



## SKILL DEVELOPMENT FOR BALANCED ECONOMIC GROWTH IN DIGITAL INDIA

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### Abstract

The term 'Skill' refers to the capability to perform some activity correctly, quickly and qualitatively. Skill can be acquired through training and it gets refined gradually when one gains experience. The industrial sector in India is still facing stagnancy albeit a fast growing services sector and there is a vital need for boosting the performance of the industrial sector and hence the relative share of this sector in the total GDP of India. Trained manpower is a pre-requisite for the faster growth of Indian industry, especially that of MSMEs, the backbone of Indian industry. The growth of micro enterprises heavily depends on the availability of skilled manpower. ICT has added another dimension to the skill development imperative of India, because ICT-adoption is vital for higher quality and competitiveness of products, for reduction of production costs, and even for scientific marketing of products in this digital era where the modern customers prefer online deals. This paper discusses the vital need for training and skill development in India, relevance of ICT-based skills and other allied aspects, for the rapid and balanced economic development of India in this era of 'Digital India'.

**Keywords:** Skill Development, Industrial Stagnancy, Manufacturing, Competitiveness, ICT, AI.

### 1. Introduction

The term 'Skill' refers to the capability to perform some activity correctly, quickly and qualitatively. Skill can be acquired through training and it gets refined gradually when one gains experience. Though inborn talent plays a key role in acquiring skills, a formal and systematic training can further sharpen such skills. It is in this context that a systematic training process that imparts formal skills to young people through regular training based on a prescribed curriculum and pre-fixed quality norms is vital. Industrial Training Institutes (ITIs) and other types of vocational courses both at post-matriculation level and at undergraduate level are very significant in speeding up the process of industrialization of a developing nation like India. In Indian scenario, faster growth in industry has wider macro-economic implications also because India is still facing a stagnancy in its industries sector albeit a fast growing services sector. This has resulted in a growing imbalance between the three sectors of Indian economy: (i) Agriculture (gradually losing its relative share in total GDP), (ii) Industries (stagnancy persists), and (iii) Services (constantly growing). In such a situation, there is a vital need for boosting the industrial sector in India and its relative contribution to India's GDP from the present level of about 25 percent, to the level of about 33 to 35 percent (roughly one-third). Better performance of the industrial sector requires trained manpower as a key pre-requisite, since skilled human resources are vital for the better performance of MSMEs, the backbone of Indian industry.

In fact, in the current digital era, ICT adoption has added another dimension to the performance of any industry or sector. Many studies have observed this fact, including the studies in the context of manufacturing sector in India, like, the adoption of modern systems like Flexible Manufacturing Systems (FMSs) and such other Advanced Manufacturing Technologies (AMTs). But, all these systems need adequate skills for their proper functioning. So, skill development is a primary need in any industry, especially the manufacturing industry. The case of MSMEs deserve special mention, as MSMEs denote the backbone of Indian industry. Considering the utmost need for skill development and training for the faster and equitable growth of India, this paper delves into the issues relating to skill development in India and its relevance in the broader perspective of India's macroeconomic growth. Besides, the utmost relevance for ICT-adoption in today's era of 'Digital India'



## 2. Objectives of the Study and Methodology

- (i) To study the need for promoting industrial sector in India, especially the manufacturing segment;
- (ii) To study the significance of skill development with special reference to ICT-enabled training;
- (iii) To suggest strategies for faster and equitable economic growth of India in this 'Digital India' era.

This descriptive-analytical paper was prepared using the secondary from authentic sources like the publications of the Govt. of India (GOI) and Govt. of Kerala (GOK), reports of the Ministry of Skill Development and Entrepreneurship (MSDE), GOI. Being an exploratory study no hypothesis was set. Findings of authentic past studies were duly corroborated to arrive at logical conclusions and hence to suggest strategies for the faster and equitable economic growth through skill development.

## 3. Previous Studies

Mohanty and Parundekar (1990)<sup>[1]</sup> have noted that India's manufacturing units have not been serious in modern techniques that impart flexibility, like, FMSs. Rao and Deshmukh (1994)<sup>[2]</sup> too have noted the key need for workers' participation in automation citing the case of Maruti Udyog Ltd. (MUL)-Indian PSU which later became a private unit; now, it is an Indian subsidiary of Suzuki Motor Corporation. Another study by Huang and Sakurai (1999)<sup>[3]</sup> points out the key significance of the participation of the workers in automation. More recent study by P.K Manoj (2008)<sup>[4]</sup> 'Cost Competitiveness and Indian Economy: Significance of Mandatory Cost Audit in the Globalized Regime' *The Management Accountant*, has noted the need for cost competitive goods. Cost management is to be done scientifically using practices like Target Costing (TC) according to a study, P.K Manoj (2009)<sup>[5]</sup> 'Targeting operational excellence through cost management: Some firm level evidence' *International Bulletin of Business Administration*. The growth in microenterprises (MEs) needs to be ensured by ensuring adequate skilled manpower with entrepreneurial capabilities. Growth in MEs not only ensures industrialization, but also equitable growth as MEs are run by the poor and other marginalized groups including women. For instance skilled women can start their own MEs as per their expertise and skills, e.g. ITI qualified women start MEs that need technical skills.

Manoj (2011)<sup>[23]</sup> 'Just in time (JIT) inventory management for enhanced operational efficiency: an 'Indianised JIT' strategy for an agro machinery manufacturing unit in Kerala'. *European Journal of Technology and Advanced Engineering Research*, has observed that if modern management practices like JIT are adopted, then operational efficiency can be attained. Many studies have noted that MEs of women collectives empower them, like, Manoj P.K (2012)<sup>[24]</sup>, 'Potential of micro enterprises in women empowerment: A critical study of micro enterprises run by women under the Kudumbashree Programme in Kerala' *International Journal of Business Policy and Economics*, has noted the vital role that MEs under Kudumbashree have been successful in the socio-economic empowerment of the respective women members. Poor people, including women if properly trained by imparting requisite skills can speed up economic growth in an equitable manner. Manoj P K et. al. (2014)<sup>[31]</sup> 'Impact of e-crm on commercial banking: an empirical investigation with reference to private sector banks in Kerala' *International Journal of Applied Services Marketing Perspectives*, have noted that e-CRM, that is the ICT-based CRM, could improve the performance of Kerala-based private banks. In a study done in a rural setting in India on e-banking acceptance, James and Manoj (2014)<sup>[33]</sup> 'Relevance of E-Banking Services in Rural Area—An Empirical Investigation' *Journal of Management and Science*, have suggested for extending online mode banking in rural areas. Joju et. al. (2015)<sup>[38]</sup> 'E-CRM: A perspective of Urban and Rural Banks in Kerala', *International Journal of Recent Advances in Multidisciplinary Research* have recommended E-CRM or ICT-based CRM for both urban and rural banks and have also suggested separate strategies for both. Manoj (2016)<sup>[41]</sup> 'Bank marketing in India in the current ICT era: Strategies for effective promotion of bank products' *International Journal of*



*Advance Research in Computer Science and Management Studies* has noted the keyneed for ICT tools for effectively marketing the bank products. Joju and Manoj (2019)<sup>[60]</sup> ‘Banking Technology and Service Quality: Evidence from Private Sector Banks in Kerala’, *International Journal of Recent Technology and Engineering*, have noted that ICT adoption in banks (banking technology) can boost service quality and hence ICT adoption needs to be encouraged. These studies suggest that any skill development initiative should invariably impart ICT-based skills and training, because only ICT-based products and services are preferred today, even by the rural customers. There is the crucial for flexibility in globalised markets; P.K Manoj (2019)<sup>[61]</sup> ‘Competitiveness of manufacturing industry in India: need for flexible manufacturing systems’ has noted that modern systems like FMS are key for better cost and quality competitiveness. Many studies show the vital need for specialized skills and also that of training the manpower, including in ICT use. In fact, ICT has added another dimension to the skill development imperative that India faces, because ICT-adoption is vital for higher quality and competitiveness of products and for reducing the costs, and even for marketing of products in this digital era wherein the modern customers prefer online mode deals. While imparting skills to the youngsters due regard to ICT-based skills is essential, as studies have noted that ICT-based products and services could command a market premium. Oommen (2008)<sup>[62]</sup> has warned about the crucial need for sustainability in development pointing out the ‘Ecological Overkilling’ going on in Kerala.

As studies in the area of skill development in this ‘Digital India’ era are scarce, this paper seeks to look into the significance of skill development for balanced economic development of India in the current ‘Digital India’ era when the Govt. of India (GOI) has accorded top priority to ICT adoption.

#### 4. Relevance and Significance of the Present Study

In India there has been a stagnancy in the relative share in the GDP of the industrial (secondary) sector even when the services (tertiary) sector has been fast growing and that too at the cost of agricultural (primary). Over the last few decades, the above scenario has been causing a widening gap between a ‘Growing Services’ and ‘Slowing Agriculture’; and there has been a ‘Stagnant Industry’ in between the first two sectors. This situation has created an imbalance in the economy which needs to be corrected so as to ensure a balanced and sustainable growth in the Indian economy. This ‘Imbalance’ problem was noted way back in the early 2000s when the National Manufacturing Policy (NMP) 2004 was framed. Table I shows the sectoral decomposition of the GDP of India.

Table I: Sectoral Decomposition of the Major Sectors of the GDP of India (Percentages)\* (Current)

Year	Agriculture and Allied	Industry	(Manufacturing – within Industry)	Services
1950-51	51.81	14.16	(10.51)	33.25
1960-61	42.56	19.30	(13.71)	38.25
1970-71	41.95	20.48	(13.70)	37.22
1980-81	35.29	24.29	(16.18)	39.92
1990-91	29.02	26.49	(16.16)	44.18
2000-01	23.02	26.00	(15.31)	50.98
2010-11	18.21	27.16	(14.80)	54.64
2020-21	20.19	25.92	(14.43)	53.89

Source: Based on GOI, MOSPI Statistics

\* Totals of percentages will be less than 100; as ‘Others’ (e.g. Mining) has about 1-2 percent share.

From Table I, a constantly falling trend in the agricultural sector and a steadily growing trend in services sector can be seen. A stagnant Industrial sector can also be noted, especially since the 1980s; because till the 1980s it had a slightly growing trend. Within the Industrial sector, the Manufacturing sub-sector has been stagnant at about 15 percent since the 1980s.

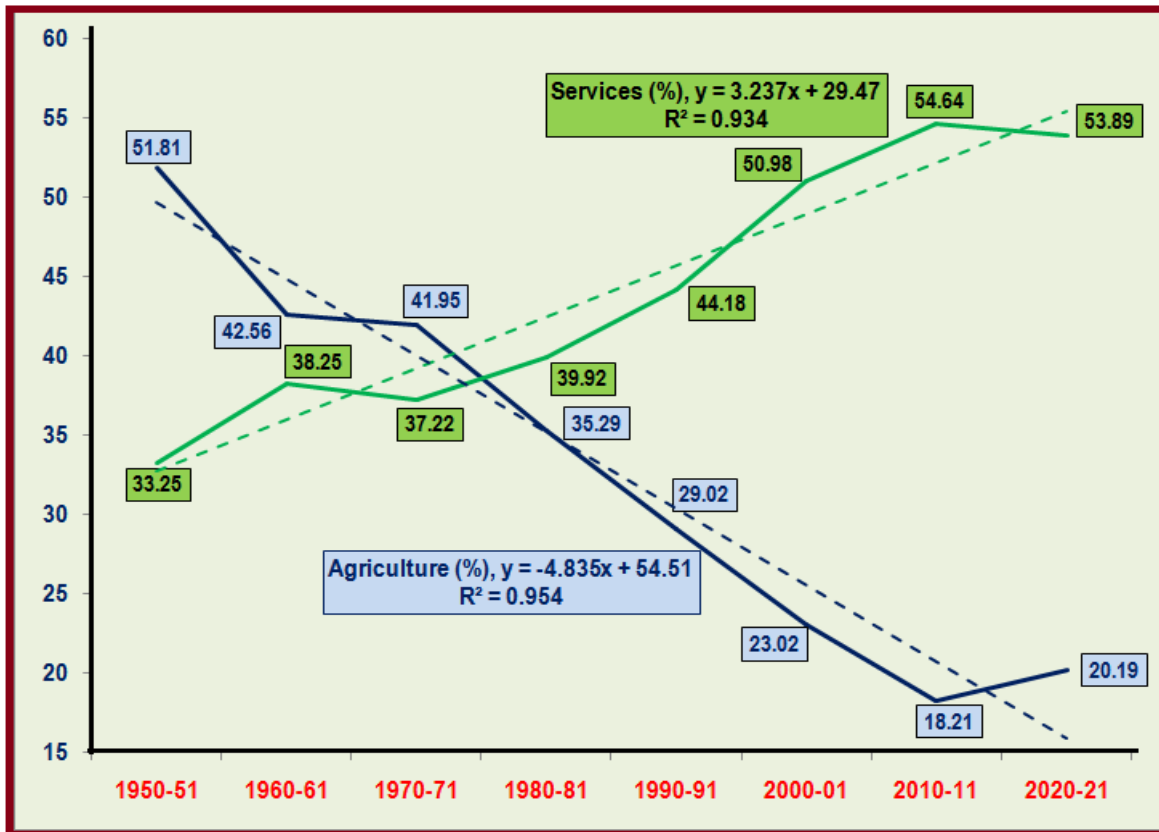


As is evident from Table I, since there is a very clear growing trend in respect of Services (Tertiary) sector and an equally clear falling trend in respect of Agriculture (Primary) sector; and so also a glaringly stagnant Industrial (Secondary) sector, especially since the 1980s. So, there is a need for promotion of the Industrial sector, especially the Manufacturing sub-sector. This in turn needs specialized skills, including ICT skills; the ICT facet is especially relevant in this 'Digital India' era.

**5. Promotion of Industrial Sector: A Vital Need for India's Balanced Economic Development**

As noted earlier, there is a growing imbalance between the three sectors of Indian economy (Table I). This fact can be clearly depicted in Figure I wherein a clear linear relationship is noted regarding the steady growth in the percentage share of Services sector in the GDP of India over the last seven decades. Accordingly, every decade has witnessed a growth in percentage share of Services (Tertiary) sector by 3.237 percent. Services sector has increased its share from about one-third of the GDP of India (33.25 percent in FY 1951, to be specific) to over a half of the GDP (53.89 percent in FY 2021) over the last seven decades. Further, this linear relationship has been very strong also as is evident from the very high R-square value (denotes the degree of explanation) of 93.4 percent. (Figure I). Similarly, in respect of Agriculture (Primary) there is a clear trend in the reverse (declining) direction. Accordingly, every decade has witnessed a fall in the share of the Agriculture (Primary) sector by 4.835 percent. Thus, the share of Agriculture which was over a half of the GDP of India (51.81 percent in FY 1951) drastically came down to about one-fifth of the GDP (20.19 percent in FY 2021) over seven decades. Here also, this falling trend is strongly supported by a very high R-square value of 95.40 percent. In short, there has been very strong growing trend in Services (Tertiary) sector and an equally strong falling trend in Agriculture (Primary) sector over the last seven decades. (Figure I).

Figure I: Trend in the Relative Shares of Services and Agriculture Sectors in the GDP of India

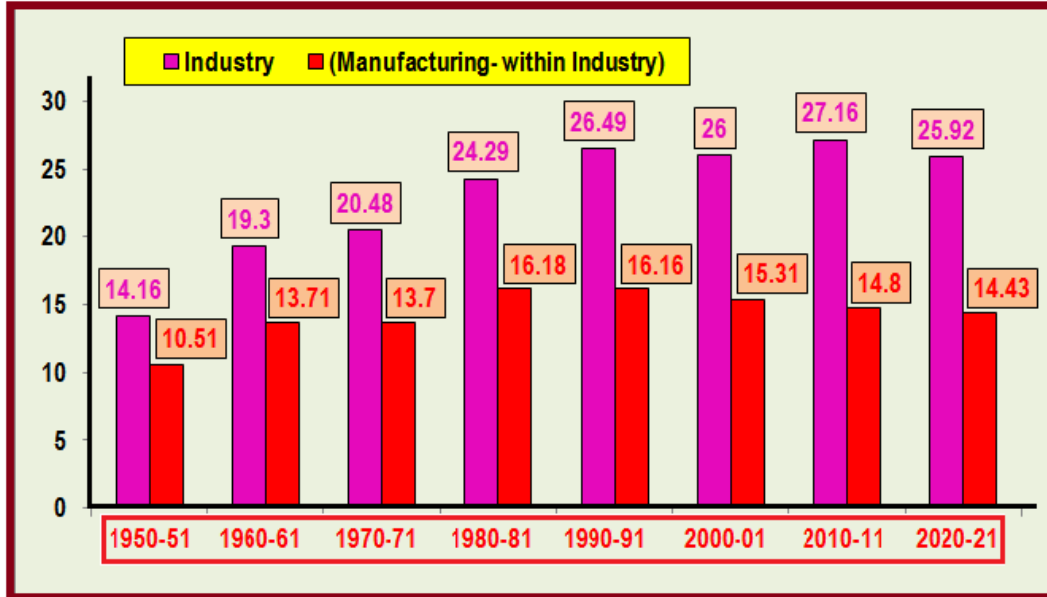


Source: Based on GOI data (MOSPI)



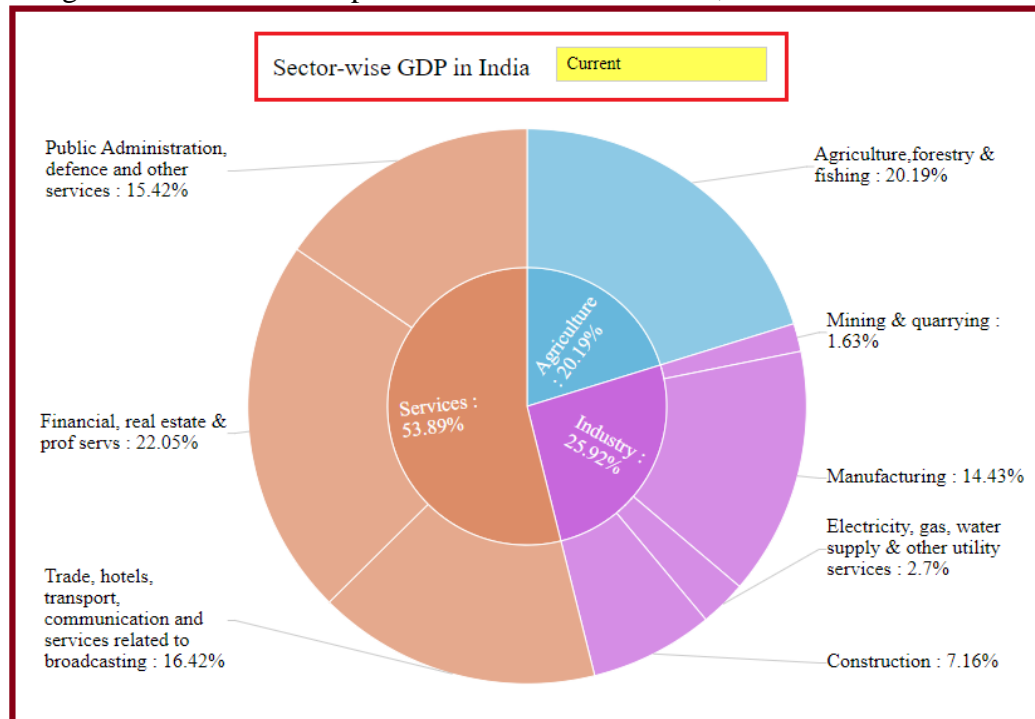
In respect of the Industrial (Secondary) sector, however, the stagnancy and/or decline is prominent only over the second phase of three decades (since the 1981), the initial phase (1951 to 1981) being one with steadily growing percentage share of the Industrial sector (and Manufacturing sub-sector) in the GDP of India. So, there is no rationale for testing for a linear trend and its R-square value in the case of the Industrial sector or Manufacturing sub-sector. Figure II clearly shows this fact. Figure III shows the latest (FY 2021) position regarding the composition of GDP, sectors and subsectors (full picture).

Figure II: Sectoral Composition of the GDP of India- Industrial Sector and Manufacturing Sub-sector



Source: Based on GOI data (MOSPI)

Figure III: Sectoral Composition of the GDP of India, as of 12<sup>th</sup> June 2021.



Source: GOI, MOSPI Data (17 June 2021) (www.statisticstimes.com).





A more recent data set regarding the performance of India’s manufacturing sector on a quarterly basis [Quarter 1 (Q1) to Quarter 4 (Q4), i.e. four Qs in every year]for 17 Qs (Q2-2018 to Q2-2022) also suggest that the stagnation in India’s manufacturing sector still continues and the data for the period Q2-2018 to Q2-2022 (17 Qs) is self-explanatory in this regard. (Statista data) (Figure IV).

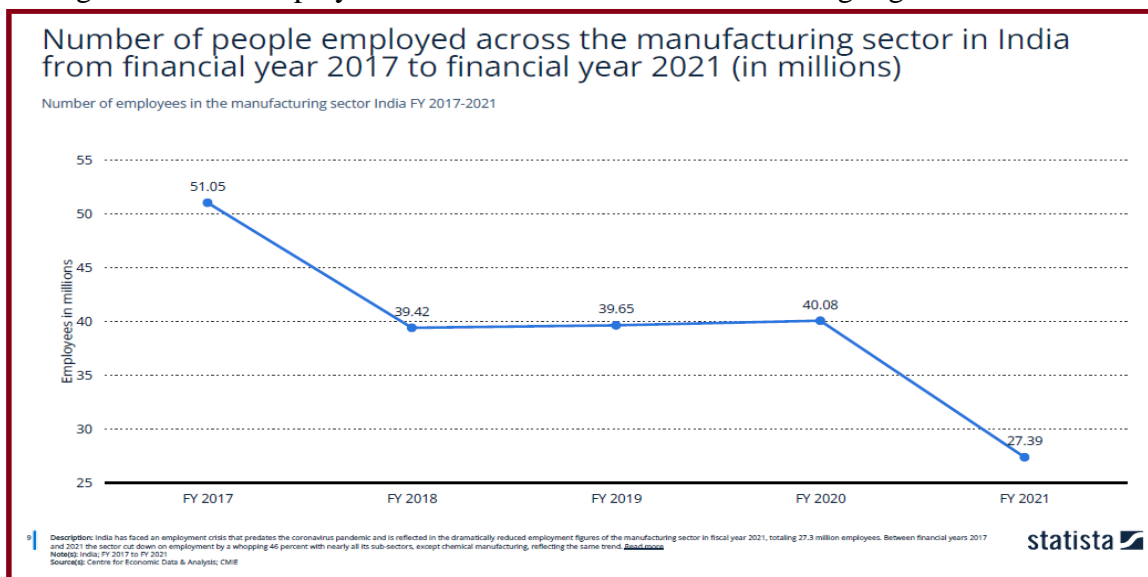
Figure IV: Stagnation in India’s Manufacturing sub-sector continues.



Source: Statista (2022)

Because of the persisting stagnancy in Indian manufacturing sector in particular and the whole Industrial (Secondary) sector in general, the imbalance in the economic (GDP) growth process still continues. This situation can be solved only by boosting the manufacturing sector and increasing its share from the current 15 percent (approx.) to about 25 percent, say, one-fourth of India’s GDP; so that the share of the whole Industrial sector becomes roughly about one-third or more of the GDP. It is noted that the trend in employment generation by the manufacturing sector is also poor. (Figure V).

Figure V: Poor Employment Creation in Indian Manufacturing segment continues.



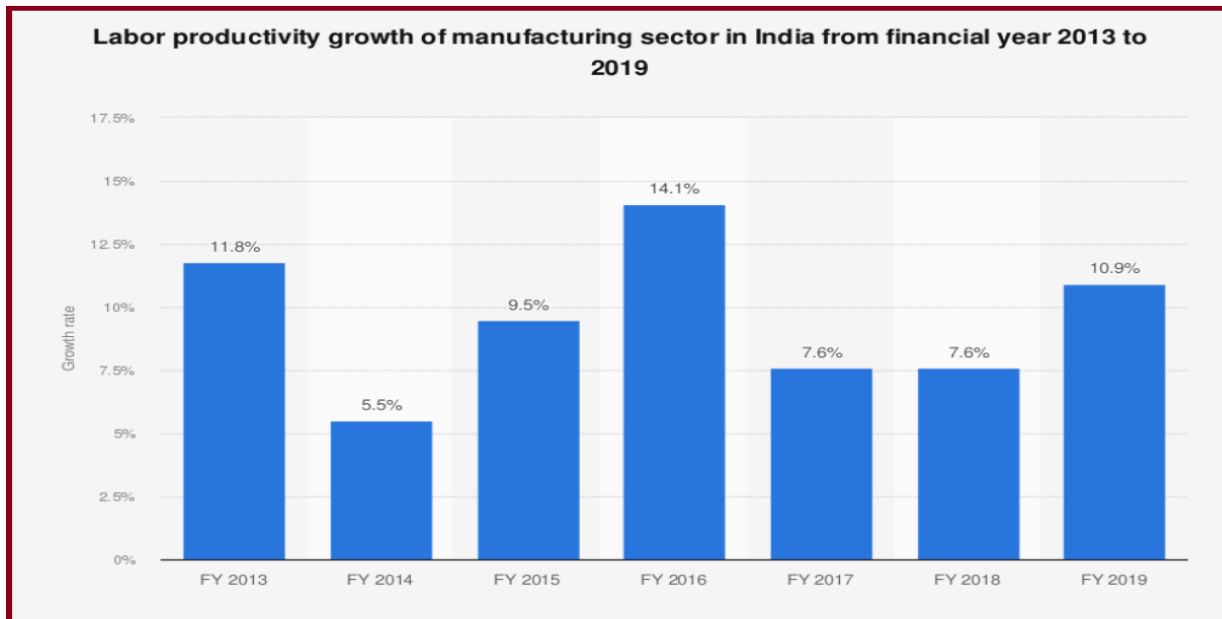
Source: Statista (2022)



## 6. Skill Development: An Imperative for the Balanced Growth of Indian Economy

Skill development is an area that needs closer attention by the policy makers in the contemporary centrality in India wherein ‘Make in India’ is a national priority. To boost domestic production, the manufacturing sector needs a push. Among the industries, the MSMEs constitute the backbone and also the major contributor of exports. The special role that MSMEs in India plays needs to be taken into account. So also, given the fact that ICT is a crucial catalyst for enhancing the efficiency and productivity of the labour engaged in manufacturing. The stagnancy labour productivity is a crucial factor (Figure VI) that needs to be addressed, and here ICT-enabled training and skill development assumes cardinal significance as ICT is an enabler of superior efficiency, productivity and business competitiveness. So, today ICT has added another dimension to the nature of skill development, and ICT-adoption is a vital need for marketing of products in modern times, as noted by Manoj (2016)<sup>[41]</sup> ‘Bank marketing in India in the current ICT era: Strategies for effective promotion of bank products’ *International Journal of Advance Research in Computer Science and Management Studies*. ICT use is key for any skill development training, ICT being useful from product-conceptualization through product design and development, marketing and even after sales service. Given the growing concerns of sustainability, as rightly pointed out by Oommen (2008)<sup>[62]</sup> in the specific case of Kerala wherein there is persisting issues of sustainability in development due to ‘Ecological Overkilling’. As ICT use can preserve the scarce natural resources like trees, ICT is eco-friendly and it promotes sustainability.

Figure VI: Trend in Labour Productivity in Indian Manufacturing (2013-2019)



Source: Statista (2022)

In the context of skill development, the needs of the MSMEs in India must be taken into account given their special significance in India as already noted. Within the MSMEs also, the case of the smallest entities within them viz. Micro Enterprises (MEs), deserve special attention because MEs ensure that the fruits of development reach the poor and other disadvantaged segments in the society, including women. Collective efforts of such people through models like Self Help Groups (SHGs), especially the women’s SHGs, have been useful in women empowerment through formation of MEs as noted in the context of a Kudumbashree-based study in Kerala by Manoj (2012)<sup>[24]</sup> ‘Potential of micro enterprises in women empowerment: A critical study of micro enterprises run by women under the Kudumbashree Programme in Kerala’ *International Journal of Business Policy and Economics*.



The role of small enterprises in equitable and balanced development of nations is widely recognized. In the Indian scenario, MSMEs (Micro, Small and Medium Enterprises) have a vital role to play to bring about faster economic development devoid of divides like rural-urban, gender-based or the like. MSMEs are particularly relevant in a developing country like India as they can create large number of employment avenues and that too in a manner that is helpful to the poor and other marginalized segments of the society, including women.

### 7. Skill Development for the Balanced Growth of Indian Economy: Some Broad Perspectives

Boosting the Industrial sector in general and Manufacturing sub-sector in particular is an imperative in India in the contemporary centrality, as already discussed, and skill development is another vital need to materialize the former. In this regard, it is meaningful to have some broad perspectives as to how to Katole (2015)<sup>[63]</sup> has noted a '70-20-10 Formula' whereby 70 percent of the requisite skills of an individual should be acquired from 'on-the-job' activities or through action learning, experiences acquired from managing projects, participating in cross-functional teams, job shadowing, job rotation, taking up new tasks, and so on. Of the rest, 20 percent of skills are acquired from interacting with others, such as through providing or accepting mentorship, through coaching, participating in community activities, leadership roles in employee organizations, etc. The last 10 percent of the skill development happens when skills are acquired through formal training, or through participating in relevant seminars, workshops, classes, conferences or the like. In short, a vast majority of 70 percent of the skills are acquired from Development Experiences and a meagre 10 percent from formal mode, and the rest 20 percent through interactions. Development Experiences are gained from On-the-job experience and Leadership experience, and the like. A Skill Development Model should ideally have three skills: (i) General Management Skills, (ii) Entrepreneurial Skills, (iii) Knowledge related Skills. The fast advances in technologies, right from mechanization of farming to the most modern ICT applications in all facets of human life necessitate skill development on a continuing basis. Only through an ongoing system of Skill Development through formal and informal means that India can create a talent base that is capable of facing the ever-growing challenges posed by technological advances, especially in the field of ICT.

Figure VII: Impact of Manufacturing Sector on the economy.



Source: Adapted from, *Manufacturing*, Report of IBEF<sup>[67]</sup>





In the Indian context, encouraging the Manufacturing segment within the Industrial sector, by following the ‘Doubling the share of Manufacturing’ strategy as envisaged by the Govt. of India (GOI) by vigorously pursuing the initiatives like ‘Make in India’ and more so the ‘Skill India Mission’, will fetch dividends to the country in the days to come in the shape of: (1) Greater Economic Development, and that too in a balanced manner, (2) Better Competitiveness of the Products, and (3) Making India into a Global Hub.(Figure VII). The ‘Skill India Mission’ initiative of the GOI,launched in 2015 by the Prime Minister of India, seeks to develop the practical skills that are essential for the industry and hence improve the employment rate in India. Through ‘Skill India Mission’ India aims to become ‘Atmanirbhar’ (Self reliant), according to the Prime Minister of India. This initiative aims to generate and execute all-inclusive skill development training programmes which could bridge the gap between the demands of the industry and the available skills of the manpower; so that the whole economy of the nation could grow at a faster pace. The Skill India Mission of the GOI envisaged to train 40 Crore people of India in diverse fields (skills) by 2022.

### **8. Analysis and Discussion: Strategies and Policy Directions Based on Empirical Findings**

The poor employment generation (Figure V) and the poor labour productivity too (Figure VI) in Indian manufacturing over the years must be an eye-opener for the policy-makers. Skill development is the key to enhance the employment rate in Indian manufacturing. The fact that Indian is ‘still young’ with its 75 percent population in the working age bracket adds extra credit to the above proposition; because such a huge level of skilled workforce could greatly boost economic growth in India. In fact, the global agency ILO (International Labour Organisation) has estimated that India may face a deficit of 29 Million skilled manpower by 2030. This terrible fact indicates the acute gravity of the present situation and also the need for skill development. Furthermore, based on ILO’s estimate as above, Accenture has predicted in 2019 that India could lose USD 1.97 Trillion in terms of GDP in the next (i.e. now, the ongoing) decade, unless India takes up timely actions to address the persisting issue of acute skill shortage. Notwithstanding some minor improvements noticed in Indian economy because of the implementation of the ‘Skill India Mission’ (like, fall in the unemployment rate from 9.1 percent to 6.5 percent during the period Dec. 2020 to Jan. 2021, and also growth in the employment rate from 36.9 percent to 37.9 percent), urgent policy measures are required in India to maintain and further improve the pace of skill development in India. Some broad strategies and policy directions towards the above vital need that India faces today are as follows:

- Broad policy focus on boosting the share of Industrial sector, and within that the Manufacturing sub-sector (segment) so as to ensure that India’s development trajectory is balanced and hence sustainable also in the long run. This broad policy focus is made in view of the imbalance in the relative shares of the major sectors of the Indian economy, the gap between the relative shares of primary and tertiary sectors is wide and this widening too. This trend is not advisable.
- Efforts to modernize the industries especially the manufacturing industries by way of adopting the modern practices like JIT, Lean Manufacturing etc., since such techniques and practices can improve the efficiency and productivity. For instance, JIT adoption enhances operational efficiency (Manoj, 2011)<sup>[23]</sup> and so also is the case of adoption of Lean Manufacturing, ICT etc. Similar is the benefit of focusing on specific cost elements selectively or using specialized methods (like, EVA for cost management in construction projects), as noted by (Manoj, 2017)<sup>[50]</sup> ‘Construction costs in affordable housing in Kerala: Relative significance of the various elements of costs of affordable housing projects’, and also (Manoj, 2017)<sup>[51]</sup> ‘Cost management in the construction of affordable housing units in Kerala: A case study of the relevance of earned value analysis (EVA) approach’. Requisite skills that enable the technical staff to properly use modern techniques and practices (like, JIT, FMS, Lean Manufacturing etc.) is essential today.



- Sectors that face greater skills-shortage and hence need more trained people must be accorded higher priority. The land mark policy document of the Govt. of India (GOI), *National Policy for Skill Development and Entrepreneurship 2015* (NPSDE 2015)<sup>[68]</sup>, Ministry of Skill Development and Entrepreneurship (MSDE), GOI has noted a skill shortage of 31.13 Million for ‘Building, Construction and Real Estate’ sector (NPSDE 2015, GOI, pp.52-53)<sup>[68]</sup> and similarly high skill shortage exists in ‘Retail’ (17.35 Million), ‘Transportation and Logistics’ (11.66 Million), and ‘Beauty and Wellness’ (10.06 Million) etc. Naturally, these sectors in that order must be granted priority in skill development. Besides, the linkage effects of various sectors must also be taken into account. Sectors like ‘Building, Construction and Real Estate’ (as noted above, which has the highest deficit of 31.13 Million) and also such others like ‘Tourism, Hospitality and Travel’ (which too has a high skills-shortage of 6.48 Million) etc. have maximum linkage effects, both forward and backward, and hence these sectors deserve the highest policy focus. This is because of the fact that skill development in such sectors coupled with additional investments will trigger automatic investments and developments in many other allied sectors due to vast linkage effects. In effect, there is ‘double benefits’ due to promotion skills for such sectors and investing therein. It may be pointed out that many studies done globally, including in India (and also in Kerala) have suggested investments in housing and real estate and allied sectors, including tourism. The fact that these strategic sectors face shortage of skills (NPSDE 2015)<sup>[68]</sup> indicate that they deserve special attention or policy focus. Many studies, like, Nasar and Manoj (2013)<sup>[25]</sup> ‘Customer satisfaction on service quality of real estate agencies: An empirical analysis with reference to Kochi Corporation Area of Kerala State in India’ and also Manoj (2013)<sup>[26]</sup> ‘Prospects and Challenges of Green Buildings and Green Affordable Homes: A Study with Reference to Ernakulam, Kerala’ are just two typical studies that have recommended for further investments in housing and real estate. Similarly, many studies have recommended promotion of tourism sector for employment creation and economic growth, and Manoj (2015)<sup>[40]</sup> ‘Employment Generation from Rural Tourism: A Field Study of the Local Community at Kumbalangi, Kerala’ is just one study. In short, skill development in sectors like housing, tourism, retail etc. are vital in India because of their potential to accelerate the economic growth.
- As envisaged in the ‘Skill India Mission’ of the GOI, programmes like curriculum-based skill training courses have to be executed so that the trainees could acquire certifications, endorsements, etc. The above GOI mission should try to incorporate skill-based training modules even at the school level so that an ambience conducive for short-term as well as long-term skill training is created. Here, it may be pointed out that sectors or industries that support or facilitate women empowerment, rural development, empowerment of the poor and disabled, and such other disadvantaged segments of the society be accorded higher priority for skill development as a policy measure. Thus, skills that encourage the poor, including the women, the differentlyabled people etc. and also skills that are beneficial to the members of SHGs and such other collectives (especially those of women) must be imparted on a priority basis. The poor, women, and such other vulnerable groups, if imparted with necessary skills could start their own MEs and hence empower themselves. Empirical evidence indicate the empowerment potential of MEs run by women, like, Manoj (2012) ‘Potential of micro enterprises in women empowerment: A critical study of micro enterprises run by women under the Kudumbashree Programme in Kerala’ has noted that MEs run by Kudumbashree women could empower them. Analogously, industries that support the rural economy in India (like, cattle feed industry which support cattle farmers) be preferred for skill development given their potential for rural transformation, as noted by Manoj (2015)<sup>[35]</sup> ‘Cattle feed industry in India: a macro perspective’, about cattle feed industry.



- Added thrust on ICT-adoption and ICT-oriented skills at all levels, including adding the ICT-enabled training module in every skill development programme; because Online skill (e-skill) is a key need for any incumbent in today's era of rapid digital transformation. The ICT industry as a whole needs a policy thrust being the prime mover of India's Services sector, notwithstanding the fact that Services sector in India is steadily growing. ICT industry can ensure faster economic growth and employment creation, besides foreign exchange earnings, observes Manoj (2007)<sup>[14]</sup> 'ICT industry in India: a SWOT analysis'. Besides the skill needs of the ICT industry, skills required by the masses to effectively use the ICT-enabled services, including the Governmental services like the DBT (Direct Benefit Transfer) as in the case of MGNREGA remuneration to the workers, rural customers especially the women etc., as noted by James and Manoj (2014)<sup>[33]</sup> 'Relevance of E-Banking Services in Rural Area—An Empirical Investigation' and Joju et. al. (2015)<sup>[38]</sup> 'E-CRM: A perspective of Urban and Rural Banks in Kerala, and many other scholars. Equally important is the need for specialized skill training for the women employees, women entrepreneurs etc., because women need extra support. As Rajesh and Manoj (2015)<sup>[37]</sup> 'Women Employees work life and challenges to Industrial Relations: Evidence from North Kerala' observes women employees have work-life balance (WLB) issues and these are to be addressed, ICT-based interventions appear to be the best choice in modern days. As noted earlier, rural women too have preferred ICT-based banking products as noted by James and Manoj (2014)<sup>[33]</sup> 'Relevance of E-Banking Services in Rural Area—An Empirical Investigation'. So, needless to mention the rural masses, especially rural women, deserve special skill development courses, mainly skill training related to the use of ICT-based devices that are useful in day to day life.
- Extensive use of ICT for marketing is an area wherein skill development is essential for all people at all levels, including the rural customers, entrepreneurs like members of women SHGs, etc. Given the utmost need for sustainability of development as noted by Oommen (2018)<sup>[62]</sup> in the Kerala context (but equally applicable anywhere in India, or even the world), development initiatives should have long-term sustainability and must not adversely affect ecological balance; and in the case of Kerala (in India) the developments efforts resulted in 'Ecological Overkill'. Skill development that use ICT for marketing purpose instead of paper (use of trees), flex (use of non-degradable sheets) etc. must be totally avoided or banned. Rather, ICT-based tools be preferred for marketing as suggested by Manoj (2016)<sup>[41]</sup> 'Bank marketing in India in the current ICT era: Strategies for effective promotion of bank products' whereby ICT-enabled marketing is to be adopted for the convenience of customers and competitiveness for the service providers. ICT-based marketing being the 'new normal' specialized skills in this domain is an imperative.
- Government-owned banks viz. Public Sector Banks (PSBs) have been noted to be using ICT to a lesser extent than their private sector counter parts, viz. Old Private sector Banks (OPBs). PSBs are lagging more behind New generation Private sector Banks (NPBs) and Foreign Banks (FBs). PSBs need more ICT-integration to catch up with their private sector counterparts like OPBs, and more so in respect of NPBs and FBs. CRMs of PSBs (and to a lesser extent that of OPBs), are less ICT-integrated when compared with the most modern CRM systems (now, e-CRM) of the NPBs and FBs. As today's customers are discerning they prefer only the modern e-CRM systems and not the traditional CRM (and even the less advanced e-CRM) systems of PSBs. So, empirical studies suggest greater ICT integration by PSBs (and OPBs) so as to offer the modern e-CRM services, as noted by Manoj (2018)<sup>[56]</sup> 'CRM in old private sector banks and new generation private sector banks in Kerala: A comparison' whereby CRM systems in OPBs are low-tech compared with those in NPBs, and the former needs to catch up by adopting more ICT. So, relatively low-tech PSBs and OPBs must provide skill training to their staff and adopt ICT.



- As in the case of PSBs (and also OPBs to a certain extent) extensive upgradation of technical (especially ICT) and human relations skills are essential for co-operative sector banks also which are lagging far behind the RRBs (Regional Rural Banks); both being primarily serving the common man or the masses. Through skill upgradation for the staff along with ICT adoption too, the co-operative banks can serve the masses better just like the RRBs; as per the comparative study by Lakshmi and Manoj (2018)<sup>[52]</sup> ‘Service quality in rural banking in north Kerala: A comparative study of Kannur district co-operative bank and Kerala Gramin bank’ wherein the need for skill upgradation and ICT adoption in co-operative banks has been pointed out. Besides, another earlier study by Manoj (2010)<sup>[21]</sup> ‘Impact of technology on the efficiency and risk management of old private sector banks in India: Evidence from banks based in Kerala’ has observed that ICT adoption can enhance the risk management capability of OPBs in Kerala. In fact, a similar observation has been made by Joju et. al. (2017)<sup>[55]</sup> ‘Financial technology and service quality in banks: Some empirical evidence from the old private sector banks based in Kerala, India’ wherein the Fin-Tech adoption by the OPBs in Kerala has been noted to improve their service quality. In short, ICT (banking technology) adoption is imperative in PSBs (and also OPBs) so as to enable them to catch up with the NPBs and FBs. Vitally important is the need for skill development for the staff of PSBs and OPBs to properly use the modern ICT tools.
- Even in this digital or ICT era, there is enough scope for adequate ‘human touch’ and additional thrust on HRM; because entirely ICT-enabled or machine-operated functioning is not preferred by many and there do exist scope for ‘brick and mortar’ (or traditional) banking. The observation by Joju et. al. (2017)<sup>[54]</sup> ‘Future of brick and mortar banking in Kerala: Relevance of branch banking in the digital era’ is that even while ICT-enabled (digital) banking has good acceptance and also high growth prospects, there is enough demand for ‘brick and mortar’ (traditional mode) banking also. Similarly, the need for ICT-integrated HRM in banks is noted by Manoj (2019)<sup>[57]</sup> ‘Dynamics of human resource management in banks in the ICT era: A study with a focus on Kerala based old private sector banks’ and in another paper by Manoj (2019)<sup>[58]</sup> ‘Social banking in India in the reforms era and the case of financial inclusion: Relevance of ICT-based policy options’ the vital need for ICT-based delivery channels for social banking has been pointed out. Joju and Manoj (2019)<sup>[60]</sup> ‘Banking Technology and Service Quality: Evidence from Private Sector Banks in Kerala’ have noted that greater ICT adoption by OPBs in Kerala could enhance their service quality. Skill development of bank staff (especially those of PSBs and OPBs) is vital in HR area (soft skills, communication skills, interpersonal skills etc.) also along with excellent skills for the use of ICT-enabled tools and devices. [e.g. in a CRM (e-CRM) setting.].
- Skill development in diverse sectors (e.g. tourism sector in Kerala, a vital sector which heavily contributes to the GDP of the State) has to be done on a selective basis. The stakeholders of tourism sector (e.g. tourism service providers, tourist guides etc.) need specialized training and the respective government, say, Govt. of Kerala (GOK) should facilitate such skill training with the support of the national agencies, like, Skill India Mission (GOI). Many studies have noted the need for infrastructure development, include skill development of staff, in Kerala’s tourism sector. These include, Manoj (2015)<sup>[40]</sup> ‘Employment Generation from Rural Tourism: A Field Study of the Local Community at Kumbalangi, Kerala’ and also Manoj (2015)<sup>[42]</sup> ‘Prospects of Responsible Tourism in Kerala: Evidence from Kumarakam in Kottayam District’ have both looked into the prospects of rural tourism and responsible tourism respectively in Kerala and noted their high growth prospects. The need for better infrastructure development, including training the staff in ICT skills and other skills, like, interaction skills has been noted in both the studies. In short, skill development in specific sectors (like, tourism in Kerala) is a vital need.





## 9. Analysis and Discussion: Some Broad Strategies and Policy Directions

In view of the foregoing, it may be noted that in today's 'Digital India' era, skill development needs to be done on a priority basis by keeping in view the relative requirements in different sectors of Indian economy, and also the specific needs of the States concerned (e.g. tourism sector in Kerala). Sectors like Housing and Real Estate, Retail etc. are relevant at the national level because of the huge skill shortage. Sectors with vast linkages (like, Housing and Real Estate, tourism) etc. deserve special attention and also policy support, as they can accelerate the pace of economic development in India. The services of the Skill India Mission (GOI) needs to be duly used by the States like Kerala. Various schemes like Apprenticeship training (enables post-education skill development for degree/diploma holders), Technical intern training programme (TITP) which enables international co-operation, and Online skilling (using the 'e-skill' portal that links B2C e-learning sites which operates digitally) etc. need to be used by the States in India, after paying the specific 'State-level' requirements also. The services of the central level institutions and bodies, like, the MSDE ministry and NSDC (National Skill Development Corporation) as well as State Skill Councils (SSCs) need to be used properly.

## 10. Acknowledgement

The author acknowledges his sincere gratitude for the support, including the supply of secondary data, many past studies etc. by Dr. Manoj P K, CUSAT who has been the author's Ph.D Guide also.

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