Productivity – One More Time

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The "Make in India" initiative, launched in 2014, is receiving a fresh impetus in 2023 due to developments external to the country. Global firms want to diversify and de-risk their sources of manufacturing supply to minimize supply chain snarls that unforeseen events like the Covid pandemic could bring about and avoid overreliance on a single country like China due to geopolitical tensions. India wants to harness this opportunity fully and aspires to increase the manufacturing sector's contribution to GDP substantially and quickly. However huge challenges have to be overcome to achieve the status of a preferred supply chain partner of global firms. This paper discusses one such challenge – firm-level productivity –and suggests some ways to overcome that challenge.

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Introduction

"Industry has an allure all of its own. 'From manufacturing you may expect the two greatest ills of humanity, superstition and slavery, to be healed,' wrote Ferdinando Galiani, an enlightenment thinker. More than 250 years on, governments share his view of factories as a cure for the ills of the age—including climate change, the loss of middle-class jobs, geopolitical strife and weak economic growth—with enthusiasm and munificence surpassing anything seen in decades." (*The Economist*, July 15, 2013). Countries, the world over, are on a spending spree through subsidies and other incentives to revive manufacturing. America intends to spend the most - around $1trn, or almost 5% of American GDP; the EU has tweaked state-aid rules so that national governments can splash out; China's "Made in China" strategy aims to turn the country from a big manufacturing player into a dominant one; and India's "Make in India" strategy hopes to boost the industrial share of the economy to 25% of value added by 2025. Emerging markets with bountiful natural resources, including Indonesia and Zimbabwe, are busy banning

the export of raw materials as part of attempts to incubate home-grown industries. Manufacturing, though, as a share of global economic output, has been falling in almost all countries, with the steepest fall in rich countries. But ardent supporters of manufacturing put forth several arguments to reverse the fall: factories are a source of solid jobs and manufacturing creates the most job-multiplier effect, due to its stronger backward and forward linkages and spillover effects between different sectors; manufacturing drives innovation and growth; to mitigate climate change and accelerate green transition manufacturing is much needed; to avoid supply chain snarls that the Covid pandemic brought about; and to reduce dependence on China as the "factory of the world" goods have to be produced at home, near shored, or "friend shored". Some of these arguments, of course, lose steam when confronted with reality. Factories provide solid jobs only to those who are highly skilled. Innovation and growth happen only in places where manufacturing coexists with services. Countries are learning that it is nearly impossible to "decouple" from China. And companies are finding it very difficult and costly to completely de-risk supply chain challenges and are focusing on building more resilient supply chains. However, for countries like India manufacturing still holds plenty of potential for economic growth and prosperity. The country will benefit immensely if it can reallocate labor from agriculture, a relatively unproductive form of employment, to manufacturing. Manufacturing growth could also provide jobs to the teeming millions who are entering the employment market each year. However, the path to manufacturing growth has become extremely difficult to follow.

Make In India

The Indian government wants to supercharge the private sector through industrial policy. The MSCI India index, which covers about 85% of the market, is worth some $830bn, about 24% of GDP. India has 108 "unicorn" businesses (i.e., valued at over $1bn), more than any other country except America and China. The national leadership is betting on $30bn of "production-linked incentives" to catalyze investment in 14 priority industries, including semiconductors, electronics, drugs, drones and batteries. The country's pledge to achieve "net-zero" emissions of greenhouse gases by 2070 involves building solar farms, producing batteries and much more. Beyond greenery, the idea is to create jobs and cut the cost of power. India's energy-import bill is expected to drop from 4% of GDP in 2021 to 2.5% in 2032. (The Economist, April 1, 2023.)As firms everywhere reconfigure supply chains to lessen their reliance on China, India's attractions as a manufacturing location have risen, and Western governments are keen to forge defense and technology links with the country.

India has been attempting to revive manufacturing in the country for several years now. In 2004, the attempt was to create the "next big manufacturing export story"; in 2006, the National Manufacturing Competitiveness Council (NMCC) came out with a national strat-

egy for manufacturing; a National Manufacturing Policy (NMP) was introduced in 2011; and in 2014 a "Make in India" initiative was rolled out. The results of these attempts, so far, have been patchy. In 2022 value added in manufacturing accounted for 13.3% of India's GDP, down from 15.6% in 2015 and the lowest since 1967, and new manufacturing activities coming into the country to produce complex products like mobile phones have been mostly low-value assembly works. (*The Economist*, August 19, 2023).Though, India's GDP has expanded by 71% over the past decade, services, not manufacturing, dominate output.

Any discussion on the woes of the Indian manufacturing sectorlists four classes of "deficits":first, are the factors of production. India faces crippling shortages of many things, for example, power. India's labor laws make it hazardous for businesses that face seasonality in their demand to set up mass production facilities. Second, are the enablers of production – such as surface transport and ports. Manufacturing requires a significant edifice of infrastructure support. This edifice is taking shape but in fits and starts. The third set of issues has to do with the legal regime. Laws are made to suit the extremely myopic and expedient objectives of the regime in power. Finally, there is chronic, all-pervasive corruption. The government is making changes to reduce these deficits, but the pace of change is slow and, at times, inconsistent and retrograde. Let us consider tariffs: India slashed its average tariff from over 80% in 1990 to about 13% in 2008. Then from 2014 tariffs began to rise. Today they average about 18%, well above those of peers like Indonesia and Thailand.In a throwback to the license-permit era, on August 3, 2023, the government announced a ban on free imports of personal computers, laptops, and tablets requiring Indian companies to get a license for importing. This policy change is being viewed very dimly by most, some cheekily terming it as "the laptop error".Higher tariffs and import bans reduce competitive intensity breeding complacency in incumbents and local players.

The determinants discussed above are external to and beyond the immediate control of individual companies and industry bodies. To establish superiority in manufacturing the aforesaid deficits have to come down drastically and fast. But modern manufacturing is also about science and technology, R&D, new processes, innovation, skills, and productivity. These are firm-level determinants and more within their sphere of influence and control. There are companies in India that have been managing these determinants very well and are being considered centers of manufacturing excellence. These companies, though, represent a very small proportion of the total number involved. And a few exemplars will not make the entire sector thrive. For the manufacturing sector to register significant growth firms numbering in the tens of thousands, especially the Micro, Small and Medium Enterprises (MSMEs), need to join the exemplars. In this paper, we will be discussing one of these firm-level determinants,productivity and

highlight some ways in which companies could attempt to raise productivity.

Productivity

Simply put, productivity measures the amount of value created for each hour that is worked in a society. There are several types of productivity in economics. Labor productivity is a measure of how much gets done according to a specific unit, like one hour's work, or one rupee or one dollar. For countries, it is frequently calculated as a ratio of GDP per total hours worked. Labor productivity growth is crucial to increased wages and standards of living, and it helps increase the purchasing power of consumers. Economists measure other types of productivity, too. Capital productivity is a measure of how well capital is used to generate output of goods and services. Capital productivity and labor productivity are frequently considered together as an indicator of a country's overall standard of living. And material productivity is measured as the amount of economic output generated per unit of materials consumed (McKinsey Explainers, February 13, 2023). More recently, energy productivity is also being measured – the amount of economic output generated per unit of energy consumed. These measures of productivity are monitored and analyzed for agriculture, manufacturing and services sectors of the economy at the firm level, sector level and country level.

Productivity Performance

Let us consider some key performance indicators pertaining to the manufacturing sector.

- The sector share in aggregate nominal Gross Value Added (GVA), as a percentage, was 17.5 in 1980, 16.9 in 2003, and 16.4 in 2017, indicating stagnancy over a 40-year period. Whereas, the services sector share, which was 36.8 % in 1980, rose to 48.8 in 2003, and 53.5 in 2017, a phenomenal growth performance.
- Manufacturing value-added growth rate has recorded only a marginal rise from 6.1% during 1981-93 to 7.2 % during 2008-17.
- The sector experienced a slow employment growth:from 10.4 % in 1980 to 11.5 % in 2017, whereas the services industry saw its share of employment rise from 17 % in 1980 to 34 % in 2017, a 100 % increase. Agricultural employment has come down from 70 % in 1980 to 42% in 2017, the structural change in employment in the country has bypassed the traditional route of agriculture to manufacturing to services and has been a direct shift from agriculture to services.
- India and China started almost at the same level of labor productivity per person employed in 1980 at 2948 and 3098 respectively (in 2019 US $ Purchasing Power Parity (PPP)). In 2008, India was at 9639 and China at 13275 and in 2017, India was at 17186 and China at 23016, establishing China as the better of the two in labor productivity growth. When compared with the US and Japan, in 2017, India is far behind: US labor productivity is 7.61 times that of In-

dia and Japan's labor productivity is 4.64 times that of India.

- Whilst analyzing the sources of labor productivity growth in the manufacturing sector in India, it is found that, in most industries (23 out of 27), growth in capital intensity is the key driver and TFP growth contributed significantly only in four industries. Evidently, it is factor accumulation that is leading to growth in labor productivity and the growth in labor composition and TFP growth is marginal (Krishna, Goldar, Das, Aggarwal, Erumban and Das, 2022).

Economists list four sources of labor productivity: namely capital deepening with more or better capital (technology); labor quality or changes in the quality of labor, which comes from investment in human capital; contribution of intermediate input deepening, which reflects the impact of more intermediate – intensive production on labor productivity; and finally from Total Factor Productivity (TFP) growth, which contributes to labor productivity point – for – point. From a long-term perspective of growth of the economy, it is growth in TFP and growth in labor composition which are desirable and sustainable and not growth in capital deepening. The jobless growth that the country's manufacturing sector is witnessing is attributable to the capital investments that large-sized companies are making to remain competitive. These companies take the route of capital investments because it is cheaper, there is a mismatch of skills, labor laws continue to be rigid, and technology is obsolescing faster. Most companies in the micro, small, and medium-sized sectors do not have access to capital to invest to upgrade plants and machinery and continue to operate obsolete ones resulting in lower labor productivity.

These companies take the route of capital investments because it is cheaper, there is a mismatch of skills.

- Manufacturing in India has a dualistic structure with both organized and unorganized sectors, but it has been dominated by the unorganized sector in terms of the number of enterprises and employment, which had a one-third share in GVA but two-thirds share in employment in 2017-18. These shares have persisted between the period of 1999 and 2017, with real GVA growing at 7.17 % in the unorganized sector and 7.26 % in the organized sector. Labor productivity in the unorganized manufacturing segment has always been lower than that of the organized segment, though the relative difference has narrowed over time. Thus, the unorganized segment has exerted a downward pressure, a 'drag' on the labor productivity (almost 25 %) of the overall manufacturing sector. Hence, accelerating the process of formalization of Indian manufacturing, both from capital and labor points of view, is much needed for the holistic growth of the manufacturing sector in the country.
- The Labor Quality Index, which is a measure of change in the skill com-

position of the total workforce and total compensation over a period of time, has grown only around one percent per annum from 1981 to 2017 and correspondingly labor input contribution to output growth has been very minimal, at an industry average of one percent per annum from 1981 to 2017 (Krishna et al, 2022).

Productivity will be the driving force for India to realize its aspiration of becoming a manufacturing powerhouse. Productivity improvements will help the country get better integrated with global value chains and fend off strong competition from imports, secure higher profits and provide higher remuneration for the worker. Krugman (1994) once said "Productivity isnot everything, but in the long run it is almost everything."

Low Productivity

Low productivity, particularly in developing countries like India, is found to be an outcome of organizational factors – poor management and centralized decision making – and financial constraints. In many firms, basic management practices around quality control, inventory control and operational efficiency are found to be of a very low level. For instance, the absence of good quality management practices results in one-fifth of the labor force in these firms involved in repairing quality defects, a terrible drain on productivity. The absence of formal management practices leads to ineffective coordination and motivation, particularly in those firms that employ 100+ employees. In larger firms, another growth constraint arises in the inability of firms to successfully decentralize decision-making. Owners tend to make almost all major management decisions because of fears **of** expropriation by their managers. However, because the owners' time is limited many operational decisions are postponed or not taken resulting in severe performance setbacks. These firms are not aware of many modern manufacturing practices or have incorrect information, in that firms have heard of the practices but think they do not apply profitably to them, hence do not invest in learning and implementing them. And, even in those instances where middle and senior managers may have the knowledge and skills, they often lack the autonomy and the incentives to improve management practices. Larger firms tend to overcome financial constraints more easily, but these constraints are a binding factor for growth in smaller firms(Bloom, Mahajan, McKenzie & Roberts, 2010).

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Productivity Improvement – Management Practices

A long-standing question in social science is to what extent differences in management cause differences in manufacturing performance. To investigate this, surveyswere conducted, using double-blind techniques, to score firms

on: (i) monitoring practices (the collectionand processing of production information) (ii) target-setting practices (the ability to setcoherent, binding short- and long-run targets), and (iii) incentive practices (merit-based pay, promotion, hiring and firing). The results show thatdevelopingcountries likeBrazil, China andIndia have significantly lower average managementscores than firms in the United States, Japan and Western Europe (Bloom et al, 2010). To confirm that management scores matter, a team of economists ran a management field experiment on large Indian textile firms.They provided free consulting on modern management practicesrelating to quality, inventory, production processes and human resource management (HRM)to a randomly chosen set of treatment plants and compared their performance to the control plants. They found that adopting those management practices had three main effects. The treatment intervention led to significant improvements in quality, inventory andproduction output. The result was an increase in productivity of 11% and an increase in annualprofitability of about $230,000. Firms also spread these management improvements from theirtreatment plants to other plants they owned, providing revealed preference evidence on theirbeneficial impact. Second, it increased the decentralization of decision-making, as better information flow enabled owners to delegate more decisions to middle managers. Third, it increased the use of computers, necessitated by the data collection and analysis involved in modern management. So modern management appears to be a skill-biased technical change (SBTC), asincreased computerization raises the demand for educated employees. Since these practices were profitable, they raise the question of why firms had not adopted these before. The results suggest that informational barriers were a primary factor in explaining this lack of adoption. Modern management is a technology that diffuses slowly among firms, withmany Indian firms initially unaware of its existence or impact. Since competition was limited by constraints on firm entry and growth, badly managed firms were not rapidly driven from the market (Bloom, Eifert, Mahajan, McKenzie& Roberts, 2013).

In an earlier study, Bloom and Roberts (2011) considered the role ofincentives andwork organization on factory-level productivity. Incentives included remuneration systems (e.g., individual or groupincentive/contingent pay) and also the system of appraisal, promotion and career advancement. work organizationmeant the distribution of decision rights (autonomy/decentralization) betweenmanagers and workers, job design (e.g.,the flexibility of working, job rotation), teamwork (e.g., whoworks with whom) and information provision.

They found that companies that promoted and rewarded employees based on worker ability and effort; have systems to hire and retain their most productive employees; and deal with underperformers through retraining and effective sanctionswere strongly correlated withperformance data from theircompany accounts (total factor productivity, profitability, growth rates, and

Tobin's Q and survivalrates). These correlations are not causal but do suggest that HRM practices that reward effort andperformance are associated with better firm performance. In the India study, Bloom et al (2013) found HRM practices around piece-rate pay for workers and pay for performance for managers to have large effects on productivity and profitability.

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Micro and small enterprises are the predominant form of economic activity incountries like India. There is broad recognition that the micro-enterprise sector is highly heterogeneous, with some owners drawn by opportunities to create a business and others drawn by the necessity to scrape out a living. Aspirations and education have been viewed as the main underlying sources of heterogeneity. McKenzie and Woodruff (2014) show that enterprises are also differentiated by the quality of the business practices they employ and that business practices have effects on enterprise outcomes which are independent of the effects of basic human capital. Owners implementing better business practices have higher sales, profits, labor productivity and total factor productivity. Moreover, better business practices are associated with higher rates of firm survival and substantially higher rates of sales growth. Another study (Salazar-Elena &Guimon, 2019), based on a sample of 13,566 small firms across 15 emerging countries, focused on measuring the impact on labor productivity of four types of management practices: ownership of internationally recognized quality certifications, ownership of a company website, in-house training of workers and auditing of financial statements. The results of this study point to a clear relationship between the set of four management practices and labor productivity, and to a synergistic effect when several of these management practices are combined, although the intensity of such relationship is influenced by the context of the firm.

Productivity Improvements – Empowered Employees

"However strong your company's culture and communications may be, and whether or not your employees are unionizing or unionized, you can make your firm's relationship with its workforce even stronger by affording your workersas much direct agency as possible over the issues that matter to them most" write Bahat, Kochan, and Rubenstein (2023). They warn that "if companies continue to assume that organized labor destroys value and to reflexively fight all collective-action efforts, as has been happening at Starbucks, Amazon, and elsewhere, they run an enormous—even existential—risk. They may permanently disenchant their workforce and stamp out employees' investment in theircompany's success. They also risk harming their brands: U.S. consumers now consider the treatment of workers to be the most important of environmental, social, and

governance issues.Empowering workers' voice can facilitate productive information exchange between frontline workers and management as well as boost workers' loyalty to the firm and this leads to positive effects on productivity.

Drucker (1981) lists Shibusawa's four habits, or rules, of competitive success—taking competitiveness seriously, considering the national interest first, making external relationships important, and not seeking final victory over opponents with whom one still has to live—as the precepts that have guided Japan's manufacturing success. "The last of these habits of Japanese economic behavior is to base human interactions not solely on adversarial relations but also on common interest and mutual trust. When people or parties must live together, let alone when they must work together, the Japanese make sure that their relationships have at their core a mutuality of interest. Then, whatever conflict or disagreement exists can be subsumed in the positive bond of broadly shared concerns." It is said that in Japan unions fight management. Elsewhere, unions fight the company. Further, great care is taken by all parties that there be no damage done to common interests. Whenever groups in Japan have to live together, both sides will be more concerned with making their conflict mutually productive than with winning in any absolute sense.In the 1980s, a major debate developed over why Japanese transplants in the US appeared to achieve higher productivity and product quality than auto plants owned and managed by U.S. firms. The common feature that distinguished transformed relationships was that unions and employers worked together in various forms ofpartnerships to engage employees in continuous improvement efforts. Many adopted variants of teamwork or other flexible work systems that departed from the individual job control model that characterized more traditional systems carried over from Taylorism and standard industrial engineering job design principles. Some encouraged and supported different forms of gains sharing thereby adapting the old productivity-wage norm in modifiedways (Kochan & Kimball, 2019).

In the late 1990s and into the early 2000s, Germany was often called "the sick man of Europe". Only after 2005 did the country start making economic progress. How did Germany, with the fourth-largest GDP in the world (after the United States, China, and Japan) transform itself from "the sick man of Europe" to an "economic superstar" in less than a decade? A series of legislative labor market reforms that started in the mid-2000s, the so-called "Hartz" reforms tend to provide one answer. Another explanation focuses on the evolution of Germany's economy and trade balance in the context of the eurozone. However, Dustmann, Fitzenberger, Schonberg, and Spitz-Oener (2014) argue that these factors did not play as decisive a role in the transformation of the German economy, namely the restructuring of its labor market and the increase in competitiveness that has helped German exports. They instead present evidence that the specific governance structure of the German labor market institutions allowed them to

react flexibly in a time of extraordinary economic circumstances and that this distinctive characteristic of its labor market institutions has been the main reason for Germany's economic success over the last decade. The movements in German wages, within and across sectors, belie the common belief that Germany's labor market institutions are overly rigid. Instead, they argue that the specific governance structure of the German system of industrial relations offers various margins of flexibility. In the early to mid-1990s, these institutions allowed for an unprecedented increase in the decentralization (localization) of the process that sets wages, hours, and other aspects of working conditions, from the industry- and region-wide level to the level of the single firm or even the single worker, which in particular helped to bring down wages at the lower end of the wage distribution. This decentralization took place even though the institutional setup of the dominating system of industry-wide wage bargaining basically remained unchanged. The specific feature that they stress here is that the governance structure of the German system of industrial relations is not rooted in legislation and is not governed by the political process, but instead is laid out in contracts and mutual agreements between the three main labor market parties: trade unions, employer associations, and works councils (the worker representatives who are typically present in medium-sized and large firms). For this reason, Germany was in a position to react in an unprecedented way to the challenges of the early 1990s. The model of industrial relations in Germany lays particular emphasis on negotiation with unions and participation of work councils in decision-making processes and is widely regarded as an important cornerstone in furthering common interests and improving productivity. As a consequence, negotiations are usually far more consensus-based and less confrontational than in other countries. These examples clearly demonstrate that, without violating any labor legislation, individual firms can do a lot to foster good industrial relations in their firms. They can involve their employees in identifying and implementing changes for improvement at the workplace. And sign productivity-based contracts at the firm level. Labor legislation and regulations need not be obstacles to reach productivity goals, all the time.

The model of industrial relations in Germany lays particular emphasis on negotiation with unions and participation of work councils

In a national survey conducted in the US, in 2017, to assess workers' say or influence on their jobs, it was found that the largest "voice" gaps (more than 50 % of the respondents) were reported for benefits, wages, promotions, and job security—essentially the key issues traditionally negotiated in collective bargaining. The second largest voice gaps (more than 40 %) were reported for training, ways to improve how to improve work, product quality and safety (Kochan, Yang, Kimball, & Kelly, 2019). Though we may not have any survey data to provide us an estimate of workers' voice gaps on their jobs, it would be correct to

assert that the voice gaps could be large in India, and closing these gaps would provide a definitive boost to manufacturing productivity. Achieving higher productivity in manufacturing operations calls for a long, arduous journey. Whether the firm is small or large, the steps involved to enhance productivity are identical. This is borne out by the experience of ITC, a large company.

Productivity Improvements – A Case Study

ITC Limited is an Indian conglomerate company, with a diversified presence across industries such as FMCG, hotels, software, packaging, paperboards, specialty papers and agribusiness. The company has 13 businesses in five segments. It exports its products to over 90 countries. ITC is considered to be one of India's foremost private sector companies with a gross revenue of Rs. 69, 481 crores (US$ 9.25 billion (approx.)), a net profit of Rs. 18, 753 crores (US$ 2.5 billion (approx.)) for financial year 2022-23, and a market capitalization of over Rs. 5, 00,000 crores (US$ 63 billion (approx.)) as reported on April 23, 2023.

The company has an exemplary track record in sustainability practices – the only company in the world, for its size and diversity, to be carbon, water and solid waste recycling positive for several years in a row. In addition, ITC's businesses and value chains create sustainable livelihoods for more than six million people, a majority of whom represent the poorest in India (https://www.itcportal.com).

ITC has been at the forefront of implementing innovative and future-looking practices in manufacturing operations. Right from capacity planning well in advance of demand to striving for continuous improvement in the factory indices of productivity, responsiveness to market requirements and superior product quality, to uncompromising workplace safety and pioneering strides in renewable energy, ITC has been on a continuous journey of establishing new benchmarks. The company is 113 years old with 200+ manufacturing units spread across the country. Three of its manufacturing units have completed 100 years and the fourth one is due for its centenary celebrations in 2025. We now turn to discuss two productivity improvement initiatives, productivity-based long-term agreements and incentive schemes and computerization that the company had implemented in the 1970s and early 1980s.

India has been a relatively "closed" economy since its independence in 1947 until the early 1990s characterized by almost limitless wants and scarce resources requiring companies like ITC to postpone, to forego, to trade off – in short, to economize. Technology upgradation and modernization of manufacturing units were not easily available options for enhancing productivity. Hence, when such capital investments were made, with great difficulty, companies had to effectively combine technology and people to seek higher levels of economic productivity. The basic premise was that the full benefits of any effort to improve productivity, however impersonal and technical,

cannot be realized without the active support of the people involved. This meant that productivity had to be viewed as an organizational achievement, depending ultimately on the consumers' willingness to buy the output and the employees' willingness to keep contributing their best efforts. In many companies, productivity was considered a leadership accomplishment. It was always management's move. Managers who waited for productivity to happen, or merely insisted on it, were considered to have abdicated their responsibility.

Attitudes

In ITC, the journey began by first considering employees' attitudes towards productivity. Employees were asked to put down what they understood by the term productivity and state their feelings at the same time. The results read as follows:

Understanding of productivity	Attitudes
Management wants me to work harder.	I already work well. So why should I work more?
Management wants to reduce jobs.	Why should I contribute to unemployment?
More output for same input.	This is desirable.
It increases the profits of the company.	What do I get out of the company?
It changes the way I am used to working.	Why should I adopt new methods and attitudes?
Achieve greater efficiency.	We should aim for it.It's not my job.
New methods thought up by "them".	

Two aspects strike immediately. First, the understanding that productivity is something "out there" and externally imposed. Second, the attitudes are mostly negative. Managers then decided to engage in extensive discussions with the employees, for several months, to explore different meanings of productivity. After much effort, some alternative understanding and attitudes emerged, which were more positive. Some of these were:

Understanding	Attitude
I can make my job more interesting and impactful.	I am willing to try it out.
Productivity can reduce the cost of the product.	This is a desirable goal.
The product I am making will be of better quality.	I would like to be associated with it.
Modernization will make my work surroundings and environment better.	My mind will be free to concentrate on my job.

To achieve this commonality, what is required is regular, honest, relevant and adequate communication – upward, downward and lateral.

The commonality of purpose, which is what organizations strive for, cannot be a reality when only a few has all the information and many have only suspicions and surmises to work on. To achieve this commonality, what is re-

quired is regular, honest, relevant and adequate communication – upward, downward and lateral. The task is demanding and involves risks. Too often, managements shy away from the task fearing that communication inevitably leads to more communication. However, in today's world, there is no other option. Failure to communicate will not create a void, but openings for rumors and distorted information to crowd people's minds impacting negatively the health of the organization.ITC's experience with communication had shown that shop floor employees were capable of appreciating and providing fresh perspectives in areas as diversified and specialized as lease financing and product-mix modeling. This led the company to institute regular communication sessions where business prospects and trends were discussed (still are) with unions and employees.

Training & Education

In addition to communication, employees' manufacturing skills and knowledge were updated through a series of training and educational inputs to enable people to become more productive in their job roles. Employees were encouraged to seek support from competent sources wherever they were. This led to a healthy attitude of "use it if it works, don't bother where it has come from, we have to learn as we go by" setting in. Education efforts were also directed toward team building and the reduction of inter-functional conflict.

Long Term Agreements

The link between incentives or variable pay and performance is well established in HRM theory and practice. However, introducing incentive pay schemes is not easy.A fundamental reason for this is that individuals are more risk-averse than firms. A flat salary provides insurance to an employee because when the firm experiences a negative shock the employee's wage will remain constant (assuming that the employee is not retrenched or laid off). There are other reasons as well: employees' output may not be measured accurately; market demand may be uncertain impacting output requirements thereby reducing opportunities to earn incentive pay consistently; and there could be instances when firms renege on their contracts to pay incentives. Barring the last reason (legal recourse is the only remedy), the others could be overcome. ITC's decades-long experience with productivity-based long-term agreements, including incentive pay, for factory employees offers many valuable pointers.

In 1970-71, ITC reached long-term agreements with the unions in its factories on measures to increase productivity: measures such as changes in processes, technology, workloads, electronic data processing, work-study, job evaluation, aptitude and trade tests and merit rating. The agreements also made a commitment to link an increasing portion of the employee's wage packet to productivity. This was done mainly through the Annual Productivity Bonus (APB) Scheme, in lieu of a statutory profit shar-

ing bonus, for the business division as a whole, and through the monthly Productivity Index Payment (PIP) Plan for each factory belonging to that business division.

Unions and employees welcomed the APB scheme for the reason, among others, that the employee is freed from the anxieties of a lower bonus in the event of reduced profits or a change in the capital structure – factors over which the employee has no control. It had the added advantage of the employee being able to influence his/her earnings in that the payment was directly related to output and the number of employees. The statutory bonus scheme provided for a guaranteed minimum and the APB scheme guaranteed a minimum bonus that was higher than the statutory scheme. More importantly, though the statutory scheme prescribed a maximum, there was no ceiling on what an employee could earn under the APB scheme; the one precondition being that the productivity of the workforce as a whole must also rise.

PIP plans were designed factory-wise to suit the different needs and circumstances of each factory.

The PIP plan embraced all employees of a factory with the object of creating a sense of involvement of all employees, be a machine operator or a clerk, technician or an administrative supervisor, cook or security guard. PIP plans were designed factory-wise to suit the different needs and circumstances of each factory: some had more automated machinery than others; some had a higher complement of ancillary employees; and some had already achieved higher rates of machine operating efficiencies. A feature of the PIP plan, the 'conversion' table, gave employees additional incentive payment for producing more complex product forms. This along with the fact that only the saleable portion of the output was taken into account, encouraged the employees not merely to give higher output but to ensure adherence to quality standards, reduce waste and accept a more complex product mix. The PIP plan also emphasized on presence at work and no payment was made for any type of absence including authorized leave. This aspect was further sophisticated, at the suggestion of the union in one of the factories. The union suggested that 75 % attendance in a month be made a condition precedent for this payment. The money, which would have been payable to those who were disqualified because of lower attendance was pooled and paid instead to those who put in 100 % attendance. Even after 50 years, both the APB scheme and the PIP plan are functional in all the factories of the business division. And the factories of newer businesses that ITC has diversified into in recent years have the APB scheme and the PIP plan. More recently, ITC factories have also introduced individual machine incentive schemes.

Computerization

The Transactional Analysis (TA) model (Berne, 1964) states that we all have three states namely, Parent, Adult and Child in us and depending on which

state is uppermost the responses would accordingly be different. More often than not in organizational situations, people think there are only two states – Parent and Adult – in employees and accordingly responses are tuned in to these states. The potential that can be released from an employee by getting tuned in to his/her child state seems to be given relatively short shrift. ITC learnt this important lesson while introducing computerization in the company.Any change alters status quo hence is threatening. The normal response, in the Parent state, would be to protect the status quo and resist change. When employees respond this way, organisations respond to the employee by cajoling, persuading or offering monetary incentives. As Adults, employees may see change as normal, required and necessary by seeking information about the change. Organizations would respond by sharing information, exchanging views, negotiating and discussing. In the natural child state anything new is seen as novel, exciting, stimulating and even challenging. If organizations tune in to this state of employees then the entire process of bringing about change would be one of generating experimentation, exploration and creative search. It would also create plenty of excitement and longer-lasting commitment amongst employees, not only to a particular change but also towards change in general. However, there is another child state, namely the rebellious child, which will indulge in blocking the change. Organizations respond to this state by using authority, disciplinary action, etc.

Computerization in ITC started with the installation of large mainframe computers in the mid-1970s. These had to be necessarily operated by a body of specialists. The ultimate user for whose benefit the entire exercise was supposedly in aid of a distant figure, with the computer staff becoming an arcane priesthood with its own language, working habits and priorities. This state of affairs could not last. However, several attempts to put the users in the driving seat failed miserably. Exhortations did not succeed; neither did fierce accounting circulars spelling out the investments the company had made in computerization. The user-managers' attitudes fuelled the fear of unions who had always been wary of computerization. Finally, what made computerization "take off" was:

- Transferring the entire formal responsibility and control of computerization to the operating units;
- Introducing micro-processors on a large scale and interlinking them with the mainframes to provide greater user control and user-friendliness;
- Allowing employees free access to "play" with the micro-processors and thereafter to interact in groups to develop their computer literacy further;
- Giving an unequivocal guarantee of "no retrenchment" as a result of computerization;
- Investing in a massive training and familiarization program for all employees to remove "computer-blues";

- Implementing the "mad-dog theory", where senior managers went crazy and insisted, most unreasonably, that all reports reaching their desks should be computer-generated.

This combination of maverick modeling and allowing employees to pace themselves into a very stimulating and rewarding activity appeared to have shown results. There was a quantum jump in usage, acceptability and awareness by employees of the power of the computer to enhance personal choice and control over decisions. It was also sobering for some highly qualified senior managers to find that other employees did not suffer from many of their own self-imposed limitations. Employees in offices and factories took to computers like ducks to water, thus again proving that computerization is more a state of mind than any particular level of education.

ITC's productivity enhancement experience demonstrates that leadership, money, expertise, motivation and processes have to combine in synergistic ways to produce substantial and sustainable results.

Productivity Improvements – Public Policy Implications

Indian firms in the Micro, Small and Medium-sized sectors are not implementing best manufacturing practices on their own because of the lack of information and knowledge. Further, In the case of people management practices, they may believe their current policies are optimal and so no changes are needed. Even those firms that may believe they need to adopt more modern people management practices repeatedly defer actually doing this due to procrastination towards undertaking profitable activities (Bloom et al, 2013; Bloom & Reenen, 2011). We suggest that multinationals and other large, established companies, either on their own or through industry bodies such as the Federation of Indian Chambers of Commerce & Industry (FICCI), Confederation of Indian Industry (CII) and Employers Federation of India (EFI), conduct field visits, workshops and conferences to build awareness about good manufacturing practices. In agriculture, 'demonstration plots' are found to be a good way to convince farmers to adopt productive practices. Farmers want to see tangible results before they change their practices. Likewise, 'demonstration firms' could be one way to convince others that adopting good manufacturing practices is the way to go. Providing training programs for basic operations management, like inventory and quality control, to demonstration firms would serve as an effective approach to ensure faster diffusion and adoption of better manufacturing management practices.In addition, companies should encourage their production staff to volunteer to teach good manufacturing practices to students in technical training institutes and engineering colleges.

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ITC has been doing its bit in this direction where it works with its supply chain partners and other manufacturers. Depending on the context of each supply chain partner, ITC shares its management practices with them to adopt at their workplace through various mechanisms such as training sessions, consultancy, on-site visits and personnel support. Over a period of time, this has helped the supply chain partners attain a similar level of productivity and competitiveness vis-à-vis ITC's own factories, raising the efficiency level of the supply chain as a whole.

Partnerships between Indian industry bodies and foreign associations to promote technical cooperation through training, expert dispatches and other programs should be further strengthened. For example, CII partners with the Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS),a Japanese organization for human resources development in developing countries, to support the development of core human resources in India and to enhance the competitiveness of Indian MSMEs through management training programs on corporate, production, quality, logistics management and other related topics.

ASBM University, Bhubaneswar in collaboration with the National Institute for Micro, Small and Medium Enterprises (MSME), starting in 2023, is offering a two-year, full-time MBA program in MSME management. The Indian School of Business (ISB), Hyderabad is offering a 15-month program in MSME management. These programs are much needed and would enable better management of MSMEs, which, in turn, will improve the productivity and profitability of MSMEs. In addition, we suggest that business schools offer support and guidance to MSMEs the way NSRCEL is doing for startups. NSRCEL is the Indian Institute of Management (IIM) Bangalore's flagship business incubator that is a non-profit institution purely focused on aiding creators and funding startups in their journey. It provides individual attention to problems in core areas; supports incubated startups with access to NSRCEL's network of partners, "Startup Kit", funding opportunities and more; mentorship-driven support from anchor mentors, industry experts and faculty that helps startups achieve their goals; and best of industry-expert delivered sessions and need-specific workshops. NSRCEL has, till now, incubated nearly 600 ventures that exceed $1.5 billion in combined value, a remarkable achievement. Industry-expert delivered sessions, need-specific workshops on operations management and mentoring will prove to be enormously beneficial to MSMEs to improve their performance.

Let us now consider the use of information and communication technology (ICT) to raise productivity. According to Krishna et al (2022), labor productivity growth has been faster in industries that are more capital-intensive and in ICT-producing and ICT-using industries than in non-ICT industries.Their analysis shows that TFP growth has contributed a substantive 40 % to the aggregate labor productivity growth in the ICT-pro-

ducing industries (three), 28 % in ICT-using industries (nine) even as it contributed a mere 4 % in the non-ICT industries (15). Since out of the total 27 industries that they studied, only 12 industries are either ICT-producing or ICT using where TFP growth contribution is significant, the authors recommend that the focus must be on incentivizing industries to either produce more or use more of ICT, in which India, fortunately, has a comparative advantage. At a firm level, advances in ICT make it much easier to measure output in a timely and robust fashion, making effective incentive pay schemes easier to design and implement. IT tools such as Enterprise Resource Planning helps managers access more information significantly thereby increasing decentralization. Bloom et al (2010) find that as better management practices improve information collection and dissemination, firms' owners decentralize more decisions to their factory managers. With greater levels of information, the owners are more relaxed about factory managers making decisions as they know that they can check the outcomes. Further, decentralization leads to skill upgrading within firms facilitating the adoption of new technology and work practices. All of these changes, cumulatively, enable firms experience greater productivity growth.

It was reported, in June 2020, that CII and SAP, the German enterprise resource planning solutions provider, are partnering (SAP Global Bharat Program) to enable Indian MSME members (of CII) to connect with global markets and reap the benefits of SAP technologies and partner networks. We urge more such partnerships to come into being to increase ICT usage in Indian MSMEs thereby spurring productivity growth.

Conclusion

Management does matter for productivity. Alfred Chandler (1994) suggested that the United States and Germany pulled ahead of the rest of Europe in the early 1900s due to superior management, while Toyota's management system is credited with its productivity advantage over US auto firms. And productivity matters for manufacturing. History of the past two hundred years has proved that productivity-led manufacturing has been the foundation on which countries like England, the US, Germany, Japan, and more recently China have built their economic fortune. In these countries, manufacturing has been, and still is, the key factor for the development, prosperity and growing wealth of the population. India can join the ranks of developed nations by successfully overcoming the productivity challenge, amongst others.

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