

# Chapter 4

## Education, Employability, Employment, and Entrepreneurship: Meeting the Challenge of the 4Es

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### Introduction

The poor functioning of the 3Es of education, employment and employability has resulted in growth not being translated into sustained poverty reduction in India. Added to this is the fourth E of entrepreneurship which, had it been effective, could have delivered the desired employment outcomes.

India, like many other Asian countries, is going through five labour market transitions: farm to nonfarm, rural to urban, unorganised to organised, subsistence self-employment to decent wage employment and school to work. India's population, long considered a curse, has turned into a desirable demographic dividend. But a demographic dividend does not mean just people; it means skilled, educated or employed people. This chapter derives on the experiences of TeamLease, a people supply chain company in India that has hired a person every five minutes for the last 5 years, but that is only 5% of the people who were seeking a job with us. TeamLease estimates that 57% of India's youth suffer some degree of unemployability, with the 82.5 million unemployable youth requiring different levels of 'skill repair' for employment: (1) last mile repair candidates requiring training for less than 6 months (5.3 million), (2) interventional repair candidates requiring training of 6 months to a year (21.9 million) and (3) structural repair candidates needing training of 1–2 years (55.4 million).

TeamLease studies show that 58% of India's youth suffer some degree of skill deprivation and unemployability is bigger issue than unemployment (TeamLease Services and Indian Institute of Job Training 2012). India must undertake reform of the Es to address sustainable poverty reduction.

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## **Reforming the Four Es**

### ***First E: Employment Reform***

#### **Problems with Matching and Connecting Supply to Demand**

Peter Diamond's Nobel prize winning work on search costs in labour markets is very important in the context of emerging economies like India where matching labour demand and supply become difficult because most employment is in the informal sector, largely in agriculture, and the labour force has low levels of education and skills. Diamond points out that just as measured unemployment does not fully reflect the availability of workers to be hired, so too the measured level of vacancies does not fully reflect the availability of jobs (Diamond 2011). The challenges for matching are broad and deep in India.

Employment and productivity patterns reveal important mismatches. Ninety-three percent of the workforce in India is in informal employment, which suffers from subscale enterprises and overall low productivity. Fifty-eight percent of the workforce is in agricultural employment that contributes to only 15% of GDP. India produces 120 million tonnes of milk with 75 million people, compared to the United States that produces 60 million tonnes with 100,000 people. Only 12% of the workforce is in manufacturing employment, compared to 50% in the People's Republic of China (PRC). Low-skilled organised manufacturing would create a mezzanine layer that would enable the difficult farm to nonfarm transition. More than half of India's labour force is self-employed, which unfortunately does not signal entrepreneurial energy as most self-employed are working poor.

India has outdated and dysfunctional institutional mechanisms. In 2011, India's 1,200 employment exchanges run by the government provided only 300,000 jobs against the 40 million people who are registered in these employment exchanges. India's labour law regime favours informal employment and encourages the substitution of labour with capital. Many labour-intensive sectors like textiles and toys are more capital intensive in India than in the PRC. There are grossly inadequate social protection and benefit systems that are not employer oriented to the detriment of those in informal employment.

India has much lower rate of urbanisation compared to the PRC – only 34 cities with more than a million people in India versus the PRC's 250. India has 600,000 villages, a third of which have less than 200 people, which creates challenges for sustainable job creation, making it difficult to adopt cluster approaches to employment and economic activity. In this dispersed scenario, people needing employment are not in geographies that have high employment potential, and people have to be taken to places where there is work.

#### **Possible Solutions for Employment Reform**

Employment exchanges need a major revamping. Present employment exchanges do nothing but only register job seekers. They need to establish employer connections,

provide employee service and turn themselves into career centres. As most of the exchanges are situated in easily accessible locations and have decent infrastructure and have high youth awareness, they can be better leveraged. Public–private partnerships (PPPs) that marry public sector infrastructure with private sector software of people, processes and technology can vastly improve their effectiveness. Employment exchanges need to offer the five services of assessment, counselling, apprenticeships, training and jobs to become integrated career centres. These PPPs will not only increase employer interfaces but also help to diversify the role of employment exchanges beyond simple outcomes of only jobs. The state of Karnataka has decided to ‘upgrade’ its employment exchanges to Human Resource Development Centres (HRDCs) through the PPP modality. An employment exchange that earlier provided jobs to 50–60 candidates annually moved to providing jobs to over 2,000 job seekers in the first year of operations and HRDCs and has continued the trend every year since. A case study on the Karnataka model is included in Appendix 1.

A modern vibrant apprenticeship regime is another domain that will help to improve employment outcomes. Apprenticeships are a globally recognised vehicle for effective skill development because of the effectiveness of ‘learning by doing’ and ‘learning while earning’. They improve the prospects of candidates’ job prospects by providing them an opening balance of on-the-job experience. Direct employer involvement in apprenticeship programmes ensures relevance of the skills obtained. But India’s apprenticeship regime requires an overhaul. There are only 300,000 formal apprentices in India, compared to even smaller countries like Germany and Japan that have 6 and 10 million apprentices, respectively. The success of apprenticeship programmes lies in combining the formal educational phase (training targeted at being effective in the workplace) with the workplace phase (training actually put to work and learning to be productive). Apprentices become ‘employment ready’ because of the synthesis of employability and employment. A number of recommendations to remodel the apprenticeship regime in India have been made, including encouragement and incentives to employers to support an expanded and flexible apprenticeship regime to not only create a human capital pipeline for themselves but also fulfil their corporate social responsibilities (Planning Commission Sub-Committee on Re-Modeling India’s Apprenticeship Regime 2009).

Extensive labour law reform is required in India. The laws favour organised labour, trade unions and those currently in a job and discriminate against those who are outside the labour market (particularly the less skilled, less educated, people from small towns, women, etc.). Considering that labour law reform is controversial globally, it could be undertaken in a phased approach. A first phase could involve elimination of redundant laws and harmonisation and re-engineering of laws as required. In a second phase, more difficult issues of employment contracts, fixed term employment and issues related to trade unions need to be tackled. Bringing labour law within the ambit of state jurisdiction rather than legislated concurrently by the governments at the centre and the state may help to unblock the path for some crucial reforms.

There is a need to create a shared job framework that brings a much-needed alignment between supply and demand. A national framework and infrastructure for skill development that aligns occupation codes, entry gate assessment and exit gate certification is needed. This framework should allow real-time interfacing between the demand and supply side of the labour markets to not only enable better matching but allow changes to curriculum, job descriptions, job posting and assessments early enough to matter. TeamLease is in the process of creating a framework called TeamLease National Employment Framework that is detailed in Appendix 2.

## ***Second E: Employability Reform***

### **Problems with Improving Supply for Employability**

The mismatch problem arises from the divergence in what employers are seeking in the candidates in addition to qualifications and the actual skills candidates have. This issue of employability skills is particularly important for those who are already in low-productivity jobs in the workforce or students who have completed their education but are unable to get a job. Improving the supply of educated people for employability is more than just qualifications.

The issue of financing training requires to be addressed. Employers face three holes in the training bucket: first, they pay for training, but the candidates do not pass or complete the training successfully (learning risk); second, they pay for training, and the candidate completes it successfully but does not perform in the workplace (productivity risk); and third, employers pay for training, and the candidate completes successfully and is productive in the workplace; however, he leaves (attrition risk). So employers are not willing to pay for training upfront but they are willing to give apprenticeship stipends or reimburse candidates for fees they have paid if they stay with them for some time. Employers are willing to hire trained workers. Candidates, on the other hand, are unwilling to pay for training but ready to pay for a job. Third-party financiers like micro-finance or banks are unwilling to lend for vocational training unless a job is guaranteed. The government financing is mostly towards inputs rather than towards outcomes. The comparative advantages of public and private sectors are not appropriately leveraged as considerable distrust exists with regard to the role of the private sector. This impedes effective structuring of PPPs and policy-based contracting arrangements.

This mismatch between what employers want and what they get is exacerbated due to a hard partition between education and training. The qualification corridor to enable vertical mobility between certificates, diplomas and degrees does not exist. This lowers the social signalling value of vocational training. Students who have undergone vocational training find it difficult to revert back to general streams of education to acquire higher qualifications. A pathway for a gradual upgrading

of skills and competencies even within the vocational stream is not very well organised.

Competency assessment and performance management in employability skills are not an area that has been given adequate attention. In addition to qualifications, there are no concrete metrics that help employers and institutions assess the employability skills. In India, there is wrong balance between exit and entry gates in educational institutions. An educational institution can be like the Indian Institutes of Management (IIMs) or Indian Institutes of Technology (IITs) with tight entry gates and wide open exit gates or like the Chartered Accountant exam with wide open entry gates and tight exit gates. Currently, vocational training has wide open entry and exit gates.

There is a lack of alignment between various parts of the skills, training and employment ecosystem that includes assessment, curriculum, certification and jobs. Unless training institutions are able to effectively take on board market demands and trends for skills, including employability skills in their curriculum and courses, and able to provide certification for well-defined skill sets, the employability mismatch will continue.

### **Possible Solutions for Employability Reform**

Separating financing from delivery of skills development could ensure that delivery is undertaken by agencies that have requisite capacity. Usually, government money for skill delivery is only available for government delivery of training. Making government funds available for both public and private delivery would not only support agencies that meet the demand for employability skills but also facilitate more innovative delivery modes. A possible switch from financing institutions to financing students through instruments such as vouchers and scholarships will create competition and give choices to students.

Linking financing to desired outcomes would ensure that the right skills are ensured for people seeking jobs. Most government financing currently supports skill development linked to inputs, such as number of hours of training. If a mechanism to link this funding to expected learning outcomes or placements in jobs, using a neutral platform, can be designed for both private and public delivery, the quality of training and the competencies of trainees are likely to increase. This requires development of appropriate contracting mechanisms and accountability systems. A credible information about learning outcomes, placement record and teacher quality of training institutions can facilitate informed choice. An important gap could be filled by creating a rating or ranking system for institutions that would enable comparison and spur competition.

Linking poverty programmes to training may further support employability objectives of the poor. There are many social sector or poverty reduction schemes of the central and state governments which provide funds but do not create any capacities or change trajectories. It will not be easy given the state of delivery systems, but it is important to begin the journey to creating a skill, apprenticeship

or employment component in schemes like the National Rural Employment Guarantee Scheme (NREGS). A credible skill voucher or scholarship programme would enable a transparent, cashless transaction that would enable the trainee to get trained from any accredited institute and on completion of training the institute can redeem the voucher for cash. These schemes may also lay the foundations for collateral-free skill loans, and the proposed Credit Guarantee Fund is a useful infrastructure.

Integrating apprenticeships with training and placements will play a valuable role to increase employability of trained graduates. The limitation of a small number of apprentices in India goes beyond the matching of supply with demand problem it creates since most students end up with only theoretical knowledge. Formally integrating apprenticeships into skill and education programmes, with accumulation of credit for apprenticeships undertaken, would be important, and this requires a regulatory review that is overdue and urgent.

Creating a qualification corridor will go a long way in establishing and recognising qualifications and skills for employability. The current regulatory system does not allow the creation of a corridor or link between a 3-month certificate, a 1-year diploma, a 2-year associate degree and a 3-year degree. Vocational training is often 'tracked' and does not facilitate moving back and forth from the formal academic stream. The proposed National Vocational Education Qualification Framework currently under consideration, but struggling for regulatory legitimacy, would help in reducing the perpetual problem of 'social signalling value' of vocational training versus a degree.

### ***Third E: Education Reform***

#### **Problems with Creating a Pipeline of Educated and Skilled Workers**

The broad principles for a better educational regime have to do with better regulation of quality, incentives that are aligned and the creation of an ecosystem where preparation of educated and skilled workers is in line with the requirements of the future.

The key challenges that the education system faces are high dropouts at various stages of education. About 35% of students who start school do not reach grade 10. Of the 26 million who take the grade 10 exit examinations, 10 million do not pass. Eight million of the 16 million who take the grade 12 examinations fail to clear them. Only 5 million of the 8 million who successfully go past grade 12 examinations go on to college. Preparing a robust pipeline of educated and skilled workers and professionals requires improved completion and transition rates at lower levels of education. A robust basic and secondary education system, with adequate quality benchmarks, is crucial to ensure that higher levels of education and training have a good supply of well-prepared students.

The education system has low capacity. India's gross enrolment ratio (GER) at tertiary level at 11% is less half of the world average and much lower than the

developed country average of 45%. Only 15 million people are enrolled in higher education in India. The system also has low inclusiveness. The gross enrolment ratio is lower than average for women and disadvantaged populations. More than half the districts in the country have GERs that are lower than the national average. The proportion of poor and disadvantaged is also higher among those who drop out early from the education system which makes tertiary education enrolments and attainments inherently inequitable.

The system is mired in ineffectiveness as many graduates are unemployable because of a huge gap between what they are in person and what they are on paper. There have been instances of people who have a bachelor's degree in English who could not speak English. There is a strong partition in the mind of academics between learning for earning and learning for living. This is not a uniquely Indian phenomena; Yale said they did not want to run a 'trade school' and shut down their engineering school in the same year that Stanford started their industrial under Frank Terman – and catalysed Silicon Valley. Policy makers are preoccupied with vocationalisation of secondary education and related issues. There is need for a decentralised environment that encourages the entry of a range of educational and vocational training options across different levels and disciplines and allowing for free movement between them.

### **Possible Solutions for Education Reform**

The Right to Education Act (RTE) in India, although has a right reason, is a wrong thing. Universal access to elementary education needs to be assured to all students in the country; however, the Act includes provisions that are not conducive to the expansion of unregulated private provision. Although the Act includes a 25% reservation for children from disadvantaged backgrounds in private schools, it promotes ineffective regulation on private education institutions. It has decreed the dismantling of low-cost unrecognised private schools that have contributed to increasing enrolment ratios. The RTE Act needs a full-fledged review in terms of ensuring a broad base of quality elementary education that reaches all over the country in partnership between private and public sectors. The regulatory focus is also on inputs, such as minimum conditions that must go into a school rather than outputs in terms of successful education completion or quality.

There is an urgent need to ameliorate the quality of school education rather than focus on the issue of vocationalisation. The issue of vocationalisation of school needs to be reviewed in the context of fast-changing technology and the market place that is calling for much higher-order foundational skills. It would be better to strengthen the quality of such foundational skills in school education that would provide an adequate base to students on which they can build specialised skills. This means focusing on the basics and fixing schools to make sure they impart adequate quality education to address the three Rs (reading, writing and arithmetic) along with communication skills and soft skills of curiosity, confidence, risk taking and team playing. The urgent need is thus one of creating a robust base of school education system that is aligned to the higher levels.

The creation of a qualification framework needs to address mobility of school dropouts, school completers and diploma holders to the world of degrees. This is proposed by the National Vocational Education Qualification Framework that is currently under consideration. Such a framework also needs to consider community colleges and associate degrees. About 50% of college enrolment in the United States is in community colleges offering 2-year associate degree programmes. These programmes are not normal degrees on a diet but vocational training on steroids and act as a mezzanine layer that bridges the worlds of vocational training and higher education. India needs to create a regulatory framework for these new types of qualifications to flourish. The current regulatory regime is overly focussed on inputs and uses infrastructure such as land and building as a poor proxy for accreditation. The regulatory regime needs to shift its focus from inputs to learning and employment outcomes. It also needs to increase the flexibility of institutions to address issues of employability, and this includes recognition of prior learning, credit for apprenticeships and a pathway for the gradual upgrading of skills.

Partnerships for education that legitimise the role and contribution of the private sector are crucial to build a robust pipeline of educated and trained people. Currently, schools and higher education need to be non-profit. But 90% of the capacity created in these sectors in the last 20 years has been for-profit in reality but complies with the non-profit structure on paper. This lower transparency is encouraged by court decisions that make a distinction between surplus and profit. This does not encourage the participation of legitimate private sector players to invest in the education sector. Regulation must be changed to formally and transparently allow corporations to invest in and contribute to the education sector. Making government funds available for private delivery of education and skills via vouchers or scholarships would amplify consumer choice, create competition and put pressure on institutions to perform. However, they require complex and effective arrangements for result-oriented contracting arrangements.

It is time to expand unconventional modes of education and to open the way for innovative and cost-effective methods of delivery. Expanding distance education is an obvious avenue. In addition, recent times have seen the proliferation of on-line and virtual education avenues that need to be explored for their quality and for their role in increasing access to education and supply of high-quality instruction. Opportunities for increasing e-learning and satellite-based delivery must be reviewed to offer flexible options for workers already in the workforce and the geographically disadvantaged.

## ***Fourth E: Entrepreneurship Reform***

### **Shortcomings for a Vibrant Entrepreneurial Culture in Education**

The for-profit private sector already plays a large role in Indian education; however, the regulatory and policy framework does not recognise it as such. Ninety percent of schools and 85% of higher education setup in the last 10 years are for-profit in



spirit but non-profit in letter because they are organised as trusts or non-profit foundations. The lack of pragmatism in public policy in not recognising entrepreneurial motivations and structures for what they are is costing Indian education dearly. The case for the private sector is not because it provides better quality – in many situations it does not – but because the country needs all the schools we can get. The argument for-profit in education is not an argument against the expansion of state or non-profit initiatives. Much more capacity is needed in the war against illiteracy and unemployment. Yet today public policy mandates that accredited school and higher education are only delivered through a non-profit trust. But India's charitable or non-profit sector does not have the resources or capability to meet India's education challenge, and consequently most of India's private sector is for-profit, however, under a legal non-profit provision. This transmission loss between how the law is written, interpreted, practised and enforced has undesirable costs.

A more conducive regulatory framework will allow for more promising entrepreneurs to enter the education market. Policies that prohibit profits in education and keep fees low should be replaced with more open competition based on transparent rules. In India, current trends reveal supply crossing demand in engineering (100 colleges in South India received less than 10 admissions) and MBA schools (300 of the 3,000 schools in the country are on the verge of closure). This propagation of oversupply to other parts of the education ecosystem – K-12, Medicine, Law, etc. – will force opportunist edupreneurs out and attract legitimate and professional investors that will reinforce the circle of quality.

### **Possible Solutions for Entrepreneurship Reform**

Private sector participation is needed for the impossible trinity of cost, quality and scale. India needs large numbers of classrooms and teachers. But the regulations impose substantial limitations on first-generation entrepreneurs raising money from financial investors – both debt and equity – to invest in creating legitimate quality at scale. While there has been a reasonable quantitative expansion by the government, there is a need for professionally managed, well-regulated and quality-minded for-profit private sector. The current regulations in higher education lead to an adverse selection among education entrepreneurs because it biases the field in favour of politicians, criminals and land mafia.

The lack of employability is pervasive among youth entering the labour force. This low employability arises for many reasons: lower competition, centralised setting of curriculum, no modularity for skill upgrading, lack of employer involvement and lack of credit for formal apprenticeships. But it is unclear that this agenda can be implemented by pure regulatory reform; it will need to be complemented by a Cambrian explosion of entrepreneurship that being capital, innovation and energy. This is unlikely without allowing entrepreneurs and third-party capital to work together legitimately. Rabindranath Tagore has a wonderful story called Kartar Bhooth where guessing the perceived and static wishes of an effective but

dead leader stifles current life and kills innovation. The ghost of non-profit in education has similar consequences where low-quality private sector capacity creation becomes a self-reinforcing argument against legitimising a professionally managed, well-regulated and quality-minded for-profit private sector.

## Conclusions

The reform of the 3E ecosystem in India is currently stalled. Public policy has not advanced this agenda as there is no Ministry of Employment. While the 3Es relate to horizontal issues, the government is organised vertically.

India's, and probably Asia's, 3E opportunity is probably one of the biggest entrepreneurial opportunities on the planet in the next 20 years. Most people focus on flow – the one million young people joining the labour force every month for the next 20 years – but a bigger opportunity is stock – retooling the 200 million who are already in the labour force but stuck at low productivity in farms and elsewhere.

The solution lies in the creation of institutions which innovate at the intersection of the 3Es. Policy makers, parents, employers and children are looking for something that is part college, part skill centre and part employment exchange. Like all innovations, creating such an institution is difficult, takes time and needs resources. But this is not noble; it is necessary.

It is late but not too late to change the tragic reality that the two most important decisions a child in India makes are choosing their parents and pin code wisely. Mughal Emperor Jahangir told his gardener in northern India that if a tree takes 100 years to mature, that is all the more reason to plant it as soon as possible. In other words, the best time to start changing our 3E system was 50 years ago. The second best time is today.

## Appendix 1

### **Box 1** Case Study on Public–Private Employment Exchange

Karnataka has over 34 Employment Exchanges, scheduled to cater to the employment needs of the job seekers and the employee needs of the organisations. However, this matching of demand and supply was not effective, and the objectives of the Employment Exchanges were not being met.

Traditionally, Employment Exchanges had only a binary outcome – you either get a job or you do not. However, this is redundant in the current context. Employment Exchanges across the country as well as in Karnataka do nothing but register job seekers, do not have easily accessible and well-organised databases and have not been proactive. However, most of the exchanges are situated in easily accessible locations and have decent infrastructure (though not properly maintained), and awareness of the exchange among candidates is high. Policy makers can use existing infrastructures so neither the government nor the private party makes higher investments on hardware (infrastructure and other capital-intensive requirements) but diverts the resources to software (people, processes, technology, output).

Employment Exchanges in Karnataka have been mostly attracting either ITI students or those who are in the lookout of public sector employment. The registration ensures that ‘they are in a queue’ and whenever their turn comes and if there is a job available, they would be called. There has been no matching or counselling to either the job seeker or the industry.

Public–private partnerships for Employment Exchanges were put on the agenda in a budget speech announcement more than 3 years ago. But like most government transformations, this project suffered from a traffic jam at the intersection of the central and state governments. However, Karnataka made the maximum of this opportunity. The Karnataka Vocational Skills and Training Development Corporation (KVTSDC) and the Department of Employment and Training (DET) not only identified this as a problem area but also developed a PPP model with TeamLease Services to ensure that the then almost defunct exchanges upgrade to something more substantial.

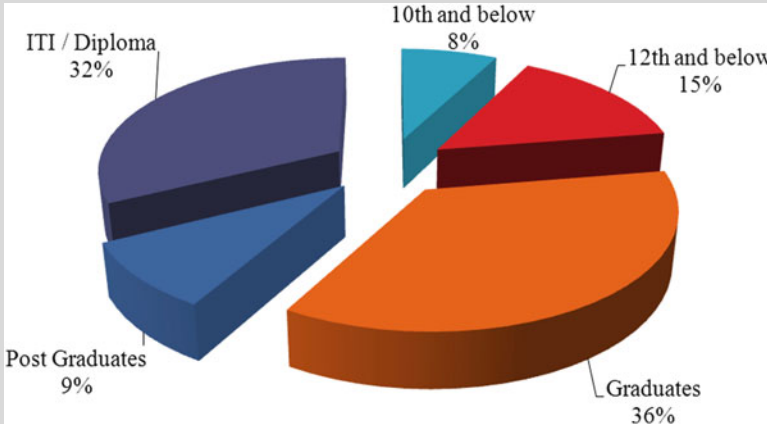
The upgraded Employment Exchanges or Human Resource Development Centers (HRDCs) attracted job seekers and industries across the spectrum, which was unthinkable in the original format of Employment Exchanges.

- Employability solutions such as assessments, counselling and skills development are now being provided to various categories of job seekers such as:
  - Commerce, science and arts graduates
  - School dropouts
  - 10th/12th pass students
  - Skill upgradation of workers employed in various industries
  - ITI tradesmen

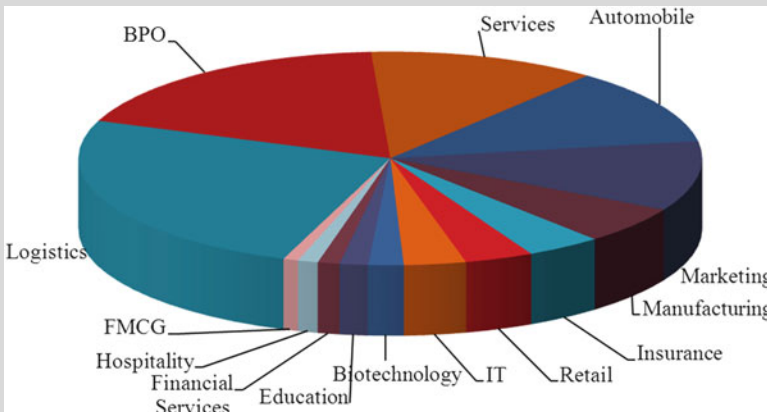
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- Scientific matching by way of assessments and counselling helps the Employment Exchanges to provide the right job to the right job seeker.
- Private sector employers have started viewing the Employment Exchanges as a source of hiring manpower for their needs.

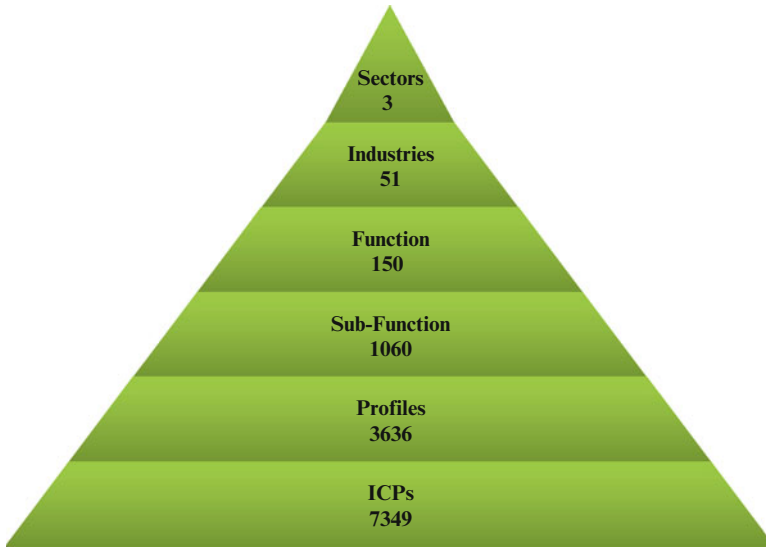
Profile of registered job seekers at the HRDCs



Profile of Private Sector Employers hiring from the HRDCs



## Appendix 2: TeamLease National Employment Framework



### *Introduction*

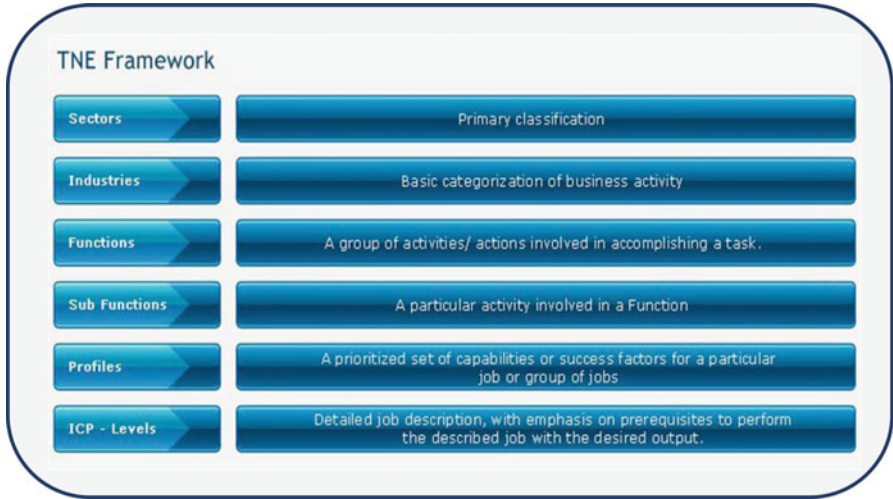
The *TeamLease National Employment Framework* (TNEF) is a systematic classification of jobs in the Indian labour market based on *data, skill, knowledge and behaviour* required for the job, and vice versa. TNEF is a framework that links industries with types of jobs. TNEF is tool to candidates identify industries or any profile and creates an interface between demand and supply.

The Department General of Employment and Training, Government of India, has built the National Code of Occupation (NCO), which was the first attempt in the direction of preparing an occupational classification system in India way back in 1946. However, the NCO updation has been able to catch up on the rapid industry growth as well as entry of new age sectors such as services, retail, IT and ITes.

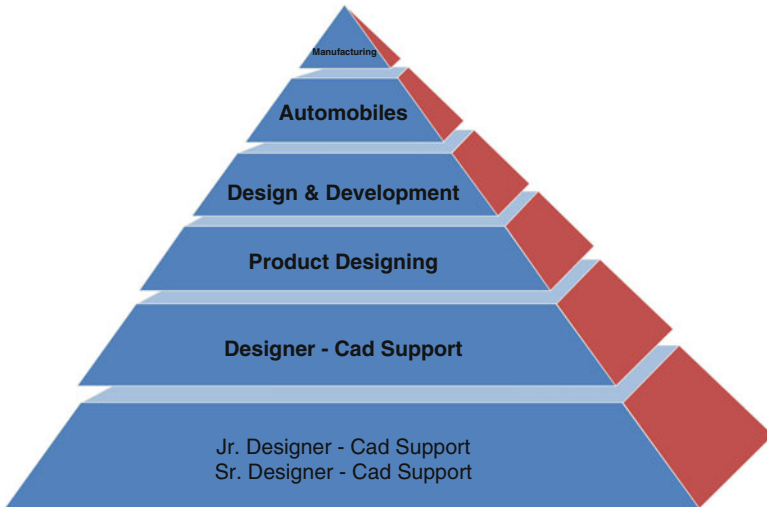
The need for TNEF was thereby felt by TeamLease such that there would be a scientific job mapping tool for both the job seekers and the industry.

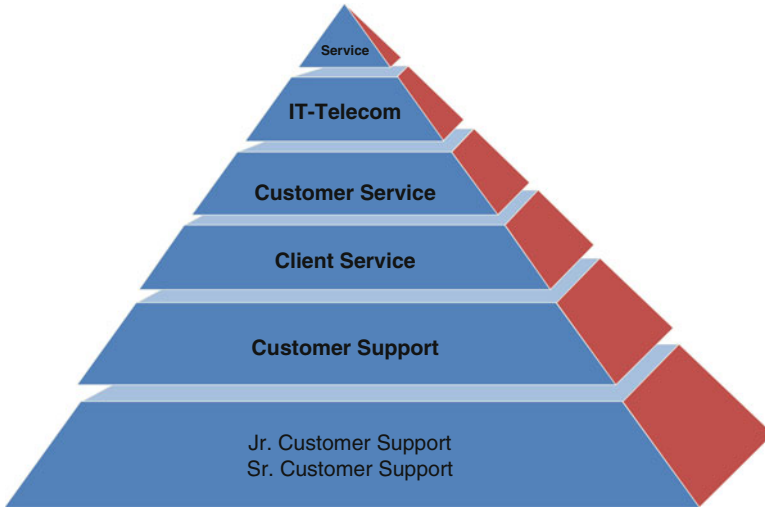
The TNE Framework appreciates that fact that there are different skill requirements for different sectors and one shoe will not fit all. TNEF breaks down the attributes for an individual job profile across six parameters, i.e. sectors, industries, functions, sub-functions, profiles and ICPs (Ideal Candidate Profiles).

The classifications are depicted in the picture given below.



A depiction of how TNEF helps identify the best fit for a particular sector and industry is shown below for Services & Manufacturing:





There are over 50 industries that have been mapped under TNEF. List of these industries is given below for reference:

TNEF Industrial Classification		
Automobile / automotive / auto ancillaries / auto components	Agriculture / poultry / fisheries / forestry / dairy / fertilizer	Aerospace / aviation
		Electrical and electronics
	Airlines and aviation	Fashion / garments / merchandising / modelling / apparel
	Biotechnology / pharmaceutical / medicine	Packaging industry
	Capital goods / machine manufacturing / heavy industry machinery / safety equipment / control equipments	Textiles
	Cement / marble / ceramics / stones /	Sugar
Banking	Engineering, procurement and construction	Beauty / fitness
Financial Services	Entertainment / media ( tv / films / production ) / journalism	Business / management consulting / consulting services
Insurance	Fertilizers, chemicals, paints, dyes and industrial chemicals	Construction / building / real estate
Consumer goods – durables / home appliances	Food processing / beverages /catering / food services	Engineering / technical consulting science and technology
Consumer products / FMCG	Marketing / advertising / market research / public relations / event management	Environment / health / safety
Courier / logistics / packaging / freight forwarding / distribution	Metal / steel / iron / metallurgy	Export / import / merchandising
ITES – BPO / call center / KPO / RPO / med.trans	Mining	General and wholesale trading
Power / energy – generation and transmission	Oil and gas-exploration, extraction, refining	Guards / security services
Retailing	Paper / publishing / printing / stationery	Library / museum
Telecom and ISP	Rubber / plastic / glass / wood / polymer / fibre	Recruitment / placement agencies
Hospitality, hotels, resorts and restaurants	Teaching / education / training	Social services / NGO
Healthcare / paramedical	transportation (surface / air / marine transport)	Sports / recreation
IT	Travel & tourism (reservations / ticketing travel )	Gems and jewellery

### ***Ideal Candidate Profile (ICP)***

An ICP is a detailed job description, with emphasis on prerequisites to perform the described job for the desired output. It is the foundation of TNEF. It specifies appropriate sets of score to data, skill, knowledge and behaviour. Sample ICPs are listed below for reference.

#### **Sample ICP for a Financial Analyst**

MAS-OS-FAN-A2030K	
Profile	Financial analyst
Brief about the profile	The job would involve conducting quantitative analysis of information affecting investment programmes of public or private institutions; analysing financial information to produce forecasts of business, industry and economic conditions for use in making investment decisions; assembling spreadsheets and draw charts and graphs used to illustrate technical reports, using computer; evaluating and comparing the relative quality of various securities in a given industry; interpreting data affecting investment programmes, such as price, yield, stability, future trends in investment risks and economic influences; maintaining knowledge and stays abreast of developments in the fields of industrial technology, business, finance and economic theory; monitoring fundamental economic, industrial and corporate developments through the analysis of information obtained from financial publications and services, investment banking firms, government agencies, trade publications, company sources and personal interviews. Preparing plans of action for investment based on financial analyses. Present oral and written reports on general economic trends, individual corporations and entire industries; recommending investments and investment timing to companies, investment firm staff or the investing public; and collaborating with investment bankers to attract new corporate clients to securities firms
Age	25–35
Gender	M, F
Education	Bcom, Mcom, CA, ICWA, MBA
Experience	3–5 years
Salary expectation	20,000–30,000

#### ***Behaviour***

Attributes	Acceptable score	Description
Assertive	6–8	The quality of relating well with people, expressing needs freely, taking responsibility for one’s feelings and standing up for oneself when necessary
Assertive AE	6–8	The quality of relating well with people, expressing needs freely, taking responsibility for one’s feelings and standing up for oneself when necessary

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Attributes	Acceptable score	Description
Confidence	6–8	The general sense of adequacy, which is likely to contribute to a person's effectiveness in working for a task-related goal
Confidence AE	6–8	The general sense of adequacy, which is likely to contribute to a person's effectiveness in working for a task-related goal
Consistency	6–8	To repeatedly be able to perform effectively, also firmness of character
Consistency AE	6–8	To repeatedly be able to perform effectively and also firmness of character
Persistence	7–8	The quality of continuing steadily despite problems or difficulties
Exploratory	6–8	This is the scientific, task-oriented type who likes to learn, know, analyse and observe and prefers work that requires abstract thinking and creative problem-solving
Appearance	6–8	Outward or visible aspect of a person especially with regard to personal cleanliness and neatness of clothing
Motivation	6–8	Motivation is what drives one to behave in a certain way or take a particular action
Motivation AE	6–8	Motivation is what drives one to behave in a certain way or take a particular action
Maturity	5–7	The capacity to face unpleasantness and frustration, discomfort and defeat without complaint or collapse
Maturity AE	5–7	The capacity to face unpleasantness and frustration, discomfort and defeat without complaint or collapse
Responsibility	6–8	The state of being accountable or answerable

*Knowledge*

Attributes	Acceptable score	Description
English	6–8	The fluency of spoken language, written and its comprehension
English AE	6–8	The fluency of spoken language, written and its comprehension
MS Office tools	7–9	Knowledge of various MS packages like MS Word, Excel, PowerPoint and Outlook
Economics and accounting	7–9	Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data
Mathematics	7–9	Knowledge of arithmetic, algebra, geometry, calculus, statistics and their applications

*Skill*

Attributes	Acceptable score	Description
Communication skills	6–8	The ability to listen, to articulate and to ensure that understanding happens at both ends
Communication skills AE	6–8	The ability to listen, to articulate and to ensure that understanding happens at both ends
Interpersonal skills	5–7	The goal-directed behaviours used in interactions which aim at bringing about a desired state of affairs. Also how one builds rapport

(continued)

(continued)

Attributes	Acceptable score	Description
Problem sensitivity	6–8	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognising there is a problem
Analytical skills	7–9	The ability to solve problems and make decisions that make sense based on available information
Analytical skills AE	7–9	The ability to solve problems and make decisions that make sense based on available information
Observation skills	7–9	The ability of taking notice, the act of seeing or fixing the mind upon anything
Problem-solving skills_M	6–8	The ability to understand and deal with difficult questions or things applying logic or reasoning to review information. Identify problems and their causes, evaluate options and select the best solution
Problem-solving skills_AE	6–8	The ability to understand and deal with difficult questions or things applying logic or reasoning to review information. Identify problems and their causes, evaluate options and select the best solution
Critical thinking_M	6–8	The ability to analyse, evaluate, synthesise and reconstruct thinking
Critical thinking_AE	6–8	The ability to analyse, evaluate, synthesise and reconstruct thinking
Decision-making skills	6–8	The outcome of mental processes leading to the selection of a course of action among several alternatives
Decision-making skills AE	6–8	The outcome of mental processes leading to the selection of a course of action among several alternatives

### Sample ICP for a Jr. Software Engineer

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 MAS-OS-SWE-A0812K
 

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 Profile                      Jr. software engineer
 

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Brief about the profile	The job would be to research, design and develop computer software systems, in conjunction with hardware product development, for medical, industrial, communications, aerospace and scientific applications, applying principles and techniques of computer science, engineering and mathematical analysis: analyse software requirements to determine feasibility of design within time and cost constraints. Consult with hardware engineers and other engineering staff to evaluate interface between hardware and software, and operational and performance requirements of overall system. Formulate and design software system, using scientific analysis and mathematical models to predict and measure outcome and consequences of design. Develop and direct software system testing procedures, programming and documentation. Consult with customer concerning maintenance of software system. May coordinate installation of software system
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(continued)

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MAS-OS-SWE-A0812K

Profile	Jr. software engineer
Age	22–26
Gender	M, F
Education	BE, BTech, ME
Experience	0–1 year
Salary Expectation	8,000–12,000

*Behaviour*

Attributes	Acceptable score	Description
Confidence	4–6	The general sense of adequacy, which is likely to contribute to a person’s effectiveness in working for a task-related goal
Confidence AE	4–6	The general sense of adequacy, which is likely to contribute to a person’s effectiveness in working for a task-related goal
Patience	4–6	The ability to endure waiting, delay or provocation without being annoyed or upset or to persevere calmly when faced with difficulties
Patience AE	4–6	The ability to endure waiting, delay or provocation without being annoyed or upset or to persevere calmly when faced with difficulties
Adaptability	4–6	The ability to change(or be changed) to fit changed circumstances
Consistency AE	4–6	To repeatedly be able to perform effectively, also firmness of character
Reliable	4–6	To be trusted to do what one has been asked to do
Rational	5–7	Governed by, or showing evidence of, clear and sensible thinking and judgement, based on reason rather than emotion or prejudice
Methodical	5–7	Characterised by method and orderliness

*Knowledge*

Attributes	Acceptable score	Description
English	4–6	The fluency of spoken language, written and its comprehension
English AE	4–6	The fluency of spoken language, written and its comprehension
Knowledge of engineering	5–7	Knowledge of the practical application of engineering science. This includes applying principles, techniques, procedures and equipment to the design and production of various goods and services

*Skill*

Attributes	Acceptable score	Description
Communication skills	4–6	The ability to listen, to articulate and to ensure that understanding happens at both ends
Communication skills AE	4–6	The ability to listen, to articulate and to ensure that understanding happens at both ends

(continued)

(continued)

Attributes	Acceptable score	Description
Interpersonal skills	5–7	The goal-directed behaviours used in interactions which aim at bringing about a desired state of affairs. Also how one builds rapport
Observation skill	4–6	The ability of taking notice, the act of seeing or fixing the mind upon anything
Analytical skill	4–6	The ability to solve problems and make decisions that make sense based on available information
Analytical skill AE	4–6	The ability to solve problems and make decisions that make sense based on available information
Decision-making skills	4–6	The outcome of mental processes leading to the selection of a course of action among several alternatives
Decision-making skills AE	4–6	The outcome of mental processes leading to the selection of a course of action among several alternatives
Critical thinking	4–6	The ability to analyse, evaluate, synthesise and reconstruct thinking
Critical thinking AE	4–6	The ability to analyse, evaluate, synthesise and reconstruct thinking
Observation skills	4–6	The ability of taking notice, the act of seeing or fixing the mind upon anything
Proactive_M	4–6	The ability of an individual to take initiative
Proactive_AE	4–6	The ability of an individual to take initiative
Problem-solving skills_M	4–6	The ability to understand and deal with difficult questions or things applying logic or reasoning to review information. Identify problems and their causes, evaluate options and select the best solution
Problem-solving skills_AE	4–6	The ability to understand and deal with difficult questions or things applying logic or reasoning to review information. Identify problems and their causes, evaluate options and select the best solution

## ***Benefits of TNEF***

### *Government*

- Create employment opportunities for unclassified and classified segment
- Address skill gaps
- Better fitment and placement

### *Industries*

- Access to assessed candidates with the right skills and behaviour
- Better fitment, thus better performance

### *Candidate*

- Employment opportunity
- Personality mapping
- Skill gap analysis

*General*

- Ready Reckoner for understanding of industries, functions, sub-functions and profiles

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