbrokers.com/forex-trading/statistics

4 "Forex Market: Who Trades Currencies and Why," Troy Segal, Investopedia, August 18, 2021. https://www.investopedia.com/articles/forex/11/who-trades-forex-and-why.asp

About the Author

Ms. Anita Y. Tang is Managing Director of Royal Roots Global, Inc., a Chicago-based cross-border business advisory she established in 1999. In her previous career in the financial industry, she worked, in the 1980s, as a dealer in the Treasury of a number of European banks in Hong Kong where she traded the entire spectrum of debt-market products. In the 1990s, she established two trading entities — in Singapore and Chicago — focusing in financial-futures trading.

Tang is a trained economist, she also holds an MBA from the Kellogg School of Management, Northwestern University.

Re-defining Productivity Among Financial Institutions

Wai Kuen Elysia TSE, Fellow of WAPS, SINGAPORE

We live in an interesting time characterized by a confluence of economic forces, including high inflation, supply chain disruptions and labor shortages. These forces contribute to high costs of living and doing business. No central bank is in an enviable position to tackle these challenges while protecting economic growth and financial stability. As the global population continues to enjoy longer and healthier lives, it would be beneficial for societies to reflect on a number of key questions, including: 1. how countries around the world might provide social safety nets to their populations; and 2. how retirees' hard-earned savings might be better protected and grow during retirement, given the complex economic environment.

It would be remiss of us not to acknowledge the significant role many financial institutions, particularly pension funds, insurance companies, sovereign wealth funds and investment management companies play in addressing the aforementioned questions.

- Pension funds typically accumulate capital through defined contribution or benefit plans and invest in private and public capital markets with the objective of providing retirement income for employees when they reach their retirement ages.
- Insurance companies typically invest the capital from accumulated insurance premiums with the goal of paying out liabilities when life annuities are due or claims (e.g., medical, accident, etc.) are made.
- Sovereign wealth funds are state-owned investment funds comprised of capital generated by the government, often derived from a country's surplus reserves. They are invested by a country's government with the goal of generating economic benefits for citizens.

It is also worth noting the role played by investment management companies in providing strategic investment guidance and investing on behalf of their clients, including financial institutions such as the above. The cliché of investment personalities is to ruthlessly pursue profit. Conversely, Benjamin Graham who is widely known as the "father of value investing" and was one of the most successful money managers on Wall Street said, "successful investing is about managing risk, not avoiding it." An effective investment manager is a company or an investment professional who assesses investment opportunities and invests on behalf of their clients, taking into account the potential for profit, the level of risks involved and seeking to mitigate those risks in an appropriate manner. Despite the stereotypes about finance or investment personalities echoed among our informants, an effective investment manager's role is not only to generate returns, but also to contribute indirectly to society. When investment managers work with financial institutions such as pension funds, insurance companies and sovereign wealth funds, they should focus, among many other objectives, on preserving and growing the savings of retirees (such as teachers and firefighters) and the insured in times of need, as well as providing financial means to indirectly support better social safety nets.

Investment management companies typically implement asset selection and portfolio allocation strategies in order to align with the client's desirable risk-return objectives. This may include a variety of asset classes, such as stocks, bonds, private equities and other investment alternatives. Throughout the investment process, investment management companies monitor, rebalance (i.e., buy and sell investments when necessary), manage risks, oversee the performance of the portfolio, and report results back to their clients. The most prudent investment decisions are often reached through a process of rigorous analysis conducted by investment professionals and constructive debate among investment committee members who may espouse differing perspectives as pessimists, realists or optimists. Therefore, the performance of investments can be attributed to the capabilities of the individual investment management company or investment professional. Nonetheless, the fundamental economic conditions and the capital market environment at the time of investment and throughout the investment horizon are of equal importance. As Benjamin Graham insightfully observed "in the short run, the market is a voting machine but in the long run, it is a weighing machine. Those who do not remember the past are condemned to repeat it." As the finance/investment industry continues to evolve, it is evident that the insights gained from past cycles retain their value, and thus remain relevant in the present context. It has been observed that investment management companies which demonstrate robust performance are often those led by investment committee members who possess a diverse range of investment experience across multiple cycles and disciplines.

The future of productivity in the finance/investment industry could be enhanced by the establishment of a platform or a channel that facilitates the interaction between two distinct groups: seasoned investment professionals and the next generation of investment professionals. The former group can disseminate their insights acquired from a range of experiences, including successful, unsuccessful and challenging ones. The latter can contribute cutting-edge ideas and innovations derived from fields such as artificial intelligence (AI) and emerging ESG studies. This collective endeavor has the potential to enhance productivity.

About the Author

Ms. Wai Kuen Elysia Tse began her career in 1998. She has worked for a number of Fortune 500 companies and some of the largest investment banks in the world. Tse's experience includes serving on various investment committees and overseeing the investment strategy and research function in the U.S. and Asia Pacific for several multinational investment management firms.

Tse is a trained economist and investment strategist. She holds a master's degree in real estate from Cornell University. Tse is a regular speaker on Bloomberg, sharing her views on the financial and real estate markets.

From Productivity to Well-being

Mika MALIRANTA, Fellow of WAPS, FINLAND

In economics, the fundamental interest lies in the well-being of people, both current and future generations. Economic growth, therefore, is not an end in itself. It is a result of individuals saving part of their current period's income in order to invest for the future and, more importantly, using their creativity in developing new products and methods of production — innovating. People invest and innovate so that in the next period, they can achieve what they value in their life. In fact, the increase in economic prosperity begins with new ideas and innovations. Thanks to these, we can better meet people's material needs with limited resources. This means that with a given amount of input, a greater real output is produced than before, ergo, productivity grows.

When measuring the real output needed for productivity measurement, it is necessary to aggregate very different, non-comparable goods and services. Index theory is used as a technical tool, but economics provides guidance and justification for determining the weights needed in the aggregation of different goods and services. These weights should reflect people's preferences over different products. Economics describes how individuals reveal their preferences in the market and how these preferences are reflected in relative market prices that can be used in forming weights for different products. In this way, economics offers welfare-theoretic justifications for the weights used in indices.

Growth theory in economics states that long-term economic growth is primarily based on productivity growth, which in turn is driven by technological advancements resulting from innovations. Investments and the accumulation of capital are important components of economic growth, but ultimately, they are mainly outcomes of technological development. When a company successfully innovates and develops more advanced technology, it gains an economic incentive to invest in machinery, equipment, buildings, and structures. These investments enable the new technology to be utilized in an economically profitable manner.

Innovations, therefore, are the cornerstone of productivity growth, economic growth, and the enhancement of well-being. In recent decades, economists have increasingly focused on understanding the factors that drive companies' innovation activities. The Schumpeterian theory of creative destruction emphasizes the role of competition among firms. In an "ideal" perfectly competitive market, firms do not earn pure profits, which diminishes their ability and motivation to invest in research and development, and thus, to innovate. However, a successful innovation provides a company with a competitive edge and economic profits. According to Schumpeterian growth theory, the profits gained from competitive advantage encourage firms to innovate, as

they strive to “escape competition” from rivals with successful innovations.

Empirical economic research supports the theoretical prediction that heightened competition typically leads to increased innovation and, consequently, accelerated productivity growth. Therefore, one policy recommendation of the new economic growth theory is that public authorities should work to foster competition among firms and ensure the efficient functioning of markets. In other words, competition policy has an important role to play. This approach strengthens innovation-driven economic growth through productivity improvements. Moreover, it is essential to invest in basic research and higher education. Beyond incentives, companies require the necessary conditions for successful innovation, including scientific knowledge and skilled innovators.

In essence, fostering a competitive environment, coupled with strong investments in research and education, can transform productivity gains into broad-based well-being and economic prosperity.

About the Author

Dr. Mika Maliranta is Director in Labour Institute for Economic Research LABORE (Helsinki, Finland) and Professor in University of Jyväskylä.
His research focuses on micro-level dynamics of productivity and employment growth, technological change as well as occupational restructuring. These issues are central sources of economic growth, and as such crucial for development of living standards and wellbeing in the long run.

Skill Towers Must for Colleges, Universities

Pritam Babu SHARMA, Fellow of WAPS, INDIA

The agenda for skilling the youth of a populous country like India is as important as the investment in physical infrastructure and support and incentives being provided for the growth of industries and enterprises in the new and emerging areas of technology.

Poor quality of skilling for the new Viksit Bharat would be even more disastrous than the poor-quality degrees as it will cripple the growth and development of the nation's economy besides adversely impacting the quality of life of people and the support services. The current rapid pace of skilling without world-class skilling infrastructure should be a matter of great concern for the industries and the service sector. Low employability of graduates is the net result of poor skilling support currently being provided by colleges and universities in India.

As per a Fortune India report last year, "The economy is creating millions of jobs in next-gen sectors like solar power, electric vehicles, semi-conductor and defense, but companies need to up-skill their employees first". Advanced skillsets are required for the workforce of tomorrow that will comprise partly of those who are already in industries and need to be retrained and prepared for these advanced skills. However, a larger quantum of talented and innovative manpower is needed to be rolled out from the universities and colleges to meet the increasing demand of these advance skills.

World-class Facilities

We need to invest heavily in both physical as well as knowledge-based skill infrastructure in the colleges and universities to meet the current and future demands of the skilled man-power for Viksit Bharat@2047.

The idea of skill towers in the universities and colleges in India has been conceived from the point of view of empowering educational institutions with capabilities of imparting skills, both advanced as well as generic, to their students as well as utilize the skill infrastructure in the UNI3 framework for reskilling the industry and service sector workforce.

These skill towers shall have world-class facilities for skilling, starting from commonly used quality services like modern-age plumbers, electricians, welders, technicians etc. on the ground floor, fashion design, creative arts and interior design on the first and second floors, IT-related training and skilling on the next floor, higher-end testing and certification services, higher-end design and development, fifth-generation IT tools such as AI and ML and big data analytics on the upper floors, and so on.

Retaining Up-skilling

Eminent professors of practice drawn from the industry besides mentoring the young, inspired minds in the classrooms shall provide their expertise for training and skill development in do-

mains and disciplines covering work activities of both manufacturing and service sectors. These skill towers, besides skilling and boosting the employability of young students at universities and colleges, would also act as the hubs for retaining and upskilling the existing workforce of the industry to make them relevant to new-age employment.

The framework of UNI3 integrated with skill towers will be a valid means to foster a new era of industry-academia partnership and empower Viksit Bharat with effective integration of knowledge and skills that the new age demands from universities of today and that of tomorrow.

This article was first published by BlitzIndia, Skill Towers Must for Colleges, Universities.

About the Author

Professor Pritam Babu Sharma is Vice Chancellor of Amity University, Gurgaon, India. He is President of the Association of Indian Universities.

Sharma has a career spanning 40+ years of experience in teaching and research, including professorship of mechanical engineering at IIT Delhi before taking over as Principal of Delhi College of Engineering. He was appointed founding Vice Chancellor of Delhi Technological University when Delhi College of Engineering was upgraded to Delhi Technological University. He is also founding Vice Chancellor of Rajiv Gandhi Technical University, Bhopal, Madhya Pradesh, India.

Organization Culture
— A Driver for Increased Productivity

Veena SWARUP, Fellow of WAPS, INDIA

> *"Productivity is not about getting everything done, rather it is about getting things done effectively." — Brianna Gray.*

It is people who are at the heart of every activity. They set the "Vision" and then execute it. It is the people that differentiate one organization from another; the quality of the workforce is the key differentiator. It is the people who create the charged environment, the culture of the organization, so subtle, through which they operate.

In fact culture may be defined as "a hidden unifying theme that provides meaning, direction, and mobilization to action within an organization."

> *"A company's culture is the product of the company's values, expectations and environment." — Courtney Chapman.*

Having had the opportunity to work in three organizations and a regulator in the energy space — Oil & Natural Gas Corporation, an upstream oil & gas public-sector company; Mangalore Refineries & Petrochemicals Ltd., a downstream public-sector company; Engineers India Ltd., a public-sector industrial technology, engineering consultancy; and Directorate General of Hydrocarbons, the upstream regulator, which is also a part of the Ministry of Petroleum & Natural Gas — I observed the culture of each of them, and found each was good in driving professionalism and productivity, but each was distinct and different from the others. In fact, private-sector companies have a completely different culture though they too are competitive. The culture of an organization truly bears its values, skills and environment.

People, skills and organization culture are key to sustainability and productivity of an organization. Sustainable productivity is about maintaining the balance of the needs of the employees, the environment and those of the organization at large, leading to continuous business growth and at the same time high levels of employee wellbeing and environment management.

Whereas business strategy is the hardware that drives future organizations, value-led and purpose-driven human-resource practices constitute the software that drives sustainable and responsible growth. So as may be seen, human resource is at the center stage for progressing or developed organizations, ranking high in both productivity and sustainability. People are a critical resource and it is important to focus on their aspirations, through their desire for responsibilities, challenges, and rewards, entailed by senior roles, their ability, and through engagement with them. A positive culture can boost productivity by encouraging employee engagement, increasing motivation, and improving the work environment.

> *"Strong Productivity is the result of many things, but at its foundation is a winning culture." — Todd Davis.*

The greater the culture, the more productive are the people. It has been observed that high-productivity organizations that exhibit transparency, inclusiveness, high values and ethics, care for its people, their welfare and growth, an environment of ownership, belongingness for the organization, and the desire to take the organization to great heights through high productivity. The high credibility of the organization leadership develops trust, which facilitates problem resolution, thus helps in realizing the organization's vision and increases productivity. Organizations have grown exponentially in such environment. Organizations today are focusing on:

- Process & Operational Excellence
- Purpose Driven Culture – Design Thinking
- Adaptive to State-of-the-Art Technology
- Agile, Flexible, Synergized Teams
- Top Driven through Effective Leadership

A FICCI Study in August 2021 on Skills and Jobs — a pre- and post-Covid perspective, highlights a global shift in workforce and workplace transition, where it defines shifts in work, workforce and workplace as follows:

- Work – focus to shift on investments towards automation and cognitive technology
- Workforce – important to look at alternative work-force models and leverage on gig workers to the extent possible
- Workplace – to be hybrid, physical and remote

Managements need to review employee-related policies and be innovative to develop the right resources.

In view of the importance of workforce and skills complexities, it is imperative to put the right people in the job roles. Building the foundation through people is a critical activity for all organizations, which largely has a pool of specialists and generalists. I recall in my previous work experience in the various organizations that it is so important to carefully build the foundation through selection of resources, people are like gems, they are the wealth of the organization and can steer the organization further to great heights. Such foundation, as I experienced, greatly impacted the culture and performance of these organizations.

The process to be followed includes:

- Role Analysis on a KSA Framework (knowledge, skills, attitude)
- Identification of critical roles through interactions with experts
- Align roles to the organization's vision and business strategy
- Identification of key stakeholders for development of critical role profiles
- Identification of technical, functional and behavioral competencies
- Identification of the orientation programs
- Developing career paths and development plans for those inducted
- Hand-holding and mentoring at different stages

The quality of leadership has a major role to play to keeping the morale of the workforce high and getting the best results in organizational performance. The leader must be the best fit for that position, one who exhibits agility and resilience, has clarity of vision, goals and objectives, has the ability to set goals and priorities for teams, understands the workforce, maintains interpersonal relationships within the teams, has trust and faith in team members, with high credibility, and is

accessible to the employees.

It is important that the workforce built is agile, where teams can handle any changes so as to meet the challenges of new opportunities through diversification and expansion. For example, a team of chemical engineers have been hired for a design and structure department and if the requirement comes up later to diversify into areas of renewable energy, or some water projects, the team should exhibit talent fungibility. Skilling and re-skilling should help them prepare for the change. It is especially important to ensure capacity building of trainers too, by harnessing the knowledge of experienced specialists and technicians. Rotational training and job rotation can also be looked at as a part of the career development policy, to give sufficient exposure to various areas and spheres of work and challenges.

Organization culture impacts how every employee views performance. High-performance culture fosters high-performance team members. Culture impacts engagement, which drives productivity. Further, collaborative culture enhances productivity. Employee-friendly company policies empower individual productivity. Company culture has a strong link to productivity in an organization, how it influences an individual's mindset to result in engagement at work.

> *"Human beings excel when they are happy, and doing what they enjoy. And when they excel they produce." — Todd Davis.*

About the Author

Ms Veena Swarup is former Director, Human Resources, Engineers India Ltd. She handled human resources in three other organizations, namely Oil & Natural Gas Corporation, Mangalore Refineries & Petrochemicals Ltd., and Directorate General of Hydrocarbons.

Post retirement, besides being Non-executive Director on Boards, she is Chair of Committees/ Taskforces at professional/ industry bodies in the space of skilling, HR, CSR, and women development. She has championed people development, especially conceptualizing programs for women, such as "Pragati" at All India Management Association that she led for over a decade.

On-going Modernization and New-quality Productivity

HAN Ke, Fellow of WAPS, CHINA

The shift from agrarian societies toward modernity took place between the 16th and 18th centuries. Modernization of capital is at the heart of Western modern civilization, which is the powerful dominance force in Western politics that helped achieve globalization at a specific period in world history.

While Western modern civilization has produced success and progress, it has also instigated global problems. The huge wealth gap between the rich and the poor is the result of unequal productivity relations, leading to regression of civilization.

Modern civilization needed to be reshaped — into a human civilization with the promise of a fulfilling future.

The Chinese Form of Modern Civilization

China is the world's second largest economy; the country prioritizes its growth through development initiatives. “Modernization with Chinese characteristics” is deeply anchored in China’s ancient history and civilization, which have evolved over millennia. This rich historical foundation supports the country’s current advancements.

The Chinese form of modern civilization is about actively modernizing different aspects of the society to create a new form of human civilization — a community involving shared interest of political economy, national economy, social economy, market economy, and people's economy — with the greatest common denominator centered on the people.

It is about completing the entire process of the Chinese-form of modernization and the development and implementation of new-quality productivity, it is about reestablishing the relationship between the modern knowledge system and productivity.

About New-quality Productivity

Modernization is extremely powerful and dominant. For China, the most positive force of modernization is new-quality productivity. The Chinese-form of modernization and new-quality productivity have become the most positive advantage of China’s development, and have become the productivity of human destiny and human social civilization.

New-quality productivity is about leveraging scientific and technological innovation to turbocharge economic productivity. It is an important driving force for high-quality development.

China's economy had shifted from a phase of rapid growth to a stage of high-quality development. New-quality productive forces mean "advanced productivity that is freed from traditional economic growth mode and productivity development paths" and are characterized by "high-tech, high efficiency and high quality."

Infrastructure and real estate spending has helped China build-up its economy, the new development phase is about consumption, exports, and business investment.

A Productivity Development Alternative

In the Global South, developing and underdeveloped countries and regions, liberating productivity is an affirmative and specific development necessity. To build a community with a shared future for humankind in productivity — a new global order and modern trade relations — depends on the support of developed countries, capital, and scientific and technological production forces. It is a major discussion topic to bring new-quality productivity onto the global stage.

The people-centered productivity development proposition is different from the political-governance goals of different countries and regions. Modernization of each country is determined by the unique competitive advantages of the country and the choice of its people. New-quality productivity can serve as an alternative to the contemporary Western industrial civilization.

The typical belief that "Westernization" is equivalent to "modernization" is fractured in China. The Chinese-form of modernization is a productivity relationship determined by the choice of its people. Modernization and new-quality productivity are comparable, and can offer a significant advantage as the choice to achieve development goals in a specific period of time.

Innovative productivity and new economy continue to emerge, making innovation and change an inevitable choice.

Why New-quality Productivity?

In historical materialism, productivity is the human drive and ability to transform nature and create human economic and social activities. It is the decisive force and source of power that drives the continuous extension of human social civilization. From the economic dimension, productivity development is the vitality of human social and economic development, a productive relationship that exists in a certain time with nature.

Entering into the information age, human society is experiencing a new era of human and network integration, the dimension of productivity development is undergoing change and innovation. Scientific and technological productivity has become the biggest competitive advantage of globalization, the core requirement to stay competitive is on talents / human capital, thus education has become the most basic requirement for productivity and knowledge.

Modernization is no longer a part of the existing Western civilization hypothesis but the core of the common subject of human destiny. Development of different countries and regions depends on their path of modernization and new-quality productivity.

Modernization is the form of civilization chosen by different countries and people.

New-quality productivity is the sum of high-quality socioeconomic development.

Modernization and new-quality productivity are historic civilization progress.

About the Author

Mr. Han Ke is a Professor at the Institute of Humanities, Shanghai Jiao Tong University. He is a researcher of Asia-Pacific Security Studies at the China Center for Strategic Studies, Peking University. He is team leader for China's "Guo Shi Yan Jiu" research projects.

Achieving Productivity While Staying Happy and Healthy

Remi DAIRO, Fellow of WAPS, U.S.A. / NIGERIA

In the contemporary fast-paced technological landscape, achieving high productivity levels has become increasingly complex. Traditional methods typically focus on optimizing processes, implementing cutting-edge tools, and refining management techniques while overlooking the critical aspect of human involvement. Proposed here is a comprehensive approach to productivity that integrates both tangible and intangible elements, acknowledging that true efficiency arises from a harmonious combination of resources, procedures, and individuals.

Productivity encompasses a wide array of factors, including the effective utilization of tools and resources. While having access to appropriate physical machinery, software applications, and financial assets is crucial, their selection, application, and integration must align with task requirements and user preferences to ensure actual productivity. Moreover, well-structured processes and efficient managerial practices are essential components of robust productivity frameworks. This involves streamlining workflows, implementing project-management methodologies, and establishing organizational structures.

The strategic adoption of agile methodologies, lean principles, or other management models can significantly enhance productivity outcomes. In today's digital era marked by technological advancements ranging from artificial intelligence to robotic process automation, technology plays a central role in driving productivity enhancements. However, successful integration of these technologies should aim to complement rather than replace human capabilities.

Healthy Human Workforce

We need to recognize that human factors play a pivotal role in boosting productivity levels. Physical health forms the foundation for sustained productivity performance through elements such as ergonomic work environments, regular physical activity, balanced nutrition, and adequate rest. Organizations that prioritize employee well-being through wellness initiatives and supportive policies often witness notable enhancements in productivity levels.

Furthermore, mental and emotional well-being significantly impact an individual's productivity levels. Effective stress-management strategies, mindfulness practices, and mental-health support are vital for maintaining focus, creativity, and resilience. A positive emotional state fosters engagement and internal motivation leading to increased productivity outcomes. Human beings are naturally inclined towards social interactions, and productivity thrives in collaborative environments.

Building strong interpersonal relationships, fostering clear communication channels, and creating a sense of belonging all contribute to a conducive work environment. Team dynamics, mentorship initiatives, and networking opportunities are crucial in driving innovation and efficiency.

Research revealed the significant financial impact of mental-health issues on UK employers, amounting to approximately £56 billion annually. This financial burden includes costs such as presenteeism totaling around £28 billion, staff turnover expenses of about £22 billion, and absenteeism contributing roughly £6 billion. [1]

Employees take an average of 18 days off each year to address stress, depression, or anxiety — surpassing the days taken off for injuries (10 days), musculoskeletal problems (15 days), and health issues (17 days). The total number of lost workdays due to work-related health issues and injuries has significantly increased to 36.8 million days compared to previous years. Health is cited as a key factor influencing employee retention by 61% of workers when considering leaving their jobs. [1]

Productivity losses due to fatigue amount to approximately US$1,967 per employee annually. Research indicates that 41% of employees believe stress negatively affects their productivity, with half reporting losing between one to five hours of work due to stress. Additionally, over 70% of employees express concerns about stressors during working hours, with half spending one to five hours per week addressing these worries. [2]

Holistic Productivity is a Sustainable Model

To achieve comprehensive productivity improvement, organizations and individuals must recognize the interconnectedness of various elements by aligning tools with human needs, designing processes that balance efficiency with well-being, nurturing a culture that values performance alongside personal growth, implementing management strategies that support holistic employee wellness, and consistently evaluating and adjusting the equilibrium among factors influencing productivity.

Key components essential for holistic productivity enhancement include aligning tools with human needs; designing efficient yet well-being-oriented processes; fostering a culture valuing performance and personal growth; implementing supportive management strategies; and regularly assessing the balance among different factors impacting productivity. Emphasizing the importance of adequate sleep, nutrition, exercise, and overall physical well-being is crucial for physical health. Managing stress levels effectively, practicing mindfulness, preserving cognitive abilities, and being in tune with emotions are key aspects of mental and emotional well-being. Building healthy relationships, fostering communication channels, and cultivating a sense of belonging are essential components of social connections that contribute to holistic productivity enhancement.

Continuous learning and skill development involve acquiring new knowledge and abilities to stimulate the mind and expand cognitive capacities. Utilizing appropriate tools, technologies, and resources tailored to individual needs is vital. Processes and management include implementing efficient workflows, project strategies, and organizational frameworks.

Inner reflection consists of regularly practicing self-awareness and staying true to core values. Acceptance encourages embracing life rather than resisting it to conserve energy and build connections. The holistic productivity approach highlights the interconnectedness of these elements and their impact on each other.

In essence, holistic productivity represents a shift from traditional narrowly-focused approaches toward a comprehensive sustainable model. By recognizing the intricate relationship between tools, processes, technology, and human factors, individuals and organizations can achieve higher efficiency levels. This approach not only boosts immediate productivity but also ensures long-term sustainability and fulfillment.

At its core, holistic productivity recognizes humans as central to all productive systems. By nurturing physical, mental, emotional, and social well-being while providing suitable tools and processes creates an environment conducive to natural productivity growth. Embracing this holistic perspective is essential in today's complex world for achieving substantial improvements in productivity that are meaningful and lasting.

References

1 "The Good, the bad, and the downright Scary. A round up of 15 wellbeing statistics to frighten you," Psychology Works. https://www.psychologyworks.global/blog/wellbeing-statistics-to-frighten-you-this-halloween-2023

2 "21 Remarkable Productivity Statistics [2023]," Aleksandar Dimovski, Go Remotely, March 7, 2023. https://goremotely.net/blog/productivity-statistics

About the Author

Mr. Remi Dairo is a seasoned productivity coach specializing in empowering high-achieving professionals who are experiencing burnout and stress. Through his effective coaching methodology, clients regain their sense of power, productivity, and purpose.

Dairo serves as President of the Institute of Productivity and Business Innovation Management (IPBIM) Africa and holds the position of CEO at Productivate Plus LLC in Houston, Texas, U.S.A.

Artificial Intelligence and Productivity

Michael SHEPHERD, Fellow of WAPS, CANADA

A study by the Chumir Foundation and the Brookings Institute has shown that technology is a driver of economic productivity and that a decline in investment in technology can lead to a decline in productivity.[1] This appears to be consistent with the Solow Paradox[2] that refers to the slowdown in productivity growth in the U.S. in the 1970s and 1980s despite rapid development in the field of IT. The term, the Solow Paradox, is attributed to Nobel Laureate Robert Solow, who said, "You can see the computer age everywhere but in the productivity statistics."

There are various theories as to why this paradox occurred, but it does appear that productivity gain does not happen immediately upon the investment in technology as there is a period of learning and adjustment after the investment. If the productivity gains from investment in IT materialize well after the investment takes place, then this slows down further IT investment.

Productivity in developed economies recovered in the 1990s but then slowed again from 2000 to 2020. Possibly, a Solow Paradox 2.0. This slowdown is certainly evident with respect to Canadian productivity which declined relative to U.S. productivity by 5.6% over this period. On average, Canadian companies invest much less per worker than in the United States, operate at a smaller scale, use less technology and are less innovative.[3]

We now appear to be on the brink of a possibly explosive growth in productivity due to Generative AI, based on Large Language Models. A report by McKinsey & Company[4] shows that Generative AI's impact on productivity could add trillions of dollars in value to the global economy. Their latest research estimates that generative AI could add the equivalent of US$2.6 trillion to US$4.4 trillion annually across the 63 use cases they analyzed. This would increase the impact of all artificial intelligence by 15 to 40 percent. Other such studies report similar productivity growth due to Generative AI.

Augmenting and Complementing the Knowledge Worker

Knowledge industries are those industries which are based on their intensive use of technology and/or human capital. Knowledge workers are those whose main capital is knowledge. Examples include ICT professionals, physicians, lawyers, etc. AI can both augment and complement the knowledge worker.

While AI has many different branches, Generative AI is just one branch. Non-Generative AI branches include recommender systems, rule-based systems, data mining, and many more. These non-Generative AI systems provide the knowledge worker accurate and contextually relevant information to which the worker provides the task context and makes decisions. For exam-

ple, market basket analysis through data mining can identify that shoppers who purchase baby formula also purchase diapers. This information augments the job of the knowledge worker. It is still up to the knowledge worker to provide context and to make decisions based on this information.[5]

On the other hand, Generative AI's capabilities are fundamentally engineered to do cognitive tasks. As a result, Generative AI is likely to have the biggest impact on knowledge work, particularly activities involving decision making and collaboration, which previously had the lowest potential for automation. As such, Generative AI acts as a complement to the knowledge worker.[4] For example, Generative AI can produce documents that can stand on their own and complement the work of the individual.

Generative AI

Generative AI can be both a horizontal technology and a vertical technology. ChatGPT is an example of Generative AI as a horizontal technology as it is trained over a wide variety of data, can be used by many different types of users, and over many different subject areas.

Vertical Generative AI technologies tend to have specifically defined algorithms and are trained on specific, narrow datasets. Examples of such applications include the design of drugs in Health Care, contract analysis and litigation in Law, investment research and the creation of financial models in Finance, and the generation of tests and employee training in the field of Education.[6] These vertical applications are designed to complement the worker in specific contexts.

Jacob Nielsen[7] conducted a study to determine if Generative AI actually did increase productivity. He had three case studies: customer support, writing business cases, and computer programming. Compared to control groups without access to Generative AI, the groups with Generative AI showed an increase in productivity of 16%, 66% and 125% respectively. These increases correspond to the amount that the Generative AI was complementary to the knowledge worker and the task at hand. Similarly, the quality assessment of the resulting business cases was quantitatively higher than that for the customer support. The quality of the software produced, however, was not assessed.

Generative AI and the Labor Force

An IMF report[8] classified the labor force into three categories. The first category was "High Exposure — High Complementarity". People in this category have high exposure to AI and that AI serves in a highly complementary fashion. These are knowledge workers such as lawyers, doctors, IT specialists, etc. There is little likelihood that AI will replace these people in the near future.

The second category was "High Exposure — Low Complementarity". People in this category have high exposure to AI, but the AI augments rather than complements their work. These are typi-

cally clerical support workers and those in technical occupations. There is some likelihood that AI will replace these human tasks.

The third category has low or no exposure to AI and thus AI is not complementary to their tasks.

Summary

In summary, non-Generative AI augments knowledge workers while Generative AI acts as a complement to these workers. Therefore, Generative AI will have a much greater impact on workers with higher education and skill levels. While it does appear that AI has the potential to increase productivity, beware the Solow Paradox!

References

1 "Productive equity: The twin challenges of reviving productivity and reducing inequality." Chumir Foundation and the Brookings Institution. May 23, 2019.

2 "Productivity Paradox." Wikipedia. https://en.wikipedia.org/wiki/Productivity_paradox. Accessed 20 July 2024.

3 David Williams. "Canada's productivity performance over the past 20 years". Business Council of British Columbia. May 24, 2022.

4 Michael Chui, et. al., "The economic potential of generative AI." McKinsey & Company. June 2023.

5 Forrester Consulting. "Extending the Value of AI to Knowledge Workers." Commissioned by Microsoft. January 2019.

6 Yan Liu, et al., "Artificial Intelligence: Revolutionary Potential and Huge Uncertainties." Digital Progress and Trends Report 2023. pp 85-106.

7 Jakob Nielsen. "AI Improves Employee Productivity by 66%". Nielsen Norman Group. July 16, 2023.

8 Mauro Cazzaniga, et. al. "Gen-AI: Artificial Intelligence and the Future of Work." International Monetary Fund. SDN January 2024.

About the Author

Dr. Michael Shepherd is a Professor Emeritus at Dalhousie University, Nova Scotia, Canada, where he was Professor and Dean of the Faculty of Computer Science.

He was a founder of both the Institute for Big Data Analytics at Dalhousie and the Centre for Data Analytics and Business Insights at the MYRA School of Business, Mysuru, India.

Shepherd has served on the boards of not-for-profit organizations and established the Big Data Alliance of Nova Scotia, a not-for-profit for big data knowledge transfer between academia and industry. He served previously as the Treasurer and Vice-President of the World Confederation of Productivity Science.

Secure Productivity:
Thriving in the Age of Cyber Challenges

Leon BIAN, Fellow of WAPS, U.S.A.

The COVID-19 pandemic has not only reshaped our daily lives but also revolutionized the way we work. The rapid adoption of remote working practices, initially driven by the need to curb the virus's spread, has become the 'new normal.' This shift, while enhancing productivity, has also significantly expanded the digital attack surface, posing unprecedented cybersecurity risks. The question that looms large is: how can we leverage digital tools to boost productivity without compromising security?

The Expanding Attack Surface in the Era of Remote Work

Remote work has become a staple in today's work culture, with a significant portion of the global workforce operating from home. While necessary, this shift has introduced new security vulnerabilities. Home networks, personal devices, and even the very act of working outside a controlled office environment have become potential gateways for cyber threats. The use of Virtual Private Networks (VPNs), cloud services, and remote collaboration tools has skyrocketed, further complicating the cybersecurity landscape.

Organizations must now protect their core IT infrastructure and the myriad endpoints connecting to it. There needs to be more than the traditional perimeter-based security model; the perimeter has become porous, extending to wherever an employee might be working. This new reality demands a robust and flexible approach to cybersecurity that can adapt to the ever-changing nature of remote work.

The Proliferation of Digital Tools

Today's work environment is characterized by an ever-growing reliance on digital tools. From software development platforms like GitHub and project management tools like Jira to procurement systems like Coupa, the digital ecosystem is vast and interconnected. While each of these tools is essential for modern business operations, it creates its own set of vulnerabilities. The challenge for organizations is to secure these tools without hindering the productivity they enable.

The more systems we integrate into our workflows, the greater the potential for security breaches. Each system can be a potential entry point for attackers, and the interconnected nature of these tools means that a breach in one system can have ripple effects across others. In this context, cybersecurity measures can be seen as obstacles to productivity. In this context, cybersecurity

measures can sometimes be perceived as a hindrance to productivity — complex passwords, multi-factor authentication, and restricted access can slow down workflows and frustrate employees. But does it have to be this way?

Balancing Cybersecurity and Productivity

The perceived tension between cybersecurity and productivity is often rooted in a misunderstanding of their relationship. It's easy to view security measures as obstacles that slow down work processes. However, when implemented thoughtfully, cybersecurity can protect and enhance productivity by establishing a secure environment where employees can work without fear of breaches or disruptions. This potential for cybersecurity to be a productivity booster should be a source of optimism for all of us.

The key to balancing cybersecurity and productivity lies in understanding that they are not mutually exclusive. By integrating security into the fabric of digital tools and workflows, organizations can ensure that security measures are not an afterthought but an enabler of efficient work. This approach necessitates a collaborative effort between cybersecurity teams and the broader workforce, particularly those in roles heavily relying on digital tools. It's about fostering a shared responsibility for security and productivity.

A Culture of Cybersecurity: Educating the Workforce to Boost Productivity

It's essential to prioritize cybersecurity awareness to ensure security and productivity. Human error poses a significant risk, and breaches resulting from lapses in judgment can disrupt operations. Educating staff about the significance of cybersecurity and their responsibility in safeguarding company resources can reduce the likelihood of disruptions to work processes.

Regular training and clear communication about security policies empower employees to act as the first defense against cyber threats. When employees understand and comply with security measures, they help prevent breaches that could lead to costly downtime. This empowerment and responsibility should be a source of pride for the workforce, as they contribute to a secure and efficient work environment, allowing the organization to maintain productivity without being vulnerable to interruptions.

A Case Study: Data Democratization vs. Security

During my tenure at a financial technology company that served over 100 million customers, I encountered firsthand the delicate balance between cybersecurity and productivity. Our company collected vast customer data to leverage AI and data analytics to better serve them. However, this

data was a double-edged sword: while it had the potential to unlock significant insights, it also posed a substantial security risk.

A few years ago, our data analysts and data scientists pushed for the democratization of data. They wanted unrestricted access to data to innovate and derive insights quickly. However, this approach raised significant concerns within the cybersecurity team. With such broad access, all it would take was one bad actor or a successful social engineering attack to compromise sensitive customer information.

The cybersecurity team proposed implementing fine-grained access controls (the method of controlling who can access specific data) to protect the data. This approach, however, was met with resistance from the data workers, who feared that increased security would slow down their work and stifle innovation. The situation pitted productivity against security in a zero-sum game.

The solution came through collaboration between the cybersecurity and data platform teams. We focused on addressing a key user pain point: the lengthy process for data analysts to request and gain access to data they didn't already have. By automating the workflow and implementing new access management technologies, we reduced the time required to gain access to data from 45 days to just over one day. The improvement not only satisfied the data workers' need for speed but also provided data stewards with granular control over access, enhancing security.

Conclusion

The experience taught me that cybersecurity and productivity need not be at odds. With the right approach, they can complement each other, creating an environment where innovation can flourish securely. This balanced approach should reassure and instill confidence in organizations as we continue to navigate the complexities of the digital age. By viewing cybersecurity as a foundation for productivity rather than a barrier to it, we can build a future where both security and efficiency are maximized, ensuring that organizations can thrive in an increasingly connected world.

About the Author

Mr. Leon Bian is currently the Vice President of Product Management for data security products at Capital One Software. Before joining Capital One, Bian held leadership roles in the high-tech industry at companies such as Intuit, Dell EMC, LG Electronics, Motorola, and Graphite Software. He co-founded a Silicon Valley startup, Fanglr, focused on digital content tokenization and distribution. Bian holds a joint master's degree from MIT.