

Skilling Indian Youth For Industry 4.0

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ABSTRACT

Industry 4.0 or Fourth Industrial Revolution(4IR) refers to current wave of technological changes which is underpinned by advances in the connectivity between humans and machines. India's "demographic dividend" needs to be put to beneficial output and constructive inputs. Annually 10 million young people are added in the labour market. Youth are the future of the nation and they have a tremendous role to play in nation building. Industry 4.0 will lead to the convergence to real and virtual world. It aims at creating a cyber physical system through the use of smart factory. It will change the demand for skills and connect people, process and machine whereby the machines are equipped with an ability to communicate with minimal human intervention. The paper focuses on the current scenario of skilled labour in India, the government initiative to provide employment opportunities to the youth in the realm of Industry 4.0. It further discusses opportunities on the challenges faced by the government towards skilling the Indian youth.

Key Words: Industry 4.0, demographic dividend, skill, youth.

Franklin Roosevelt has rightly said "we cannot always build the future for our youth, but we can build a youth for the future".

INTRODUCTION

The key drivers to economic change are innovation and technological advancement. Industry 4.0 or Fourth Industrial Revolution (4IR) refers to current wave of technological changes which is underpinned by advances in the connectivity between humans and machines. This phrase was first used by Klaus Schwab (Founder and Executive Chairman of World Economic Forum). Industry 4.0 is all set to revolutionize traditional manufacturing process which includes automation/robotics, Internet of Things, Artificial intelligence, Additive manufacturing etc. It is giving way to cyber physical production system thereby minimizing the gap between real and virtual world.

Youth has been defined by UNESCO "best understood as a period of transition from the dependence on childhood to adulthood's independence and awareness to our independence as member of a community". India's "demographic dividend" needs to be put to beneficial output and constructive inputs. "Demographic Dividend" refers to higher proportion of Working Age population of its total population in comparison to other developing and developed countries of the world. They are the variables which should be utilized for the economic progress of the country. Youth are the catalyst of new social thinking, economic development and political activity. The National Youth Policy 2014 presents a holistic vision for the youth of India, which aims to empower them to achieve their full potential enable India to place itself among the developed nations. The government has undertaken multifarious programs that aim at participation and facilitation of youth towards overall holistic development.

OBJECTIVE OF THE STUDY

The main objective of the paper is to provide an insight on the present status of youth in India and discusses on the various government schemes and programmes towards making India "skill capital" of the world in realm of Industry 4.0. The paper further deals with the opportunities and the challenges confronting the youth.

METHODOLOGY

For the purpose of the study, descriptive methodology has been adopted and for auxiliary information, books, journals, articles, annual reports, economic surveys draft papers and the data available on the websites are referred to.

STATISTICS AT GLANCE

India's current growth is not sustainable as the Primary sector or agriculture sector employs 51% of the workforce and it contributes only 12% to the GDP, Secondary or Industry related sector employs 22% and contributes 28% towards the GDP and the Service or Tertiary sector employs 27% of the working population and contributes 60% towards the GDP of the country.

As per World Bank Report, India is the world's fastest growing economy which is expected to grow by 7.7% by 2019-20. As per Census of India 2011, more than half - 60.3% of India's population falls within the working age category of 15 to 59 years out of this 27.5 % of the population is in the youth category of 15 to 29 years. Annually 10 million young people are added in the labour market. India is a young nation with nearly 65 percent of its population falling under the rough age bracket of "under 35", thus making it a largely Young Nation.

As per economic Survey 2016-17, the combined working age population(15 to 59 years) of the advanced countries for the first time since 1950 declined in China and Russia(20% fall individually), whereas India with 28% of the population in the youth category is witnessing an increase in its working age population. The digital environment in India has further empowered the youth to stand up to the world and have a voice. It has helped bridge geographical gap and lead to faster communication and quicker learning.

The labour market in India is characterized by large supply of young people as we enjoy demographic dividend but these young people are poorly trained. The women participation is also on the lower side. Ministry of Skill Development and Entrepreneurship (2015) has said "The country growing workforce is younger than the workforce in the advanced economies, but India is falling behind in developing its skill base." As per the report of MSDE (2015) only 5% of the total workforce has undergone formal skill training as compared to 68% in UK, 75% IN Germany, 52% in USA, 80% in Japan and 96% in South Korea. The National Employability Report (2013) by SPIRING Minds estimates that 47% are not employable by any industry role. (Source: Aspiring minds-2013)

STAGES OF INDUSTRIAL REVOLUTION

The world has previously witnessed three Industrial Revolutions. The first Industrial revolution being in 1784, introduced mechanical production asset which was based on water and steam power. In 1923 second industrial revolution introduced was production concept based on division of labour and electrical energy. Third industrial revolution in 1969 paved way for the introduction of electronic and IT to increase automation of production. Fourth Industrial revolution in 2014 focuses on the real time self optimizing connected systems.(Source: Roland Berger) By 2030, the competitive advantage of business will be driven primarily by innovation developed in Artificial Intelligence.

SKILL DEVELOPMENT

The 4IR will change the demand for skills. It will connect people, process and machine whereby the machines are equipped with an ability to communicate with minimal human intervention. India's Skill development economic system needs to be revamped and be more responsive to meet the new challenges of the corporate world. All industries in future will be driven primarily by innovations developed in Artificial Intelligence (AI). If, we fail to adapt with the changes required under 4IR it will cut jobs and leave millions and billions of people out of the job market. One of the basic problem lies in the fact that people are not aware or have ever heard about 4IR .

Skill India is set up to achieve two goals-meet the employers need of skilled human resource and secondly, to prepare workforce for a decent livelihood. The projected demand for skilled manpower in India is 700 million by 2022. India has embarked on policy reforms to accelerate skill development to speed its economic growth and take advantage of its demographic dividend. In today's globalised economy the firms in the developed and developing countries requires human resources to have higher level of skills to enable them for innovation, increased efficiency and improve delivery of goods and services. The need is to upgrade the skills of the worker force. While most of the developed and developing countries are moving towards nation

of ageing population India is poised to be the youngest country in the world by 2020. Youth are the future of the nation and they have a tremendous role to play in nation building.

The object of Skill India is to create opportunities, space and scope for the development of talents of the youth and to identify new sectors for skill development. Skill India focuses on skilling the country's demographic dividends to enable them get employed in workplaces. It provides training, support and guidance for all traditional occupations like carpenter, cobbler, blacksmith, etc. Emphasis is also given on new areas like real estate, transport, banking, tourism and other areas where skill development is inadequate or nil. This initiative by the government is aimed at skilling the youth to meet not only the domestic demand but also to train them in line to meet the international standards.

As per the Skill India Report 2018 around 20 to 26 million people got employed during 2014 to 2017, the various factors contributing to this were increased hiring by the industries and increasing government spending along with generating entrepreneurs and rise in independent work. Industry 4.0 is characterized by increase digitalization, automated machinery, nano technology, amalgamation of emerging technologies, business analytics and cyber physical system. Through smart factory it aims at creating a cyber physical system. In smart factory the machines communicate with each other through sensors leading to enhanced productivity and optimum utilization of resources. The future task will be job based which will focus on critical thinking, design thinking, team work, problem solving and cognitive learning. The youth need to be skilled and re-skilled to fit in to the changed job roles.

New opportunity for employment known as Gig economy will emerge, which refers to temporary flexible jobs and companies tend towards hiring independent contractors and free lancer instead of full time employees. Integrating industry 4.0 with government initiatives like "Make in India", "Skill India", "Start-up India" and "Digital India" will create new opportunities for the youth as Make in India aims at making our nation a global manufacturing hub which will have the capacity to create approximately 100 million new jobs by 2022.

SKILL LANDSCAPE IN INDIA

As per the report of MSDE(2015) only 5% of the total workforce has undergone formal skill training as compared to 68% in UK, 75% in Germany, 52% in USA, 80% in Japan and 96% in South Korea. The National Employability Report (2013) by SPIRING Minds estimates that 47% are not employable by any industry role. (source: Aspiring Minds-2013)

The reason behind India being exposed to higher challenge with 4IR is that it failed to grab the opportunity that came with Industry 3.0. Industry 3.0 talked about the advent of computer system and automation. With ample supply of cheap labour at its disposal the companies showed no or little inclination towards automation and remained heavily dependent on human resources.

Industry through the Corporate Social Responsibility (CSR) budget provides opportunity for education and employable skills. In semi-rural and rural areas youths have extraordinary potential and possess entrepreneurial skills. The need is to have an eco system where their innovative thinking is nurtured, groomed and given a platform to grow. Their potential can be unleashed by the right exposure to seed funding, mentoring, network support and technology. India has improved its rank on the Global Competitiveness Index and Global Innovation Index. With all the positive inputs like right policy, right skill, human capital and academic and industry linkage, India has the potential to translate the potential of its demographic dividend to real outcomes.

GOVERNMENT INITIATIVES

The government has launched some notable schemes for Skill Development and Entrepreneurship-National Skill Development Corporation (NSDC), National Skill Development Agency (NSDA), Atal Innovation Mission (AIM), National Rural Livelihood Mission (NRLM) etc. It is set to bring a transformational change through various initiatives such as Pradhan Mantri Kaushal Vikas Yojana (PMKVY), new ITI's with private/industry partnership, World Bank assistance, Entrepreneurship education and development etc. for increasing the opportunity for the skilled youth. It has taken multifarious steps and initiatives to update and

upgrade the youth to meet the requirements of the industries but it has failed to give satisfactory results. At present, several new schemes have been launched by the government to encourage entrepreneurship among the youth- startup India, Pradhan Mantri Mudra Yojana, ease of doing business, Startups, Village entrepreneurship programme, etc. Startups are Innovation and a novel way towards enhancing employability in the economy through creation of ecosystem conducive for growth. India needs to become a Nation of job creation rather than of job seeker. Globally India has the third largest number of startups. India has impact on policy reforms to accelerate skill development to speed its economic growth and take advantage of its demographic dividend.

According to India skill report 2018, 40% of the youth coming out of Higher Education Institutions are employable but the industry complains of lack of skilled manpower and suitable employment for the youth. A skill gap study by NSDC estimates incremental human resource requirement of 109.73 million by 2022 in 24 key sectors of the economy. The focus is on Vocational Education/Training (VET) system. To keep pace with the skill demanded by the industry a separate stream for vocational education is required along with the creation of more vocational schools and colleges and the degrees and diplomas being awarded by Central Universities. China has a separate stream after 9 years of compulsory schooling and after this half of the students opt for VET.

With the world becoming a global village the need is to equip oneself with the needed expertise to meet the challenges of the global demand. Big corporate houses train youth, who are picked through campus recruitment process before putting them on job. But many firms do not have the capacity to spend on training the fresher and this impact their productivity as the skilled youth contribute more than the unskilled manpower. Foreign companies having units in India fail to find manpower to handle the machines. The reason being that the skills required are not taught in the colleges and this has worsened the employability of Indian youth. There is a dire need to up skill talent within the factories. Up skilling workforce in the area of digital technologies will prepare the Indian youth to adapt themselves to the changing environment, thus keeping them relevant.

As per the report 2017 by Associated Chambers of Commerce and Industry of India (ASSOCHAM), only 20% of the five million students who graduate every year gets employed. The data by the Ministry of Skill Development & Entrepreneurship-2016, 1.04 crore youth have been trained under the Skill India Mission in 2015-16 which is 36.8% higher than the previous years. Out of 1.04 crore 60% of the training are directly under the Ministry of Skill Development and Entrepreneurship while 40% are across other Central Universities. According to the study released by PwC India would need 100 million jobs till 2026 to support the country's growth. Of these 78 million jobs would be required to be generated in 10 States – Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Rajasthan, Jharkhand, Maharashtra, Odisha, West Bengal, Bihar and Assam.

Earlier in one of its study the World Bank had estimated that India would require about 8.1 million jobs annually. Another report by Motilal Oswal highlights that about 29 million labour force lying unused in India. To reap the benefits of our demographic dividend the youth need to be skilled and employed to meet the demand for skilled workforce in India as well as global. The demand for skilled manpower is predicted to be 700 million by 2022. The employability of educated youth has gone up to 45% from 33% over the last few years.

CHALLENGES

The national policy targets to skill and re-skill the workforce but the fact is that only 4.96% of the workforce is formally trained in India as compared to 75% in Germany and 96% in Korea. Few challenges faced are as follows:

-The public spending in India on education is 3.8% of the GDP which is much lower than Brazil and Malaysia.

-Low level of Education and skills and high dropout rates and the discontinuance of education by the youth impact their employability.

- There has been increase in unemployment rates with the increase in educational qualifications.
- The education system and syllabus has not kept itself with the changing needs of the corporate world, especially related to soft skills, advanced technology adoption and the flexibility of re-skill for the emerging opportunities.
- Stringent laws restrict job creation and acts as a deterrent to successful employment of labour force in India.

A skilled workforce is a pre-requisite for a growing economy and the success of various government ti Yojana(PMKVY), Pradhan Mantri Kaushal Kendra(PMKK), Recognition of Prior Learning (RPL) etc. The need is to improve our education system that focuses on cognitive thinking-learning process, analytical skills required to prepare our youth to meet the challenges of the future jobs. India has heterogeneous informal sector where the skill is acquired not through some formal training but through individual learning, skill transfer, observation etc. Recognition of Prior Learning (RPL) has been introduced to facilitate assessment of the skills acquired by individuals through experiments, observations etc. followed by training.

ANALYSIS

India has the advantage of demographic dividend with high percent of working age population at its disposal but the country in actual is facing talent crunch against the back drop of vast human resource. Few facts are as follows:

- International Labour Organization (ILO) in its report has projected unemployment in India at 18.6 million for 2018 which is higher than what it was in 2017(18.3 million)
- World Bank (WB) in its report has stated that India must create 8.1 million jobs a year to maintain its employment rate.

The above two statistics provided by international organizations draw our attention to the unemployment status of our youth which appears to be a 'demographic challenge' instead of demographic dividend. But the government through various programmes and schemes is committed towards utilizing its human resource capital to its fullest and aims at making the country skill capital of the world. Deriving information from the labour market about the skills at present and the skill required for future is very important.

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