



Engineering Graduate Talent Pool in India

Highlights of the Research Report
July 2005

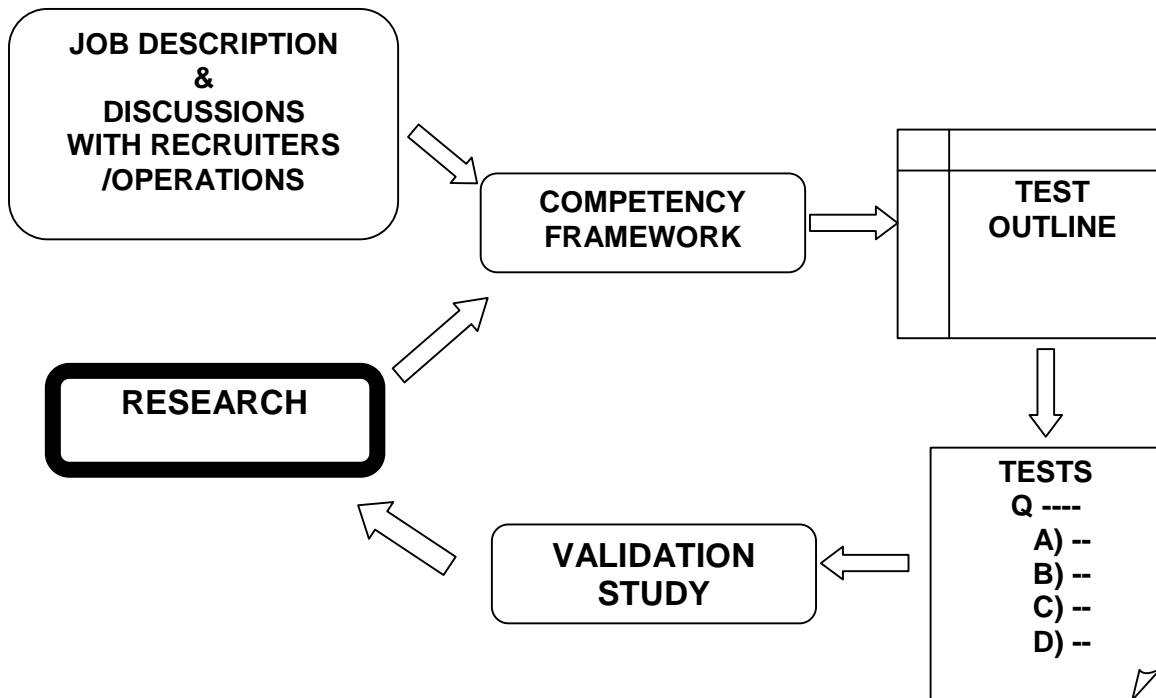
Disclaimer: The observations and findings of this report are based on the representative sample size of test-takers who have been assessed on the MeritTrac IT Abilities Test. All information contained in this report has been obtained from sources believed to be accurate by MeritTrac. While reasonable care has been taken in its preparation, MeritTrac makes no representation or warranty, express or implied, as to the accuracy, timeliness or completeness of any such information. The information contained herein may be changed without notice. All information should be considered solely as statements of opinion and MeritTrac will not be liable for any loss incurred by users from any use of the publication or contents

Introduction

Dating back to the Tech boom in the late 90's in India when IT companies went on a hiring spree to this date; the hotbeds for IT companies undoubtedly are the Engineering colleges across the country. Campus recruitments have become an integral part of every recruiter's annual calendar. Recruiters scan campuses across the country to net the best of talent every year. With campuses assuming greater importance in the strategic recruitment process of every company, the intelligence about the availability of engineering graduate talent pool becomes significant.

Insight on which city/ institution/ graduation become vital inputs to make the mechanism of Campus recruitment of engineering graduates more efficient. MeritTrac has been working with several leading IT companies on the campus assessment process across the country with its IT Abilities Test based on a competency framework. This competency framework has been developed using Job Descriptions, discussions with Recruiters/Trainer/Operations Managers and data from previous tests as sources. The IT Competency Framework identifies the skill sets and competencies required in the IT Industry, within different business units and lists tests to evaluate the specific competence. The tests have been developed using the MeritTrac Test Development process.

The Test Development Process is detailed below:





Based on the MeritTrac Test Development Process, MeritTrac has developed the IT Abilities Test for the IT Industry with sections on Verbal Ability, Logical Reasoning Skills and Process Orientation

MeritTrac has leveraged this experience to conduct in-depth research on the performance of the candidates in the IT Abilities Test. This path breaking study provides strategic inputs on the Engineering Graduate Talent Pool in India.

This report is focused on the Engineering Graduate Talent Pool and highlights the performance of a sample size of over 25,000 graduate engineers on the IT Abilities Test conducted from across the country and across institutions/ disciplines

Overview of the Engineering Talent Pool in India

Every year India intakes around 350,000 Engineering graduates making us the second largest talent pool for engineers across the world. There are over 1346 Institutions in India offering BE, B.Tech across several engineering streams. The Indian IT Industry also considers MCA to be on par with a degree in Engineering and there are over 920 institutions offering MCA in India with an output of over 45,000 students

Over the last decade the number of Engineering colleges in the country has grown at an average of 20% each year and the output of Engineering students is also increasing at about 20% every year. It is also seen that currently around 60% of engineering graduates take up IT/Software related streams as specialization.

This demonstrates that the sheer quantity of engineering graduate output is increasing to meet the industry demand and the horizons have broadened beyond the IITs/NITs. Today, there are several colleges in the non-metro/semi-urban areas and these colleges are working towards improving their standards of education to make its students more competitive and measure up to the expectations of the Indian IT industry.

From an industry perspective, the talent pool in India has become geographically diverse and left the field open for recruiters. Given the high demand for fresh engineering graduates and the intense competition for these resources, IT firms are also looking at recruiting from across regions/ category of colleges – primarily with the intent of acquiring the best possible talent. As a result, IT firms are spending more time & effort in reaching out to several colleges and screening more candidates. To ensure that these firms get the quality that they need, the screening / assessment process has to be calibrated scientifically. The scientifically designed assessment mechanism makes the process more effective and helps identify the right people with relevant skills

To address the quality of skill-sets and the distribution of such skills across regions, MeritTrac has used the data generated from having administered the IT Abilities Test developed by MeritTrac and administered on students from different graduation streams, institutions and geographies across India.

Research Data

Total Number of Candidates: 25,000

Total Number of Colleges: 800

Primary Hubs: Karnataka, TamilNadu, Andhra Pradesh, Maharashtra, Kerala, Delhi (North India), Kerala, West Bengal.

[Some of these hubs have been categorized based on the geographical distributions of applicants from that region. For example: the Delhi hub would include candidates from UP, Harayana, Rajasthan, etc.]

% distribution of candidates across these states:

Region	% Distribution of Test -takers
Karnataka	30%
Tamilnadu	26%
Delhi NCR	13%
Andhra Pradesh	12%
Maharashtra	7%
Kerala	6%
West Bengal	4%

It is also observed that this is the typical distribution of applicants for a nation-wide fresher recruitment program initiated by various IT companies

Test Framework:

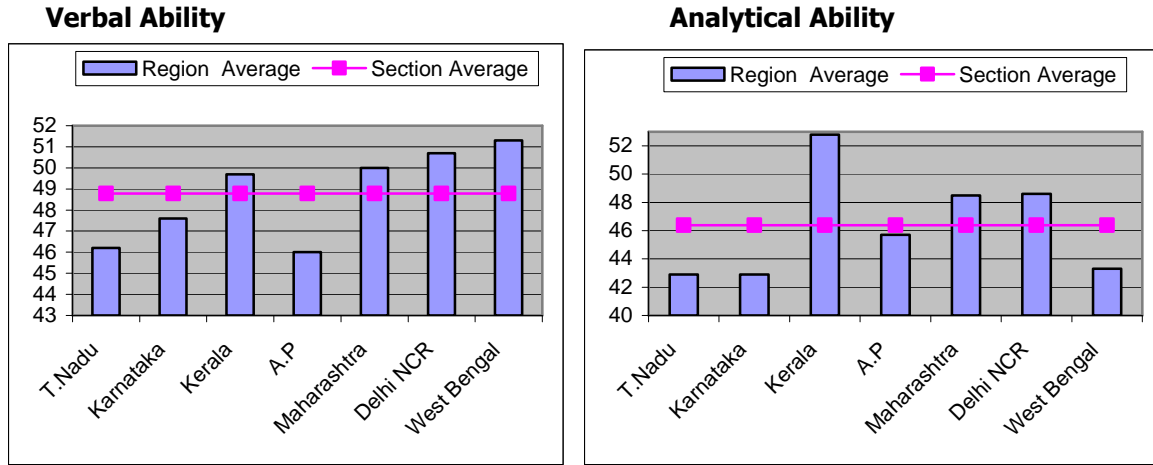
The **2.0 IT Abilities Test** consists of three sections – Verbal Ability, Analytical Ability and Mental Application. The duration, number of questions and maximum score on each section is described in Table 1.

TABLE 1: 2.0 IT Abilities Test Details

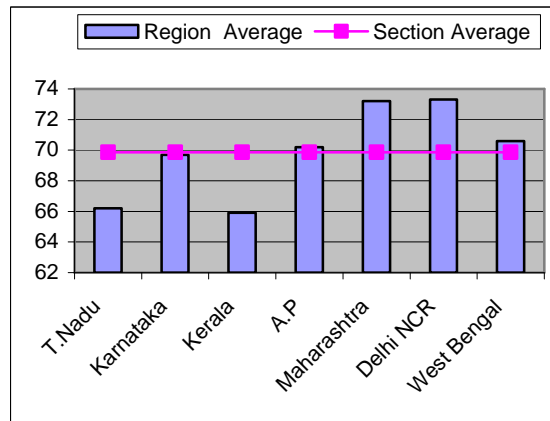
Sections	Number of Questions	Duration in Minutes	Maximum Score
Verbal Ability	25	20	25
Analytical Ability	25	30	25
Mental Application	20	20	20

Key Findings

Comparison of the Average Scores (in percentages) on different sections of the IT Abilities Test:

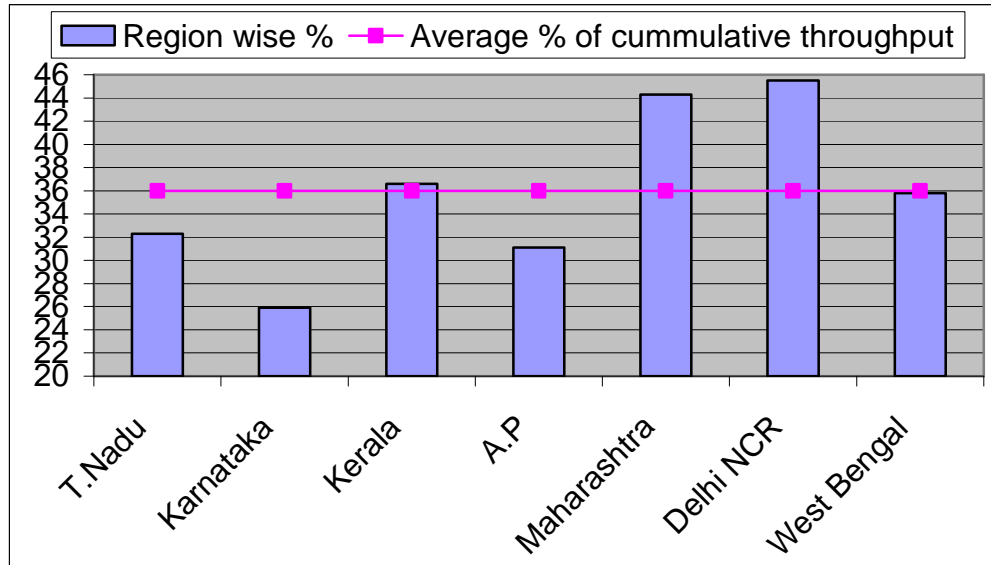


Attention to Detail (Mental Application)



Pass-thru rates (in percentages) Section wise & cumulative [on a pre-defined selection criteria]

Region	Verbal Ability	Analytical Ability	Mental Application	Cumulative % Of Pass thru
TamilNadu	36.6	65.2	94.0	32.3
Karnataka	42.9	59.6	96.2	25.9
Kerala	54.2	72.2	90.8	36.6
Andhra Pradesh	38.6	72.1	94.9	31.1
Maharashtra	51.5	74.2	93.8	44.3
Delhi NCR	51.4	80.5	93.8	45.5
West Bengal	48.7	66.2	94.1	35.8



Analysis of the Findings: Highlights

The average scores indicate that test-takers in Delhi, Maharashtra and West Bengal have scored higher percentages in all the sections compared to their counterparts in the Southern states.

Delhi (North India), Maharashtra, West Bengal record a higher percentage of "Selects" as compared to Southern states like Karnataka, TamilNadu and Andhra Pradesh

In terms of absolute number of engineering graduates who meet the selection criteria – region wise:

Region	Estimated Number of Engineering graduates	Average % selection across all sections	Absolute Number of Graduates meeting the selection criteria(approx)
Southern States(TamilNadu, Karnataka, Andhra Pradesh,Kerala)	204,000	31.5%	64,260
Other States (Maharashtra, Delhi Region, West Bengal/East)	116,000	42%	48,720

This analysis indicates that while the quality of performance of candidates in the other states are higher than that of the southern states, these southern states make up for the dip in quality in sheer quantity of output. ***In the context of the absolute number of quality engineering graduates, Southern states scores over the other states.***

On recruitment standards generally adopted by leading companies, on an average, around 36% of test takers qualify for interviews with these firms. The average conversion rates in engineering campus hires that we have observed across clients in approximately around 10-12%.

Correlation of Academic Scores & Performance in the Test

We have also seen a low correlation between academic scores and performance in the tests indicating a divergence of industry expectations and academic output.

Perceptions of the Academia, Candidates & Industry

Academia: Interviews with Placement Officers

With fresher recruitment gaining momentum and the industry on an eternal talent hunt, the role of placement officers have assumed greater significance. A point of convergence between the talent pool and the industry, the placement department of an Institution is responsible for moulding the quality of the talent pool and encouraging companies to hire.

From this perspective – we took a sample survey of around 50 Placement Officers across various regions to understand their perspectives on this demand-supply mismatch. The perceptions are recorded below:

- The industry focus is more on Technical & Communication skills as compared to Analytical and Reasoning skills
- The Technical skill levels of students is higher than what the industry expects
- Over 70% of them feel that the Communication skills of students needs further improvement
- Most of the Placement Officers indicated that they prepare their students through placement orientation/ training to meet industry expectations

Perspective of Students

Now for some views from the “Subject” of our report. MeritTrac spoke to over 200 students to get the views on the industry expectations and how they would appraise themselves vis-à-vis the expectation of the industry:

- Students feel that Technical skills & Process Orientation are more critically viewed by the industry as compared to Communication and Analytical skills
- They believe that they measure up the industry expectations to a high degree.
- In contrast to the placement officers’ view, only 45% of them admit that they received adequate training and orientation from their institution
- Over 75% of them feel that their academic performance is a key factor in the recruitment process

Perspective of the Industry

Now for the perspective of the users – the Industry, MeritTrac interviewed recruiters in leading IT companies to understand what skills the industry is really looking for, from fresh graduate engineers. The expectations are mapped in the order of importance:

- I. Analytical & Logical Reasoning Skills
- II. Communication Skills – both written & spoken English
- III. Interpersonal and Team Skills
- IV. Technical Skills

Broadly, they expect the fresher to possess a strong analytical skills coupled with an attitude to learn. With this, they believe that the technical skills can be honed during the training program. A strong “aptitude” and “attitude” is crucial as these are the factors that will determine the “ability” and “willingness” of a candidate to learn and adapt to the process and technologies in the work place, both being dynamic in the current technology era.

Conclusion

The report highlights the fact that the talent pool in India is diverse and heterogeneous. While there is high degree of quantitative concentration of talent pool in Karnataka, Tamilnadu and Andhra Pradesh, hubs like Maharashtra, West Bengal and Delhi display a better quality of talent pools. Both quantity and quality of the talent pool are critical for the IT industry today and understanding the dynamics of the talent pool – both geography and skill-wise would be critical for strategic resourcing.

The low correlation between “Academic performance” and “Test Performance” indicates non-alignment of academic system and industry expectations thereby opening up for some reflection at both ends.

In its ongoing research, MeritTrac has also established a significant correlation between the IT Abilities Test with Interview selection rate and Job performance of these test takers.

The perspectives of the Academia, Candidates and the Industry also signal a divergence in understanding the requirements/ needs at each of these entities and all these stakeholders will have to work towards a better alignment of objectives and actions to ensure that the Indian Talent pool is highly “employable”.

Request your copy of the detailed research report of the Engineering Talent Pools in India by writing to: Pramod Harith (pramod@merittrac.com)

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