FICCI







IMPLEMENTATION OF APPRENTICESHIP IN INDIA

A STUDY BY FICCI



IS IT TIME TO TEACH A FOR APPRENTICESHIP?

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FOREWORD



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India is set to witness a sharp slowdown in population growth in the next two decades. Although it will enjoy the 'demographic dividend' phase, some states will start transitioning to an ageing society by 2030. Although the age composition will keep changing, India's working-age population will continue to increase through 2041, rising by 96.5 million during 2021-31 and by 41.5 million during 2031-41. This will have major implications on the required rate of job creation in the economy.

Statistics show that approximately 3% of children dropout after grade 5th and 8th in the country owing to socio-economic challenges. Apprenticeship can be an important mechanism for seamless transitioning from from school to work and bridging of skill-gap in the workforce. Realizing the need, the government has revised the apprenticeship structure and created a skill pathway for school dropouts at grade five and beyond to be embedded with short-term skilling programs. Their base stipend has been increased to ensure sustenance during the apprenticeship. Technology has rendered contractual paperwork and made the process seamless and minimal. In the recent past, the government has taken many more steps to streamline the compliances and operational challenges, yet there is a need for an effective awareness campaign and periodic research to ascertain 'Return on Investments' (RoI) in engaging apprenticeship.

FICCI has been providing policy related support to Ministry of Skill Development & Entrepreneurship (MSDE) for development of Apprenticeship and NAPS framework and guidelines under the DFID Technical Assistance project 'Skills for Jobs'. FICCI has closely worked with MSDE to develop the National Apprenticeship Promotion Scheme (NAPS) and worked with Directorate General of Training in creating awareness about Apprenticeship by engaging with the industry across India. FICCI team has also developed a comprehensive 360-degree communications strategy along with targeted industry engagement plan. More than 25 workshops across cities were organised to harmonize the quality view of stakeholders, mainly the Industry. However, adoption of apprenticeship in true spirit by the industry and the youth of the country remains a challenge. (Appendix- i - Page 70)

This study is an attempt to understand the prevailing best practices of apprenticeship models in select countries, current level of apprenticeship adoption in India and the various interventions and reforms needed to improve and simplify the adoption process by the industry. Through in-depth secondary research and several rounds of consultations with all the key stakeholders, this report suggests recommendations for the Government, Industry and Academia. We appreciate the Task Force members for their tireless efforts and meticulous research.

MESSAGE FROM WORKING GROUP CHAIR



Ms Veena Swarup
Chairperson Taskforce &
Former Director, HR, EIL

Talent fuels Business, and Skills fuel Talent. Apprenticeship Training is one of the most efficient ways to develop the youth, through on the job training, making them Industry ready. It is the most promising Skills delivery vehicle in the Industrial Training Ecosystem, world over, providing structured training in the real working environment. Equipped with practical learning should enhance employability. Apprenticeship Training is a successful model in many countries. In India the Act has been in place since 1961, with schemes reviewed and streamlined over the years. Most Public Sector Companies and many large Corporates in Private Sector have been engaging and training Apprentices. Yet there is still a need for much more.

This Study on Implementation of Apprenticeship in India is an initiative by the Skill Development Committee of FICCI. A Task Force comprising of members from diverse fields was constituted. Besides secondary research, several rounds of deliberations were held with Industry Representatives, CEOs of Sector Skill Councils, Ministry of Skill Development and Entrepreneurship, Niti Aayog, Department of Public Enterprises, and International agencies such as ILO, UNDP, GIZ, World Bank. We are grateful to them for Their rich inputs and deep insights.

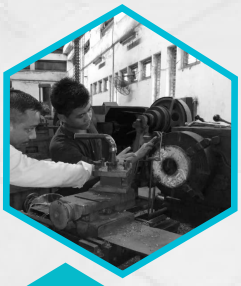
This study report brings together insights into the existing provisions in India, evolution of the Act and Schemes over the years, an overview of the current Framework of Implementation of Apprenticeship in India, International Models of Implementation & perspective, and some Success Stories of Implementation from both India & Overseas. It further delves into the issues and observations on the current position of implementation in Indian industry at large. Recommendations bring out urgent actions required to be taken by Government, Industry, Academia, Skilling Agencies and the ecosystem at large, to facilitate successful implementation, make it more encouraging for industry and aspirational for the youth.

I would like to thank FICCI for giving me this opportunity of chairing the Taskforce on this important subject. My compliments to Mr Bijay Sahoo, Chair, FICCI Skills Development Committee & Group President, HR, Reliance Industries Ltd., Mr Dilip Chenoy, Secretary General, FICCI and Ms Shobha Mishra Ghosh, Asst. Secretary General, FICCI, for taking on this relevant area for a study and for their support. My thanks to each member of the Taskforce for their contribution. A special thanks to Mr Veerappan, Former VP, Excelus Learning Solutions for his commitment. My appreciation for the dedication and untiring efforts of Mr Shiv Shukla, Senior Assistant Director for putting in to the study and bringing it in final shape, and Ms Upasana Maurya, Research Associate for the research and effectively coordinating the numerous meetings.

LIST OF ABBREVIATIONS

Abbreviation	Full Form
CIET	Central Institute of Educational Technology
NUEPA	National University of Educational Planning and Administration
CBSE	Central Board of Secondary Education
CABE	Central Advisory Board of Education
NOSs	National Occupational Standards
NCERT	National Council of Educational Research and Training
SCERT	State Council of Educational Research and Training
DIET	District Institute for Education and Training
NCTE	National Council for Teacher Education
NIOS	National Institute of Open Schooling
UGC	University Grants Commission
ICAR	Indian Council of Agricultural Research
AICTE	All India Council for Technical Education
NCTE	National Council for Teacher Education
NCRI	National Council of Rural Institutes
DEC	Distance Education Council
DGE&T	Directorate General of Employment & Training
LIG Families	Low-Income Group Families
SDIs	Skill Development Institute
NSDC	National Skill Development Corporation
SSDM/ Livelihood Missions	State Skill Development Mission
NCVT	National Council for Vocational Training
SSCs	Sector Skill Council
SCVTs	State Council for Vocational Training
MSDE	Ministry of Skill Development & Entrepreneurship
MHRD	Ministry of Human Resource Development
MSME	Ministry of Micro, Small & Medium Enterprises





EXECUTIVE SUMMARY

Globally, rapid changes in occupations are occurring and will increasingly evolve as a result of advanced automation and impact of other Industry 4.0 related technologies. Companies are becoming increasingly global in their operations. In the labour market, there has been a long-term shift in employment in most countries from primary and manufacturing industries towards service industries. Migration patterns and new forms of non-standard employment – particularly what is known as the 'gig economy' – affect millions of workers.

Worldwide there is a growing consensus among policymakers and industry observers on and they are recognizing the need to shift from the 'academic only' approach to teaching skills in educational institutions. Globally, policy makers see enormous potential in expanding apprenticeship, a model that combines work-based learning under a mentor/ supervisor with theoretical knowledge of related subjects along with wage earning as a stipend. A wide body of evidence suggests that apprenticeships are far more cost effective in teaching skills, especially employability and occupational skills, than pure schooling. In Switzerland, a leader in providing world class apprenticeship opportunities, an astounding 95% of 25 years olds have either a BA level degree or a recognized occupational certification, mainly through apprenticeship. About 70% of Swiss youth take up an apprenticeship, though some go on to university programs later. In Austria, Germany, and Switzerland, extensive apprenticeships offer a way of upgrading the quality of jobs, especially in manufacturing, commercial, and managerial positions. In these countries, apprenticeships begin mostly in the late high school years, absorbing 50-70% of young people on their way to valued occupational qualifications. Various Global reports highlight the role of a robust apprenticeship system in limiting youth unemployment

Our secondary research shows evidence that apprenticeships – whether they are integrated into the countries´ educational systems or not - have positive impact on apprentices and firms/ organisations. Several studies, quasi-experimental and based on descriptive models, show that one of the main benefits of apprenticeships is to ease the school-to-work transition, which can be translated into a higher probability of finding a job (including formal and informal sectors) in the future.

Apprenticeships in India had remained stagnant between 2000-2014 due to various old provisions in the Apprenticeship Act 1961 and stood at just 0.28 million in 2014. Operationally, a compliance-heavy processes and lack of adequate infrastructure have kept industries away from participating actively in engaging apprentices. Recognising the the need for simplifying and easing the process of apprenticeship, the government, in last five years have introduced several amendments to the Apprenticeship Act 1961. The Apprenticeship (Amendment) Bill 2014, was a crucial landmark in bringing-in much needed reforms. It was followed by the introduction of the National Apprenticeship Promotion Scheme (NAPS) in 2016. The Central Apprenticeship Council also carried out reforms in July 2019 to expand apprenticeship opportunities. The government has also shown intent to push apprenticeship through catalysts in the form of Third Party Aggregators (TPAs) that can work in clusters with both MSMEs and large industries. They are empowered to help aggregate demand in these clusters, pool resources in the case of SMEs, mobilise potential apprentices, deliver basic training, facilitate paperwork and above all, educate stakeholders on the need for apprenticeship. Regulatory powers have also been delegated to the industry-led Sector Skill Councils (SSCs) to administer apprenticeship in their respective sectors.

However, there are certain challenges that still exist in effectively implementing the new amendments. Lack of awareness, lack of clarity on progression pathways & integrated credit framework, and non-availability of training infrastructure remain the moot questions. These core issues can collectively be addressed by multiple stakeholders, with a greater and more significant role of the industry.

Another core issue is lack of framework for Apprenticeship in informal sector. Small and medium entrepreneurs usually start their business by being a trainee, earning while learning. The training under the guidance of a master craftsperson, senior mechanic or master chef may not be an organized and structured one but the concept gets applied effectively due to the hands on experience gained at a service centre, a restaurant or a tailoring centre.In certain cases, and after a certain duration, some of these workers take the entrepreneurial route, while others continue as employees. According to the Economic Survey 2018, 87% of firms, representing 21% of total turnover, are purely informal, outside both the tax and social security nets. The survey glaringly points out that the size of the formal sector (defined here as being either in the social security or GST net) is a mere 13% of total firms in the private non-agriculture sector.

A robust framework and ecosystem for informal apprenticeship can create a pathway for formalisation of informal sector and can also help in increased entrepreneurial activities. So is the case of traditional sector of 'Arts & Crafts', where historically 'Ustaad' model was adopted to teach the skills. Such clusters also need to be brought into the formal apprenticeship framework with government support to build infrastructure and integration with education system to resurrect these dying trades that primarily exist in rural and semi-rural areas.

In conclusion, this study presents a series of lessons and recommendations that can be considered by various stakeholders in further streamlining Apprenticeship modalities. We also need to generate more evidence based reliable results, to periodically analyse and evaluate the impact of Apprenticeship and make necessary changes to address the existing challenges.

Summary of Recommendations

For Government

- Develop National Integrated Data System for E to E Stack (Education to Employment)
- Integrate multiple schemes
- Compilation of all the schemes and related rules at single platform
- Mission mode promotion and outreach of the Apprenticeship Scheme (Advocacy)
- Develop and implement a framework for apprenticeship in the informal sector
- Develop and implement a framework to formalise the informal apprenticeship in the traditional sectors
- Bring franchises under apprenticeship provisions
- Mandate apprenticeship as a qualification for Central and State Government jobs to showcase success which may be embraced by private sector
- Tax incentives for large manufacturing and services industry under Income-tax act (Section 35CCD), 2013 for training of additional apprentices other than their own need and '80JJAA of Income Tax Act '1999' for SMEs to hire apprentices.
- Conduct Productivity study to show impact on RoI
- Start immediate preparations for WorldSkills 2021, support schools to initiate Junior World Skill Competitions in the country and industry to participate in BRICS Future Skills Challenge and other International Future Skill Competitions

For Academia

- Introduce pre-apprenticeship and special apprenticeship at School level
- Start 'Apprenticeship Day' in Schools and Higher Education Institutions
- Facilitate credit transfer and provide Apprenticeship based Diploma/Degree
- Partner with NSDC/SSCs/SSDMs to mentor and train WorldSkills Candidates
- Actively support in initiating Junior World Skill Competitions in the country

For Industry

- Consider apprentices as learners and distinctly differentiate from the workforce in the industry
- MSMEs clusters should also develop relationships and linkages with large corporations so that pathways can be developed between 'training' and 'hiring'
- Companies should also study the impact on their RoI due to apprentice hiring
- Adopt ITIs and support in upgrading their facilities and faculty quality
- Larger companies must use their infrastructure to train additional apprentices that can be hired by SMEs.
- Partner with NSDC/SSCs/SSDMs to mentor and train WS Candidates
- Actively participate in international Future Skill Competitions and BRICS Future Skills Challenge.







CONTEXT AND BACKGROUND

"Not just performance of their duties and devotion but also the process of their learning through apprenticeship defines the sanctity of human labour" .....Mahatma Gandhi

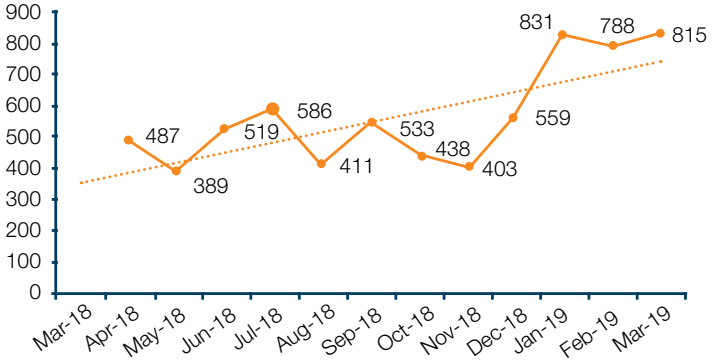
Apprenticeship in India is being recognized as an increasingly important way for youth to make the transition from school to world of work whilst at the same time assisting in economic development. While Apprenticeship Act 1961, which was enacted with the objective of regulating the program of training of apprentices in the industry by utilizing the facilities available therein for imparting on-the-job training, it hasn't achieved the desired results. The Government has made various attempts through multiple amendments over the years to achieve the desired results, yet there are certain gaps and challenges in fully utilizing the potential of the program.

Involvement of Small and Medium Enterprises (SMEs) in apprenticeship training is also very limited owing to lack of technical and financial resources to do the same. Inadequate incentives for employers, lack of infrastructure support and resources to link apprenticeships with career and vocational guidance services are some of the grey areas. More to add to this is the fragmented decision making in Indian skill development ecosystem remains highly fragmented at both – national and state level, where more than a dozen ministries and departments are involved in skill development activities. Too many programs linked with Apprenticeship, lack of adequate communication and outreach, non-recognition of successful apprentices are amongst some of the other key factors why the program is currently unable to fulfill either economic development or provide social justice, both generally seen as aims of the apprenticeship system.

At demographic front, by 2020, the average age in India will be 29 years with 65% of the population in the working-age group (15–59 years of age). Given the changing age composition, India's working-age population will continue to increase through 2041, rising by 96.5 million during 2021-31 and by 41.5 million during 2031-41. This will have implications for the required rate of job creation in the economy. As per the NSSO Periodic Labour Force Survey 2017-18, India's labour force participation rate for the age-group 15-59 years is around 53% (80% for males, 25% for females). Depending on the trajectory of labour force participation during 2021-41, additional jobs will need to be created to keep pace with the projected annual increase in working-age population of 9.7 million during 2021-31 and 4.2 million during 2031-41.

The Government has been bringing out the employment related statistics in the formal sector (since April 2018) covering the period September 2017 onwards, using information on the number of subscribers who have subscribed under three major schemes, namely, the Employees' Provident Fund (EPF) Scheme, the Employees' State Insurance (ESI) Scheme and the National Pension Scheme (NPS). There are elements of overlap and the estimates are not additive. The net employment generation in the formal sector was higher at 8.15 lakh in March 2019 against 4.87 lakh in February 2018. The trend line reflects a positive trend in terms of employment in the formal sector.

Creating adequate employment opportunities for youth remains a significant labour market challenge across the world. In OECD countries, 13.9% of the youth labour force is not gainfully employed. In several European countries like France, Finland, Belgium, Greece, Ireland, Italy and Spain, youth unemployment rate is more than 20% (OECD/ ILO, 2017). In this context, apprenticeship and work-based training opportunities are increasingly recognised as a useful mechanism to better connect the education system with the labour market. Apprenticeship is a program that involves work-based training, often linked to 'off-the-job' vocational education, in order to impart both job-specific and general skills to aspiring 'job-seekers'.



Source: EPFO data

Countries' experiences show that building an effective and successful apprenticeship is often a challenging task. While in some countries apprenticeship is a well-established route to skilled employment, elsewhere apprenticeship is uncommon with employers favoring other means of labour training and upskilling. These large differences in apprenticeship provision across the countries reflect difference in policy choices, and differences in costs and benefits from apprenticeship training accruing both to companies and individuals.

It is also important to highlight that apprenticeship programs have distinct advantage as a pathway to skill development. Traditionally apprenticeship connects technical and vocational education and training (TVET) to labour market needs, as a result of which industry gets skilled workforce. Technical skills and soft skills are important part of the 'job-ready' skills in many occupations, and these are best learnt at real workplaces rather than in classrooms or simulated work environments. Globally for learners, Apprenticeship is an attractive form of learning pathway as they enhance skills in real life settings and prepare them for jobs and careers.

This report is an attempt to highlight the certain areas of improvement in better implementation of the Apprenticeship program. The suggestions are based on rounds of discussion with stakeholders-multi-lateral agencies, industry and sector skill councils. This study also collates best practices across the globe with regard to apprenticeship models and global evidence of the select countries about the effectiveness of Apprenticeship and also covers case studies of few countries where apprenticeship is integrated into the mainstream educational system itself.

Various Definitions of "Apprenticeship"

The International Labor Organization (ILO) defines apprenticeship as a form of "systematic long-term training for a recognised occupation that takes place substantially within an undertaking or under an independent craftsman and should be governed by a written contract and be subjected to established standards". Given growing interest in apprenticeship programmes and broader work-based learning as a key success factor in school-to-work transitions, it is worth noting that very often the term "apprenticeship" is also used to describe a range of programmes referred to as "traineeships", "internships", "learnerships" and "work placements", depending on the country context.

As noted by the G20, "apprenticeships are a combination of on-the-job training and school-based education. In the G20 countries, there is not a single standardised model of apprenticeships, but rather multiple and varied approaches to offer young people a combination of training and work experience". The common feature of all programmes is a focus on work-based training, but they may differ in terms of their specific legal nature and requirements.

In the Indian context as per the Apprenticeship Act 1961- "apprenticeship training" means a course of training in any industry or establishment undergone in pursuance of a contract of apprenticeship and under prescribed terms and conditions which may be different for various categories of apprentices. Apprenticeships in modern industrialised economies typically combine work-based training with off-the-job training through a standardised written contract that is regulated by government agencies. These programmes usually result in a formal certification or qualification.

The nature of apprenticeship necessarily differs based on the institutional and structural features of the Local, Regional, National and Supra-National Vocational Education & Training System.

Generally, formal apprenticeship refers to a system by which a learner (the apprentice) acquires the skills for a trade or craft in an enterprise learning and working side by side with an experienced craftsperson, usually complemented by classroom-based instruction as well. Apprentice, master craftsperson/employer and the training

provider conclude a training agreement that is regulated by formal laws and acts. In most of the cases costs of training are shared between apprentice, employer and the government. (UNESCO, 2018)

Informal Apprenticeship also finds its space in the informal economy, including in G20 countries. It is defined as "a young apprentice learns by way of observation and imitation from an experienced master craftsperson, acquires the skills of the trade and is inducted into the culture and networks of the business". Apprenticeship agreements are mostly verbal, yet they are embedded in the society's customs, norms and traditions. Today, informal apprenticeship is an extensive training system in countries with large informal economies all over the world, including in India, famously can be called as the ustad-shagird system.

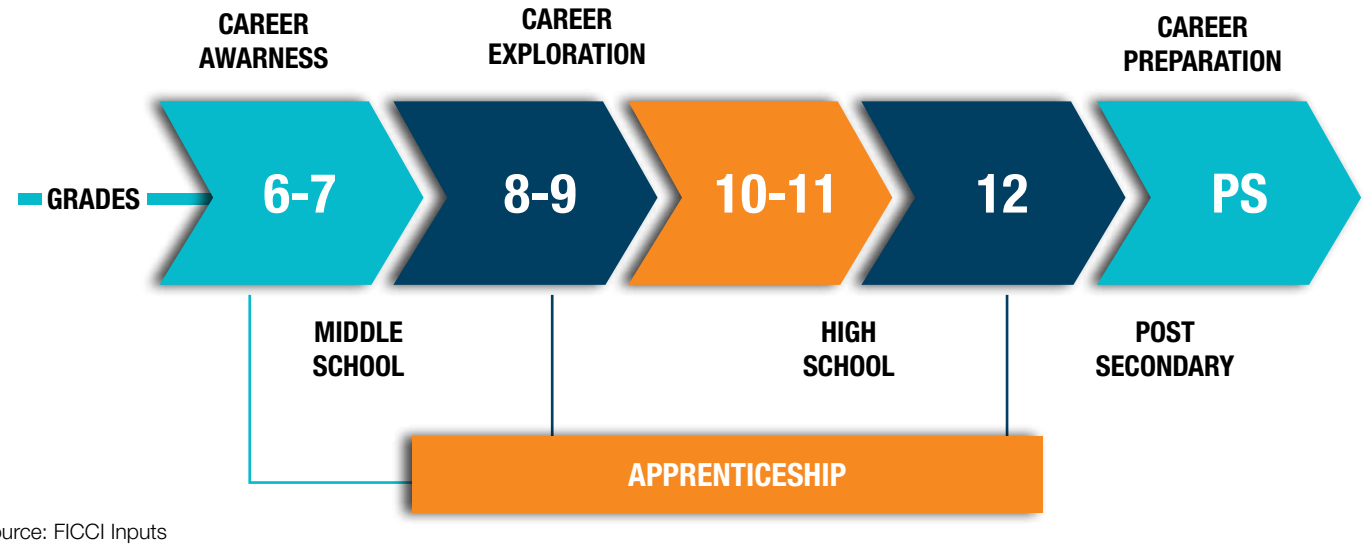
Table-1: Basis various definitions, the following table outlines principal attributes of formal and informal workplace-based arrangements (global standards):

Workplace learning/ Attributes	Stipend	Legislative Framework	On the job training	Off the job training	Formal Assessment	Recognized Certification	Duration
Traineeship	May be	No	May be	No	No	May be	Variable
Internship	No	No	May be	No	No	No	Variable
Informal Apprenticeship	Basic money	No	May be	No	No	No	Variable
Apprenticeship	Yes	Yes	Yes	Yes	Yes	Yes	Variable

Source: FICCI Inputs

Thus, basis various schemes and acts, Apprenticeship can be defined as a formal pathway between academic institutions and industry where a learner gets hands-on/practical exposure to use the acquired knowledge and skills in a particular trade or trades. Hence Apprenticeship could be an important passage during career awareness and career preparation.

Fig-1: Career progression pathways



Source: FICCI Inputs





CHAPTER: 1

JOURNEY OF THE:

APPRENTICESHIP ACT

"Before the professionalization of architecture in the nineteenth century, it was standard for an aspiring mason or carpenter to begin his apprenticeship at fourteen and to become a master builder by his early twenties." .....Martin Filler

1.1 Historically Apprenticeship existed during the Guild system itself. A Guild was basically an association of craftspeople representing a particular craft or trade. The earliest known guilds were believed to have been established in India around 3800 BC. From about the 12th century European Guilds (or Gilds) and Livery Companies gradually evolved into what one could currently identify as being equivalent to business organisations/ consortia. Eventually at the end of the 1700s and the early 1800s the guilds were criticised by politicians and business people for being resistant to free trade and reluctant to adopt the newer technological and business practices and developments. They were increasingly perceived as being territorial and parochial. Industrialisation of trade and industry and the development of copyright and patent protection laws during the 18th century gradually eroded the power and influence of the guilds.

The organisation of a Guild was precisely defined into three hierarchical categories or classes: namely the Livery, the Freeman and the Apprentice. The liveries were people who had established businesses and it was from this category that the Master, the Wardens and the Court of Assistants were elected. They were fully responsible for the organisation and management of a guild including supervising the apprentices, setting and judging their standards and deciding their wages. The next category was the freemen who were bound absolutely to a guild and were referred to as the journeymen craftsmen. The final category comprised the apprentices or trainees who were bound or indentured to a master craftsman for seven years. The apprenticeships were overseen during this period by the Court who made certain the apprentice received effective training and acquired the appropriate skills for the particular craft and trade and was well treated. The apprentice at the end of his training was required to present his masterpiece to the Wardens, this being a piece of work to justify that he had mastered his craft. The system worked well until the period of Industrial revolution that required a new set of methods of training as people migrated to the cities and away from rural communities.

In the modern times, globally, there is evidence-based belief that completing an apprenticeship can improve overall labour market outcomes for young people. More broadly, the work-based training component of apprenticeships provides young people with the chance to develop job-ready 'soft' skills and technical skills that are as relevant as technical vocational competencies.

In 21st century too India is not new to Apprenticeship, it was introduced through the Apprenticeship Act 1961 in the form of a bill, on August 19, 1961 to meet the rising need for the proficient craftsman. Most of the stakeholders were of the view that it could be one of the most efficient ways to develop skilled manpower by providing them hands on training with in the Industry premise, where an apprentice can learn the practical training with the theory classes.

Apprenticeship was always considered to be a powerful platform for skill development because it facilitates 'learning by earning' and 'learning by doing'. As described earlier in this chapter, it is one of the oldest social institutions in India; every master craftsmen, builder, sculptor, and weaver usually had an apprentice to which the art of skill of the trade has been passed on. Even in modern economy, professions like Doctors, Chartered Accountants and Lawyers have mandatory apprenticeships.

Research shows that apprenticeships account for 70% of competence development in many countries. In India, systematic apprenticeship was introduced by the Indian Railways followed by the defence department (in various ordinance factories). The national scheme for apprenticeships was started in 1959 on a voluntary basis however, the scheme could not achieve the expected results. As a result, the scheme was brought under the ambit of the Apprenticeship Act 1961 which was enacted with the objective of regulating the program of training of apprentices in the industry by utilizing the facilities available therein for imparting on-the-job training.

Under Apprenticeship Training Scheme (ATS), students are meant to receive on-the-job training (from 6 months- 4 years) and on completion, they either get absorbed within the company or receive rebate/credit for the apprenticeship period (depending on trade). The apprenticeship system in India is different from modern apprenticeship system prevalent in countries like Germany wherein, training is delivered in dual-mode consisting of workplace learning in a company and basic training in a training institution.

1.2 As per recent guidelines for implementation of NAPS there are five categories of Apprentices*:

Categories	Definition	Entry Level Qualification
Trade Apprentices	A person undergoing apprenticeship training in any designated trade	8th, 10th, 12th standard and ITI pass-outs, in certain trades, B.Sc. pass is also a prescribed qualification
Graduate Apprentices	A person who holds a degree in engineering/non-engineering and undergoing apprenticeship training in designated trade	Degree in engineering/non-engineering, A sandwich course student who is undergoing training in an order that he may hold a degree in engineering or technology
Technician Apprentices	A person who holds a diploma in engineering / non-engineering and undergoing apprenticeship training in designated trade	Polytechnics, Diploma in engineering/non-engineering
Technical (vocational) Apprentices	A person who holds certificate in vocational course after the completion of the secondary stage of school education recognised by the All-India Council	10+2 vocational course, Certificate in vocational course or a sandwich course student who is undergoing training in order that he may hold a certificate
Optional Trade Apprentices	An optional trade is any trade/ occupation/any subject field in engineering/ non engineering/ technology/ any vocational course as may be determined by the employer	5th pass and above

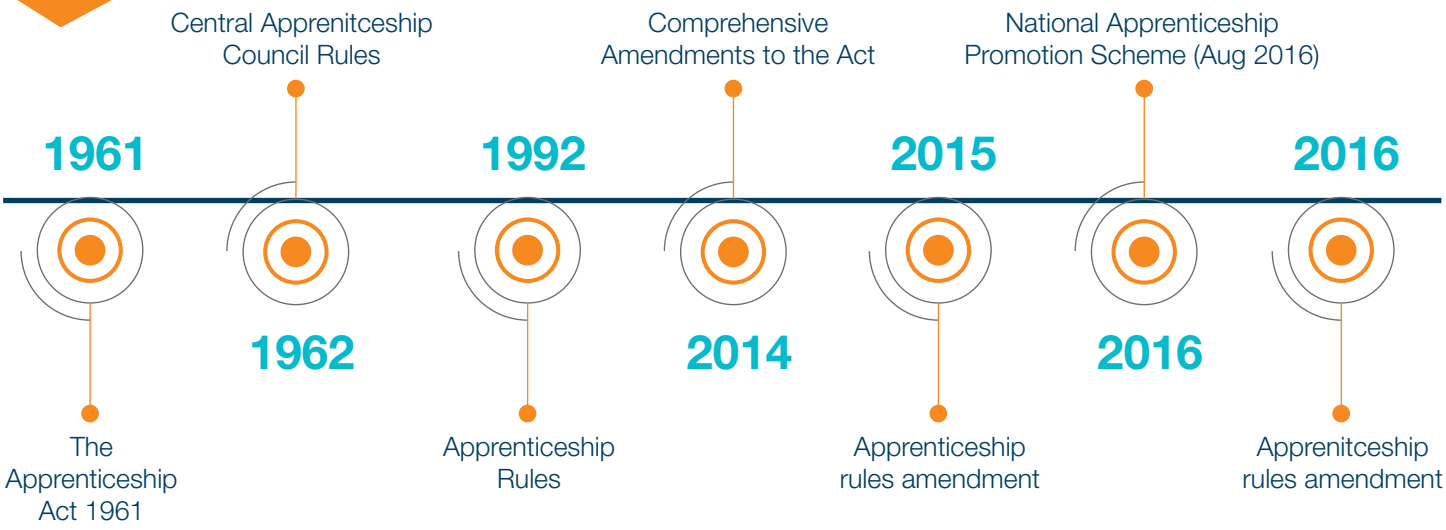
*Note: In addition to above qualifications, trainees who have completed any NSQF aligned Short Term Course including PMKVY/DDUGKY/MES who are not covered under any of the above listed categories but meet the Education/Technical Qualifications as specified in the course curriculum- are also qualified to be apprentices.

1.3 As per the Act, the apprenticeship system in India is managed by 2 key ministries viz. Ministry of Skill Development and Entrepreneurship and Ministry of Human Resource and Development. Both the ministries have their own governance structures and norms to implement the provisions of the Act. A new "Operational Framework for Apprenticeship in India (Including National Apprenticeship Promotion Scheme)" was launched on 15th July 2018 with an aim to make apprenticeship engagement smoother both for the industry and the youth. Ministry of Skill Development (MSDE) now coordinates the implementation of apprenticeship including National Apprenticeship Promotion Scheme (NAPS) across the country through the Directorate General of Training (DGT) and its Regional Directorates of Skill Development and Entrepreneurship (RDSDE), National Skill Development Corporation (NSDC), State Skill Development Mission (SSDMs), Sector Skill Councils (SSCs), State Apprenticeship Advisers (SAA), various Chambers of Commerce, Industry Associations and MSME Associations across the country. The Government body like DGT, RDSDE and SAA will be involved for implementation of designated trades across the country whereas NSDC, SSCs, SSDMs, Chamber of Commerce, Industry Associations etc. will be involved for optional trade under Apprenticeship in the country.

Similarly, the Department of Secondary and Higher Education in the MHRD is responsible for implementation of the Act with respect to "graduate, technician and technician (vocational) apprentices" across all establishments in the country through four Boards of Apprenticeships Training (BOATs) located at Chennai, Kanpur, Kolkata, and Mumbai. Further, the Central Apprenticeship Council (CAC) is an apex statutory body under MSDE which advises the government on laying down of policies and prescribing norms and standards with respect to ATS.

Initially, the Act was envisaged for training of "trade apprentices" only. However, it has been amended multiple times (in 1973, 1986, 1997, 2008 and latest in 2014-2015) to address concerns and issues of various stakeholders. Apprenticeship rules were formulated in 1992. The government had brought comprehensive amendments in the Act in December 2014 to make it more attractive for both industry and youth.

1.4 Journey of the Apprenticeship in India



1.5 National Apprenticeship Promotion Scheme (NAPS)

NAPS was launched on 19th August 2016. The main objective of the scheme is to promote apprenticeship training and to increase the engagement of apprentices. The scheme covers all categories of apprentices except apprentices which are covered by the scheme administered by MHRD i.e. National Apprenticeship Training Scheme (NATS). Under NAPS scheme, courses under PMKVY, Modular Employable Skill (MES), Skill Development Initiative (SDI) of erstwhile DGE&T or courses approved by State Government/Central Government are linked with Apprenticeship Training. All these courses are given status of optional trades & the relevant practical content for on-the-job training is added by respective course approving authority. A specially designed online portal 'www.apprenticeshipindia.org' is used for administering the entire implementation of the Apprenticeship Training.

Key Components:

- Sharing of 25% of the prescribed stipend, subject to a maximum of INR 1,500 per month per apprentice per month to the employer
- Sharing of cost of basic training with Basic Training Providers (BTP); up to INR 7,500 per trainee for a maximum of 500 hours calculated @ INR 15 per hour

Implementing Agencies:

- Regional Directorate of Skill Development and Entrepreneurship (RDSDE) under the control of Directorate General of Training (DGT) are the implementing agencies in their respective states/regions regarding all 'Designated Trades' under the Act of all the establishments falling under the Central Government jurisdiction. CEOs of SSCs under the control of NSDC are the implementing agencies in their sectors regarding 'Optional Trades' for the establishment under the Central Government jurisdiction.
- State Apprenticeship Advisers (SAA) are implementing agencies in their regions in respect of all 'designated trades as well as 'optional trades' for State Public Sector Units and Private Establishments falling under their jurisdiction. They may also appoint the Mission Directors of the respective State Skill Development Missions (SSDMs) to act as implementing agency for all the establishments under the State Government jurisdiction in respect of 'optional trades'.
- Funds are provided by MSDE, in advance to DGT, NSDC and other implementing agencies like SSA and SSDM based on realistic estimated requirements for the current financial year, utilization certificate in respect of funds released earlier and physical achievements during previous years. Funds to SSA and SSDM are released through State Treasury. (For more details please check https://www.msde.gov.in/assets/images/latest%20news Guidelines%20for%20NAPS.pdf)

1.6 Duration of Apprenticeship Training under NAPS

Routes of Apprenticeship Training	Duration* of Apprenticeship Training including Basic Training (as per duration specified in the curriculum)	Basic Training Exempted
ITI Pass Outs*	6- 24 months	Yes
Trainees of Dual System of Training (DST)	6- 12 months	Yes
Graduates	3- 12 months	Yes
Diploma Holders	6- 24 months	Yes
All Pass Outs from the NSQF aligned courses including PMKVY/DDUGKY etc	6-24 months	Yes
Pursuing Graduation/Diplomas	3-24 months	Yes
Fresh Apprentices	6-24 months	No

*Exemption is only in case the candidate opts for Apprenticeship training in a course related to his qualification as specified in the curriculum of each course separately. It is expected that candidates exempted from Basic Training have enough knowledge to enable them to undertake OJT, without the need to go through the Basic Training. Also, for designated trades the duration of a few courses are notified up to 36 months.

Source: Revised guidelines for implementation of NAPS (as on 30th January 2019)

1.7 Organisations under the purview of Apprenticeship Mandate

Employee Strenght	Eligiblity of Apprenticeship	Apprenticeship Band	Apprenticeship Duration
0-5	Not Eligible	Not Eligible	Not Eligible
6-40	Optional	2-5% - 10% of Employee Strength	6-24 months
>40	Mandatory	2-5% - 10% of Employee Strength	6-24 months

Source: NSDC

What is a designated trade?

Designated Trades are long term courses which an establishment can run under the Apprentices Act 1961 (amended 2014) which have been notified by the Govt as a "Designated Trade." These are mostly engineering based and appropriate for the manufacturing sector. Courses under Designated Trades are designed by the Central Staff Training and Research Institute (CSTARI), approved by the Central Apprenticeship Council & notified by the Govt. as a Designated Trade. There are at present 261 such courses notified.

What is an optional trade?

Optional trade means any trade or occupation, or any subject field of engineering, non-engineering, technology or vocational training found relevant by an employer as per their requirements, other than the Designated Trades notified under the Act. Optional trades have been introduced under the Apprentices Act, 1961 to allow employers to create their own courses/ trades for providing apprenticeship training.
Details are available on the apprenticeship portal https://apprenticeshipindia.org/

Source: NSDC





CHAPTER: 2

CURRENT FRAMEWORK FOR APPRENTICESHIP:

IMPLEMENTATION IN INDIA

"A long Apprenticeship is the most logical way to success. The only alternative is overnight stardom, but I can't give you a formula for the same".....Chet Atkins

2.1 At present, Apprenticeship Training consists of Basic Training and On-the-Job Training/Practical Training at workplace in the industry. The basic training is an essential component of apprenticeship training for those who have not undergone any institutional training/skill training before taking up on-the-job-training/practical training. Basic Training is imparted to the freshers apprentices for acquiring a reasonable ability to handle instruments/machineries/ equipment independently prior to being moved to Shop Floor/Work Area for Practical Training/On-Job Training. It usually accounts for 20-25% of the overall apprenticeship training but can vary depending on the specific requirement of the curriculum. Apart from basic training, there is a component of on-the-job training which is performed in the establishments and undertaken by the establishment itself.

2.2 Institutional Framework

Fig- 2: Central Level Institutional Framework for NAPS

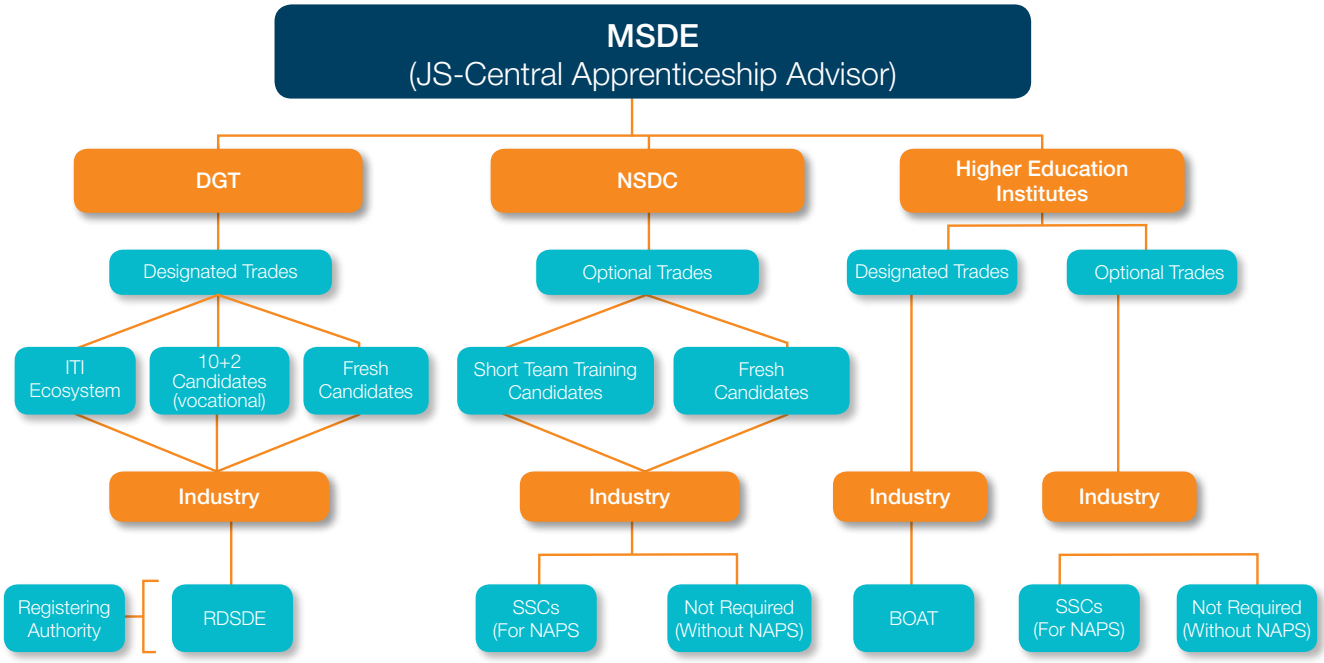
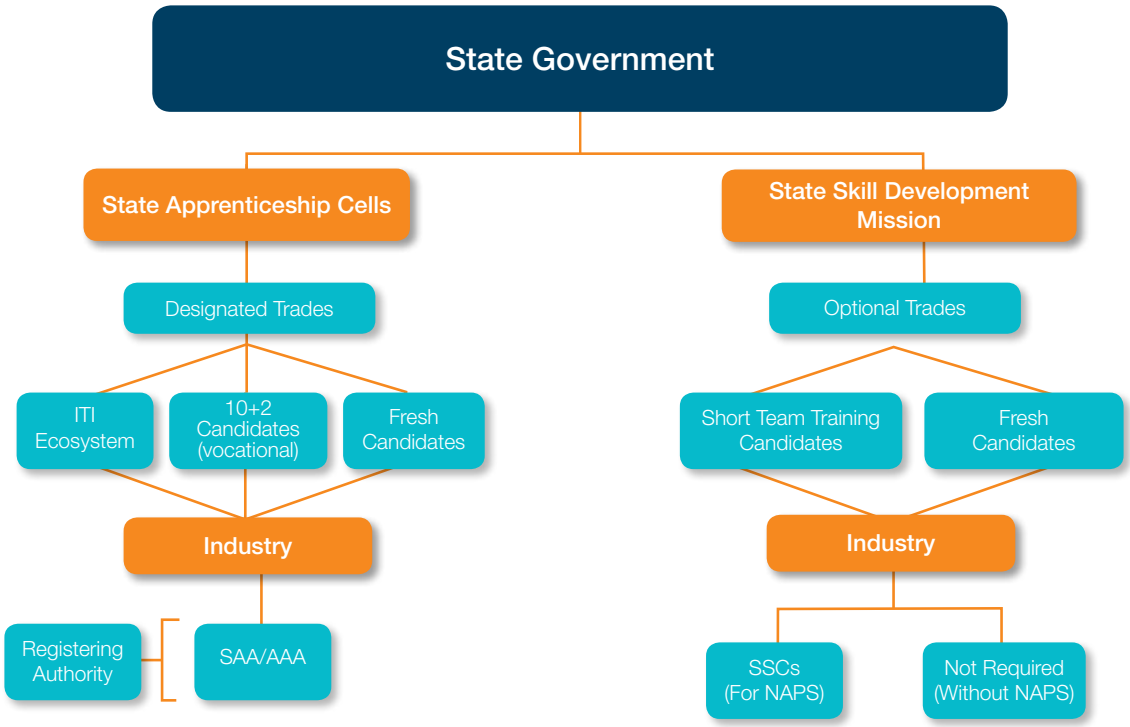


Fig- 3: State Level Institutional Framework for NAPS



2.3 Apprenticeship Schemes

Table 2: Schemes on Apprenticeship under various Ministries:

S.No.	Schemes	Implementing Agencies/ Ministries	Qualification Criteria	Year
1	National Apprenticeship Promotion Scheme (NAPS)	Ministry of Skill Development and Entrepreneurship (MSDE), GoI	Grade 5th Pass onwards	2016
2	National Apprenticeship Training Scheme (NATS)	Ministry of Human Resource Development (MHRD), GoI (Under BOAT)	Graduation and Diploma in Engineering	2016
3	Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)	All India Council of Technical Education (AICTE), MHRD, GoI	Graduation	2019
4	National Employability Enhancement Mission, (NEEM)*	All India Council of Technical Education (AICTE), MHRD, GoI	Grade 10th Pass onwards	2017

* NEEM is not a part of Apprenticeship Act 1961

2.3.1 National Apprenticeship Promotion Scheme (NAPS)

National Apprenticeship Promotion Scheme (NAPS) was launched on 19th August 2016. Apprenticeship Training consists of basic training and on-the-job training/practical training at workplace in the industry. The key details about the scheme is mentioned in chapter one of this report. Since this scheme involves multiple stakeholders, the role of facilitators or Third-Party Aggregators (TPAs) becomes important for mobilizing the apprentices and in mapping their preferences with the demand from the establishments for apprenticeship opportunities posted on the portal and also for helping the establishments in identifying Basic Training Providers.

Eligibility and Requirements for Basic Training Providers (BTP)

- Government or Private ITI having spare seats (with in overall sanctioned seats)
- Establishments with in-house basic training facilities
- BTP set up/supported by industry clusters
- Physical verification of basic training facilities by RDAT
- BTP must have Aadhar linked bank account

2.3.2 National Apprenticeship Training Scheme (NATS)

National Apprenticeship Training Scheme is one of the flagship programmes of Government of India (under MHRD) for Skilling Indian Youth. It is a one-year programme equipping technically qualified youth with practical knowledge and skills required in their field of work. The Apprentices are imparted training by the organizations at their place of work. NATS offers an opportunity for students to get trained in some of the best organizations in the Central, State and Private Sector. Students who have passed engineering, diploma in engineering qualification can apply for Apprenticeship Training after enrolling themselves with the NATS web Portal. There are 126 subject fields for graduate / diploma students for which training is provided. The period of training is one year. Stipend is paid during the training period, 50% of the reimbursed amount is paid by Government of India (approx. INR 2492). Students can register for apprenticeship training through the NATS web portal. Students are advised to attend the Apprenticeship Fairs that are held periodically to get selected for training. Selection of apprentices for apprenticeship training is the employer's prerogative. At the end of the training period the apprentices are issued a Certificate of Proficiency by Government of India which can be registered at all employment exchanges across India as valid employment experience. The apprentices are placed for training at Central, State and Private organizations which have excellent training facilities.

2.3.3 Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)

SHREYAS is a programme conceived for students in degree courses, primarily non-technical, with a view to introduce employable skills into their learning and promote apprenticeship as integral to education. It also aims to amalgamate employment facilitating efforts of the Government into the education system so that clear pathways towards employment opportunities are available to students during and after their graduation.

SHREYAS portal will enable educational institutions and industry to log in and provide their respective demand and supply of apprenticeship. The matching of students with apprenticeship avenues will take place as per pre-specified eligibility criteria. The State Governments are expected to play a major role in securing apprenticeship opportunities, apart from the Sector Skill Councils, so that general degree students passing out in April 2019, gain the option of industry & service sector apprenticeship. Further, the SSCs have identified more than 100 NSQF aligned Job roles/courses in the sectors of IT, Retail, Logistics, Tourism, Healthcare, BFSI, Electronics, Media, Life Sciences and Management, which the exiting graduates can take up under Apprenticeship program. These courses will be available to them from Academic year April-May, 2019. More than 40 higher educational institutions have already been tied up for taking up embedded apprenticeship courses.

2.3.4 National Employability Enhancement Mission, NEEM

NEEM Scheme, also known as National Employability Enhancement Scheme, is an initiative taken jointly by AICTE and Government of India. The Scheme provides for on the job training to the candidates. Industries becoming part of the NEEM Scheme can train the manpower as per their requirements and also have an option of absorbing them full time if needed. A person seeking training under NEEM shall be at least 16 years of age and not more than 40 years of age as on the date of registration. A person seeking training under NEEM may either be pursuing his or her Post Graduation/ Graduation/ Diploma in any technical or non-technical stream or may have discontinued studies after Class 10th. NEEM training shall be for a minimum of 3 months and a maximum of 36 months and the trainings must be NSQF compliant.







CHAPTER: 3

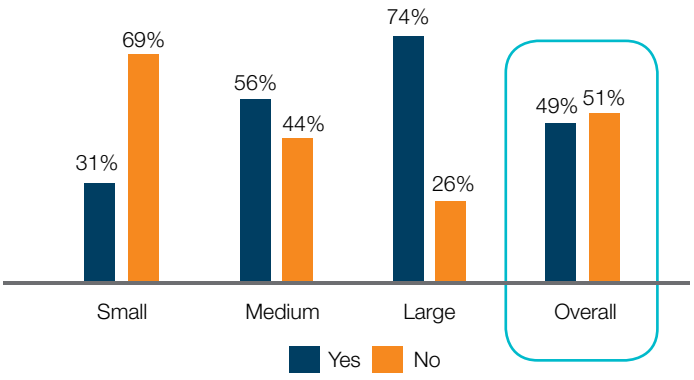
STATUS OF APPRENTICESHIP:

SELECT SUCCESS STORIES

"I started out on an apprenticeship in Hollywood working as an assistant and I got my foot in the door. It is always about the start what we get through Apprenticeship"**.....Ramin Djawadi**

3.1 Government introduced many changes and reforms in the Apprenticeship Act 1961 to make it industry friendly. Several initiatives have been undertaken over the years to simplify the Act yet still the apprenticeship opportunities in the country are not very significant when compared to the size of the economy. After the Apprenticeship (Amendment) Act, 2014 and 2015, the principle of 'Learning by Earning' and 'Learning by Doing' was contemplated by distinguishing the 'Designated Trades and Optional Trades' to promote more confidence among employers in accepting Apprenticeship as an alternative engine to generate skilled manpower with minimal interference from labour law enforcement agencies. Presently, apprenticeship training is mainly associated with students from ITIs, and these in turn are associated primarily with manufacturing industry. As per Annual Report of Ministry of Skill Development & Entrepreneurship (2017-18), more than 80% of the apprentices are from ITI ecosystem. More than 89% of the overall apprentices engaged are from the engineering sectors. Services sector holds a lot of promise and has largely remained untapped.

Fig- 4: Organisation's Engagement in Skill Development (by size)

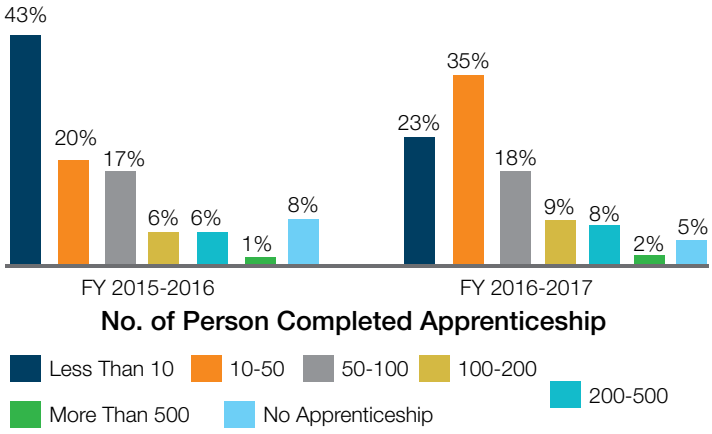


The following chart (refer Fig-5) reflects degree of engagement of apprentices in respondent organisations in the financial year 2015-16 and 2016-17. The share of organisations engaging 10 or more apprentices in the previous year had risen in 2016-17. Organisations that had engaged less than 10 apprentices during FY 2015-16 had fallen from 43% to 23% in FY 2016-17, as they had plans to hire more apprentices in the following year. Further, the share of organisations that reported not placing any apprentice had fallen during the given period from 8% to 5%, confirming more organisations were participating in Apprenticeship programs.

At present more than 6 lacs apprentices are undergoing/completed apprenticeship training across organisations in different sectors. More than 67000 establishments have registered at the Apprenticeship portal.

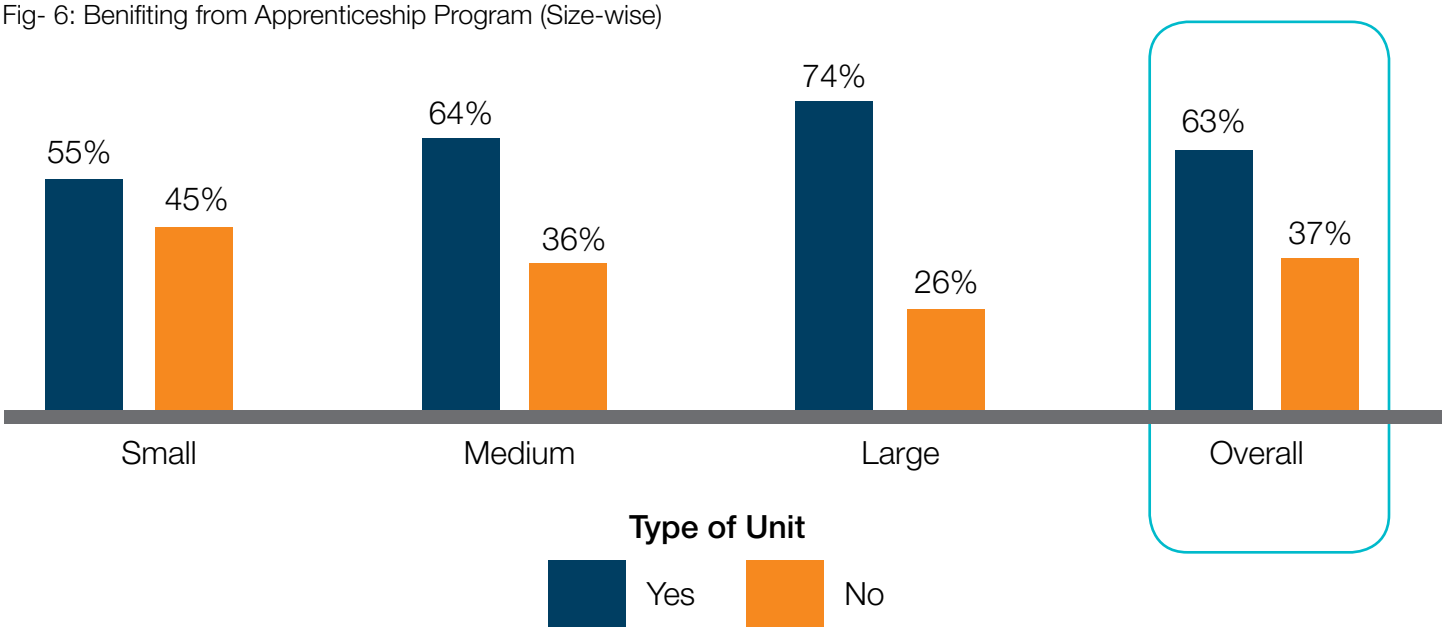
3.2 FICCI had conducted a survey in 2018- Industry Engagement in Skill Development- to understand the engagement of the select sectors/industries (Textile & Apparel, Automotive, IT&Ites, BFSI and Retail) in skill development and their participation in Government-led Skill Development Programs, including Apprenticeship. More than 200 sectoral leaders were interviewed during this survey. As per the findings of the survey, the organisations engaged in skill development programs (49%), the majority were from large sector companies (74%), followed by medium (56%) and small (31%) companies. Non-availability of finance and training infrastructure are some of the reasons for low engagement of small and medium industries in skill development (refer Fig -4).

Fig- 5: Overall Apprenticeship done



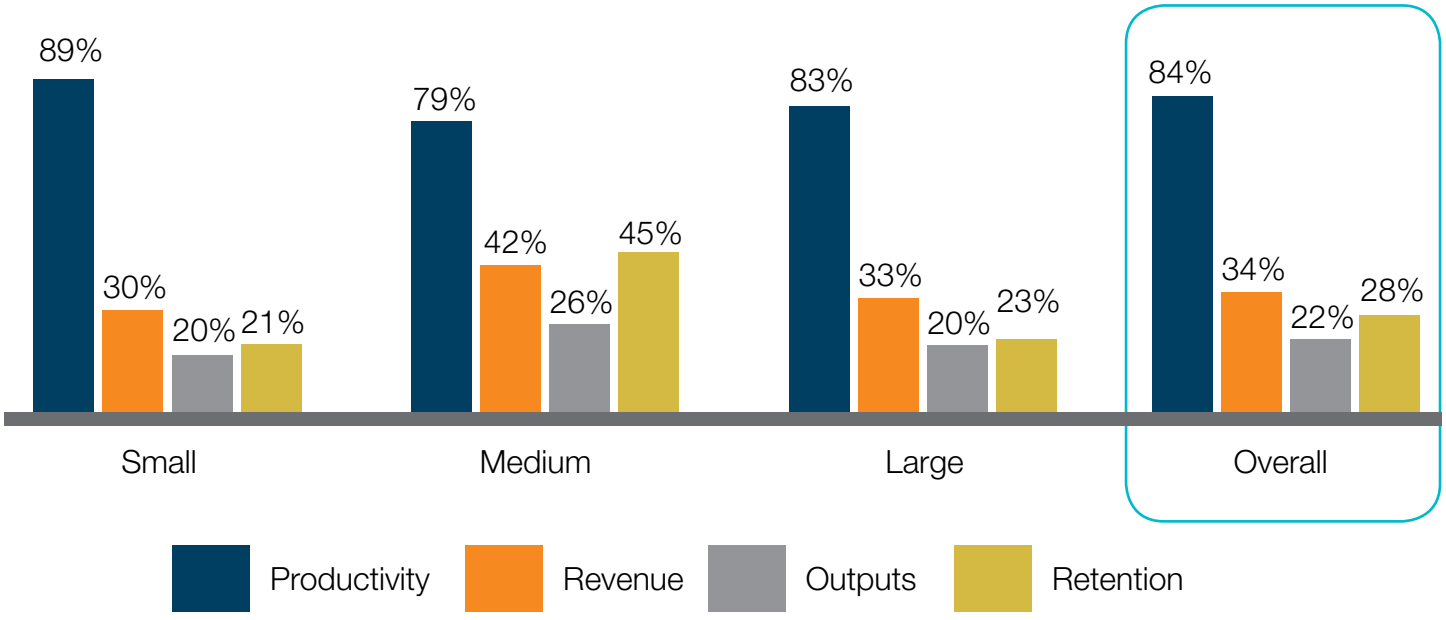
On enquiring about the benefits of engaging in the Apprenticeship program, most respondent organisations, which have engaged apprentices, reported benefitting from the program. However, they did highlight certain gaps in compliances and reporting structure. Sector-wise analysis revealed 80% organisations in Apparel benefitted from the program – the highest across sectors, around 54% of IT/ITES organisations benefitted from the program – the lowest across sectors. When the same was analysed as per size, it was observed that large industries benefitted 74% from Apprenticeship programs compared to the medium (64%) and smaller (55%) companies.

Fig- 6: Benifiting from Apprenticeship Program (Size-wise)



Most of the small size companies' respondents indicated that due to lack of infrastructure and other resources related support they are not able engage apprentices and hence not benefiting from the scheme. Analysing accrued benefits from the Apprenticeship program, a large section reportedly linked it with better productivity (84%), followed by 34% linking it with revenue generation. Productivity benefits of apprenticeship were highest in small sector organisations followed by large and medium ones. A significant number of medium sector organisations reported better revenues (42%) and higher employee retention (45%) compared to other benefits. About 67% of respondent organisations agreed with apprenticeship being the most appropriate mode of developing an industry-ready workforce.

Fig- 7: Benefitting from Apprenticeship Program in core performances of Sector/Industry (Size-wise)



3.3 Select Success Stories

3.3.1 Mahindra and Mahindra



Apprentice training is an integral part of Mahindra & Mahindra Automotive Sector at an average 3500+ apprentice trainees are engaged every year. Mahindra recognizes the fact that 'skill' has both intrinsic and instrumental value and plays an important role in contributing towards the quality journey. Industry associates play a vital role in making sure that the customers have a delightful experience with the product. Keeping this in mind, there are number of initiatives taken to develop skills of the associates and trainees.

Array of training involves classroom, dexterity, on the job as well as programs like 'Saksham' specially designed for the ITI trainees. The 'Saksham' program covers various aspect of the automobile manufacturing like basics of automobile, engineering drawing, automobile manufacturing processes, jigs and fixture, fastening methods and measuring instrument. This program gives the required knowledge of vehicle manufacturing and creates an orientation of the shop floor practices.

Promising candidates are identified during their work and are given opportunity at various State level and India Skills competition. Once selected, they are trained internally as well as externally to progress in their skills. In the last few years few promising trainees have made their mark in the skill arena. Omkar Sawant from Chakan Plant got selected for the World Skills Competition in Welding Skills in 2017 and represented India in the Welding Category. Pratik Kaisare participated in various International skill competition like Open Eurasian Competition, Beijing Arc Cup and Aarti Patole a women welder who created her presence in the welding skills.

Role Model: Aarti Patole

In the area, conventionally dominated by men, Aarti Patole has ignited the torch of change. Trained at the ITI, her natural talent was timely recognised under Prakruti program. Prakruti - an M&M initiative that taps talent in women and makes them employable through appropriate training. Her skills were further honed with the help of external expert, Aarti competed with male counterparts and bagged 1st position at the IIW -National level competition (International Institute of Welding). Aarti represented India in the Arc Cup Competition '18 in China. She was bestowed with the honour of taking oath on behalf of all participants from across the globe. Aarti proved her mettle at international level too, she was adjudged as the 'Outstanding female welder' in the competition.



Ms. Aarti Patole – Outstanding Female Welder of the Year , Beijing ; China



Ms. Aarti Patole – Taking Oath -Beijing Arc Cup - Welding Competition @ China

"A tale of common girl breaking all the stereotype using her welding torch in not just cutting metal but gender barriers as well"

.....Anand Mahindra

3.3.2 Oil and Natural Gas Corporation (ONGC)

ONGC has four Skill Development Centers (SDC's) located at Mumbai, Chennai, Vadodara and Sivasagar, Assam.

ONGC being a leading contributor to India's economy and also the flagship Oil and Gas Company of India set a target to engage apprentices in various disciplines up to 10% of its total work force at its various work centers.

Effectuating the mission of NAPS, ONGC had engaged more than 1200 and 5000 apprentices in NAPS-1 (2017-18) and NAPS-2 (2018-19) respectively across its various work centers. Organisation has also developed its own 'online portal'.

During the course of the training, apprentices were trained in their respective fields under the mentorship of highly experienced ONGC personnel, which made them more employable by increasing their practical skills in their respective trades.

Role Model- Tapan Guhain



Tapan Guhain, had completed his Diploma in Mechanical Engineering from Silchar Polytechnic in year 2015. He received apprenticeship training in Field Maintenance at ONGC Sibsagar during the period September 2016 to August 2017. During the course of the training he got himself well versed in the maintenance of oil field equipment like Water Injection Pumps, Diesel Engines, Air/Gas Compressors and a number of oil field processes. He became competent enough to successfully get a job in Oil India Ltd., a major Oil and Gas PSU predominantly operating in NE region of India. He joined OIL as Junior Engineer at its Duliajan work center in January 2019.

Role Model- S.A Vennila



Ms SA Vennila, underwent apprenticeship training in Optional trade "Secretarial Assistant" during the period January, 2018 to April 2019. After completion of the apprenticeship training, she worked in Medavakkam Health Centre, Chennai for few months and is presently working in Apollo Pharmacy, Chennai.

Role Model- Riruraj Sahu



Chief Engineer (Mechanical) Mr Rituraj Sahu has been felicitated and honored with the Master Trainer Award by the Ministry of Skill Development and Entrepreneurship, on the Teachers' Day on 5 September 2019. Mr Sahu's honor came in the recognition of his commendable contribution in Apprentices Training.

Lady Apprentices being trained at ONGC Central Workshop Sivasagar, Assam



Apprentices learning about rebuilding job



Apprentices learning about assembly of engine



Apprentices learning about measuring tools

3.3.3 Tata Consultancy Services

Process in TCS

Board of Practical Training has allotted quota to TCS to engage Graduate Engineer Trainees (region wise) (North – 125, South – 2500, East – 2000, West – 1509). Company has fulfilled the necessary quota for the year 2018-19.

TCS has started with apprentice registration and compliance under the Apprenticeship Act since 2002. Company has been registering apprentices basis the quota every year and have ensured the necessary compliance under the Act. The quota allocated to TCS is across various trades viz. Computer Science, Electrical Engineering, Electronics and Telecommunication etc. Company been registering apprentices in these trades and beyond.

- As part of compliance, TCS is registering the ASE (Assistant System Engineers) Trainees through online NATS Portal as Apprentice with the respective Boards
- The period of training is one year

Training of the Apprentices

The company has state-of-the-art training centres across locations like Trivandrum, Mumbai, Ahmedabad, Chennai etc. which enable it to conduct initial learning programmes (ILP) to equip freshers with industry-relevant skills and competencies.

Of late, company has started the initial learning programme across all its locations to ensure quick deployment of these trainees on live projects.

The training for apprentices (technical graduates) is in-line with TCS learning program for freshers who join the company from campuses across various streams.

The objective of this training program is to enhance the skills of these apprentices by providing technical, business skills, domain and soft skills training.

The focus is on enhancing software and domain capabilities, in-line with industry / client requirements. The training imparted is based on the current project requirements, so as to make the trainees deployable and project-ready immediately after the completion of the training.



3.3.4 National Hydroelectric Power Corporation (NHPC)

In pursuit of prescribed mandate for CPSEs (Central Public Sector Enterprises) , NHPC has been playing proactive role in providing apprenticeship training in line with GoI target. Almost all projects of NHPC are situated in remote/non-penetrative areas and difficult Himalayan terrain with various challenges like logistical supply, climatic and technological hindrances. The existing infrastructure of Power Stations are being utilised for engagement of apprentices for imparting training. Till now NHPC has engaged more than apprentices 1169 apprentices in accordance with the provisions of the Act. As on 28.08.2019, NHPC has around 333 apprentices engaged at its Power Stations i.e. 4.34% of total workforce of 7676, which is well above minimum threshold of 2.5% of total workforce (including Contractual) stipulated under the Apprenticeship Act 1961. Details of trade and location wise engagement of Apprentices in NHPC, with mandated SC/ST reservation of the state, are shown in the table below.

Sr. No.	Trade wise	Numbers
	Total workforce at Power Station	**7676**
1	Trade apprentice	299
2	Graduate/Degree Apprentice	16
3	Diploma Apprentice	18
	Total	**333**

*SC/ST representation being appx 35.32%

Sr. No.	Location wise	Nos.
1	Himachal Pradesh	187
2	Jammu and Kashmir	62
3	Uttrakhand	50
4	West Bengal	12
5	Silkkim	01
6	Manipur	21
	Total	**333**

the engagement of apprentices is being done through circulation of requirement in Local newspapers, ITIs, and NHPC Web site. Some of the trades in which engagements of Apprentices are being made are Electrician, Fitter, Mechanic, COPA, Welder, Wireman, etc. These apprentices are given acquaintance to NHPC Hydroelectric Power Stations and close mentoring by their seniors in the field of expertise so that they get the best exposure. The authorities at the power station take special care of their stay, transport, health etc. as may be required during the period of training.



Apprentices learning Skills at Dam Control Room at Chamera-I Power Station



Apprentices learning Skills at Power House at Salal Power Station



Class room training of newly engaged Front Office Apprentices at Chamera-I Power Station

3.3.5 Agile Airport Services Pvt Ltd

Agile Airport Services Pvt Limited, started in 2018 as a 100% subsidiary of IndiGo Airlines to handle the ground handling operations. Within a year of operation, it has scaled up to become a 14,000 strong employee company with operations in more than 55 Airports in the country. The Company consists of blue-collared employees and is supported by small team of Administrative and Managerial team. It recognizes the value of having skilled resources to improve its productivity and employee morale. It has taken its toddler step towards building skilled workforce by hiring employees through Government schemes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY). Apprenticeship is one scheme through which Agile wishes to create pipeline of skilled resource and offer them career growth options. The Company has already started hiring students from ITI Colleges for designated Trades and will hire 90 Apprentices by end of this month. National Apprenticeship Promotion Scheme (NAPS) offers huge opportunity in engaging Apprentices under optional trade as well. For an industry that has traditionally hired blue-collared employees through word-of-mouth and other traditional modes of hiring, the focus and opportunity for hiring skilled resources were not available. Now with the Apprentices Act providing option to define Optional trade, it is a great opportunity to hire people for skills and build skilled workforce.





3.3.6 Bharat Heavy Electricals Limited (BHEL)

BHEL is actively contributing to the skill development initiative of the Government of India covering about 8000 individuals per year under the following two apprenticeship schemes:

1. National Apprenticeship Promotion Scheme (NAPS) instituted by Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship, Government of India covering ITI pass outs.
2. National Apprenticeship Training Scheme (NATS) instituted by Boards of Apprenticeship Training Practical Training UNDER Ministry of Human Resource Development, Government of India covering Graduate, Technician (Diploma Holder) and Technician (Vocational) Apprentices.

BHEL has successfully implemented both these schemes by framing and executing a detailed training plan aligned to its business needs. The training plan not only provides the statutory inputs but also creates opportunities for self – development & training in soft skill and computer related knowledge. The methodology comprises of both off-the-job training and on-the-job experiences. The training centres at major manufacturing units develop detailed training plan showing what will be taught, where and in what order along with the stages at which formal assessments of learning will be made.

BHEL trains approximately 8000 individuals every year under the two apprenticeship schemes of NAPS & NATS.

Under NAPS, apprenticeship training in ITI trades of Fitter, Turner, Welder, Electrician, Machinist, Motor Mechanic, Electronics, Draughtsman, Grinder, Painter, Mason, Plumber, Carpenter, PASAA, Mechanic – Refrigeration & Air Conditioning, Instrument Mechanic, Foundryman, Draughtsman Mechanical, Machinist Grinder, Diesel Mechanic, COPA, Medical Lab Technician, Wireman, Sheet Metal Worker, Welder (G&E) etc. are available at different units of BHEL.

Under NATS, apprenticeship training is available for engineers who have completed graduation or diploma in electrical, civil, mechanical and electronics.

Data for apprentices in BHEL in last few years

Types of Apprenticeship Training	2015-16	2016-17	2017-18	2018-19
A) NATS				
Graduate apprentices	374	1932	1725	1438
Diploma apprentices	743	1951	1931	1029
Vocational apprentices	133	6029	1598	40
B) NAPS				
Trade (ITI) apprentices	3666	4728	6088	6022



Indoctrination and RI Classes

3.3.6 Subros Ltd.

Subros has initiated Skill Development Centre in the premises of Subros Ltd., Manesar where approx. 4000 Apprentices are trained at different level. Class Room & Practical training is 04 weeks before their deployment at Shop Floor. Company has established Dojo Skill Centre for the training of apprentices to meet the skill gap as per the 'New Age Skill'.





Description	Normal Contractual Worker	Apprenticeship Engagement
Designation difference	These are Contractual Workers	These are Trainees under Govt. Scheme
Qualification	10th , 12th Pass Out	Minimum 10th , 12th + ITI Passout
Registration	Anybody can join	Only those who are registered as Trainee under National Employability Enhancement Scheme (Govt. App Scheme)
Cost of 1 Person	Salary 9000 Att. Aw 00 PF 1215 ESIC 315 LWF 20 Cont Sv. Charge 720 Bonus 1800 **Total Cost 13070.00**	Salary 8,500 (As per Govt. 70% to 90% of Semi Skilled Salary) Att. Aw 0 PF N.A. ESIC N.A. LWF N.A. Cont Sv. Charge 0 Bonus N.A. **Total Cost 8,500.00**
Total Cost Saving	50% Less than Contract MP	Rs. 4,500/- Per Month / Employee
Salary Procedure	Getting Salary	Will get Stipend
Can Involve in Union	Yes	No (As they are trainee not an employee & can't be a part of union)
Tenure on Employee	Maximum he can stay	Maximum 2 Years
Stability of employee	High attrition (18-25 % in Manesar Plant)	Low attrition as they will have to stay up to 2 years to obtain certificate

Cost Saving on Engagement of DET Apprenticeship

Period- Year	No. of DET App	Stipend Refund from Govt. (Rs. 1771) in Lacs	Cost saving on Stipend Rs. 10K (PF@13.36%, ESI@4.75%, Bonus@20% (1336+475+1400= Rs. 3211/-)	Total	Status
2015-16 (Oct.15)	80	8.50 Lacs	15.40Lacs	23.90 Lacs	Completed
2016-17	290	61.60 Lacs	111.70 Lacs	173.30 Lacs	Completed
Total Cost Saving		**70.10 Lacs**	**127.10 Lacs**	**197.20 Lacs**	**Done**
Plan-2018-19	320	68.10 Lacs	123.30 Lacs	190.80 Lacs	Proposed

Cost Saving on Engagement of ITI Apprenticeship

Period	No. of ITI App	Stipend Refund from Govt. (Rs. 1500)	Cost saving on Stipend Rs.8.5K (PF@13.36%, ESI@4.75% & Bonus@20%- (1135+404+1400= Rs. 2939/-)	Total	Status
2015-16 (June 15)	40	0	10.60 Lacs	10.60 Lacs	Completed
2016-17	70	6.30 Lacs	24.70 Lacs	31.00 Lacs	Completed
Total Cost Saving		**6.30 Lacs**	**35.30 Lacs**	**41.60 Lacs**	**Done**
Plan-208-19	120	21.60 Lacs	42.30 Lacs	63.90 Lacs	Proposed



3.3.7 Indian Oil Corporation Limited

No. of Apprentices Engaged: (2017-18)
3464 (over 10% of total employee strength)
Disciplines under which apprentices are engaged in different IOCL divisions:

Refineries	Marketing	Pipelines
Chemical	Electrician	Mechanical
Mechanical	Electronics Mech	Electrical
Electrical	Instrument Mechanic	Telecom & Instrumentation
Boiler Attendant	Tech – Mech, Electrical, Instrumentation	Instrumentation

Refineries Division typically engages Apprentices in following subject areas:

- Safety Training, Refinery Essentials, Cross functional roles, Process Units/ OM&S, Thermal Power Plant, Maintenance W/shop
- Marketing Division engages Apprentices in the following subject areas:
- Aviation, LPG-Operations, Lubes-Operations, Operations (Terminals & Depots), Quality Control and Retail Sales
- Pipelines Division engages Apprentices in the following subject areas:
- Operations of Product/Crude Oil Pipelines, Maintenance of Equipment-Pumps, Motor, VFD, Transformers, and Telecom & Instrumentation
- Period of training – One year
- Absorption – No obligation for employment; however, opportunity against notified vacancies along with other candidates are provided.

Apprenticeship Training broadly covers the following:

Refineries Division:

Type	Subject	Duration	Facilitators
Basics	Safety Training • Knowledge • Behavioural • Fire Fighting Skills	2 days	Fire & Safety Personnel
	Class Room • Refinery Essentials • Cross Functional Roles	6 days	Executives from Functional Areas
	Orientation Physical Familiarisations of Refinery Work areas	6 Days	Respective on Site in-Charges
On-the-job / Experiential Training/ Shop-Floor	Process Units/ OM&S Thermal Power Plant Maintenance W/shop Fire & Safety	Periodical (to cover the entire period)	Functional HoDs
Assessment	Pen-n-Paper/ Field Demo Progress Report	Half yearly/ Qtrly	

Marketing Division:

Type	Subject	Duration	Facilitators
Basics	Product Knowledge Safety Orientation (OISD 154)	6 days	Executive from Functions/ F&S Personnel
	Class Room & On-site • Marketing Overview • Terminal/ Depot Operations	6-8 weeks	Executives from functional areas
On-the-job / Experiential Training	Product Pump House, TLFS, Tank Farm, Control Room, S&D, Plant Shed, Control Room, etc.	Periodical (to cover the entire period)	Executives from functional areas
Assessment	Pen-n-Paper/ Field Demo Progress Report	Half yearly/ Qtrly	

Pipelines Division:

Type	Subject	Duration	Facilitators
Basics	Pipelines Overview Safety Orientation Classroom sessions	2-months	Executive from Functions/ F&S Personnel
On-the-job / Experiential Training	Maintenance of Equipment-Mechanical / Electrical/ T&I (to cover entire period)	Periodical (6-months)	Executives from Maintenance areas
	Operations – Product Pipeline/ Crude Oil Pipeline	2-months	Executives from Operations areas
Assessment	Overall understanding of concepts/ Clarifications Written Test	2-months	Review of monthly reporting formats



3.3.8 BOSCH

Bosch Ltd. has a full-fledged training center to develop a reservoir of skilled personnel required to produce quality products on sophisticated machines.

As a Bosch apprentice individual is trained at company's state-of- the-art "Bosch Ltd. Vocational Centre" where learning and development is fostered under the supervision of fully qualified instructors. Every apprentice gains valuable experience and exposure through a program of Basic and Advanced Training along with a planned industrial exposure after your initial basic training.

Trade apprentices selected immediately after their 10th grade undergo basic training common to all trades in the first year. Job-oriented training and industrial exposure starts in the second year. At the end of the second year, they are trained in different areas of specialisation and in-plant training for acquiring advanced skills.

Emphasis is placed on "Multi-skilling" with demands for accuracy and high quality at par with global standards and requirements - A first step towards creating a future "Technocrat".

In order to make the apprentices versatile, advanced inputs through various courses are given in the following subjects:

- Hydraulics and pneumatics
- CNC technology
- Mechatronics
- Metrology and cutting tool technology
- Tool and Die making, and plastics
- Personal computers
- AutoCAD
- Electrical and electronics for mechanical trades

BOSCH also has 12 months Graduate Apprentice Program. During a period of 12 months, apprentices work in different functional area.







3.3.9 Artificial Limbs Manufacturing Corporation of India (ALMCI)

Keeping in view the objective and compliance of the Apprenticeship Act, ALMCI with the guidance from RDAT (Regional Directorate Apprenticeship Training) and BOAT (Board of Apprenticeship Training) imparts training to the ITI candidates and Diploma holders respectively as per the seat allotted by RDAT and BOAT.

Details of apprentices engaged in last two years through RDAT

S.No.	Trade	Total Seats	Engaged 2017-18	Engaged 2018-19	Engaged 2019-20	Vacant	Remarks & Target Date
1.	Fitter	15	15	15	-	15	Under process 15.10.19
2.	Electrician	05	05	05	-	05	File put up for approval
3.	Electronic Mechanic	07	07	07	07	-	
4.	Carpenter	03	03	03	01	02	Under process 15.10.19
5.	Machinist	03	03	03	01	02	Vacancy will create in Nov,19
6.	Turner	05	05	05	05	-	Vacancy will create in Nov,19
7.	Welder (Gas & Electrical)	03	00	00	00	03	Engagement letter issued for engagement
8.	Programming and System Admn. Assistant	07	07	07	07	-	
9.	Plumber	02	02	02	02	-	
10.	Maintenance Mechanic	01	01	01	-	01	Under process 05.10.19
	Total	51	48	48			

Details of apprentices engaged in last two years through BOAT

S.No.	Trade	Total Seats	Engaged 2017-18	Engaged 2018-19	Engaged 2019-20	Vacant	Remarks & Target Date
1.	Vocational Apprentices Office Secretary Steno	05	-	-	-	05	No Candidates on portal
2.	Electr. Engineering (Diploma Holder)	02	02	02	02	-	
3.	Mechanical Engineering (Diploma Holder)	02	02	02	02	-	
4.	Modern Office Mgt. & Secretarial Practice	05	05	05	04	01	No Candidates on portal further
5.	Vocational Apprentice Accountancy & Auditing	01	-	-	-	01	No Candidates on portal
	Total	15					



3.3.10 Cement Corporation of India

Cement Corporation of India Ltd. was incorporated as a Company wholly owned by Government of India on 18th January 1965 with the principal objective of achieving self-sufficiency in cement production and having its three operating unit at Tandur(Telangana), Bokajan(Assam) and Rajban (Himachal Pradesh).

As per the Government Directives and guidelines for engaging Apprentices, Cement Corporation of India Ltd. has not only brought apprentices to one of their destination, but also has let them breathe fresh air by giving them every opportunity to work and churn out ideas from youthful talents. Adding apprentices to its Units with the motive of injecting some youthful talent, CCI has given a whole new dimension to its workplace, bringing with it a fresh perspective and new ideas, which has definitely helped to increase productivity.

The Apprentices Act, 1961 was enacted with the objective of regulating the training of apprentices in the industry. CCI has also not left any opportunity to go an extra mile to engage apprentices on need-basis and train them in the most efficient ways to develop skilled manpower for industry by using training facilities available in the establishment. They are assigned to the Head of Department of their training areas so as to hone up their skills and also to learn business dynamics.

In 2015, CCI was having merely 31 apprentices in its three operational units. This figure has been enhanced to 123 apprentices as on date. It is also to mention here that CCI is having 520 regular employees on the rolls.

CCI has given apprentices a real chance to put skills into practice and helps them to gain confidence in a working environment. Providing quality training to apprentices is also likely to bring benefits in terms of national skill development and also to make them employable not only in Cement Industry but also in other industries. The engages apprentices are exposed to various trades such as Fitter, Diesel Mechanic, Electrician, Welder, Machinist etc.

CCI also consider these apprenticeship very cost-effective as a form of training, because young people are making a contribution to the workplace while they are learning. Apprentices spend much of their time gaining skills on the job. CCI always provide them a conducive and friendly environment to enhance their learnability. In some cases, these apprentices are also given bachelor accommodation in the operating units.

Also, candidates after undergoing apprenticeship training at CCI, can easily adapt to industrial environment at the time of regular employment. (Appendix- ii Page 71)









CHAPTER: 4

INTERNATIONAL PERSPECTIVE & SELECT CASE STUDIES

"Economic Development of a country depends on the proper utilization of its resources and encouraging transition from one model to another for significant change in livelihood conditions" .....Mahatma Gandhi

4.1 While apprenticeship is perceived as a cost to companies, international data shows the program is worth the investment. Companies that practice apprenticeship program, experience higher productivity and higher employee retention rates. International studies also suggest that for every dollar spent on apprenticeships, employers may get an average $1.47 back in increased productivity, reduced waste, and greater innovation. In addition, a review of Washington State's workforce training outcomes found apprenticeship boosted participants' future taxable incomes and thus yielded a USD23 return to taxpayers for every public dollar spent, compared to a USD3 return for community college. In US at the Federal level, apprenticeship are an extremely effective workforce training method, as every federal dollar invested in apprenticeship programs brings a USD27 return on investment.

In select countries, apprenticeship is a well-established route to skilled employment, whereas in others, employers favour other means of training and upskilling their employees. The popular image of an apprentice is often of working in a skilled trade or craft, such as construction or manufacturing. This accurately reflects the apprenticeship landscape in many countries, where apprenticeship are most common in manufacturing, construction and engineering. In the United States, for example, approximately 50% of apprentices are in the construction sector and 25% in military occupations. This also underlines one challenge that concentration of apprenticeship in skilled trade and craft occupations constrains apprenticeship to a small part of the labour market. In recent decades, OECD economies have seen a shift in employment away from manufacturing sector towards services, which now account for over two-thirds of employment on average. Limiting apprenticeship to "traditional sectors" means missing out on the potential benefits of apprenticeship in sectors where most of tomorrow's jobs will be found.

Countries with large apprenticeship systems have expanded beyond trade and craft occupations. Australia now has more non-trade than trade apprenticeship. In Switzerland, the three most popular apprenticeship occupations are business and administration, wholesale and retail sales and building and civil engineering (Federal Statistics Office (FSO), 2018). In Germany, the most popular apprenticeship occupations are in the management and retail sectors (BIBB, 2017). In Austria, office, trade and finance is the second largest group of apprentice occupations, with nearly as many apprentices as the machine and metal sector (WKO,2018).



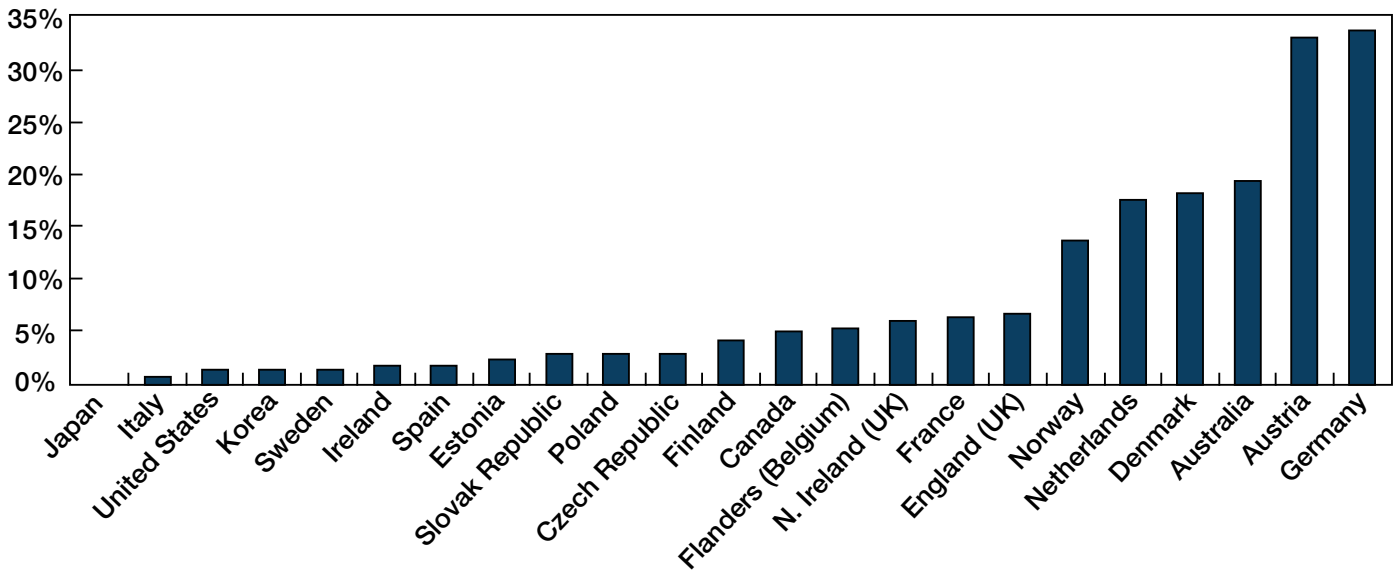
Table- 3: Summary of Apprenticeship in Select Countries

Country	Age Group (in yrs)	Number of Beneficiaries / Years	Duration	Integrated with Education System
Australia	13 and above	259,385 (2018)	Minimum 1 year Maximum 4 years	Yes
Austria	16 and above	29,164 (2015-16)	Minimum 2 years Maximum 4 years	Yes
Germany	15-16	520,300 (2016-17)	Minimum 2 years Maximum 3 years	Yes
Brazil	14-24	250,000 (2016)	Maximum 2 years	No
United States	16 and above	585,000 (2018)	Minimum 1 year Maximum 6 years	No
UK	16 and above	814,800 (2017-18)	Minimum 1 years Maximum 5 years	No
France	16- 25 (Apprenticeship Contract)	400,000 (2018)	Minimum 1 year Maximum 3 years	Yes
Denmark	Youth from age 17 studying secondary level, or adults older than 25	43,378 (2016-17)	Average 3 years	Yes
Switzerland	16 and above	62,800 (2016)	Minimum 3 years Maximum 4 years	Yes

4.2 There are countries such as Germany, Switzerland, the Netherlands, among others, that have integrated apprenticeship into their educational system and therefore a significant percentage of young people adopt them as an educational option. In Germany, for instance, from the age of 10, young children can choose between three paths within the secondary education level: the Gymnasium if they wish to pursue an academic education; or, if they wish to aspire to pursue vocational training, Realschule or Hauptschule. Youth who choose a technical education must then decide between the ages of 15 and 16 whether they choose a full-time vocational education, a dual system comprised of part-time vocational school combined with an apprentice position in a firm, or entry to labor market directly.

Austria has a similar structure where youth can opt for a general secondary school (Hauptschule) which is mostly followed by vocational education. At this level, students can enter vocational school on a full-time basis, choosing between an intermediate vocational school that prepares them for a profession, or an upper vocational school that combines training for a profession with the preparation for the university entrance exam. On the other hand, those who want to pursue an apprenticeship carry out a year of pre-vocational school before leaving the full-time schooling.

It is because of the different types of integrated systems and adoption framework that one sees a wide variation across countries in the use of Apprenticeship. Following figure shows the differences in enrolment in apprenticeship that lead to upper secondary or post-secondary qualifications:



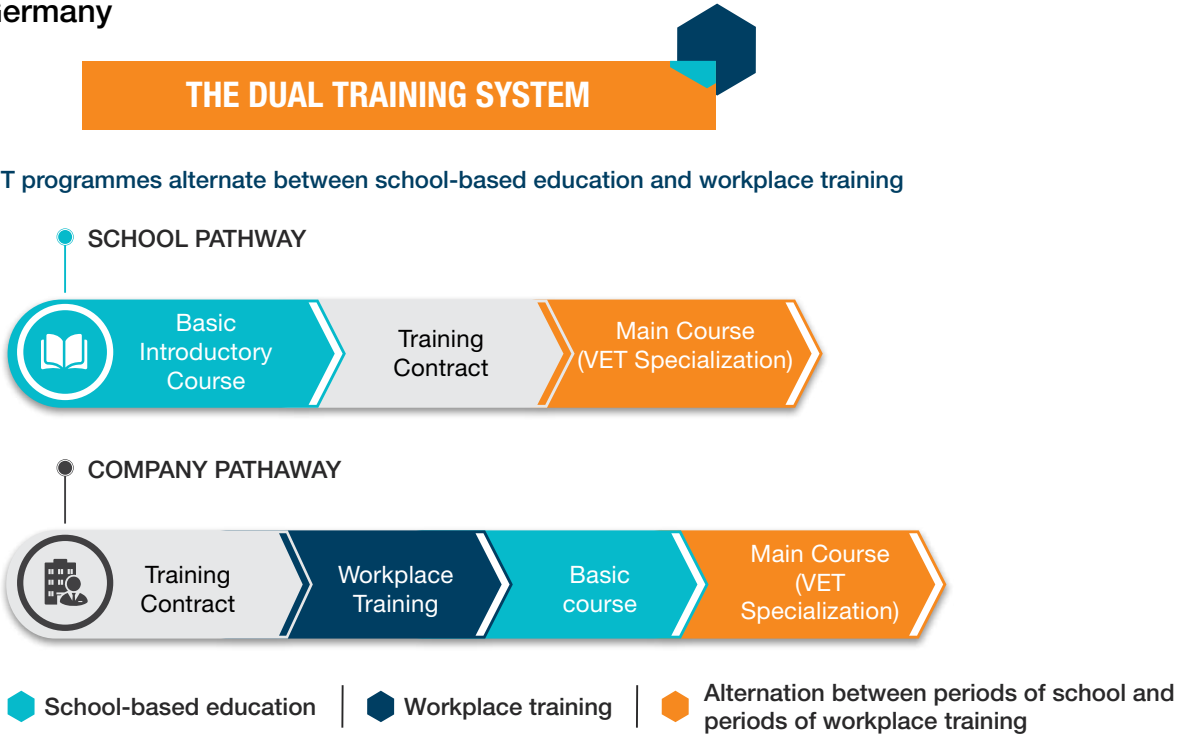
Source: Kuczera, M. (2017[2]), "Striking the right balance: Costs and benefits of apprenticeship", OECD Education Working Papers

4.3 Germany

Snapshot

- The German training system is considered "dual" because it combines both practical on the-job training with theoretical education in vocational schools. Depending on the profession, the duration of the apprenticeship typically varies between two and three-and-a-half years. There is no formal requirement for starting an apprenticeship, although most training facilities require a secondary school leaving certificate from a secondary education school.
- Apprentices receive monetary compensation throughout the job training, which increases every year. The vocational training pay varies substantially across professions as well as between German regions.
- Apprentices typically spend three to four days per week at a training facility to gain work experience and acquire practical job-relevant skills. Apprentices can also choose to attend vocational schools on a part-time basis, for either one or two days a week or in blocs of several weeks.
- The vocational school is compulsory for apprentices younger than 21 years, while older apprentices are not obliged but retain the right to regularly attend vocational school.
- The Chambers of Industry and Commerce are responsible for monitoring the quality of the apprenticeship in the training facilities and establishing guidelines. This guarantees that the successful completion of the apprenticeship will be recognised throughout Germany, which enables graduates to move between regions
- The dual vocational training system is based on the voluntary involvement of the employers. There is no specific obligation for employers to train students, nor is the system heavily subsidised by the government. Employers choose to opt into the vocational training system because it is viewed as a major investment in their future workers.
- Approximately 500000 youngsters sign apprenticeship training contracts each year. The nature of apprenticeship varies between the genders. On an average, male apprentices favour more technical positions while female apprentices tend to take apprenticeship in medical and commercial roles.

TVET System in Germany

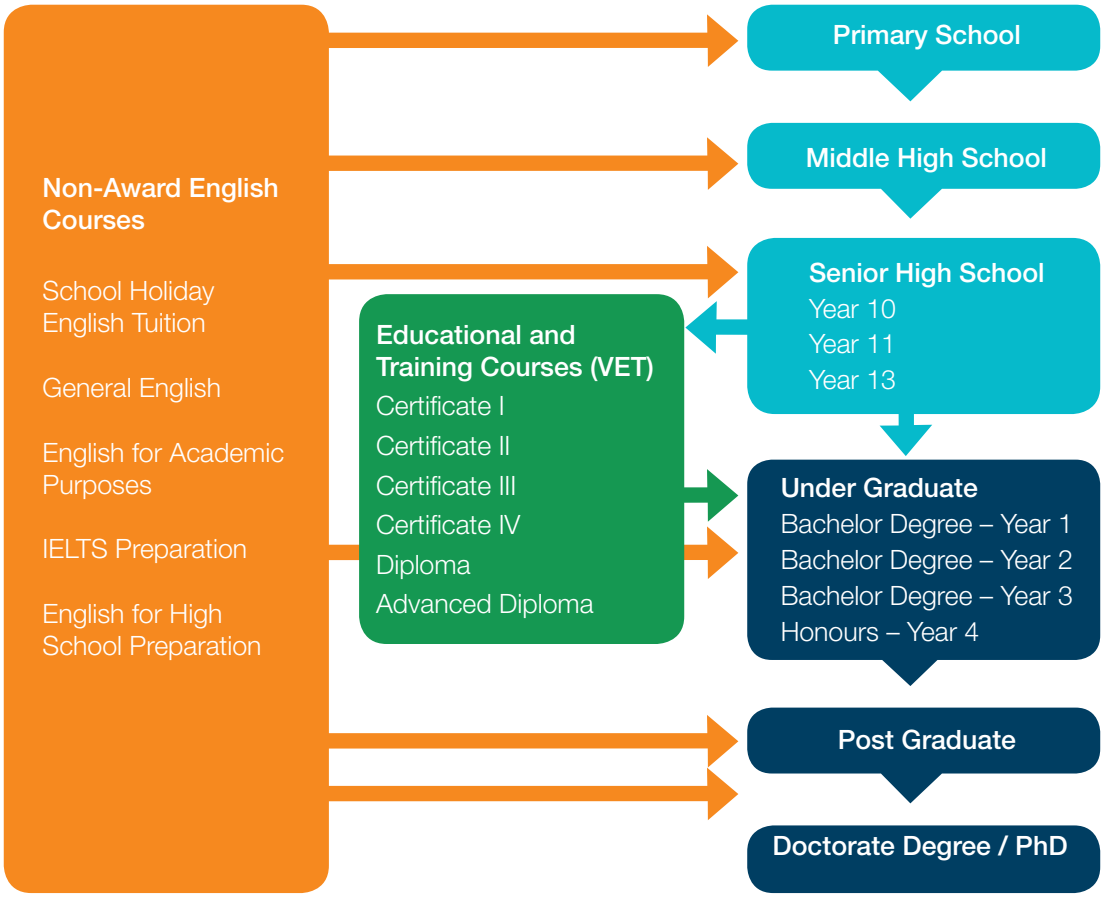


4.4 Australia

Snapshot

- Apprenticeship and Traineeship play a major role in the Australian skills system, with around one-quarter of a million enrolments – although the numbers have been falling in the last five years. 'Traineeships' are a form of apprenticeship, with a similar mix of work-based learning and off-the-job classroom programmes. Apprenticeship is identified in 'trade' areas, such as engineering, automotive, carpentry and are typically three or four years of training, and traineeship in 'non-trade' areas, including community and personal service, retail and clerical roles, typically at lower qualification levels and involving often only one or two years of training.
- An Australian Apprenticeship provides a nationally recognised qualification and on-the-job experience. It combines time at work with training and can be completed full-time, part-time or while you are still at school.
- Australian Apprenticeship is available for any working age regardless of their level of education. You can be a school-leaver, re-entering the workforce or an adult worker simply wishing to change careers.
- In order to improve competitiveness and meet industry needs, vocational education is based on a system of Competency Based Training (CBT) and national qualification recognition with nationally consistent standards designed to meet the needs of industry.
- Australian Apprenticeship is available in variety of qualifications levels in more than 500 occupations across Australia, in traditional trades, as well as a diverse range of emerging careers in most sectors of business and industry.
- In Australia, while in 1996 adult apprentices were a small minority, only representing 8% of trade apprenticeship (at a time when most apprenticeship were in the trades), by 2016 adult apprentices were nearly one-third of trade apprenticeship and nearly one-half of non-trade apprenticeship. These adult apprentices are much more likely to be incumbent workers rather than new recruits.

TVET System in Australia

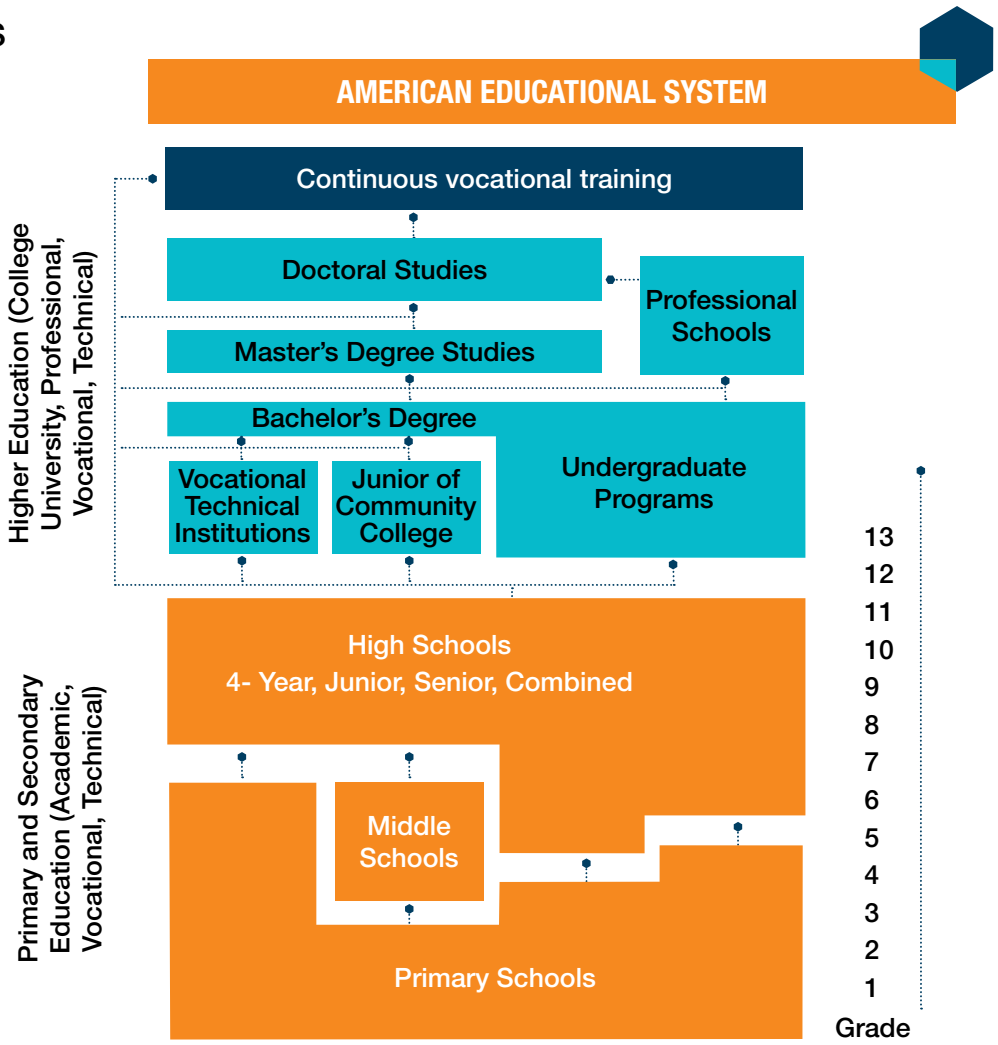


4.5 United States of America

Snapshot

- Most apprenticeship opportunities include on-the-job training and classroom instruction provided by apprenticeship training centers, technical schools, community colleges, and four-year colleges and universities, sometimes through distance learning. Often apprenticeship sponsors work directly with community colleges that do provide college credit for apprenticeship experience.
- US has a unique United States Military Apprenticeship Program (USMAP). It is a formal military training program that provides active-duty Army, Navy, Marine Corps, and Coast Guard service members the opportunity to improve their job skills and to complete their civilian apprenticeship requirements while they are on active duty. The benefit to the service is a cross-trained service member with hands-on experience in all aspects of their MOS/rating.
- The pre-apprenticeship is a program or set of strategies designed to prepare individuals for entry into Register Apprenticeship Programs (RAP), Industry-Recognized Apprenticeship Programs (IRAP) or other job opportunities. Pre-apprenticeship may last from a few weeks to a few months and may or may not include wages or stipend.
- Apprenticeship programs for high school students combine academic and technical classroom instruction with work experience through a Registered Apprenticeship Program (RAP) or an Industry Recognized Apprenticeship Program (IRAP). It provides the foundation for students to choose among multiple pathways after high school – to enrol in college, to enter an apprenticeship program, begin full-time employment, or a combination.
- Apprenticeship in US spans more than 1,000 occupations including careers in health care, cybersecurity, information technology, and energy.

TVET System in US

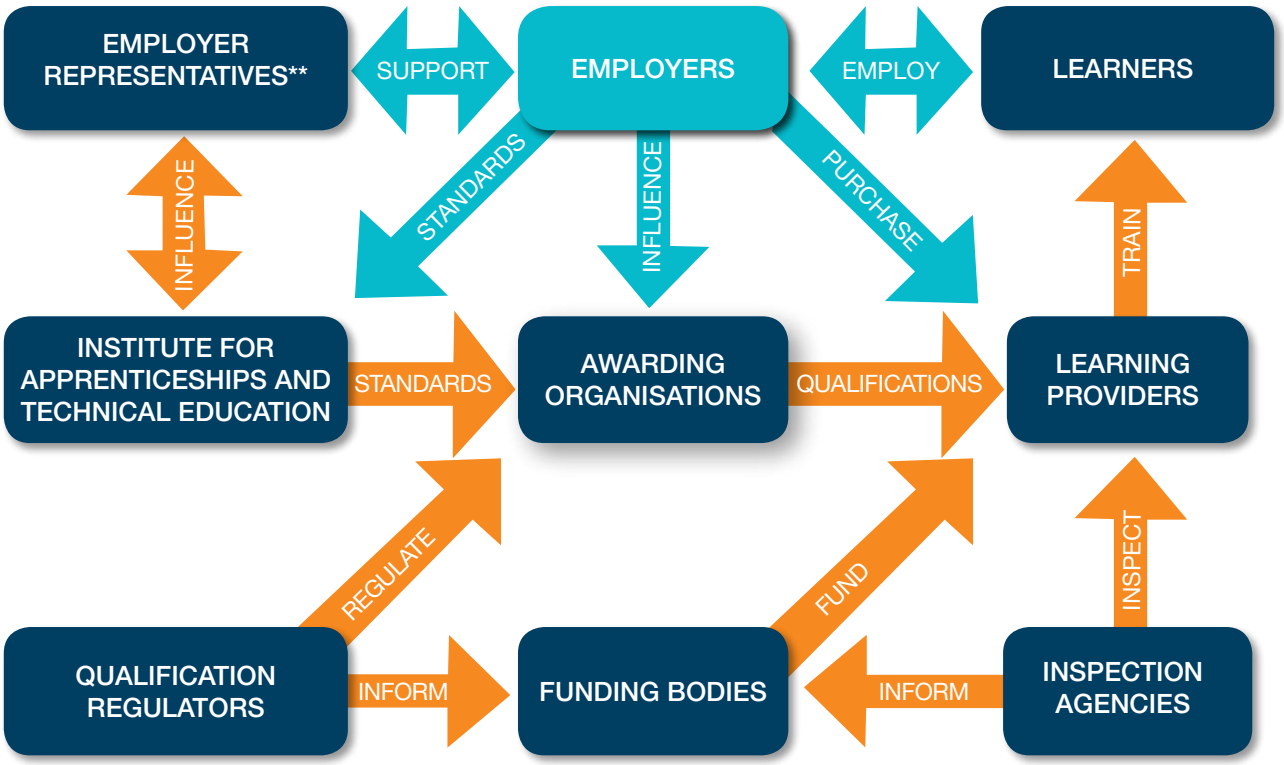


4.6 United Kingdom

Snapshot

- Apprenticeship is paid job which incorporate on and off the job training. They take between one and four years to complete and are available in 1,500 occupations across more than 170 industries. A successful apprentice may receive a nationally recognised qualification on the completion of their contract.
- Apprentices aged 16-18 are entitled to the apprentice minimum wage of £3.70 an hour. Apprentices are paid for both their normal working hours and the time they spend training as part of their apprenticeship program.
- Apprentices aged 19 and above are also entitled to the £3.70 apprentice minimum wage in the first year of their apprenticeship. After this, they are entitled to the relevant National Minimum Wage rate for the age group: £5.90 an hour for 18 to 20 year olds, £7.38 an hour for 21 to 24 year olds and £7.83 for people aged 25 and over.
- Apprenticeship is available to anyone over the age of 16 living in UK, although employers may set different entry requirements depending on the sector and job.
- The minimum apprenticeship length is 12 months, and may be longer for some apprenticeship. The minimum length of 12 months is based on an apprentice working at least 30 hours per week, including time training away from the workplace. If the apprentice works fewer than 30 hours per week then the expected duration of the apprenticeship will need to be extended to take account of this.
- Apprenticeship must offer training to Level 2 in English and Maths or Functional Skills, if the apprentice does not already have these or equivalent qualifications. The apprentice is not required to achieve these level 2 qualifications in order to successfully complete the apprenticeship.
- Government has set a target of 3 million new apprenticeship starts between 2015 and 2020. There have been 1,709,500 apprenticeship starts since May 2015 to the end of January 2019. This is 57% of the 3 million quality target.

TVET System in UK



4.7 Republic of Korea

Snapshot

- Korean apprenticeship consists of two types of apprentice program: "apprenticeship for new workers" and "apprenticeship for students". The "apprenticeship for new workers" is divided into a) company-led and b) training center-led, depending on who manages the programs; and is classified into a) qualification type or b) qualification + degree type. There are three types of "apprenticeship for students":

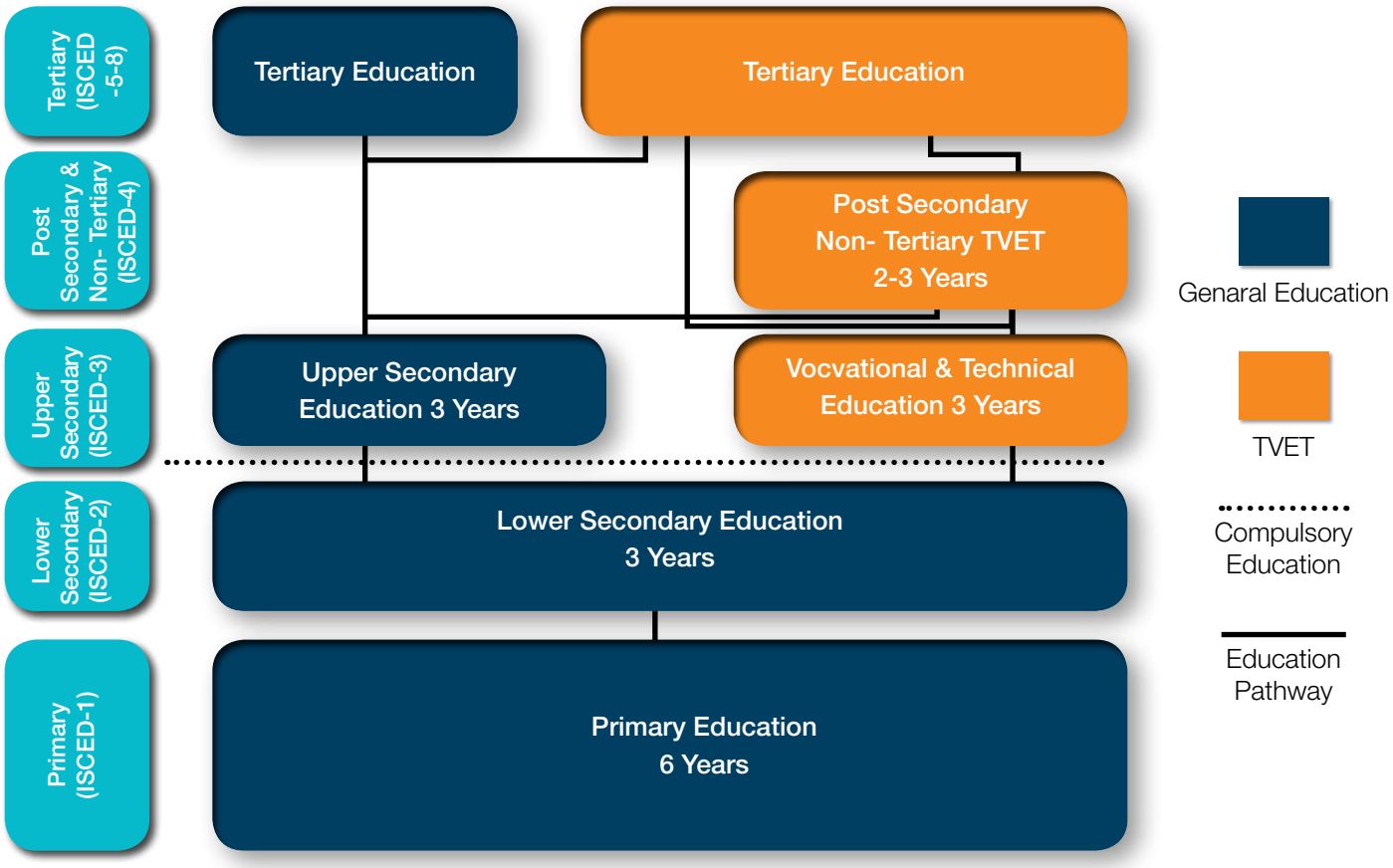
  a) Apprenticeship High School

  b) Uni-Tech

  c) Industry Professional Practice(IPP)

- The Ministry of Employment and Labor (MOEL) is responsible for setting up of institutional framework, approving and funding of apprenticeship programs with social partners. Human Resource Development Service of Korea (HRD Korea) is in charge of planning and execution of apprenticeship programs.
- The Korean government has been pursuing a "work first, college later" policy to meet the demand of high school level workers. The Ministry of Education is currently investing more into vocational high schools to attract students and expand the proportion of vocational students, establishing specialize vocational high schools, Meister schools and apprenticeship schools.
- At present, 'The Apprenticeship Program in High School' is largely limited to blue-collar fields such as manufacturing, machining, molding and welding. But with the advent of "Industry 4.0, the government is contemplating to extend the program to a much wider range of industries.
- As of October 2018, 8,345 companies participated in apprenticeship programs; and 25,864 apprentices from 5,468 companies either underwent training or had completed their training.

TVET System in South Korea



4.8 Summary of International Perspective

So far we have known about some of the countries' TVET and Apprenitceship systems. In Switzerland, VET programmes are developed by the private sector, i.e. employers and professional organisations. When a professional organisation wishes to introduce a VET programme for a new occupation, it works closely with the other main partners (i.e. the Confederation - federal government, and the cantons). Most Swiss vocational programs are dual-tracked. About 70 percent of Swiss youth take up an apprenticeship, though some go on to university programs later. Swiss companies spend almost 1% of GDP/Year on apprenticeships. Companies start recruiting students in the 7th grade with apprenticeships starting in 10th grade.

The VET programme is launched based on the job profile, the overview of all professional competences and the level of difficulty of the given occupation. The federal State Secretariat for Education, Research and Innovation (SERI) examines the proposed draft 'ordinance' (legally establishing the programme) and training plan for quality control purposes. Following any necessary adjustments, SERI organises a consultation session with cantonal agencies, federal agencies and other interested parties which may lead to further adjustments in the VET ordinance and training plan before it is approved and launched. The committee responsible for the given occupation will then meet at least every five years to re-examine the VET programme and update it in the light of developments in the industry sector.

Norway has just reformed the process of defining the content of apprenticeship programmes drawing on the positive results of a two-year pilot study. The reform has reinforced the role of professional councils involving employers and employees representatives (social partners). In the past social partners advised on the content of training provided in the third year of apprenticeship programmes by employers. Now they have a decisive role on the training provided by employers. The government has to take into account social partners' propositions unless the propositions are against the law or involve an important increase in public spending. Social partners maintain their advisory role regarding the content of the first two years of apprenticeship that are provided in school.

After going through the above mentioned models we can say that increasingly, policymakers and policy researchers are recognizing the need to shift from the "academic only" approach to teaching skills in schools. Instead, they see enormous potential in expanding apprenticeship, a model that combines wage paying work-based learning under a mentor or supervisor integrated with related academic courses.

4.9 Case Studies

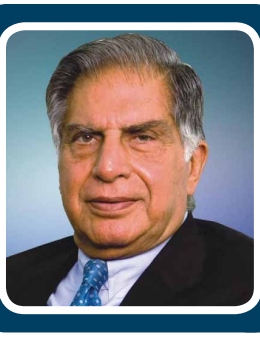
Barclays: Traineeship has been designed in response to the ongoing challenge of young people not being able to secure a job without experience. This model not only provides classroom-based training but enables employers to open their doors and offer on-the-job work experience. Barclays now operate the Traineeship model for all entry-level Apprenticeship vacancies. Apprenticeship candidates benefit from a minimum of two weeks' work experience that enables the line manager and their team to build a relationship with the candidates. This approach exposes the candidate to the value system of the organisation and provides workplace experience that could lead to a permanent opportunity in the Bank.

Telefonica: Talentum is Telefonica's new European initiative to hire and inspire the brightest talent through apprenticeship, internship and graduate programmes. The aim of Talentum is to double the proportion of young people working in the organisation by 2015, create a sustainable workforce that better reflects the customer base and increase fresh thinking in the business.

HSS Hire: HSS Hire – an award-winning supplier of tools, equipment and hire-related services employing over 2,600 colleagues across the UK – is working with learn direct to provide youth with a rewarding career through apprenticeship. The tangible outcome used to measure the success of the programme is to calculate number of apprentices inducted into full-time employment within HSS.

British Gas Energy Academy: In 2003 British Gas set up their Energy Academy to renew their commitment to apprenticeship and provide state-of-the-art facilities to ensure their employees have the right skills for the right job. In 2014-15, British Gas invested over £12 million in their Academies. So far they have trained over 5,000 apprentices who undertake the Level 3 Apprenticeship with British Gas. Apart from on the job skills, these apprentices participate in the 'Duke of Edinburgh Award' to build their confidence, leadership and communication skills. In addition these apprentices undertake volunteering activity in their local community, from working in a charity shop to helping with the local Scouts or Girl Guides to help develop them into well rounded citizens and human beings.

4.10 World's Select Famous 'Apprentices'



Ratan Tata

Ratan Tata, Chairman Emeritus, began his career with the Tata group as an apprentice on the shop floor of Tata Steel, shovelling limestone and handling the blast furnace. In the late 70s, he was given charge of National Radio & Electronics Company Limited (NELCO) and Mumbai-based Empress Mills. In 1991, J R D. Tata stepped down as chairman of Tata Sons, naming Ratan Tata his successor.



Jamie Oliver

This celebrity chef is worth a reported £240m. Oliver's first job was a pastry chef (as an apprentice) at Antonio Carluccio's Neal Street restaurant, where he first gained experience at preparing Italian cuisine, and developed a relationship with his mentor Gennaro Contaldo; later in his career Oliver employed Contaldo to help run his collection of high street restaurants, Jamie's Italian. Oliver moved to The River Café, Fulham, as a sous-chef. He was noticed there by the BBC in 1997, after making an unscripted appearance in a documentary about the restaurant, Christmas at the River Cafe. In 1999 his BBC show ' The Naked Chef' debuted, and his cook book became a bestseller in the United Kingdom. That same year, Oliver was invited to prepare lunch for the then-Prime Minister Tony Blair at 10 Downing Street. Oliver, the celebrity chef now runs a Fifteen Apprentice Programme, in which he recruits youngsters to work with and learn from professional chefs.



Stella McCartney

As a teenager Stella had a passion for style and she first started off in the industry with an internship at Christian Lacroix, which led to completion of an art foundation course at college and a fashion design degree. When studying at Central St Martins, McCartney completed an apprenticeship with Savile Row tailor Edward Sexton and her graduate show included supermodels Kate Moss and Naomi Campbell. After the apprenticeship, McCartney secured a job as creative director at Chloe. Today McCartney is worth $75m and her brand is sold in over 77 locations, while stores are in high end locations such as Mayfair and Hollywood.



David Beckham

At the age of sixteen, Beckham signed on as an apprentice for Manchester United and the team won the Football Association (FA) Youth Cup in 1992. On April 2, 1995, Beckham made his Premier League debut at home in a match against Leeds United. He went on to hold a football career of over 20 years, won over 19 major trophies and a place on FIFA's 100 list of the world's greatest living players.



John Frieda

Frieda started off his career with an apprenticeship at the salon of Leonard, a famed London stylist of the late 1960s. Frieda rose quickly in the job and soon became Leonard's assistant, which placed him at editorial shoots for top British fashion magazines like Harper's & Queen. Frieda also styled his first celebrity clients during this era, including Jacqueline Kennedy Onassis and Diana Ross. In 1992, he launched a range of hair care products which are now available all over the world.



Henry Ford

The pioneer of automobile industry, Henry Ford went on to complete an apprenticeship with James F. Flower & Bros, and also with the Detroit Dry Dock Company. In 1891 he met with Thomas Edison who liked his concept of an auto-mobile, so he allowed him to use his warehouses to manufacturer two vehicles.



Charlie Mullins

Mullins left school at 15 without qualifications, started a four-year apprenticeship and in 1979 the company was born. Fast-forward to today and Mullins is a millionaire thanks to Pimlico Plumbers' £20m turnover, which is generated from the public as well as A-list clients including Simon Cowell, Helen Mirren, Daniel Craig and fellow entrepreneur Richard Branson.



Ross Brawn

Ross Brawn retired from the Formula One in 2014, having worked with multiple motorsport teams including Benetton, Ferrari, Honda and Mercedes as a technical director. His route to the industry all started with an apprenticeship – specifically, mechanical engineering at Atomic Energy Research Establishment in Harwell, Oxfordshire. Brawn's first foot in the door came with roles as machinist and aerodynamicist with Williams back in 1976.



Lord Bamford

Chairman of JCB, started his career as a young Engineering Apprentice working for Massey Ferguson in France, where he spent three years gaining the experience that built up his career. His Apprenticeship started out working on the shop floor, before moving into Management, and then taking over JCB when his father retired.



Andy Palmer

CEO of premium care manufacturer Aston Martin, started his career as a Technical Apprentice for UK Automotive Products after leaving school at 16. Andy had always had an interest in the car industry and didn't want to spend four years at university, so this route seemed like the perfect alternative. At the age of 22, Andy was promoted to a Manager role due to his six years of valuable experience, all stemming from his Apprenticeship. Andy continued to gain qualifications throughout his career whilst he worked. This experience provided him with the experience and knowledge to become Director at Nissan, before progressing into his role as CEO for Aston Martin.







CHAPTER: 5

INTERNATIONAL COMPETITIONS & BENCHMARKING

5.1 Various International Skills Competitions are increasingly becoming pathways to inspire youth to opt for vocational training. Such events are also helping countries in benchmark skills to international standards. One such example is that of the WorldSkills. Since its inception in 1950, WorldSkills has built an impressive presence that continues to grow on the world stage of vocational education and training, demonstrating global excellence in skills through its biennial international skills competitions and promoting the importance of a strong skills system for every country or region. The 21st century has seen an exceptional growth in the membership, capability, profile, and reach of WorldSkills, as Member Countries have grown to 82, including all of the G20 countries. The rapid growth has raised the profile of WorldSkills, but also highlighted the need for WorldSkills Members to work together towards shared standards of excellence. Through this set off competitions, every member country could raise the bar and benefit all profiles-– learners, apprentices, teachers and trainers, management and employers – by raising standards, improving outcomes and enhancing engagement.

Most of the countries, which have performed exceptionally well in WorldSkills Competitions, have used it to showcase its benefits to youngsters which are entering the apprenticeship age. It also helps in making apprenticeship aspirational and creates a pipeline of skilled competitors for such a big platform. Best performing countries at WorldSkills have used the competitions for the following three key areas:

- Benchmark training activities which will enhance and add value to apprentices
- Standarising the learning framework for a cohort of apprentices and mentors, which helps in 'capacity building'
- Using competitions as 'promotional and outreach' stratgey to brand apprenticeship

5.2 WorldSkills has developed a significant alignment, in many cases, between the core competencies and standards listed within the competition framework (skills, knowledge and behaviours) and the requirements for an apprenticeship training. The competition frameworks are also a valuable resource for apprenticeship training providers that are looking to offer engaging 'off the job training' experiences which motivate apprentices.

A closer look at the countries with maximum number of medals in last decade at WorldSkills also show that Apprenticeship training providers (Industry and Public-Sector Enterprises) need to have early discussions on how skills competitions can be integrated with and complement apprenticeship delivery. Apprenticeship training delivery modules are aligned to 'pedagogy' of competitions. Following table shows country wise medals in the last decade at WorldSkills competitions:

Countries and Medals (2009-2019)

Year 2009

Country	Competitors	Gold	Silver	Bronze	Diploma
Korea	39	13	4	5	12
Switzerland	34	7	2	5	16
Japan	39	6	3	5	9
Chinese Taipei	36	3	0	8	17
Canada	34	3	3	2	13

Year 2011

Country	Competitors	Gold	Silver	Bronze	Diploma
Korea	38	13	5	6	12
Japan	39	11	4	4	9
Switzerland	34	6	5	6	11
Brazil	25	6	3	2	10
United Kingdom	36	4	2	6	12

Year 2013

Country	Competitors	Gold	Silver	Bronze	Diploma
Korea	37	12	5	6	14
Switzerland	37	9	3	5	18
Chinese Taipei	39	6	4	8	13
Japan	40	5	4	3	18
Brazil	37	4	5	3	15

Year 2015

Country	Competitors	Gold	Silver	Bronze	Diploma
Brazil	50	11	10	6	19
Korea	41	13	7	5	14
Chinese Taipei	39	5	7	5	19
Switzerland	38	1	7	5	23
China	29	5	6	4	11

Year 2017

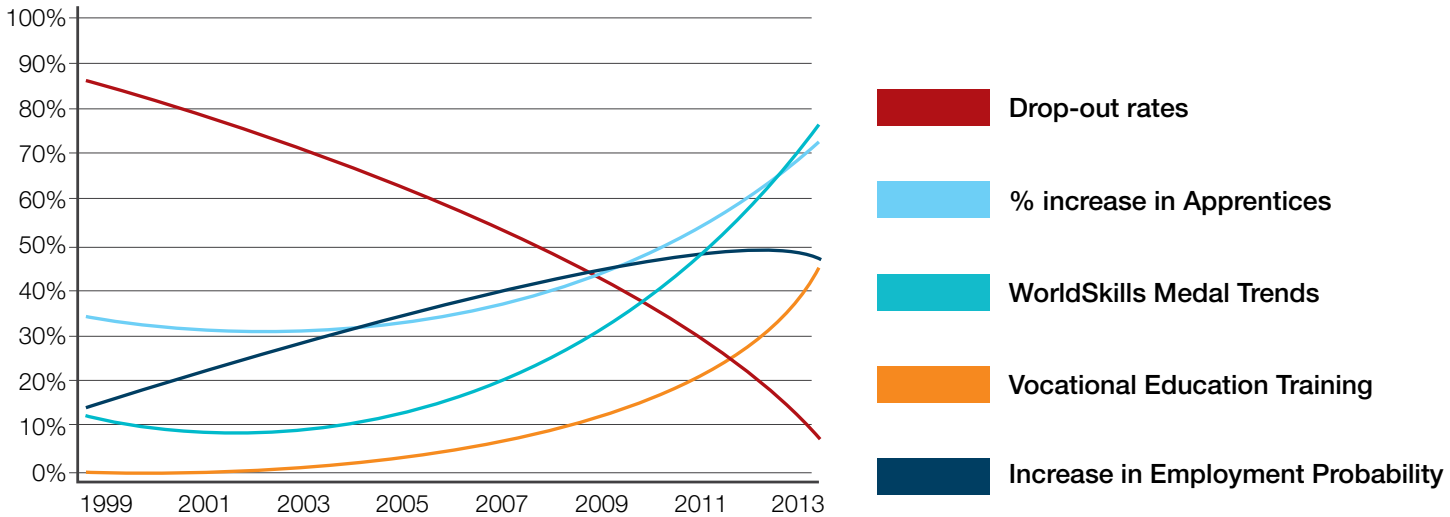
Country	Competitors	Gold	Silver	Bronze	Diploma
China	47	15	7	8	12
Korea	42	8	8	8	16
Switzerland	36	11	6	3	13
Brazil	49	7	5	3	26
Russia	51	6	4	1	21

Year 2019

Country	Competitors	Gold	Silver	Bronze	Diploma
China	56	16	14	5	17
Russia	56	14	4	4	25
Korea	47	7	6	2	26
Chinese Taipei	45	5	5	5	23
Brazil	56	2	5	6	27

After analysing the data of last one decade, it can clearly be seen that Switzerland and Korea, have been constant in terms of winning medals at WorldSkills Competitions. A detailed analysis of two countries' Apprenticeship data and medal tally show a co-relation between the apprentices and medal winner.

Fig. 8: Co-relation between Apprenticeship, WorldSkills competition and labour market trends (Switzerland and Korea)



Source: Annual report Swiss and Japan Government- Labour Ministry, WorldSkills embedded with Apprenitces, report by GMLPN, GAN report on Swiss Vocational System, FICCI Inputs & Analysis

Above figure clearly depicts indicative trends on effectiveness of a robust and effective apprenticeship system and its impact on other learning & performance parameters. The Korean government has been paying great attention to the apprenticeship system as a way of vitalizing youth employment and effectively linking skills development with skills utilization and performance of skills (competitions). The Korean Ministry of Employment and Labour (KMOEL) established the apprenticeship system in 2013 and had expanded itself with an aim of accommodating 10,000 training firms and 50,000 apprentices by 2018. They have been organising various expositions and national level competitions where students, school officials and parents could learn more about what companies have to offer.

While, in Switzerland an ecosystem has been developed which believes that skills are more important than certificates and that practical skills guarantee employability on the labor market. People respect the work of a plumber or an electrician and salary structureat par with industry norms. There is no stigma attached to manual work and hence, the youth unemployment rate in Switzerland is low (2.6% till Jan 2019).

There are three crucial pillars that support Swiss education: basic education, practical profession training and higher university education. The basic education system provides 9 years of education at school to every Swiss. Then through the dual vocational education and training young people may train themselves with hands-on experience and acquire professional skills. The third pillar consists of sophisticated higher education system where students get in-depth methodological skills in the fields of science and research. This higher academic system is what drives innovation in basic and applied sciences. In the entire value chain, apprenticeship is seen and followed as an effective tool for transition from education to work.

Both, in Korea and Switzerland, the driving force behind key initiatives is not just the Government, but the private sector, companies and professional organizations with a need for highly skilled workers and specialists. They express their views when they see a need for reform or are called upon to define new occupations. Moreover, the businesses recognize opportunities, push innovation and utilise platforms like WorldSkills to attract motivated and committed apprentices.

5.3 Select WorldSkills winners who are Apprentices



Macaulay Revell

Macaulay Revell, a 21-year-old sheet-metal worker at engineering firm Allied Protek, didn't agree with his school careers adviser that he should go to university, despite having attained good grades. It's a decision he's never regretted. Having successfully navigated his way through a gruelling two year selection process, including regional heats, national and European finals, he was selected to represent Team UK at the 2017 WorldSkills International competition in Abu Dhabi. Macaulay competed in the Construction Metal Work competition, which saw entries from 36 other nations around the world.



Phoebe McLavy

Phoebe McLavy, an apprentice hairdresser from Carmarthenshire won a bronzemedal at the WorldSkills competition in Kazan, Russia. She completed seven tasks in front of the audience, including colouring and shaving. Her career started when she got a Saturday job at Morgan Edward salon in Carmarthen, and completed an apprenticeship at Coleg Sir Gar. Phoebe was put forward as a hopeful for Team UK after her boss, a former WorldSkills judge, and the college tutor recommended her.



Josia Langhart

Josia Langhart, 18, who is completing his training at STUDER, and his team partner, **Raphael Furrer,** qualified as Swiss champions in 2018 for the 45th WorldSkills Championship and went on to compete against other teams in their category at WorldSkills 2019 in Russia. The Swiss apprentices prepared intensively for this competition. They were supported by their employers as well as by SWISSMEM and the SwissSkills Foundation.



Mr. Tushar Phadatare

Mr. Tushar Phadatare, the Tata Motors candidate at the 2019 edition of the prestigious WorldSkills Competition, was awarded the Medallion of Excellence at the world championships for vocational skills, held in Kazan, Russia. This medallion was awarded to Tushar in the recently contested Automobile Technology category of the competition. A total of 35 countries participated in this category of skills. Tushar finished with an exceptional score of 710 points and secured the 15th position, placing India ahead of countries such as Belgium, the United Kingdom, New Zealand, Singapore and Spain.



Reece Taylor

Reece Taylor, secured a medallion of excellence for his welding efforts at WorldSkills São Paulo 2015. The 21-year-old, managed to earn the medallion despite having broken his wrist three weeks before the event. He was one of 12 young people representing the UK at the international competition. Reece is an apprentice at Dyer Engineering and student at Derwentside College in County Durham, he contributed to an impressive medal haul for the UK team.

India too realised the benefits of participating in international skill competitions and became a member of WorldSkills International in 2011. National Skill Development Corporation (NSDC) under the aegis of Ministry of Skill Development and Entrepreneurship (MSDE), Government of India leads this initiative. Selection of WorldSkills candidates is done through zonal, state and national level skill competitions.

At this year's WorldSkills Competition, the Indian contingent comprised 48 participants from 16 states (1 UT) in 44 skills at the WorldSkills Kazan 2019. Indian team created history at the 45th WorldSkills Competition held in Kazan, Russia by winning 19 medals & medallions- One Gold, One Silver, Two Bronze & 15 Medallion of Excellence. It is India's best performance since it first participated at the event in 2011.

India also took a lead during India Presidency of BRICS Business Council (BBC) in 2016 to assess preparedness of BRICS nations for Skill Development for Industry 4.0. It was a joint report by BRICS Skill Development Working Group and Roland Berger anchored by FICCI. Basis the recommendation of the report, in 2018-19, South Africa hosted the BRICS Future Skills Challenge in September 2018. The Group developed a framework for the competition and covered 12 skill trades under three skill areas- Digital, Manufacturing & Engineering and Transport. This year the second BRICS Future Skills Challenge is being organised by Russia on behalf of Brazil in October 2019.

Some countries like Finland and Russia have introduced WorldSkills Junior from grade 6 onwards to train children in specific 21st century competencies depending on their aptitude and interest. For the first time in the history of WorldSkills Competitions, WorldSkills Junior, Future Skills Competition and Future Skills Zone for demonstration of Industry 4.0 skills was included in WorldSkills competition.

In view of the global experience, India should 'speed up and scale up' its efforts to make participation in skills competitions aspirational for both industry and youth by involving all stakeholders from 'ideation to implementation stage'. There is an urgent need to expand efforts towards outreach for mass awareness, stakeholder participation, international collaborations for capacity building, 'Train the Trainer' programs, setting up 'State of the Art' infrastructure etc. Efforts are needed to give thrust on career guidance, benchmarking with success stories, sharing inspiring stories of role models and research on changing global trends.

To summarise, it can be said that India needs to freshly articulate and integrate the significance of both, WorldSkills Competition and Apprenticeship. There is a need to re-assess our approach towards WorldSkills competitions and provide exposure towards skill training right from school level and prepare the children for Worldskills Junior - both in traditional and future skills. Further, India should also actively encourage industry to send their candidates to compete in Future skills competitions.



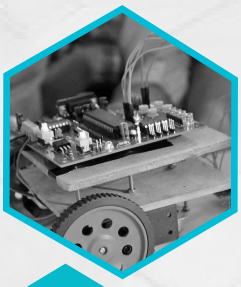












CHAPTER: 6

OBSERVATIONS & RECOMMENDATIONS

6.1 Observations and recommendations of the study are based on detailed secondary research and rounds of intensive consultations with key stakeholders which included senior industry leaders, CEOs of Sector Skills Councils, representatives from multi-lateral agencies, representatives from MSMEs and officials of public sector organisations. During the various discussions it was evident that while the use of apprenticeship as a workforce training strategy has experienced a renewed interest in India, apprenticeship programs are not currently fulfilling their potential to meet the labour market needs. There are multiple issues affecting the implementation and adoption of apprenticeship programme by the industry. Lack of awareness regarding the apprenticeship programmes and the benefits accruing from these programmes is one of the key reason for slow adoption. The same holds true for educational institutions, parents and students/youth.

After rounds of consultations, it became evident that for effective adoption of apprenticeship framework, effective collaboration between industry (private & public Sector), government, academia (schools and higher education) and Industry Associations is critical. While the government can establish the framework for the apprenticeship program and provide support, substantial incentives and facilitating environment has to be built in the program to encourage industry-led partnerships, particularly for the MSME sector to make this a successful program.

6.2 Following were the common observations during the interactions with all the stakeholders:

- Despite considerable efforts in streamlining the apprenticeship system, it remains bedevilled by layers of complexity and overlap, leading to unnecessary duplication, inefficiencies and confusion.
- The apprenticeship model is widely understood to be an employment-based training agreement among youth and organisations fear to have compulsion of regularising them.
- MSMEs need better handholding as financial and manpower resource constraints create additional strain on their HR and administrative departments to navigate the nitty-gritty of the apprenticeship ecosystem.
- A constant and simple communication is needed to create better awareness on - understanding the system, where to start, who to approach, where to get information, recruiting and managing apprentices.
- Upgradation of ITIs and Polytechnic colleges are essential to make apprentice pipeline relevant to the industry needs.
- Awareness creation programmes regarding apprenticeship opportunities in schools and higher education institutions for both technical and non-technical programmes must be rolled out.



6.3 Taking inference of the stakeholders' meetings, discussions and observations, following recommendations are listed as problem statements and possible solutions.

1. Need for a real-time database to cover all aspects of Education & Skilling

Develop National Integrated Data System for E to E Stack (Education to Employment)

Presently there are multiple systems/portals for the respective education data, apprenticeship schemes, skilling schemes, career guidance and employment.

It is recommended that a robust integrated, single point, real time data system, be developed on the Aadhar platform, to seamlessly integrate Data and Transactions from school education (mid school and above) to higher education, skill development through various schemes and agencies and, apprenticeship through respective schemes by various industries.

Career guidance may also be integrated with this system, and industry wise employment trends can be reflected to facilitate youth to follow the appropriate track.

This system besides removing all overlaps and duplications of implementation, would also give a clear picture of the existing scenario at any given time to enable appropriate actions by respective agencies.

Exponential Technologies may be leveraged upon to achieve a robust, user friendly transaction based seamlessly integrated system.

2. Review of Schemes and Implementation Agencies: Multiple schemes are creating confusion among stakeholders

Currently there are multiple schemes running under various ministries and agencies. Each one of them cater to various learning needs, academic levels and technical competencies. There should be **seamless integration** of all the schemes.

Over the years Apprenticeship schemes have evolved. A detailed review of all the schemes is essential to assess the relevance and remove overlaps and duplications. The final scheme/s retained may be considered to be implemented by a single agency *(Currently, MHRD (AICTE & BOAT) & MSDE (DGT and NSDC) are the implementing agencies. and within MSDE, DGT & NSDC are two more implementing bodies, A single point control may would lead to effective implementation). (China Employment Service model- Appendix- III) Page 75*

3. Need for comprehensive guidelines for all the schemes at one platform

Many employers and industry organizations also report that the uneven interpretation of guidelines and regulations by the agencies makes it difficult, if not impossible, for them to access the relatively limited funding available to support apprenticeship. Hence, **simplification and availability of information of all schemes** at one platform is critical.

4. Need for awareness and clarity among stakeholders, particularly MSMEs

Most of the Industries, *particularly MSMEs,* are not aware of details of the amended scheme. Existence of multiple schemes make it more confusing for the companies. Students are also not aware of benefits of Apprenticeship. **Effective Promotion and Outreach of the Apprenticeship Scheme (Advocacy)** is needed starting from School level. A **'National Apprenticeship Day'** must be announced for sensitization of key stakeholders. Success stories can be celebrated, and role models should be recognised through media.

Government should engage with Industry association and other trade bodies to adopt **cluster-based approach of outreach and communication.** It should be more focussed towards states/clusters where engagement on apprenticeship is low. A campaign can be designed and implemented on the lines of Swachh Bharat and Skill India Mission.

5. No tax- incentive to encourage optimal resources & infrastructure utilisation

As per the Income-tax act (Section 35CCD), 2013 for computing business income, a manufacturing company is allowed a weighted deduction of 150% of expenses (other than land or building) incurred on skill development project allowing manufacturers to recover the money back on the skill development needed for their industry. This fee may also be repaid to the company in cash returns rather than tax deductions. To be eligible, employees must take 6 months or more to complete a training program before starting full-time employment. ***This provision may be amended and offered for conducting additional training of apprentices by large manufacturing and services companies other than their own requirements.*** Since the challenge in SME sector is the lack of infrastructure and capacities for training, the large companies could be encouraged through this **tax incentive** to train additional apprentices that can be absorbed by the SME sectors.

6. 80JJAA of Income Tax Act 1999 is not applicable for SMEs of Manufacturing and Services Sectors

In an effort to grow the job market, the Indian government already offers incentives to manufacturers who increase their workforce by at least 10% and add at least 100 new employees under '80JJAA of Income Tax Act 1999 Manufacturers meeting these criteria receive a tax deduction of 30% of their workers' earnings for a total of three years. This only applies to the new employees that are brought on. **This provision could be extended with appropriate amendments for manufacturing and services sector SMEs on induction of every apprentice into the workforce as a regular employee.**

7. Need for adequate infrastructure and resources for apprentice training in MSMEs

Apprentices over the years have been trained through ITIs, besides Training Institutes and Centres owned by large Corporates. There is an urgent need to review the existing infrastructure, as emerged during discussions with various stake holders. The existing facility in majority of ITIs need to be upgraded to meet the present and future requirements. The infrastructure and training resources be such that training as Apprentices becomes aspirational for the youth.

Due to efforts of earlier schemes of the government that encouraged private sector participation, there are examples of larger corporates having adopted ITIs for overall upgradation of facilities, curriculum, training of faculty including training of apprentices in trades related to their field of business around their facilities. This practice needs to be intensified through use of CSR funds and other tax incentives.

It also emerged that whereas larger companies have their own infrastructure, the same is not the case with SMEs and Start Ups. To encourage them to engage and train apprentices, a cluster-based approach of pooling of resources for apprentice training needs to be adopted. MHRD, MSDE and MSME needs to work in close collaboration to develop this concept wherein the academic training, and assessment of apprentices could happen at a common training facility and practical training provided at the shop floor of the SMEs. This would be imperative to maintain the competitiveness of SMEs as aggressive skilling, reskilling and upskilling would be essential to deal with the rapid changes of exponential technologies owing to Industry 4.0.

8. Need for formal alignment of Apprenticeship with Education

Credit to learning in apprenticeship (Align with NSQF standards): Since apprenticeship provides the practical aspect of learning, the apprentice can be registered for open or online courses with universities like IGNOU or with SWAYAM. A combination of theory and practical should provide credits and this can help in educational mobility.

Apprenticeship based Diploma- Apprentice can be linked to BVOC or Diploma to ensure that students are finishing the apprentice program with a recognized certification which the industry values. Linking higher education to apprenticeship to provide vertical and horizontal mobility is also critical to make it aspirational for our youth

9. Need for awareness and aspiration at School and Higher Education Level

Introduce pre-apprenticeship and special apprenticeship at School level. A key element in the success of Indian apprenticeship system will be its capacity to include and engage those from disadvantaged backgrounds, and those who leave school with few skills. Building on the experience of traineeship, introduce pre-apprenticeship and alternative apprenticeship programmes that effectively prepare young people to undertake a full apprenticeship, equip them with basic life and employability skills, and grant them workplace experience and career advice. (Appendix-iv - Page 76)

10. Need for frameowrk for Apprenticeship to be implemented in informal sector

The apprenticeship programme today is tailored for the formal sector. The Act does not include either the informal sector or the traditional arts and crafts sector into the current apprenticeship programme, whereas historically India has always used apprentice model for training (Ustad model). With 97 % of the workforce in the unorganised and informal sector, government must consider extending apprenticeship framework and associated incentives tailored for the informal sector. This will be in line with the current focus of the government on the traditional and informal clusters.

The cluster-based approach used by MSME Ministry can be used to register the clusters as organizations for providing apprenticeship training. NAPS scheme of the MSDE can be used to provide stipend to the candidates thus encouraging and organizing the traditional and unorganized business.

11. Need for differentiating Apprentices from workforce

There is a need to delink minimum wages from apprentice stipend. The stipend must be standardised based on qualification *(e.g.- graduate, technical graduate, 12th pass, 10th pass etc.).* **Apprentices should be considered as learners and distinctly differentiated from the workforce in the industry.** Government should consider for a standardised uniform for apprentice across industry segments.

12. No visible success story or productivity study

As a pilot apprenticeship may be mandatory for **Public Sector Organisations** to showcase success that will be visible for private sector to embrace the program. MSDE/ NSDC must conduct a research-based study on impact of apprenticeship on productivity of companies and impact on Return on Investment (RoI).

13. Need for framework to integrate Apprenticeship in Franchise Model

Integrate franchise into the apprenticeship network. Large retail chains and logistics companies currently are not able to keep apprentices as they work on franchise models.

14. Need for robust implementation framework and awareness for international skill competitions

In view of the global experience, India should **'speed up and scale up'** its efforts to make participation in skill competitions aspirational for both industry and youth by involving all stakeholders from **'ideation to implementation stage'.**

We should aim towards:

- Hosting WorldSkills Competition 2027
- Start Junior WorldSkills India 2020
- Participate actively in Future Skills Competitions and BRICS Future Skills Challenge in 2019

15. Need for better linkages with International Organisations

There should be a **robust framework for linking apprentices with international organisations.** Certain programs could be developed to promote international collaborations through the transfer of skills, technology and trainees *(e.g.- technical intern training program with the Government of Japan).*

6.4 Summary of Key Recommendations

For Government

- Develop National Integrated Data System for E to E Stack (Education to Employment)
- Compilation of all the schemes and related rules at single platform
- Effective promotion and outreach of the Apprenticeship Scheme (Advocacy)
- Develop and implement a framework of apprenticeship in the informal sector
- Bring Franchises under apprenticeship provisions
- Mandate apprenticeship as a qualification for Public Sector jobs
- Tax incentives for large manufacturing and services industry under Income-tax act (Section 35CCD), 2013 for training of additional apprentices other than their own need and '80JJAA of Income Tax Act 1999 for SMEs to hire apprentices.
- Conduct Productivity study to show impact on RoI
- Start immediate preparation for WorldSkills 2021, support schools to initiate Junior World Skills Competitions in the country and industry to participate in BRICS Future Skills Challenge and other international Future Skills competitions
- Provision for additional incentives for companies/ organisations to engage PWD candidates.
- As a pilot apprenticeship may be mandatary for government sector/owned organizations to show case studies to the private industry to adopt it.

For Academia

- Introduce pre-apprenticeship and special apprenticeship at School level
- Start 'Apprenticeship Day' in Schools and Higher Education Institutions
- Facilitate credit transfer and provide Apprenticeship based Diploma/Degree
- Partner with NSDC/SSCs/SSDMs to mentor and train WorldSkills Candidates
- Actively support in initiating Junior World Skills Competitions in the country

For Industry

- Consider apprentices as learners and distinctly differentiate from the workforce in the industry
- MSMEs clusters should also develop relationships and linkages with large corporations so that pathways can be developed between 'training' and 'hiring'
- Companies should also study the impact on their RoI due to apprentice hiring
- Adopt ITIs and support in upgrading their facilities and faculty quality
- Larger companies must use their infrastructure to train additional apprentices that can be hired by SMEs.
- Partner with NSDC/SSCs/SSDMs to mentor and train WS Candidates
- Actively participate in international Future Skills Competitions and BRICS Future Skills Challenge.

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Please note, various literature/articles/annual reports of relevant Ministries and Agencies were also referred to. During secondary research team also looked into speeches and views of eminent subject matter experts.

Appendix – I

Snapshot of FICCI's initiative under 'Skills for Jobs' project

Background

The Department for International Government (DFID), Government of United Kingdom Aid, under its programme 'Skills for Jobs' is supporting Ministry of Skill Development and Entrepreneurship (MSDE) to promote the National Apprenticeship Promotion Scheme (NAPS) through a series of workshops in identified industrial clusters and through designing various communication tools. In addition, the hand holding support to Industry to register and hire apprentices is also being provided by the DFID's Technical Assistance (TA) team.

First such workshop was held in Bengaluru in June 2017, followed by a workshop each in Pune, Indore Chandigarh and Chennai. All the workshops were attended by representatives of several Government Bodies, Industries and MSMEs. The main objective of all the workshops is to disseminate the key features and benefits of NAPS to the industry and know about the problems faced by industry in implementing NAPS.

Key impact of the workshops

The workshops have played a significant role in creating awareness about NAPS amongst industries, which is reflected in following two broad facts:

- About 28 % of the establishments who were not registered earlier, have now registered on the NAPS portal
- Over 49% of the establishments signed Apprenticeship pledge cards & shown interest in NAPS.

The table below highlights the impact in more elaborated manner:

Sl. No.	Particulars	Bangalore	Pune	Indore	Chandigarh	Chennai	Total
1	No. of establishments participated	69	78	52	62	40	**232**
2	No. of establishments registered but not engaging apprentices	8	10	9	10	13	**50**
3	No. of establishments registered and engaging apprentices	9	12	11	12	5	**49**
4	No. of establishments not registered nor engaging apprentices	52	56	32	40	22	**202**
5	No. of establishments registered post workshop	16	9	6	18	6	**55**
6	No. of establishments signed the pledged (interested in apprenticeship training)	45	32	19	32	0	**128**

Further, the impact at the state level was also considerable, for example, Karnataka witnessed a 41% increase in establishments registered on NAPS portal after the workshop in Bangalore. Similarly, after Pune workshop, there was a 13% increase in registrations. Therefore, at the State level, the increase in registrations of the establishments post the workshop has been significant over a period of time.

Role of Technical Assistance (TA) team post workshops

The FICCI TA team also played a key role after workshops to ensure maximum registration from participants on NAPS portal:

- Followed-up and shared workshop leads with RDAT for supporting establishments in the registration process.
- Followed-up with participants through e-mail and share leads with RDAT.
- Monitored establishments' registration from the participants and associations on a monthly basis.
- Coordinated with State Skill Development Departments on progress post NAPS workshop.
- Business case studies on success of apprenticeship in establishments were shared with stakeholders
- Sent out a registration form via e-mail to all the non-registered participants of the NAPS workshops to enable them in registration on the portal.

Appendix – II

Detailed list of Status of Apprenticeship- Data of PSUs (2017-2018)

S.No	CPSE	No. of employees	No. of apprentices engaged	Percentage of apprentices engaged
1	Airport Authority of India	17535	424	2.42
2	Air India Air Transport Services Ltd.	507	107	21.1
3	Air India Engg. Limited	4637	220	4.74
4	Andrew Yule & Company Ltd.	545	84	15.41
5	Artificial Limbs Manufacturing Corporation	203	43	21.18
6	Balmer Lawrie & Co. Ltd.	1389	106	7.63
7	BEL Optronic Devices Limited	200	20	10
8	Bengal Chemicals & Phar. Ltd.	1500	50	3.33
9	BHARAT DYNAMICS LTD.	3080	311	10.1
10	Bharat Earth Movers Limited	12153	1287	10.59
11	Bharat Electronics Limited	17746	3200	18.03
12	Bharat Immunological & Biological Ltd.	113	5	4.42
13	Bharat Petroleum Corporation Limited	11973	1317	11
14	Bharat Heavy Electricals Ltd.	36182	6000	16.58
15	Brahmaputra Valley Fertilizer Corporation	606	20	3.3
16	Bridge & Roof Co. Ltd.	1500	42	2.8
17	Cement Coprporation of India	1979	71	3.59
18	Central Electronics Limited	408	30	7.35
19	Central Mine Planning and Design Institute	4615	115	2.49
20	Central Railside Warehouse C0. Ltd.	58	5	8.62
21	Central Warehousing Corporation	3226	100	3.1
22	Chennai Petroleum Corporation Ltd.	2500	250	10
23	Cochin Shipyard Ltd.	2606	358	13.74
24	Container Corporation of India Ltd.	1450	43	2.97
25	DFCCIL	1022	103	10.08
26	Dredging Corporation of India Ltd.	313	15	4.79

S.No	CPSE	No. of employees	No. of apprentices engaged	Percentage of apprentices engaged
27	Electronics Corporation of India Ltd	2443	250	10.23
28	Engineers India Limited	2806	337	12.01
29	FCI Aravali Gypsum and Minerals India Limited	150	7	4.67
30	Ferro Scrap Nigam Ltd.	799	32	4.01
31	Fertilizers and Chemicals Travancore Limited	2533	86	3.4
32	GAIL (India) Limited	11668	1228	10.52
33	Hindustan Aeronautics Limited	40000	4000	10
34	Hindustan Copper Ltd	6080	290	4.77
35	Hindustan Newsprint Ltd.	856	103	12.03
36	Hindustan Organic Chemicals Ltd.	452	25	5.53
37	Hindustan Petroleum Corporation Limited	10820	1125	10.4
38	Hindustan Shipyard Ltd	1517	152	10.02
39	Hindustan Steelworks Construction Limited	22	2	9
40	HMT Machine Tools Limited	2222	231	10.4
41	Hotel Corpn. Of India Ltd.	885	55	6.21
42	Housing and Urban Development Corporation	833	150	18
43	India Tourism Dev. Corpn.	2385	72	3.02
44	Indian Oil Corporation Limited	32277	3402	10.54
45	Indian Railway Catering & Tourism Corp.	1459	33	2.2
46	Indian Railway Finance Corporation	2131	182	8.54
47	ITI Limited	3438	251	7.3
48	IRCON International Ltd.	1572	157	10
49	KIOCL Ltd.	1434	62	4.32
50	Madras Fertilizers Limited	605	181	29.92
51	Mazagon Dock Shipbuilders Limited	8700	925	10.63
52	Metal Scrap Trade Corporation Limited	333	10	3
53	Metallurgical & Engineering Consultants	1380	40	2.9
54	Mineral Exploration Corporation Limited	1845	63	3.41
55	Mishra Dhatu Nigam Limited	860	86	10

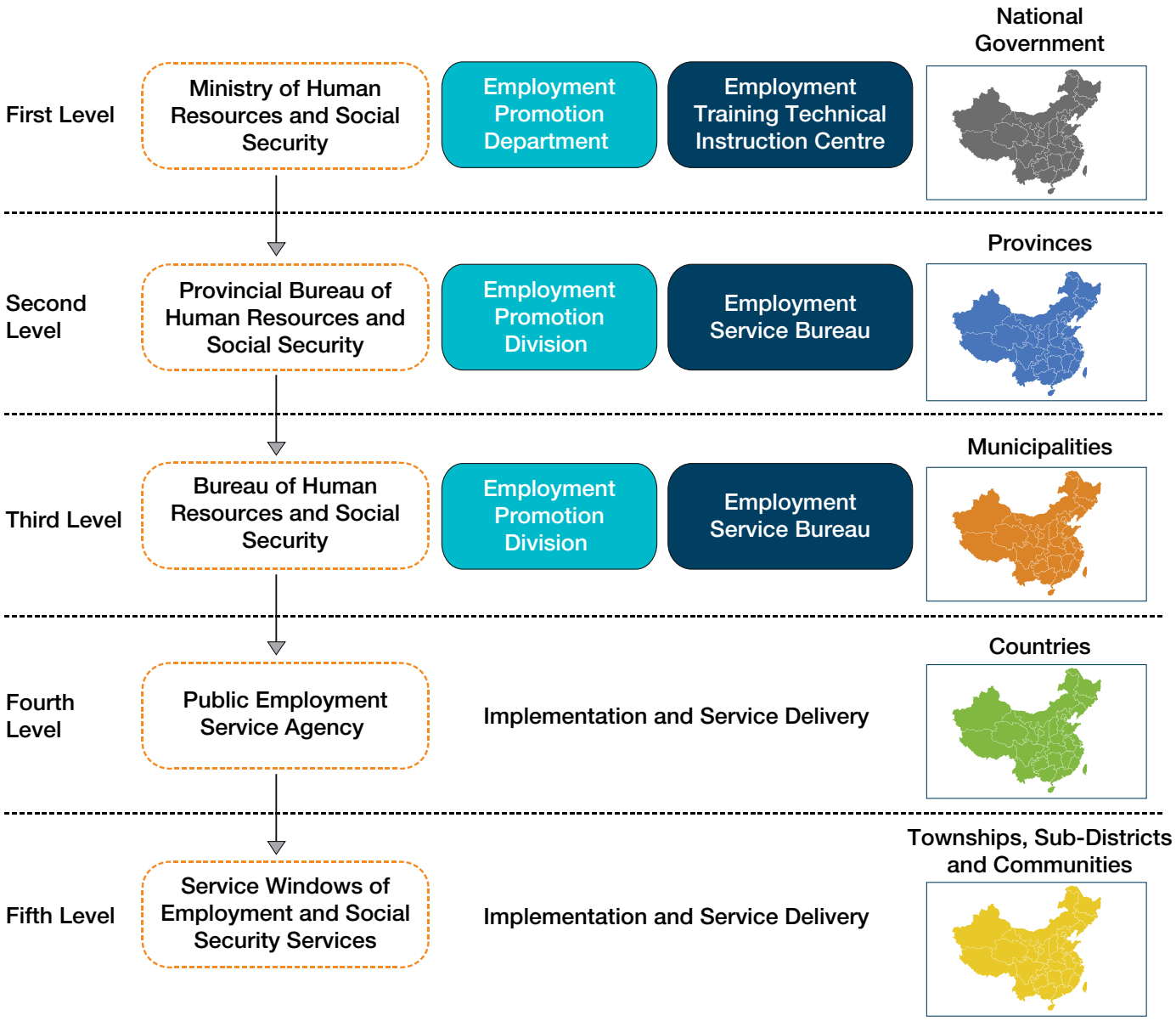
S.No	CPSE	No. of employees	No. of apprentices engaged	Percentage of apprentices engaged
56	MMTC Ltd.	900	23	2.56
57	MOIL Limited	7054	460	6.52
58	Mumbai Railway Vikas Corporation Ltd	88	3	3.41
59	National Aluminium Company Limited	6776	742	10.95
60	National Buildings Construction Corporation Limited	1990	66	3.32
61	National Hydroelectric Power Corporation	8201	399	4.87
62	National Scheduled Tribes Finance and Development Corporation	54	2	3.7
63	National Small Industries Corporation	857	71	8.28
64	NLC India Limited	23664	684	2.89
65	NMDC Limited	5382	562	10.44
66	NEHH-DC	83	2	2.41
67	NTPC Limited	16660	783	4.7
68	Numaligarh Refinery Limited	877	30	3.42
69	Oil and Natural Gas Corporation Limited	42459	4246	10
70	Oil India Limited	9451	886	9.37
71	ONGC Videsh Limited	322	16	4.97
72	Pawan Hans	739	40	5.41
73	Petronet LNG	1384	41	2.96
74	Power Finance Corporation Limited	750	15	2
75	Power Grid Corporation of India	9465	192	2.03
76	Projects & Development India Limited	456	48	10.53
77	Rajasthan Electronics & Instruments Limited	905	90	9.94
78	Rashtriya Chemicals & Fertilizers	4324	165	3.82
79	Rashtriya Ispat Nigam Limited	28217	1019	3.61
80	RITES Limited	2882	111	3.85

S.No	CPSE	No. of employees	No. of apprentices engaged	Percentage of apprentices engaged
81	Rural Electrification Corporation Limited	493	14	2.84
82	Shipping Corporation of India	725	41	5.66
83	SJVN	3300	270	8.18
84	South Eastern Coalfields Limited	73761	1844	2.5
85	Tehri Hydro Development Corporation Limited	4421	210	4.75
86	The BBJ Construction Co. Ltd.	240	6	2.5
87	Uranium Corporation of India Limited	4687	150	3.2
88	Western Coalfields Limited	50604	1324	2.62

Source at the end of the table:
Source: DPE, GoI

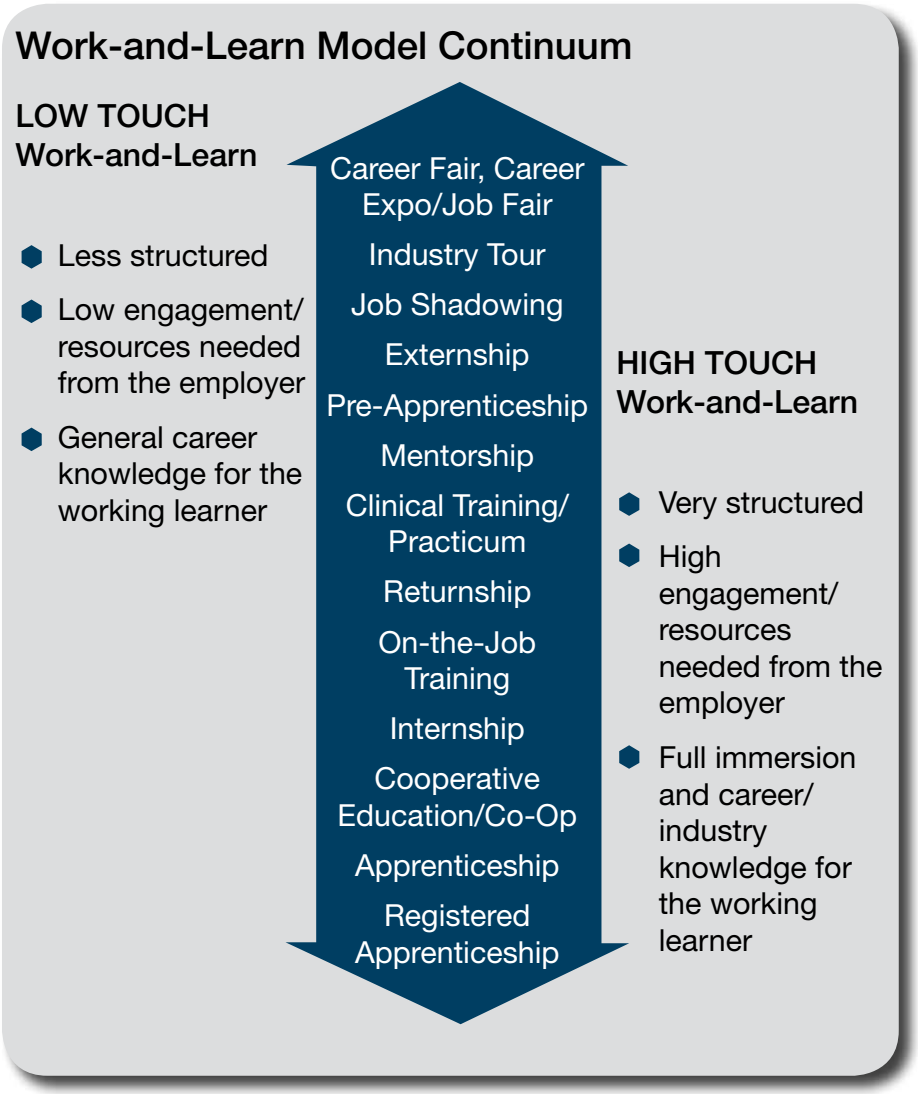
Appendix - III

Public Employment System in China (Integration of all the agencies for better flow of data and information)



Appendix - IV

Work and Learn Model Continuum



Source: Jessal, PK, 2015, Future Working and Learning: The Work and Learn Continuum and work and Learn Models

Source: Jessal, PK, 2015, Future Working and Learning: The Work and Learn Continuum and work and Learn Models

FICCI Task Force on Apprenticeship Meetings with various Stakeholders









Acknowledgements

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