

Indian Institute of Technology Gandhinagar



A STUDY OF COMPETITIVENESS MINDSET

A nationwide study, under the aegis of IIT Gandhinagar, to boost India's growth and job creation by identifying factors that affect nation's competitiveness mindset

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With contributions from faculty, students and alumni of IIT Gandhinagar

This report draws attention to an urgent and important matter- India's ability to compete in the global market.

Change in Mindset is imperative in face of the Fourth Industrial Revolution

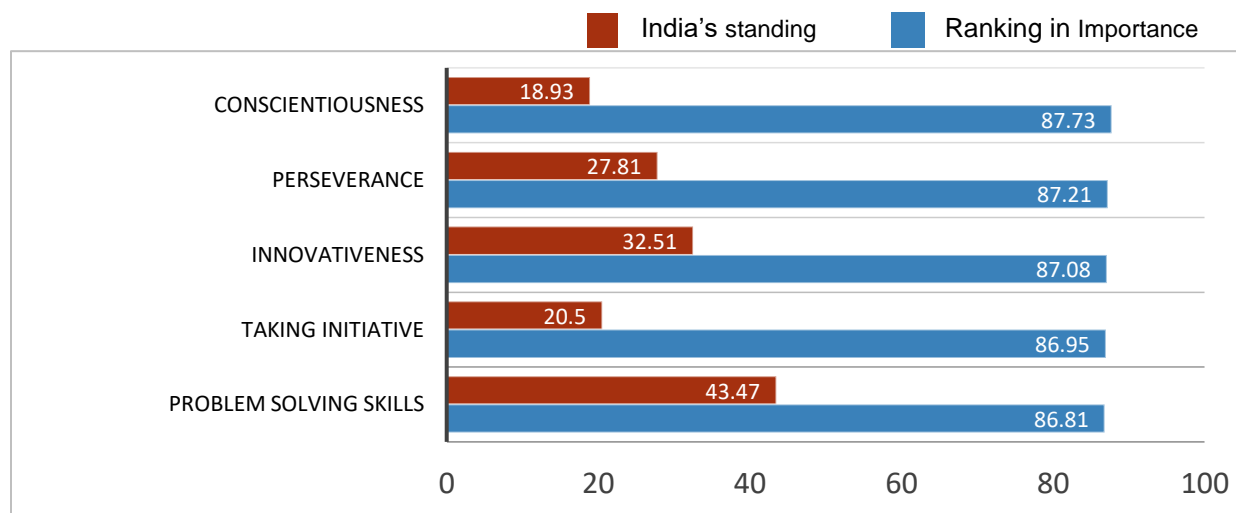
The acceleration of use of Artificial Intelligence (AI), machine learning and cognitive computing under the Fourth Industrial Revolution makes it critical to innovate. A survey by Gap International¹ of 400 top global executives placed "innovation" as the top most among the attributes needed in face of enormity of the new competitive environment.

The Gap survey identified the most important characteristics in a leader today as "**flexibility (ability to change), open-mindedness and curiosity over other factors, including experience and a proven track record of success.**" "The biggest skill you have to have is the ability to change," says Ole Harms, the head of Startups at Volkswagen.

How do we make ourselves globally competitive? Whereas infrastructure strengthening and regulatory reforms play important roles in making us competitive, having a competitive mindset is equally important.

Competitiveness Mindset Study: A major nationwide study was just completed under the aegis of IIT Gandhinagar that sought to identify factors that can boost India's GDP and job creation by looking at the attributes that affect Indians' competitiveness mindset.

We received over 2700+ complete responses from cross-section of CEOs, high-level government officers, directors and professors of higher educational institutes, media, NRIs and the civil society. A summary of the findings and analysis of the responses are included in the report. At a very high level, the nationwide responses ranked the following five attributes as the most important for competitiveness (blue) and where India stands (maroon):



We hope that this report will be useful to policymakers in deciding what course of action can be taken by them to address systemic improvements to the issues identified in the study to eventually make some changes for the better.

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1. Forbes Insights 2017

Table of Contents

| | |
|---|----|
| Summary | 1 |
| Key Factors for GDP Growth and Job Creation | 1 |
| Current Standing & Potential Outcome | 1 |
| Purpose of the Study | 2 |
| Scope of the Study..... | 2 |
| Why two studies?..... | 2 |
| Results | 3 |
| Regression Analysis | 3 |
| Team & Our thanks..... | 4 |
| Profile of the Respondents and Demographics | 5 |
| Result Highlights | 7 |
| Overall Responses | 7 |
| CEO Responses | 7 |
| Government Officers' Responses | 8 |
| Professors' and Teachers' Responses | 8 |
| Middle Management Responses | 9 |
| Others | 9 |
| India's standing and ranking in Importance in each attribute | 10 |
| Region-wise Analysis of the top attribute | 11 |
| Part II: Culture/Context Statements | 14 |
| Introduction | 14 |
| Result and Analysis | 14 |
| Details about the Team | 17 |

Summary

Key Factors for GDP Growth and Job Creation

This major nationwide study just concluded under the aegis of IIT GANDHINAGAR sought to identify factors that can boost India's GDP and job creation by looking at the factors that affect Indians' competitiveness mindset.

Current Standing & Potential Outcome

According to World Economic Forum (WEF), India's ranking in the overall competitiveness has moved up to 39 among 138 countries. That's a wonderful piece of news. However, when you dig deep down into some key components of the measurement, the picture is different. See below the rankings in some non-infrastructure key components:

- Labor market efficiency 84
- Technological readiness 110
- Higher education 81
- Health and primary education 85

The above low scores in some key components are consistent with India's low Human Capital Index ranking at 105 out of 140 countries in 2016, lowest among all the BRICS nations¹.

In practical terms, low scores in key components of competitiveness and Human Capital index mean a smaller share in the \$77 trillion global economy. Again, within the BRICS nations, a select group of high growth economies comparable to India, we find India has the lowest per person export of \$198 a year. The next nation in BRICS with per capita export trade more than India's is Brazil at \$914 per person or about five times compared to ours. (Figures courtesy- International Trade Centre, Geneva, Switzerland.)

Experts have found a direct correlation between international trade and job creation. If India's export per person could reach half of that of Brazil, it would result in the creation of 35 million new jobs in India according to our estimate.

1. What is Human Capital index and how is it relevant to our CM Study?

According to WEF, Human Capital (HC) is no longer considered one dimensional function of education and experience. WEF says, "In the business world, HC is the economic value of an employee's set of skills. To the policy-maker, Human Capital is the capacity of the population to drive economic growth". It includes cognitive and mental abilities. Physical capacities, cognitive function and mental health/abilities have come to be seen as fundamental components of Human Capital.

Purpose of the Study: Identify the systemic competitiveness mindset issues that affect holistic competitiveness-and thus hinder economic growth.

The study identifies the systemic issues that affect competitiveness mindset. **Finding the systemic issues that affect competitiveness is the essential first step in finding systemic solutions.** Addressing the identified factors will have the potential of strengthening India's ability to accelerate its trade and thus country's GDP growth to foster job creation and inclusive prosperity. Finding systemic factors that affect Competitiveness Mindset as our study does should also be of real value for the policy-makers interested in HC strengthening.

What we have focused on in the study are the systemic "mindset" issues (issues other than infrastructure, regulatory restrictions etc.) for India's holistic competitiveness.

This study, called seminal, identifies the mindset issues that affect competitiveness and drills down to ferret out the root causes at the granular and actionable levels.

No detailed and rigorous study has ever been done prior to this one to evaluate the key attributes of competitiveness mindset and where we stand in India.

The Scope of the Study

We reached out to over 27,000 professionals and have received over 2,700 fully completed responses from across the country and NRIs in various countries through two separate and independent studies. For the study to be meaningful, we tapped into the insights and vantage points of a wide cross-section of respondents from industry with a fairly high percentage of CEOs; high level government officers, directors and professors of higher educational institutions; media, NRI and the civil society.

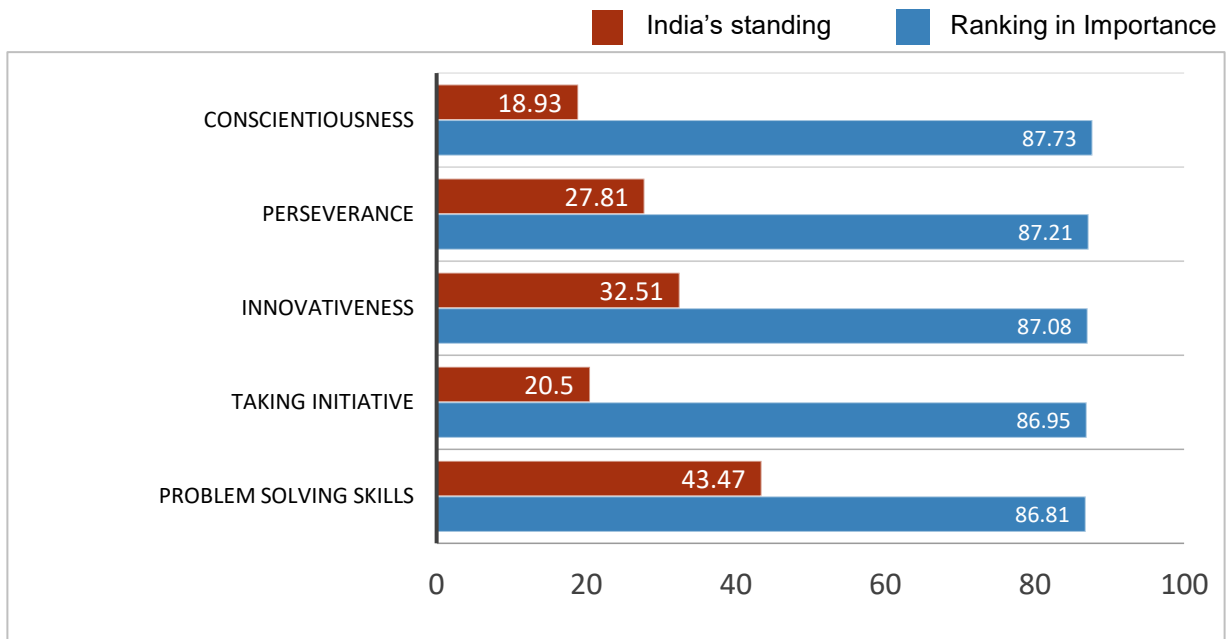
Why Two Studies?

Our initial research revealed that while there have been studies on cultural and personality issues, there have been no studies on competitiveness mindset issues globally, as mentioned earlier. This is thus a pioneering study and recognizes that non-cognitive or soft skills play equal and often more important role than cognitive ones in the overall performance of individuals, as shown by the behavioral science studies. We therefore undertook two independent studies reaching over 27,000 people in aggregate to validate the results. In one case, we used personal and phone interview mode and the other online anonymous mode. We found a strong validation of results once we compared the outcomes of the two studies. For example, the top 10 attributes, independent of ranking within themselves, are the same in both the studies. And, though scores given to the attributes on "where India stands" are not quite exactly the same, the differences are inconsequential. Since research shows that anonymous responses are likely to be more objective than where the identity is revealed, the report has depended on the anonymous data a bit more.

Results

The study ranked the importance of 25 behavioral and cultural attitudes/issues for competitiveness mindset in general and then provided a score on India's standing for each of the issues¹. While details are provided in this report, it is clear that there is much to be done to improve the score in areas identified as the key attributes.

Given below is how the survey ranked the five most important attributes and where India stands.



Of the five key overall attributes of competitiveness measured, only one attribute, "Problem Solving Skills" scored over 40%. The other attributes ranked pretty low. There is considerable room for improvement in the remaining four attributes which are:

- Innovativeness
- Conscientiousness
- Perseverance
- Taking Initiative

As mentioned above, the report and charts that follow give the details.

1. These issues were identified after evaluating the results of two pilot studies.

Regression Analysis

In order to validate the results, we conducted regression analysis to try to understand if various characteristics of the demographics and the region had any effect on the ranking of the attributes that contribute to competitive mindset, and where India stood in relationship with these attributes in the competitive landscape. The analysis showed that there did not exist any relationship between the independent (demographic variables) and the dependent measures in the study, i.e. no demographic or set of demographics help predict the score of the dependent measure².

The Team

Harsh Bhargava, President Bankworld Inc, a prominent Washington DC based Management Consulting Company with experience in over 75 countries including projects on competitiveness strengthening in the emerging markets, is the chief mentor and director of the project. Dr. Sudhir Jain, the Director of IIT GANDHINAGAR, has provided personal and institutional support for this study.

The team included the faculty members of IIT GANDHINAGAR and other institutes (current and former professors of Psychology, Cognitive Science, Computer Science and Sociology in India and the USA as well as senior executives and CEO's in India and the USA). The faculty from IIT GANDHINAGAR comprised of Prof. Meera Sunny and Prof. Krishna Prasad and from the US, Sociologist, Dr. Aruna Bhargava.

Dr. Jan Rivkin, professor at Harvard Business School and a doyen of competitiveness, (who along with Dr. Mike Porter have done multi-year competitiveness study in the US) has been our informal adviser on the project.

The IIT GN alumni and student team is ably led by Mr. Akash Keshav Singh and supported by Ms. Prerna Singh.

Our Thanks

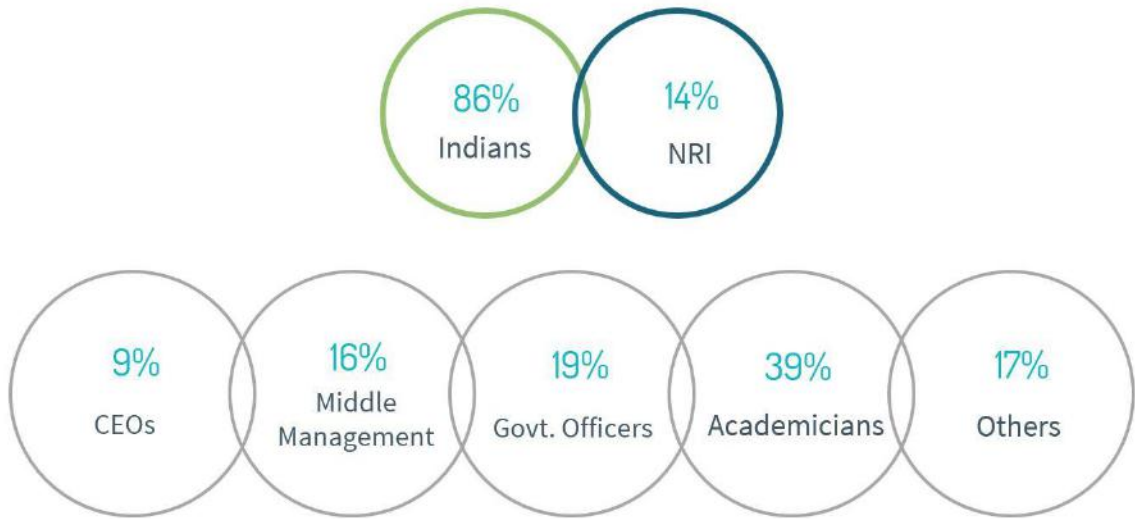
We would like to acknowledge our appreciation of The Hans Foundation for being the largest source of funding for this study.

2. (For example, the R2 Value for Set 1 average is a very low 3.2% so the variance in the data is not due to any demographic variables. Similarly, the Significant Value for ANOVA Test is close to zero for all attributes).

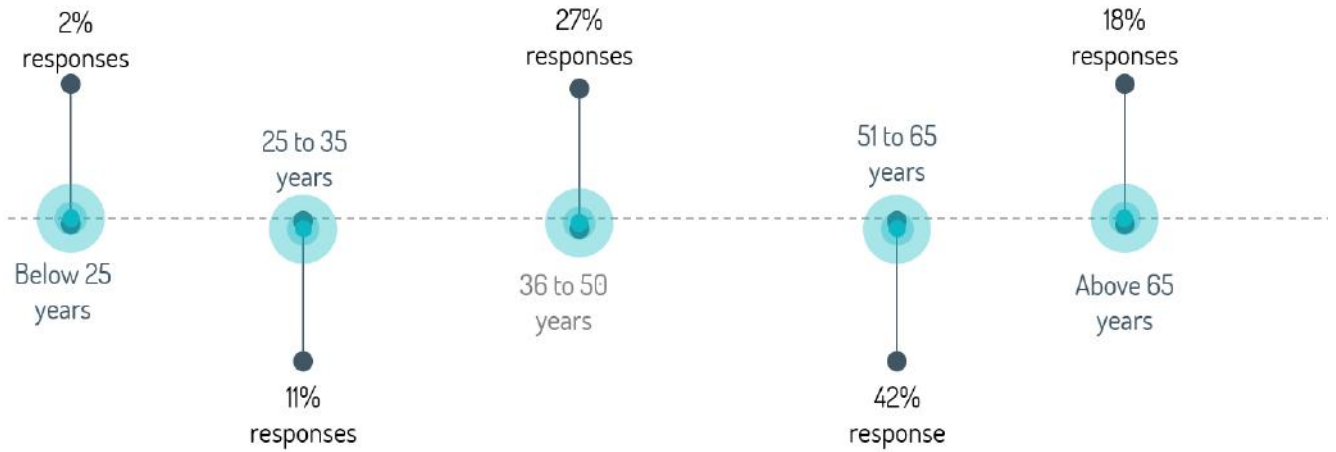
This is not surprising as the primary analysis already indicates that scores are fairly constant across states, regions, age, professional positions etc. What the regression ultimately shows is that what respondents think is important and how they rate those attributes does not vary with demographic changes of the respondent and is fairly stable across all walks of life.

We would like to point out one more key matter. One of the basic assumptions or criteria that needs to be met in order to conduct a regression analysis is that there should be significant variance in the data across the different dependent points (in this case demographic variables such as age, education, professional positions held such as CEO or Middle Management, etc.). However, in this study we found little or no differences across the key demographic variables. Since regression analysis did not show any relationship, it can be said with confidence that perceptions of how India stands in the competitive landscape does not vary due to demographic variables of the respondents.

Participants' profile

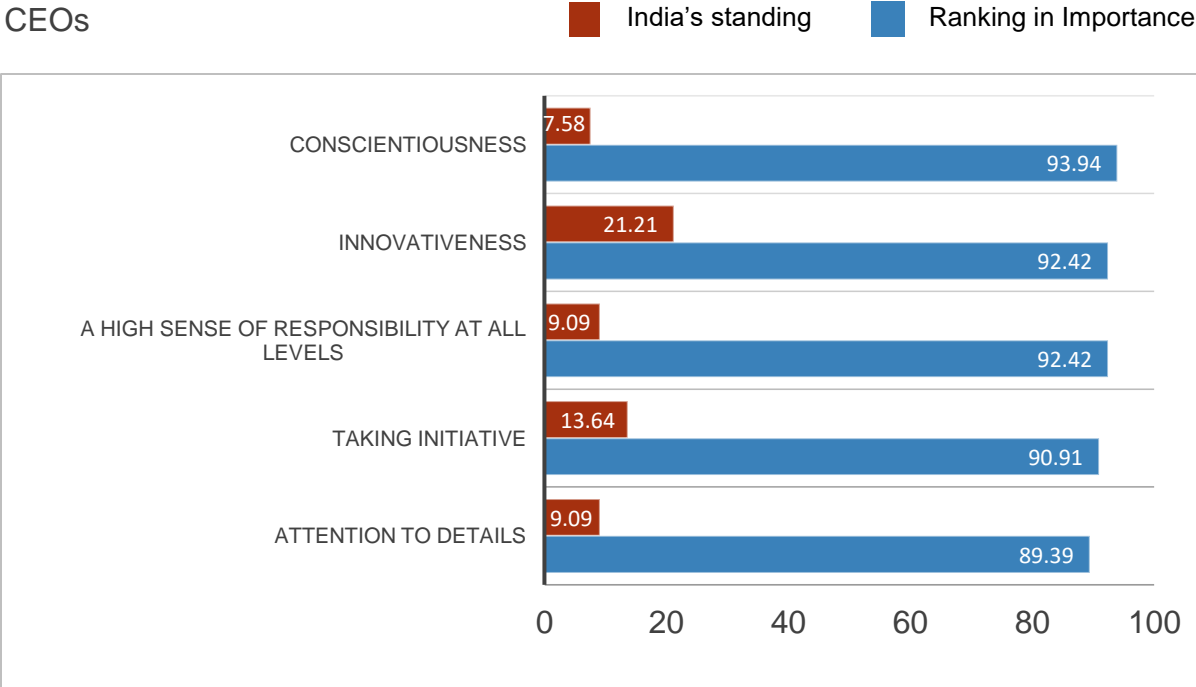
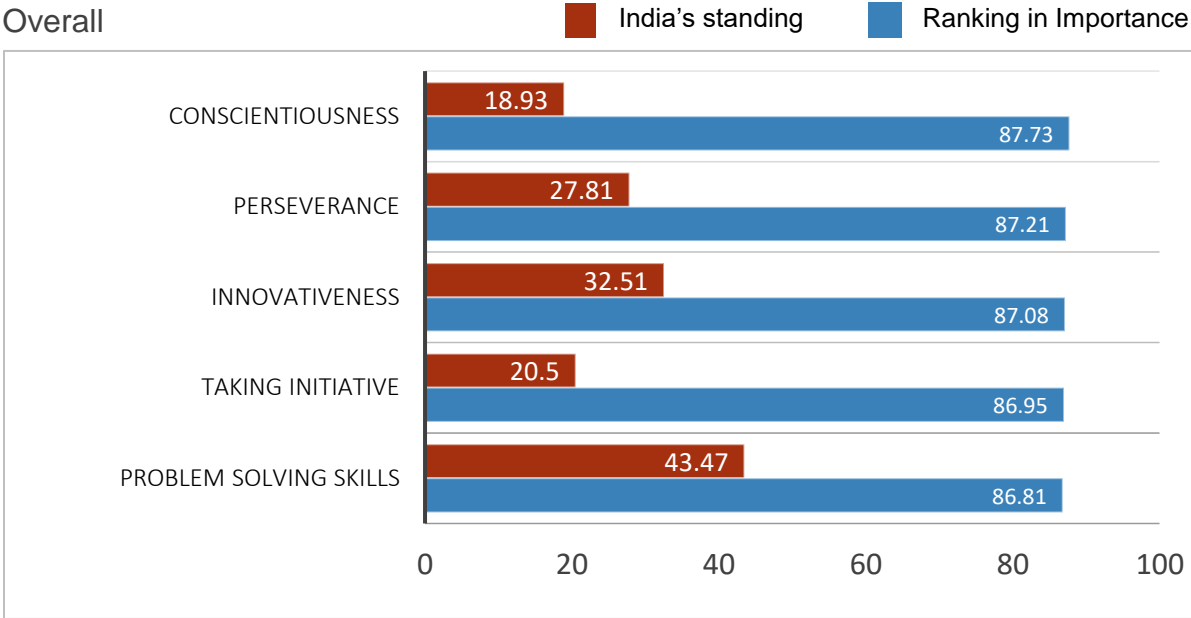


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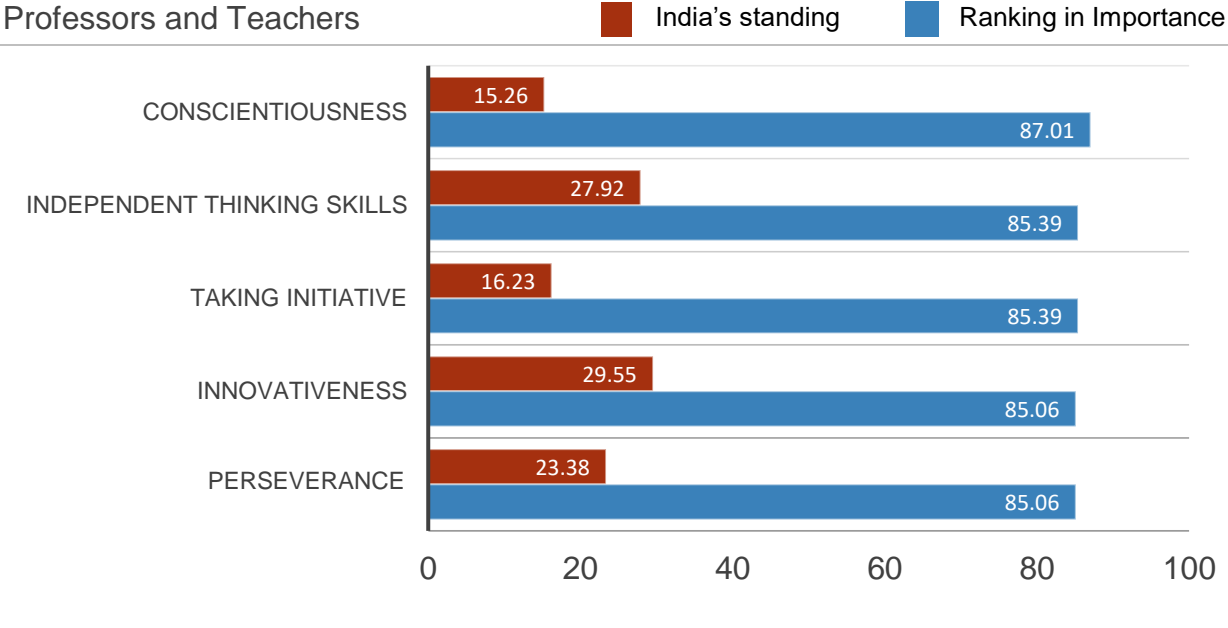
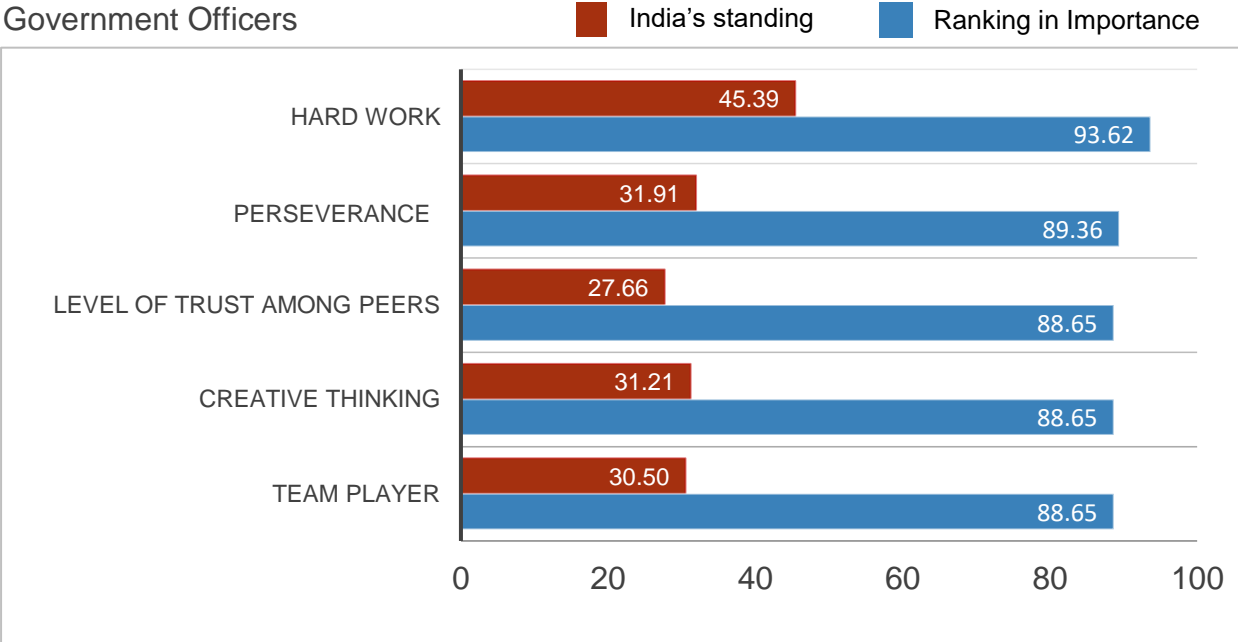


Top 5 attributes and India’s standing

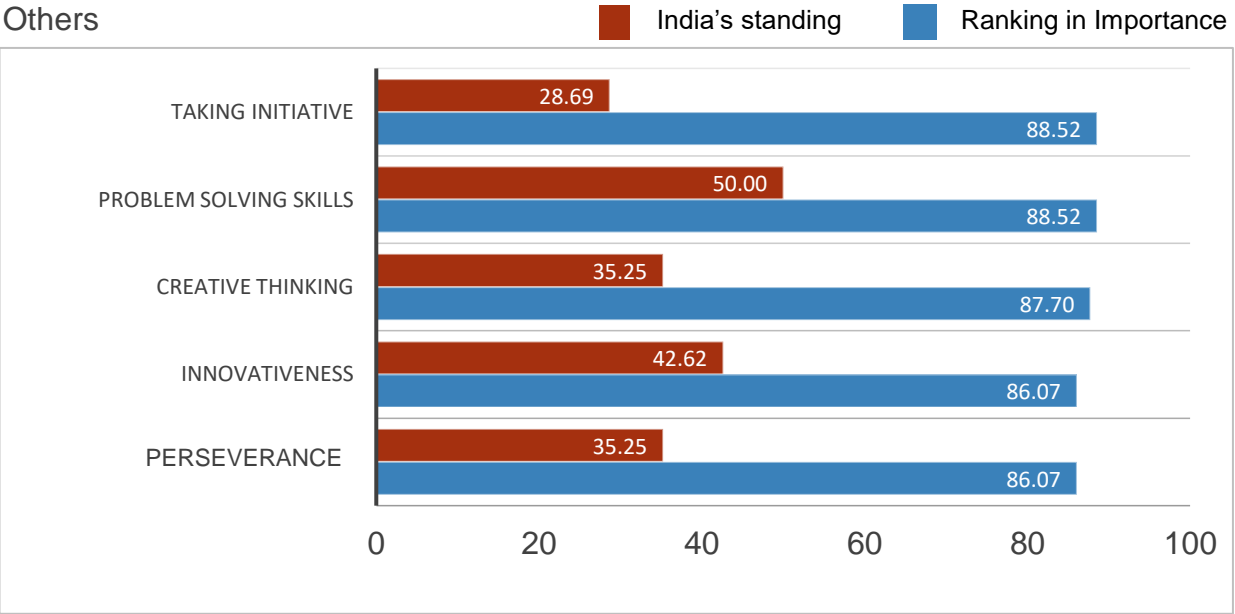
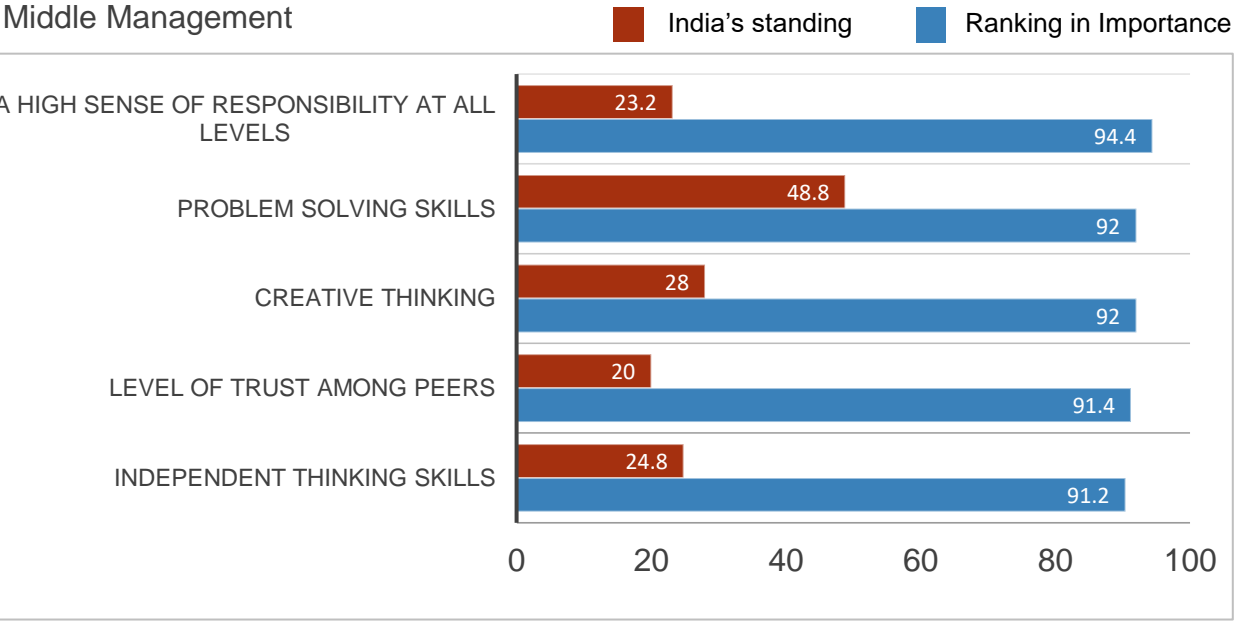
In this section we will present the results of personality and cultural attributes ranked in the order of importance for competitiveness mindset.



Top 5 attributes and India's standing

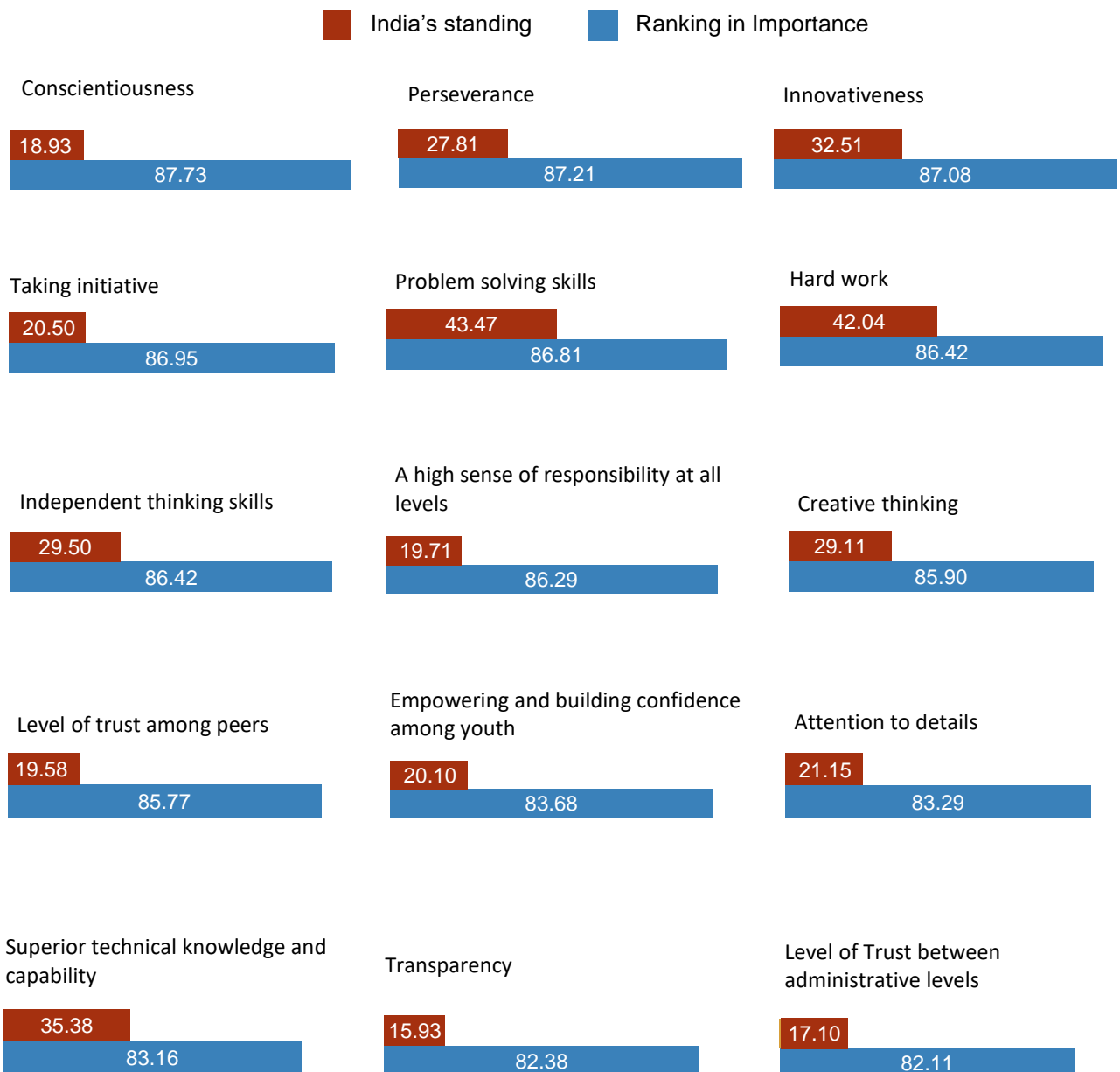


Top 5 attributes and India’s standing

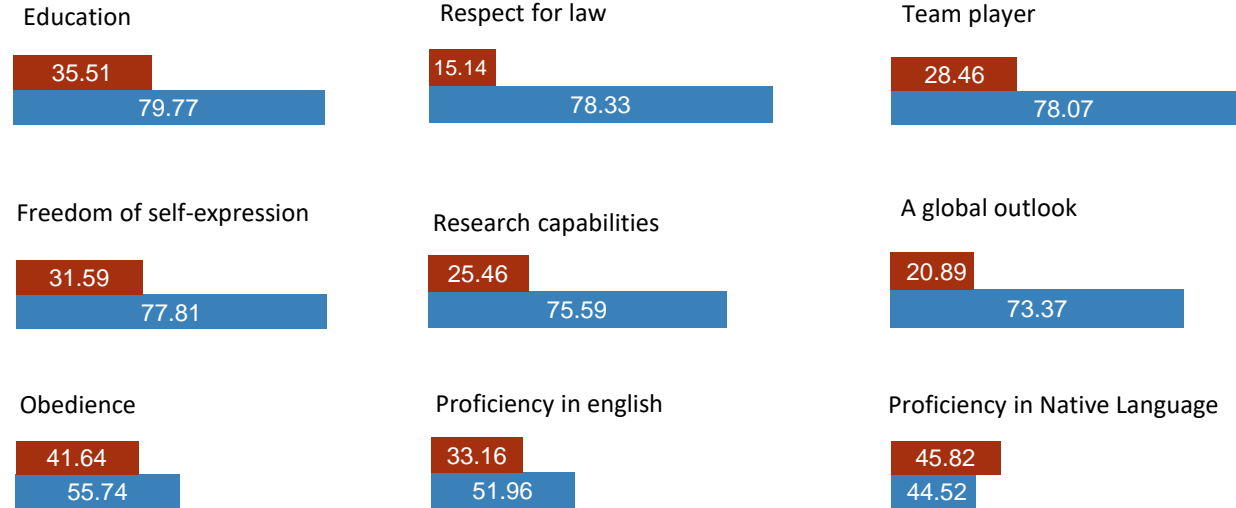


Ranking in importance and India's standing of all attributes

In this section we will present the graphical comparison of the importance level and India's level for all attributes of the study.



Ranking in importance and India’s standing of all attributes

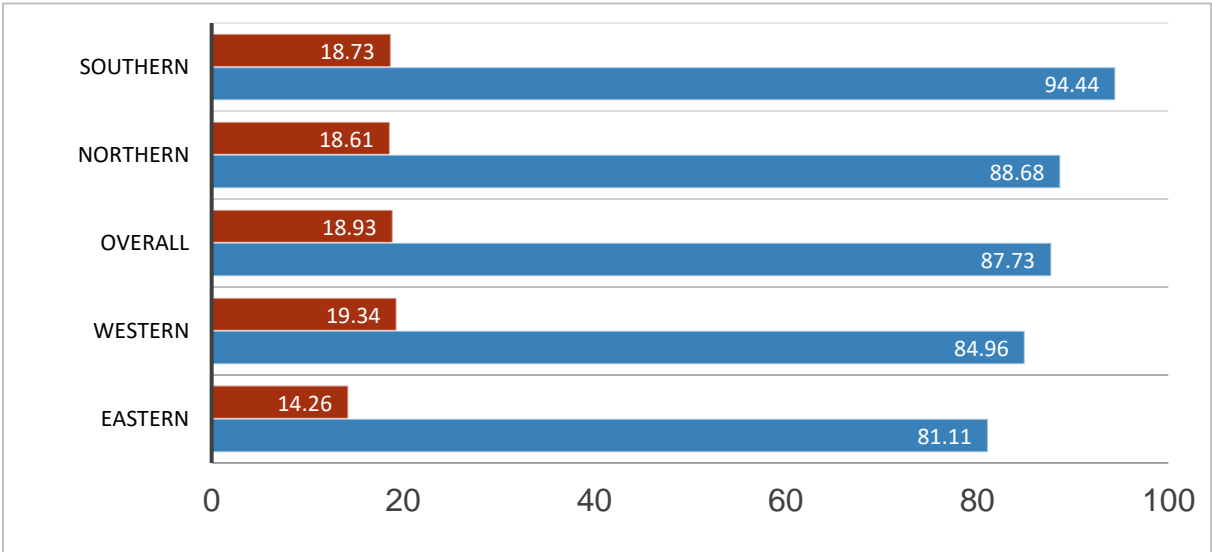


Region-wise analysis of top 5 factors

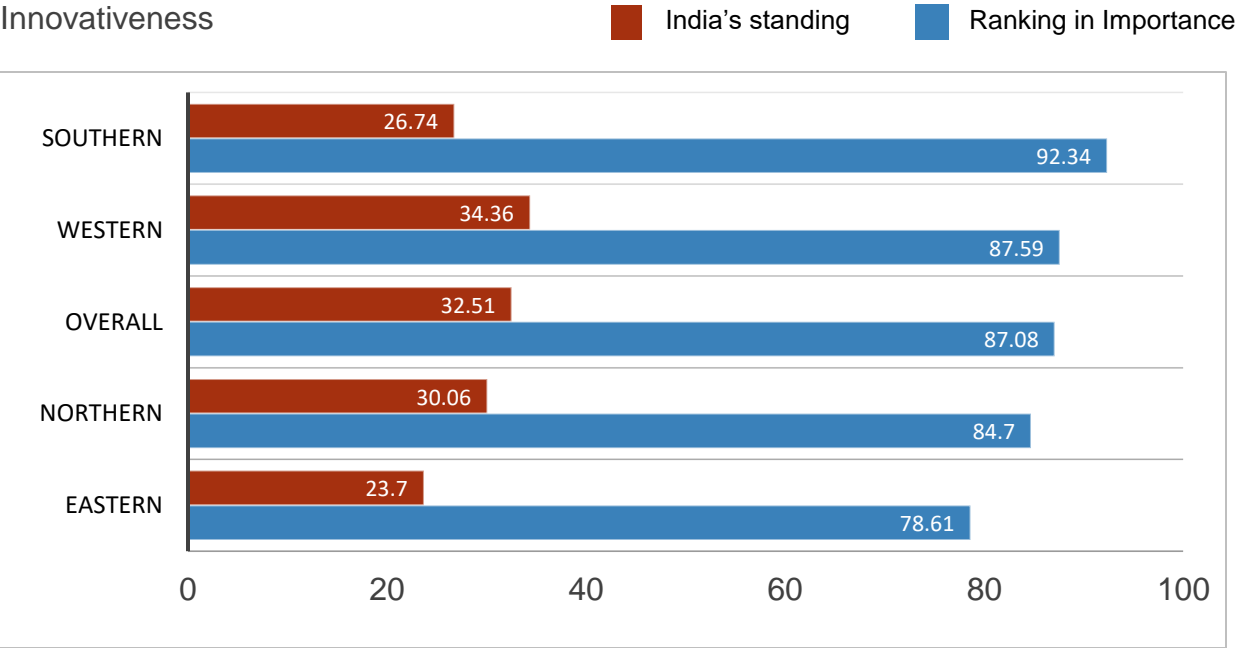
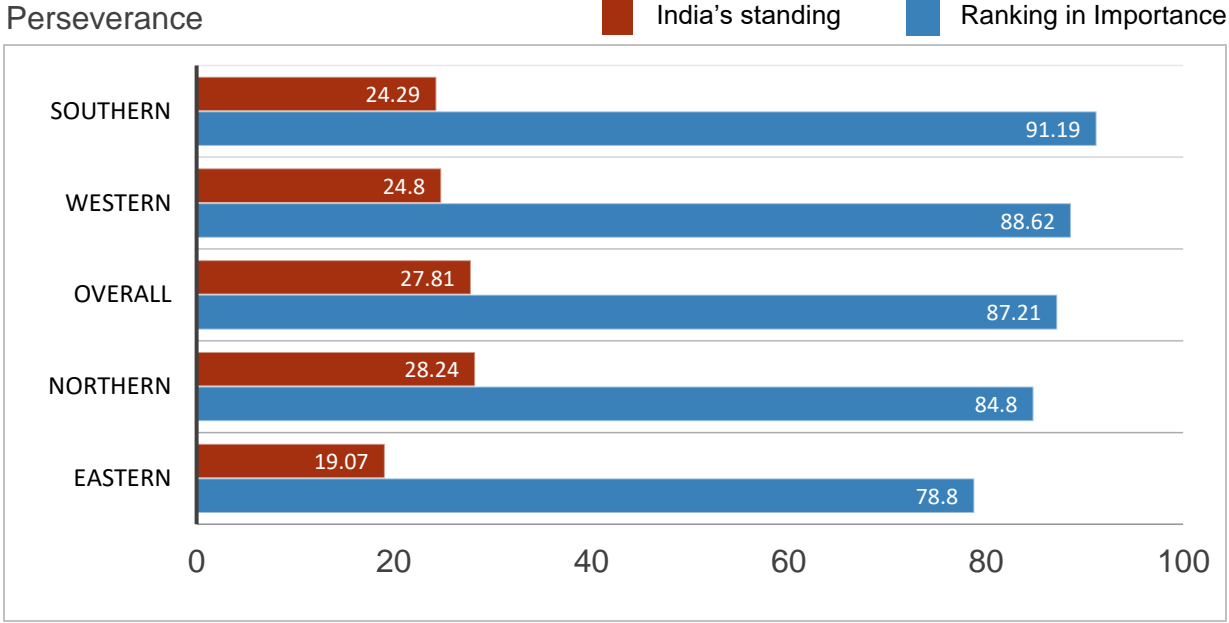
The coming slides graphically explain the importance level and current standing of the main five attributes (obtained from overall study) according to participants region-wise.

Conscientiousness

India's standing Ranking in Importance



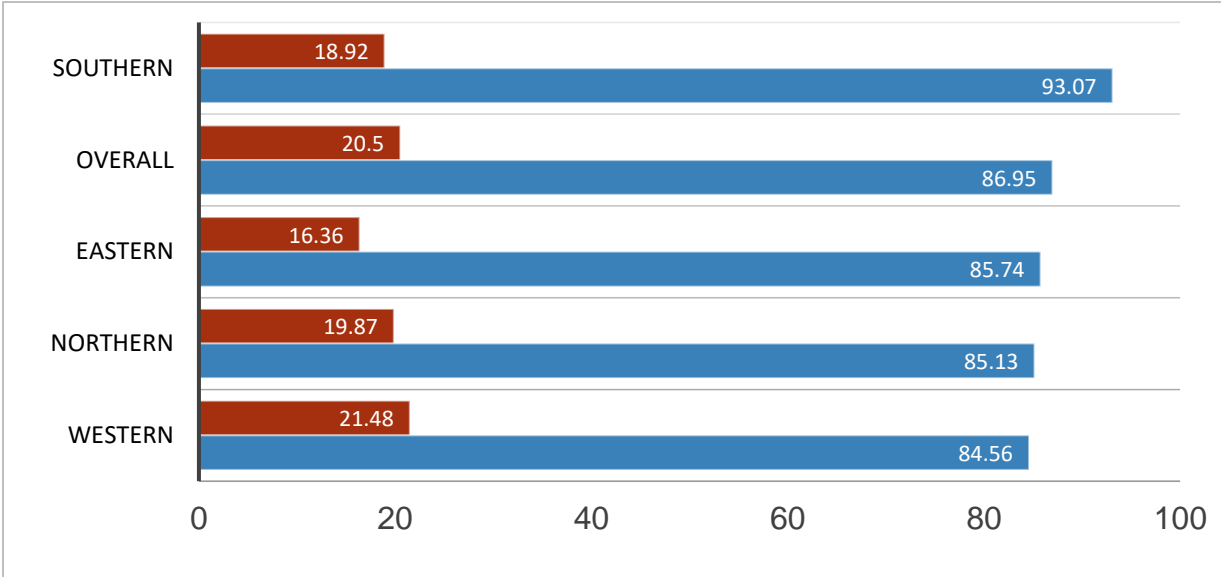
Region-wise analysis of top 5 factors



Region-wise analysis of top 5 factors

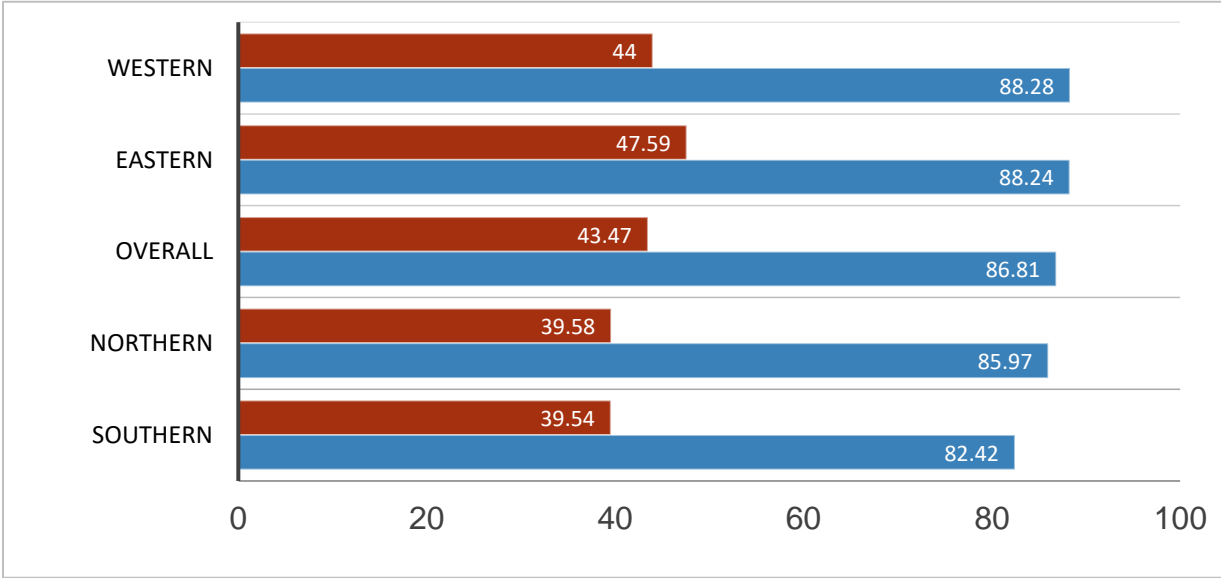
Taking Initiative

India's standing Ranking in Importance



Problem Solving Skills

India's standing Ranking in Importance



Part II: Culture/Context Statements

Introduction

In addition to the main survey (results covered earlier in the report), the survey also asked the participants to give the degree to which they agreed or disagreed with a number of selected culture/context statements relevant to the competitive mindset. These statements were developed after evaluating the results of two pilot studies.

Given below are all the statements the respondents looked at:

- *Indians don't speak up, just follow orders.*
- *Indian society and culture encourage younger minds to realize their potential.*
- *Indian society suffers from the "Tragedy of Commons". (That is where one does all one can do for the good of oneself - their family, home, job even if it is at the detriment of the "common good".)*
- *Indians don't encourage individual opinions or questioning.*
- *India's organization philosophy is based on too many checks and balances.*
- *Indian climate is a limiting factor.*
- *Attitude of acceptance of mediocrity (chalta hai) in India has a negative effect on its competitiveness.*
- *The traditional Indian diet has an adverse effect on competitiveness.*
- *Indians encourage entrepreneurship.*
- *Indians value individual skills.*
- *Level of trust has a correlation with productivity.*
- *There is prejudice against manual labor (work that might get your hands dirty).*
- *India's caste system is a barrier to competitiveness.*
- *Indians play to play and not always to win.*

Results and Analysis¹:

Our analysis of the data received shows a remarkable consistency in the responses by the five categories of respondents surveyed. These categories consisted of a large *percentage of CEOs; senior government officers; directors and professors of higher educational institutions; media, NRI's and the civil society.*

1. As mentioned in the Summary section, we undertook two independent studies reaching over 27,000 people in aggregate to validate the results. In one case, we used personal and phone interview mode and the other online anonymous mode.

We found a strong validation of results once we compared the outcome of the two studies. For example, the top 5 critical statements, independent of ranking within themselves, are the same in both the studies. Again, since research shows that anonymous responses are likely to be more objective than those where the identity of the respondent is revealed, the report has depended slightly more on the anonymous data.

Section 1

Here are the statements that received the highest score (meaning where the survey respondents agreed with the statements the most. For these statements, the lower the score the better). **The scores are all out of a total potential of 100.**

| Statements with the highest degree of agreement: | Score |
|---|-----------|
| Attitude of acceptance of mediocrity (Chalta hai) in India has a negative effect on its competitiveness | 80 |
| There is prejudice against manual labor (work that might get your hands dirty) | 70 |
| India's organization philosophy is based on too many checks and balances | 62 |
| Indian society suffers from the "Tragedy of Commons". (That is where one does all one can do for the good of oneself - their family, home, job even if it is at the detriment of the "common good") | 58 |
| India's caste system is a barrier to competitiveness | 57 |

Section 2: Other results

A. It should be noted that the survey respondents did not consider traditional Indian diet or the Indian climate in the country to be of material importance in the context of competitiveness. *This is really good news since if these got high scores, and thus were of importance, it would be difficult to even consider changing the traditional diet or the climate!*

| Statements with the lowest degree of agreement: | Score |
|--|-----------|
| Indian climate is a limiting factor | 23 |
| The traditional Indian diet has an adverse effect on competitiveness | 12 |

B. The positive statements didn't score highly. (Here the higher the score, the better.)

| Positive Statements | Score |
|------------------------------------|-------|
| Indians encourage entrepreneurship | 26 |
| Indians value individual Skills | 40 |

C. The one statement considered neutral and intentionally left subject to interpretation got very high score.

| Neutral statement | Score |
|--|-------|
| Level of trust has a correlation with productivity | 71 |

It may be noted, however, that since the survey respondents gave a very high score of 61% to the statement "*India's organization philosophy is based on too many checks and balances*". The statement "*Level of trust has a correlation with productivity*" could also be viewed as a validation of the "checks and balances" statement.

Our preliminary thoughts on implementation

Given the enormity of the challenge of the issues identified by the survey in Section 1 above, the authors of this report feel that the policy-makers, educationalists, media and the civil society consider systemic solutions for what may be the easiest to address in the five statements first, rather than the most important ones or the ones that got the highest score. In other words, pick the low-hanging fruit first or take the Six Sigma approach.

Let us explain. For example, one could address the issue of "checks and balances" in organizations including government departments, look for ways to address them, create trust and empower individuals in the organization even it means taking some calculated risk, before attempting to address any relatively more important issue.

Mr. Harsh Bhargava, Director and Chief Mentor of the Study

Mr. Bhargava is the President of Bankworld Inc, a prominent Metro Washington DC based Management Consulting Company in the US with experience in over 75 countries including projects on competitiveness strengthening and enterprise development in the emerging markets.

Mr. Bhargava is also the Founder and the President of I Create Inc, a nonprofit corporation with 20 centers in India. I Create has provided practical grassroots entrepreneurship programs for women and youth, over the past 16 years.

He is originally from India and worked with Tata's as a Tata Administrative Service officer with Tata Motors before coming to the USA.

Mr. Bhargava is an MBA from Harvard Business School.

Dr. Sudhir Jain, the Director of IIT Gandhinagar, has provided personal and IIT Gandhinagar institutional support to this study. The team included the faculty members of IIT Gandhinagar and elsewhere (current and former professors of Psychology, Cognitive Science, Computer Science and Sociology in India and the US) as well as senior executives and CEO's in India and the US. The faculty from IIT Gandhinagar comprised of **Prof. Krishna Prasad, Prof. Meera Sunny, and Prof. K. Sriram**, and from the US, Sociologist, **Dr. Aruna Bhargava**. Support was also provided by **Bankworld Inc** and **I Create Inc**, and by other faculty and staff of IIT Gandhinagar namely **Dr. Achal Mehra, Ms. Soumya Harish** and **Dr. Harish Palanthandalam-Madapusi**.

Dr. Jan Rivkin, professor at Harvard Business School and a doyen of competitiveness, (who along with Dr. Mike Porter have done multi-year competitiveness study in the US) has been our informal adviser on the project.

The IIT Gandhinagar student and alumni team is ably led by **Mr. Akash Keshav Singh** and supported by **Ms. Perna Singh**.

IBI Market Research Firm: IBI, an ESOMAR member, has conducted a parallel all India survey along with IIT to validate the results. It is a leading market research firm with extensive experience in India and international market. IBI has supported the study by providing assistance on data collection, market research, data analysis, programming services. IBI's CMS study was led by **Mr. Shibu Sayed**.

The study identifies the systemic issues that affect competitiveness mindset, which is the essential first step in finding systemic solutions. Addressing the identified factors will have the potential of strengthening India's ability to accelerate its trade and thus country's GDP growth to foster job creation and inclusive prosperity. Finding systemic factors that affect Competitiveness Mindset as this study does should also be of real value for the policy-makers interested in human capital index strengthening.

For any question or suggestion, please write to cms@iitgn.ac.in.



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