



ANALYTICS & DATA SCIENCE INDIA JOBS STUDY

2017



CO-PRESENTED BY
ANALYTICS INDIA MAGAZINE
& EDVANCER



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INTRODUCTION

With its increasing relevance across various sectors, the global demand for big data, analytics and data science professionals is on a rise. Piling data along with a surge in fields such as AI, machine learning and data science, has made analytics the most sought after professions in India as well. There is an increase in demand of highly skilled professionals and companies are in a constant lookout for professionals who can fill the gap.

This brings us to our yearly study around the scenario of analytics jobs in the country. Titled “Analytics and Data Science India Jobs Study 2017, it taps into this very aspect and evaluates the scenario of analytics and data science hirings across various industries such as retail,

telecom, ecommerce etc, across cities, requirements in terms of experience & education, hiring trends and much more.

This year’s study, brought to you in association with Edvancer Eduventures, a leading institute offering a wide range of on-line big data analytics training courses for all levels, brings a complete picture of the analytics and data science job scenario in India, in the form of interesting numbers and visuals.

The study enlists various fascinating numbers and is a must read for the professionals interested in plunging into analytics and data science field. And so is, for the existing professionals in this field.



FOREWORD

A journey which started five years ago, with an aim to deliver quality insights to the analytics community dwelling in India, Analytics India Magazine has since then brought a comprehensive coverage on the industry in various forms. Of them, the annual studies have been the most well received efforts.

Keeping in line with the previous years, we bring the Analytics and Data Science India Jobs Study 2017, which covers an in-depth scenario of the data science and analytics jobs in the country.

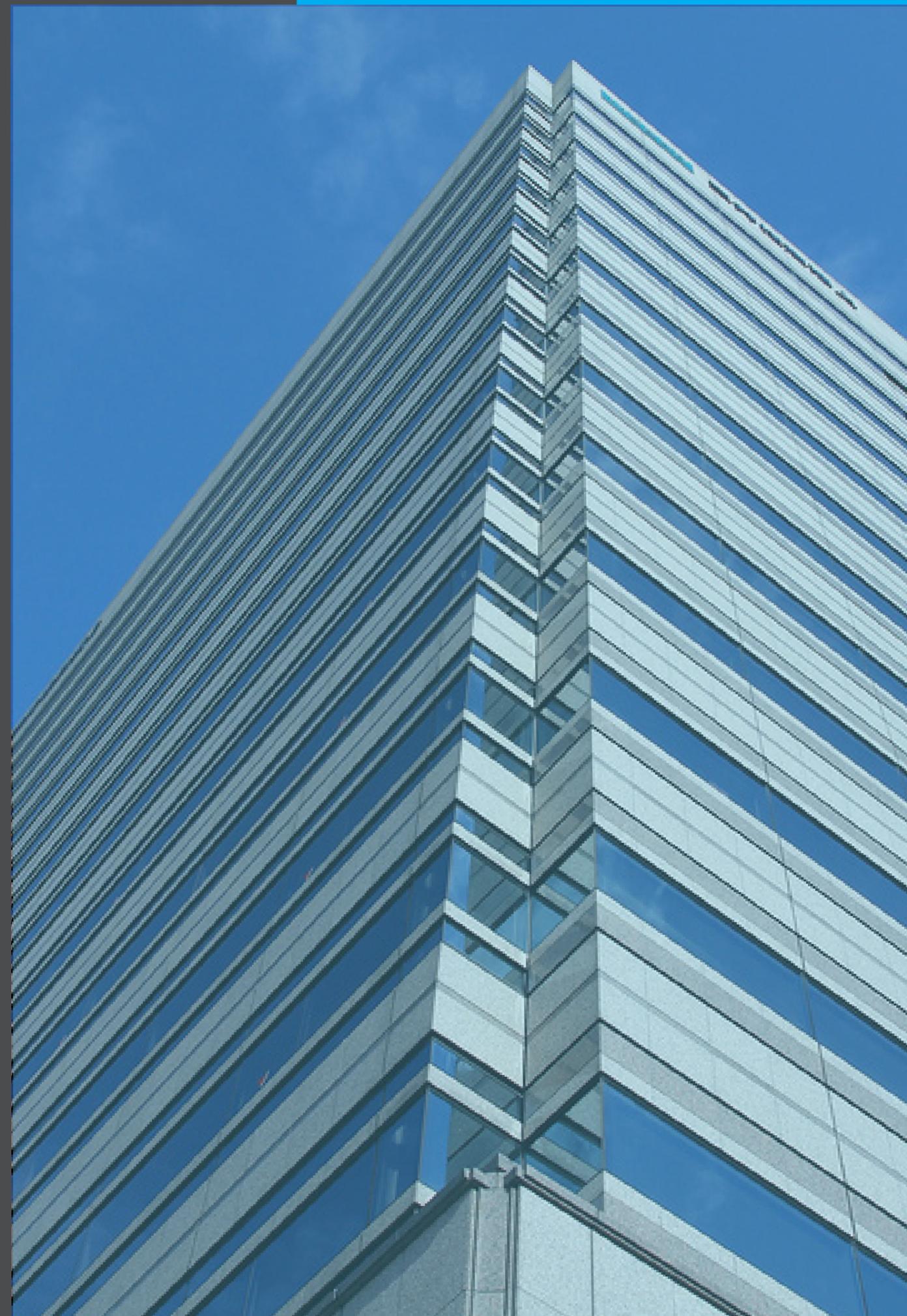
The use of technology has been soaring high in various industries, and so is the use of analytics to generate an actionable insight from the huge amount of data that's being generated by these industries. This has led to an increased demand of skilled analytics professionals not just in startups but the well-established

names in the industry. It is no exaggeration to say that these industries are largely in need of analytics professionals and the study rightfully brings these insights.

Analytics and Data Science India Jobs Study 2017, which is a result of extensive research and in-depth analysis, spanning over months, presents you with various trends in the analytics and data science jobs in the form of experience, education, industries, cities and much more.

It is brought to you by Analytics India Magazine in association with Edvancer, leading big data and analytics training providers in India. It was a pleasure associating with Edvancer and we hope it brings all the answers around the latest job trends in the Indian analytics market.

Brace yourself up for an exciting read!





AATASH SHAH
CEO & FOUNDER, EDVANCER

DATA SCIENCE PROVIDES HUGE JOB OPPORTUNITIES. HERE'S HOW YOU CAN CAPTURE THEM



The slowdown in old IT technologies coupled with the rapid rise of data science has resulted in IT companies trying to hire data scientists by the droves and creating a job boom for analytics & data science professionals in India

The Indian IT industry is in the throes of a mid-life crisis riled by a deep slow down which is resulting in redundancy and job losses. But as the sun sets on the IT industry in India as we know it, another sun is rising in the form of the data science industry which is growing by leaps and bounds. India with its immense potential talent in the form of engineers, quants, business managers is fast emerging as the Data Science Capital of the world. This is borne out by the fact that global organisations like NEC, Mercedes-Benz, Target, Walmart, PayPal, Accen-

ture etc. have set up their data science centres of excellence in India.

The slowdown in old IT technologies coupled with the rapid rise of data science has resulted in IT companies trying to hire data scientists by the droves and creating a job boom for analytics & data science professionals in India. Jobs in analytics & data science have grown by 100% over the last year adding tens of thousands of employment opportunities and we expect this growth to only intensify over the next few years. IT companies have an excess of talent in



technologies which are no longer required and a large proportion of these people will eventually need to be re-skilled in areas which are in demand of which data science is one of the biggest. Nasscom expects that almost 50% of the IT workforce will need to learn these new technologies to avoid becoming redundant.

The challenge for employers thus lies in the shortage of people who are skilled in data science tools & technologies and their applications in business. Salaries are rapidly increasing given the increased demand and shortfall of talent and hence there is no better time than now for you to develop the data science skillsets needed by industry.

At Edvancer when we speak to aspiring data scientists looking to take up

our courses, a common theme from the questions we are asked is how will I fit into data science given my existing background and will I get a job?

The unique and best aspect about data science is that it is not limited to any industry or sector. Data Science today is being used in every industry in this world from manufacturing to retail to healthcare etc. Data is almost omnipresent now as the collection of data has become much easier and storage is cheaper. With humongous amounts of data being generated daily, companies across sectors are taking advantage and making use of the insights gained from the analysis of that data to benefit. Data science through machine learning & artificial intelligence is proving to be instrumental in pushing the boundaries of science and what was science fiction

10-15 years ago is turning into reality now. This has opened numerous opportunities in data science for a large cross section of people from varied backgrounds and experiences who have developed the relevant data science skillsets.

So how does one capture this opportunity? You need to take a structured and patient approach to creating a career in data science. Follow the path below and you will find yourself in the “sexiest career of the 21st century.”

1. GET TRAINED IN RELEVANT SKILLSET

Data Scientists have expertise in a wide variety of tools and technologies with the most in demand tools being R, Python, SAS, Hadoop, Spark, NoSql while being well versed with statistics, predictive modeling, linear algebra, machine learning, text mining, and handling big data. Don't let all these different requirements worry you. Take a systematic approach. Start with learning R/SAS, statistics and predictive analytics. Then move on to Python, linear algebra and machine learning before working on the Hadoop, Spark & NoSql stack for big data.

2. IMPLEMENT YOUR LEARNING ON PROJECTS & DISPLAY THEM

Employers look for people with a practical perspective and the ability to start contributing on the job on day one. To that end, they will look for data science projects on your CV. Either you can work on projects provided on Kaggle and Crowdanalytix or using the many freely available data sets on the internet. Another way is to combine your learning and project work by joining a course which provides you multiple projects to implement your learning. Create your Github profile and host your projects and codes over there so that you can share it when looking for a job. Create a blog where you can write about these projects and on data science in general.

3. CREATE CV & UPDATE YOUR LINKEDIN PROFILES

Create your CV and update your LinkedIn profiles: Well you obviously have to let the world know that you have the necessary capabilities for a data science role. So, update your CV with the tools and technologies that you have learnt and describe the projects you have worked on with an emphasis on the outcomes you were able to deliver. Also provide your Github link in the CV. Make sure you update your LinkedIn pro-

file too as all potential recruiters will check it.

4. PREPARE FOR INTERVIEWS

Practice makes perfect and you should prepare and practice for interviews too. Go through various frequently asked interview questions on the internet and prepare for them. Get ready to be tested on what you have mentioned on your CV and also be ready to be tested with case studies and take-home problems to solve. Keep yourself updated on developments in data science. Practice answering estimate based case studies which are designed to test your structured thinking.

5. NETWORK & SEARCH FOR A JOB

Now that you have the building blocks in place, it is time to go out and get a job in data science. This will be a stage which will require patience. Start by creating a list of target sectors and companies that you are interested in working with or you believe would be

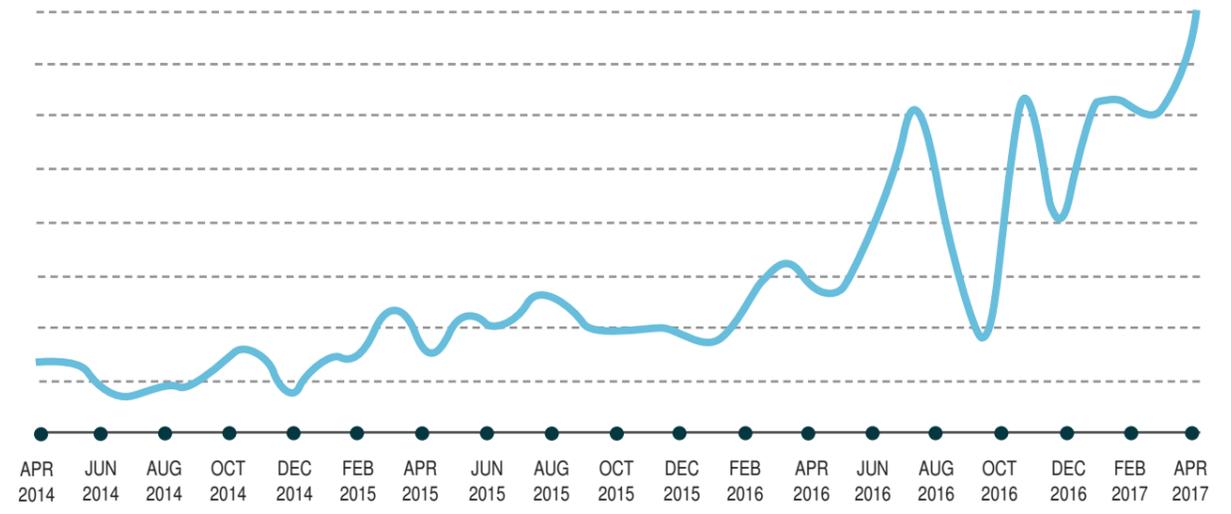
compatible with your background. Research about them and be ready with relevant reasons as to why you want to work for them and how you would be able to add value. Check LinkedIn, their websites and other job portals for current openings in data science in these companies and apply to them while utilising your friends and family network too. Network with data scientists on LinkedIn & Facebook through groups. Connect with hiring managers and data science leaders as they keep posting their requirements outside of normal channels too. Attend data science meetups and events where you can take the networking offline while continuing to apply for suitable roles through job portals. Opportunities will definitely come your way.

In conclusion, data science is a booming industry with lots of opportunities being created. Persistence, the right approach and hard work will get you into a dream career in this field. Go through this report also to know more about the job situation in details.



50,000

positions related to analytics are currently available to be filled in India



TOP TRENDS IN ANALYTICS JOBS

- The number of analytics jobs almost doubled from April 2016 to April 2017.
- This is in sharp contrast to the percentage increase in analytics job inventory a year back. The number of analytics jobs increased by **52%** from April 2015 to April 2016, and by **40%** from April 2014 to April 2015.
- While, it is difficult to ascertain exact number of analytics jobs openings; by our estimates, close to **50,000** positions related to analytics are currently available to be filled in India.
- Compared to worldwide estimates, India contributes just **12%** of open jobs opening currently. The no. of jobs in India are likely to increase much faster vs. the rest of the world as more analytics projects get outsourced to India due to lack of skills across the world.
- 10 leading organizations with most number of analytics opening this year are – Amazon, Citi, HCL, Goldman Sachs, IBM, JPMorgan Chase, Accenture, KPMG, E&Y & Capgemini.

New Job Openings each month from April 2014-April 2017



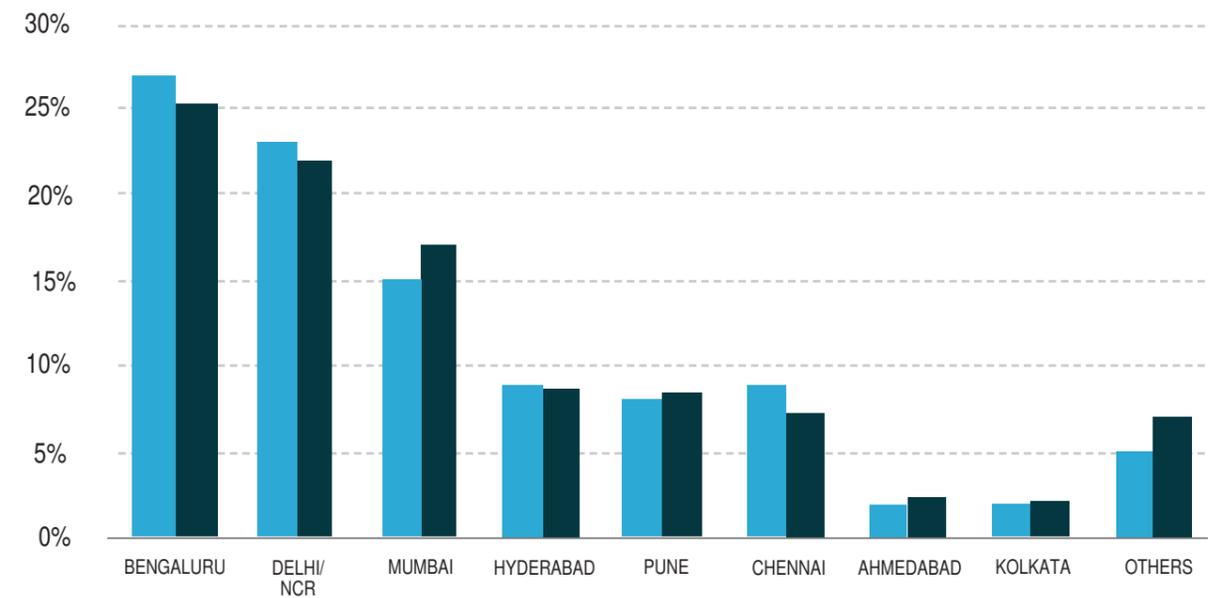
10 Leading Organizations with most number of Analytics openings

ANALYTICS JOBS BY CITIES

- In terms of cities, Bengaluru accounts for around **25%** of analytics jobs in India. This is down from **27%** a year earlier.
- Delhi/ NCR comes second contributing **22%** analytics jobs in India, down slightly from **23%** a year ago.
- Approximately **17%** of analytics jobs are from Mumbai. This is up from **15%** from last year.
- The contribution of tier-B cities in analytics jobs have increased this year, from **5%** in 2016 to **7%** this year due to the increased number of start-ups operating in tier 2 cities.

25%
analytics jobs are in Bengaluru

■ 2016
■ 2017



Percentage of Analytics Jobs by Cities

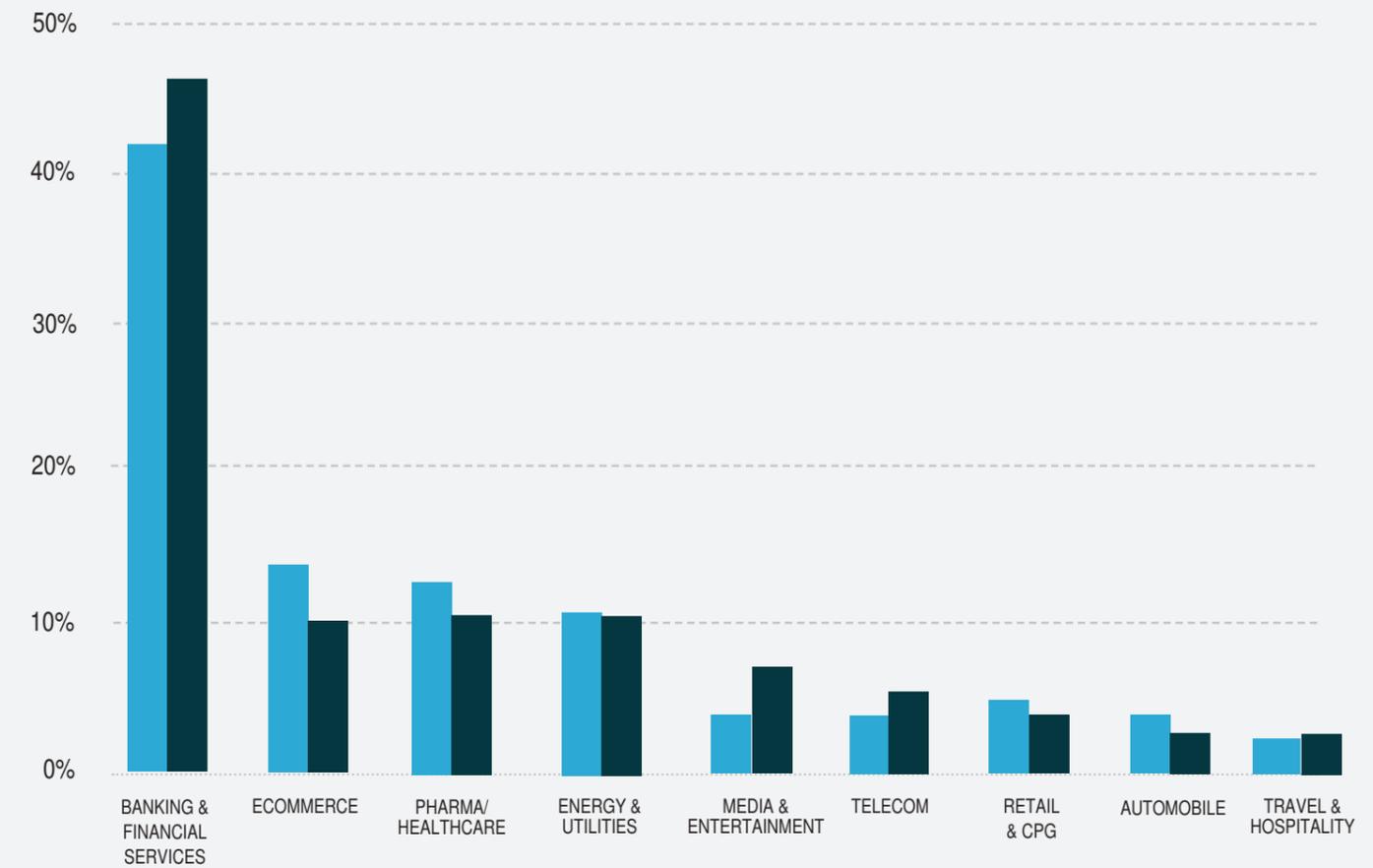


ANALYTICS JOBS BY INDUSTRY

- Banking & Financial sector continues to be the biggest influencer in Analytics job market. **46%** of all jobs posted on analytics were from banking sector. This is an increase from **42%** a year ago.
- Ecommerce have dipped in terms of analytics jobs this year. Just **10%** of analytics jobs were in ecommerce sector as opposed to **14%** a year ago.
- Media/ entertainment sector seems to have an uptick in analytics jobs this year, contributing to **7%** of all analytics jobs as opposed to **4%** a year ago. The sector has been traditionally a late adopter of analytics.

46% of all jobs posted on analytics were from banking sector

■ 2016
■ 2017



Percentage of Analytics Jobs by Industry



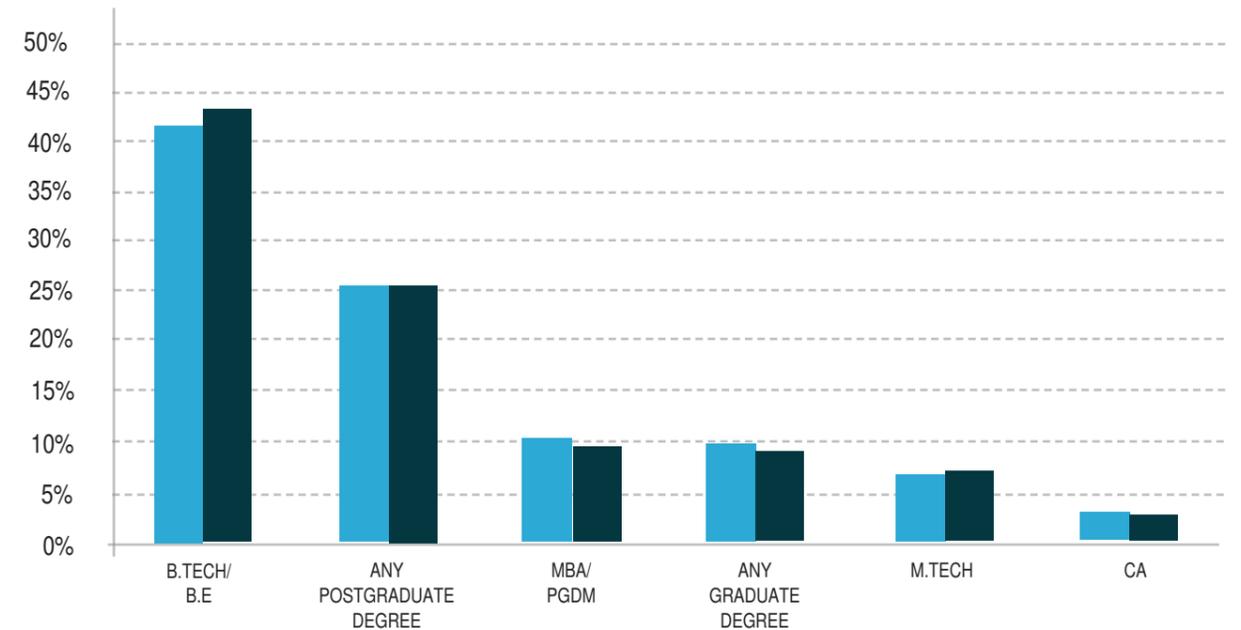
80%

of employers are looking to hire analytics professionals with either engineering or postgraduate degree

2016 2017

EDUCATION REQUIREMENT BY ANALYTICS JOBS

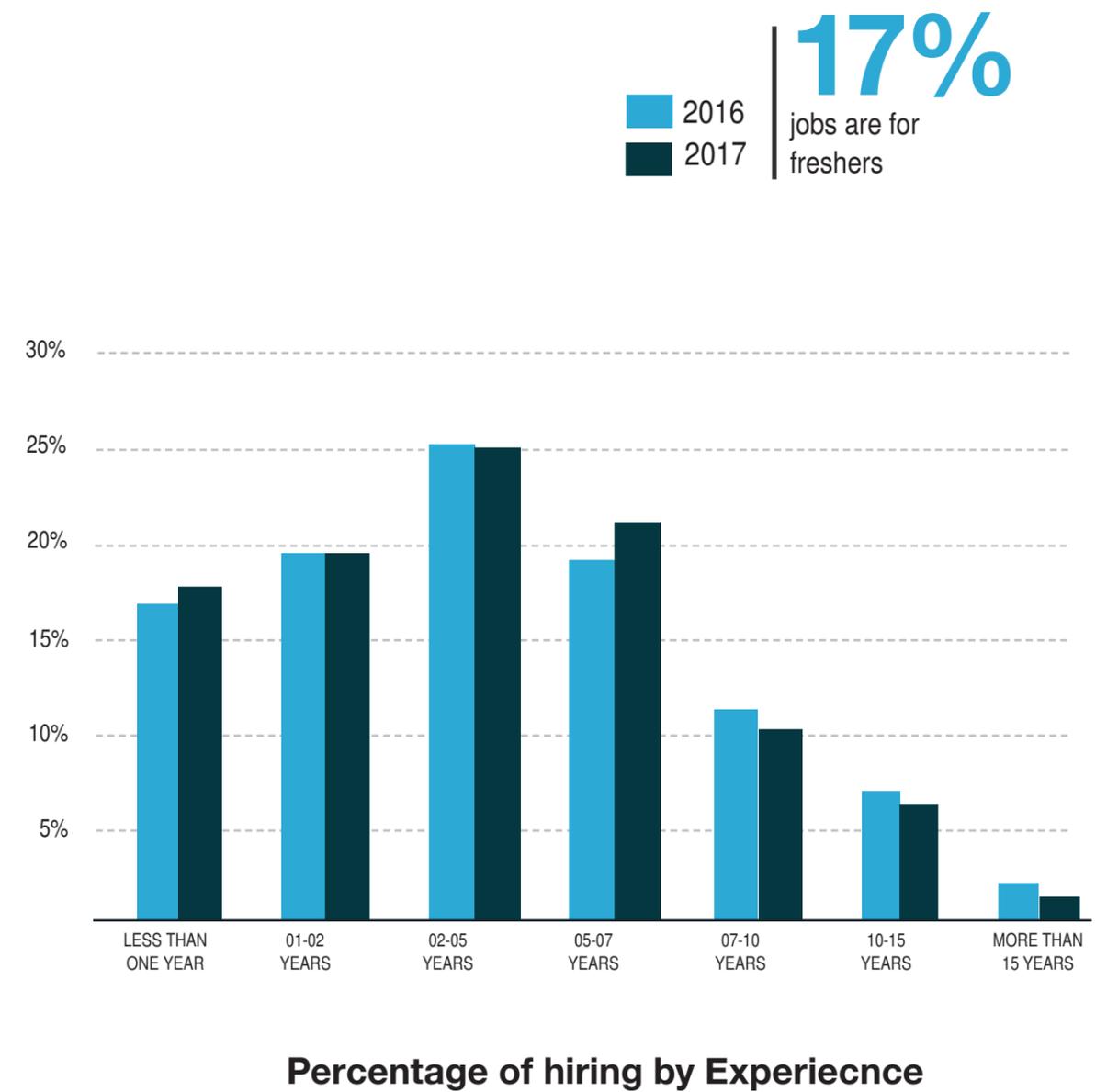
- Education requirements for analytics recruiters have remained the same since last year. Almost **42%** of analytics job openings are looking for a B.E./ B.tech degree in the incumbent.
- **26%** analytics job openings are looking for a postgraduate degree and **10%** are looking for an MBA or PGDM.
- So, overall, **80%** of all employers are looking to hire analytics professionals with either an engineering degree or a postgraduate degree.
- **9%** analytics jobs are fine with any graduate degree.
- Job openings looking for a CA account for merely **3%**.



Percentage of hiring based on Educational Qualification

EXPERIENCE REQUIREMENT BY ANALYTICS JOBS

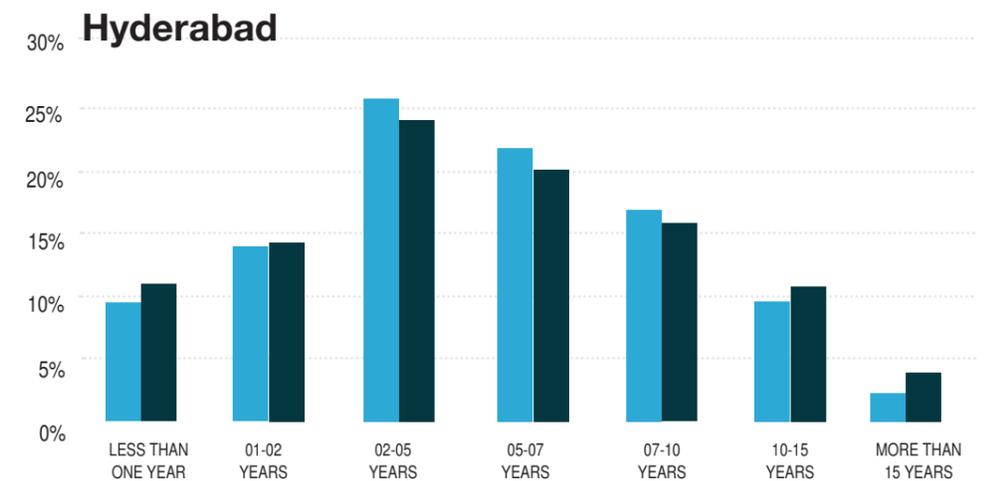
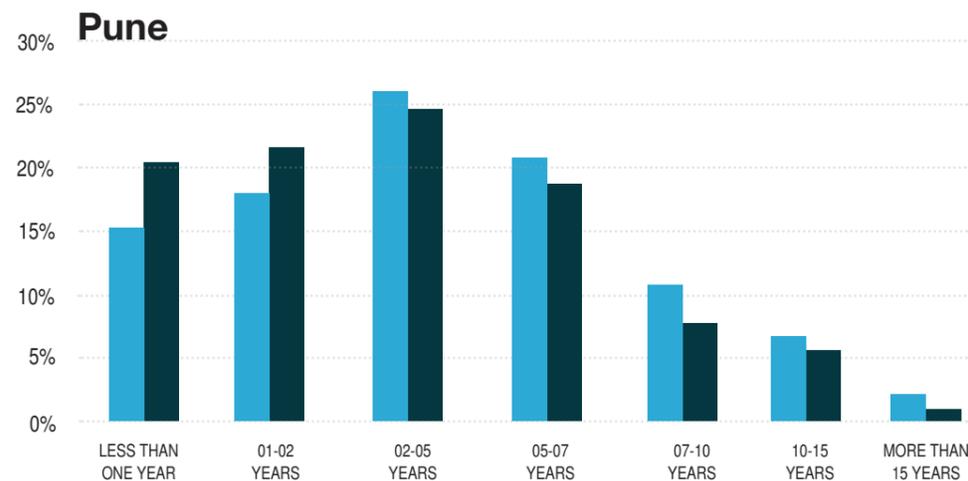
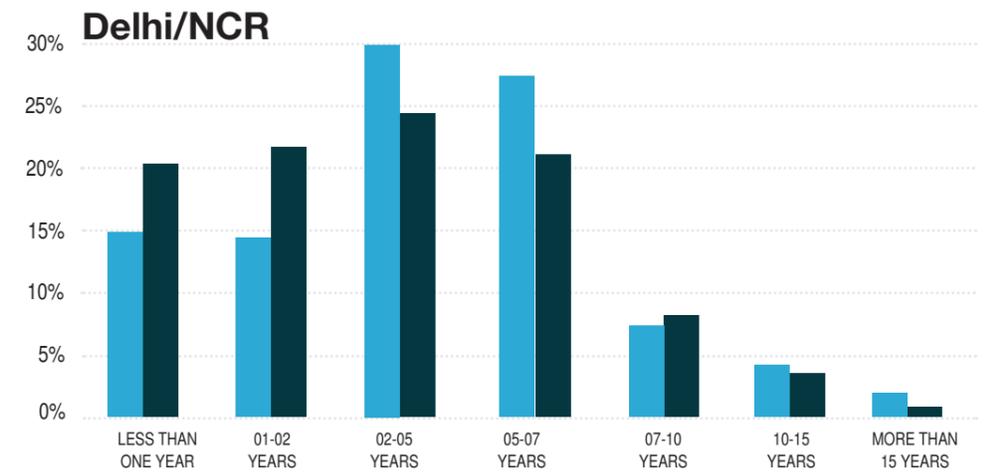
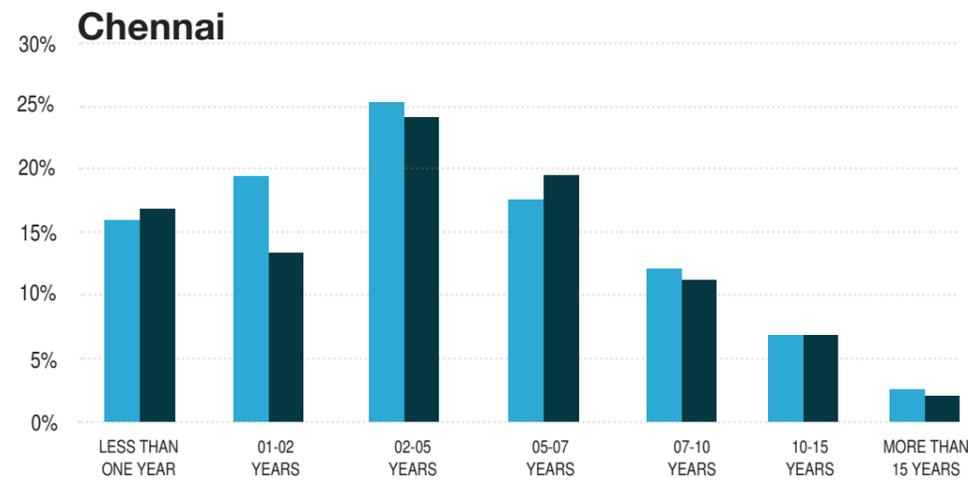
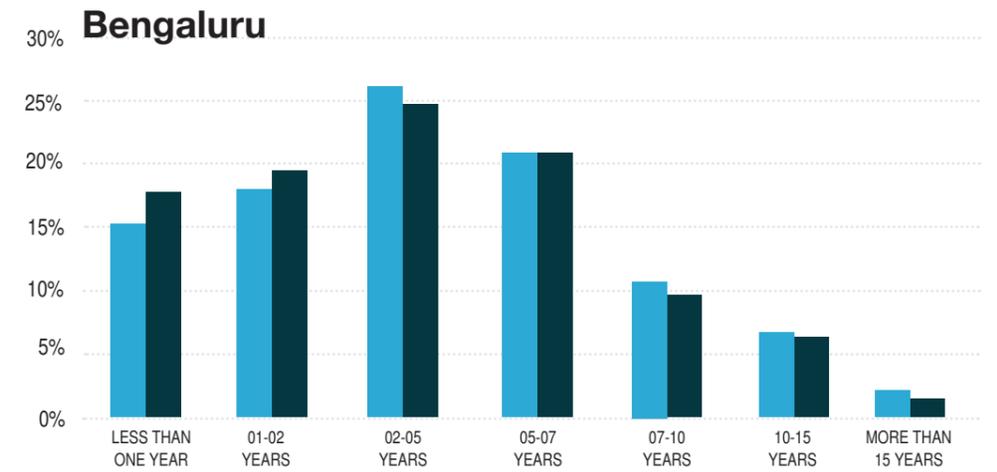
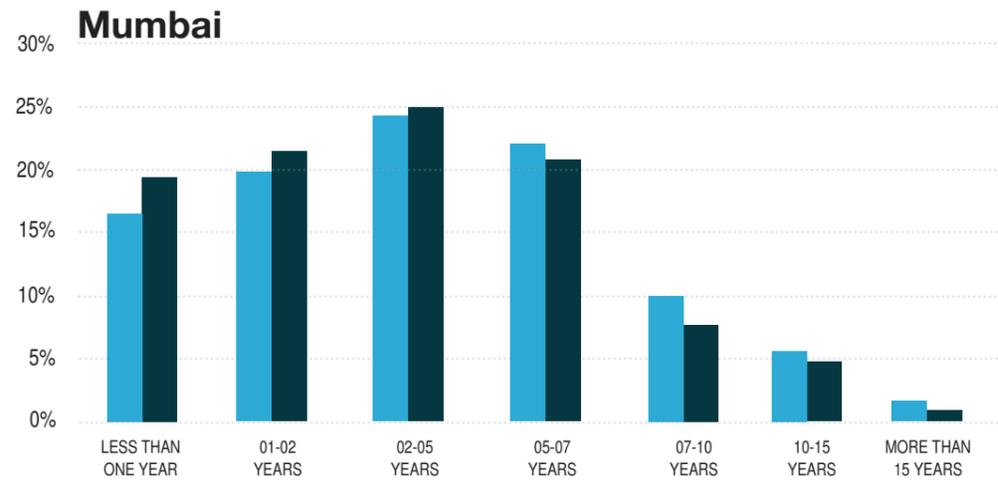
- Around **61%** of analytics requirements are looking for candidates with less than 5 years experience.
- **17%** analytics jobs are for freshers.
- **39%** analytics job openings are for professionals with more than 5 years job experience.
- There has been a significant increase in the requirement for senior analytics professionals last year. Job requirements for professionals more than 7 years experience increased from **17%** of all analytics jobs in 2016 to **20%** this year.



ANALYTICS JOBS IN CITIES BY EXPERIENCE LEVEL

- 2-5 years of experience continues to be the most demanded experience level across all cities, averaging at **24%** of job openings.
 - This is followed by 5-7 years of experience level for most cities, except Chennai where analytics recruiter are looking for mostly 1-2 years experience after 2-5 years.
 - In terms of change from last year, Delhi/ NCR saw the most change from 2016.
- There has been a significant increase in the demand for 2-7 years of experience level in Delhi/ NCR whereas the demand for less than two years experience shrank.
- Pune also saw a dip in demand for 0-2 years analytics professionals – from **42%** of analytics openings in 2016 to **33%** this year.





Percentage of Analytics Jobs in Cities by Experience level

2016 2017

ANALYTICS JOBS ACROSS TOOLS & SKILLS



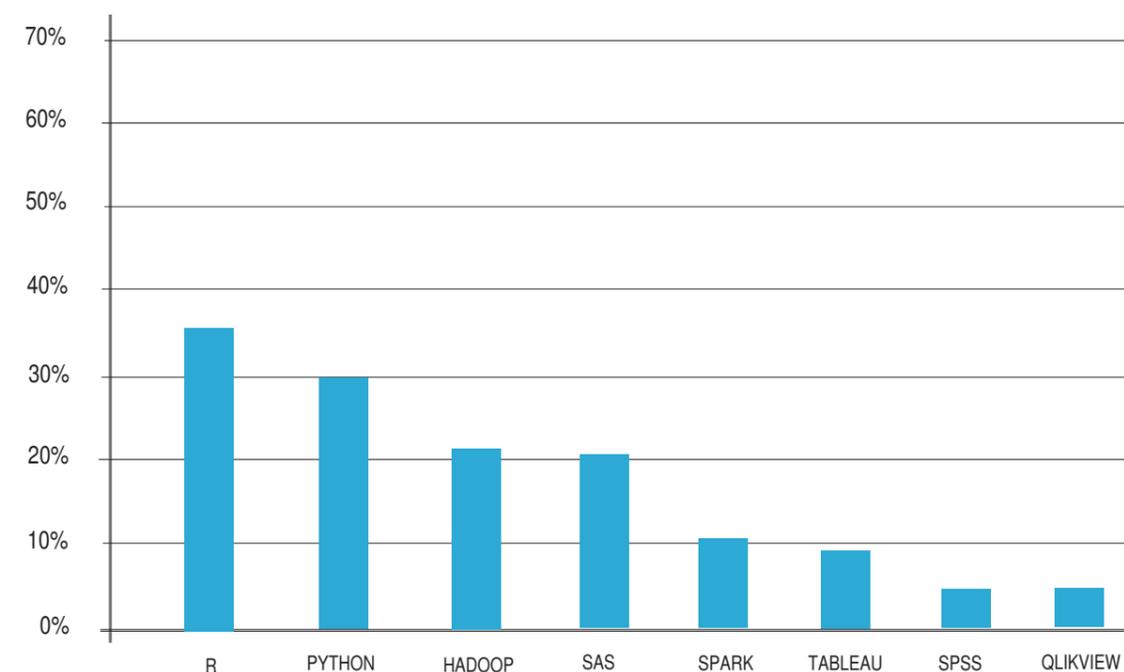
36%

of analytics jobs in India demand for R as a core skill.

- The demand for R professionals is the highest among all analytics recruiters. Almost **36%** of all advertised analytics jobs in India demand for R as a core skill.
- Python skills comes second at **30%** of all analytics jobs looking for Python professionals. Among statistical tools, open

source programming tools have picked up the most in recent years.

- Among visualization tools, Tableau skills are most in demand with **9%** of analytics jobs looking for Tableau professionals.



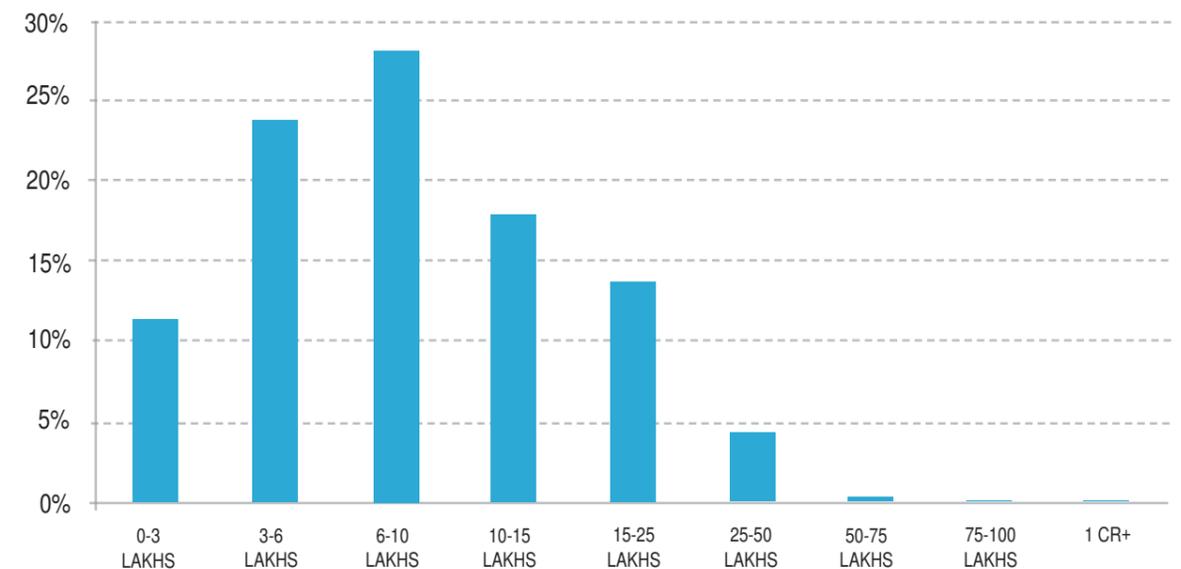
Percentage of hiring by Analytics tools & skills



28%
of all analytics jobs offer a salary range of 6 to 10 Lakh

ANALYTICS JOBS BY SALARIES

- The median salaries being offered by advertised analytics jobs in India is **INR 10.5 Lakh/ annum.**
- Advertised salaries tend to be lower than actual salaries. We have earlier reported the median salaries of analytics professionals in India to be **11.7 Lakh.**
- **28%** of all analytics jobs offer a salary range of 6 to 10 Lakh, followed by **24%** for 3-6 Lakh.
- Almost **40%** of all advertised analytics jobs in India are offering a salary of more than 10 Lakh



Percentage of Analytics Jobs by Salaries

TOP ANALYTICS DESIGNATION IN DEMAND

- **Data Analyst**

They are expected to collect, process & perform statistical analyses of data, although they may not be expected to create new algorithms. Data analysts should understand well on how data can be used to answer questions and solve problems.

Few of the job descriptions include—working with data scientists to determine organizational goals, mine data, clean & prune data, analyse & interpret results, providing concise report, design and maintain relational databases, etc. They may be expected to tackle specific business tasks using existing tools such as Hadoop, NoSQL, relational databases, and data sets.

- **Data Scientist**

A breed of analytical data expert, with technical skills to solve complex problems and the curiosity to explore the problems, are data scientists.

Data scientist should have an excellence around analysis, creative curiosity and the ability to turn high tech ideas into profits. Job descriptions include extracting

huge volumes of data, employing sophisticated analytics programs, machine learning, etc. to prepare data for use in predictive and prescriptive modelling and devise data driven solutions.

- **Analytics manager**

Configuration, designing, implementation and supporting data analysis solution or business intelligence tool, is what analytics manager does. An education in engineering field may fetch the role of analytics manager in leading organizations that have huge quantities of information gathered through transactional activity.

An extensive experience in data analysis or statistical analysis is required for the role of analytics manager as it involves working with complex software programs. Their job includes developing strategies for effective data analysis and reporting, leading & developing team of data analysts, configuring & implementing analytics solutions etc.

- **Statistical Analyst**

This profile involves the analyst

to interpreting quantitative data and design statistical models for researching problems or questions and maintaining databases to ensure that data is reliable. Based on the industry, there may be specialized statistical analyst such as for marketing, healthcare, education etc. Their work essentially involves collecting and analysing large amounts of data using various statistical models and tools.

Their job description involves planning and analyses, extracting data from the company database, analysing the data using statistical analysis software programs such as R, SAS, Stata or SPSS, reporting the result using data visualization techniques etc.

- **SAS Analyst**

These professionals rely on SAS software products, as the primary analysis tool. Few of their roles may include SAS coding, collection and analysis of data to reveal patterns, predict future trends etc. These professionals are often experts in their designated market sector, and are involved with the development, management and delivery of statistical analysis techniques for a business. Their role may also include pre-sales analysis, support, customer performance measurement and reporting.

They are expected to have an excellent knowledge and programming skills in SAS and SQL, and an over understanding of analytical techniques. A degree in maths or related discipline with a successful background in numerical work, is the key requirement of SAS analyst.

- **Hadoop developer**

This designation requires the candidate to code and programme Hadoop applications, and the profile is quite similar to that of software developer, with the only difference that former is a part of big data domain. Hadoop developer is expected to develop, implement, design, build, install and configure Hadoop, translate complex functional requirements to detailed design, perform analysis of vast data stores, managing & deploying HBase etc.

They may also be referred to as Hadoop engineer, Hadoop architect, Hadoop lead developer or even big data developer.

- **Analytics Consultant**

Developing & implementing analytics solutions, creating data mining projects to utilize the information, creating reports etc. are few of their roles. With strong programming skills, they swift through large amounts of information, avail data processing and analytics to suggest business process changes. They are also associated with data collection, analysis, modelling & visualization, working quickly and effectively with mathematical concepts, statistics and finance.

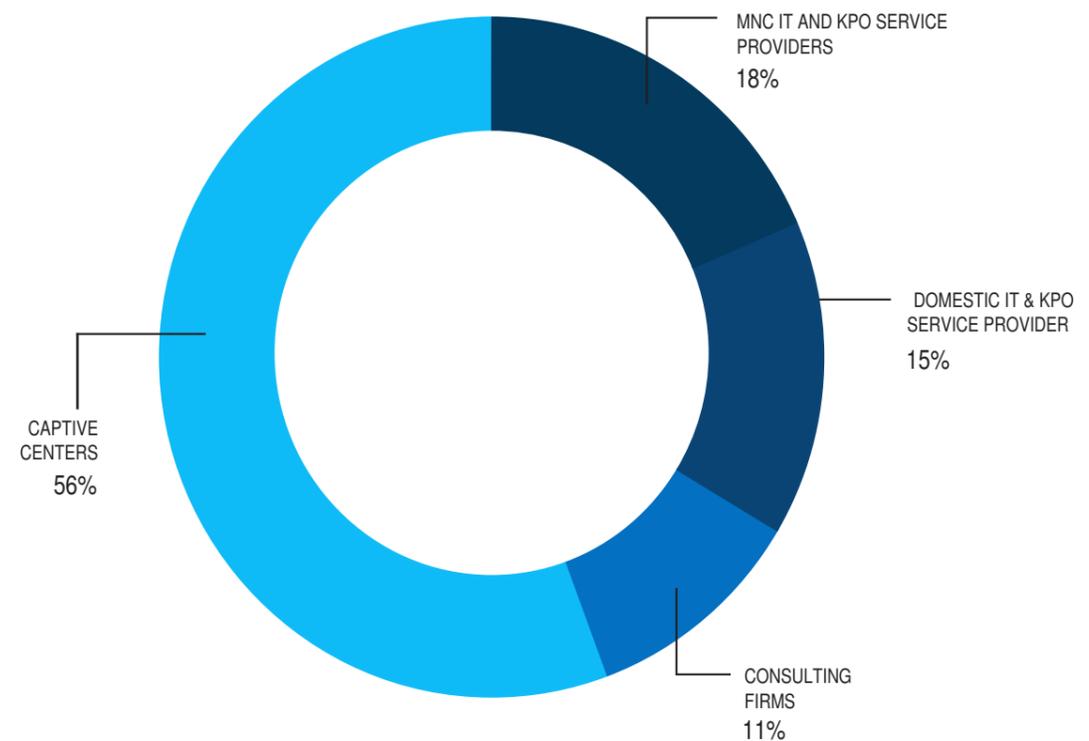
It demands a degree in math, statistics, accounting or related field along with strong problem solving skills.



56%
of analytics demand is with
Captive centers in India

ANALYTICS JOBS ACROSS COMPANY TYPE

- Captive centers/ GIC's/ Backoffices have seen highest growth in terms of analytics in last few years. Almost **56%** of all analytics demand is with Captive centers in India. These are organizations that mostly utilize analytics for internal consumption (for primarily their global businesses).
- MNC IT & KPO service providers follows next with **18%** of all analytics jobs advertised this year. Domestic IT & KPO service providers and consulting firms follow at **15%** & **11%** respectively.



Percentage of hiring by Company type



CONCLUSION

The fact that the number of analytics jobs have almost doubled from April 2016 to April 2017, is indicative of a positive trend that India is witnessing in terms of analytics and data science hiring. The study also throws an interesting perspective on the analytics hiring scenario as there are close to 50,000 positions in this field that are wanting for skilled analytics professionals. This brings a good news for newcomers as out of the total number of openings, 17% of companies are looking for freshers, whereas 39% of analytics and data science job openings are for professionals with around 5 years job experience.

Leading firms like Amazon, Citi, HCL, Goldman Sachs, IBM, with most numbers of openings this year are looking out for analytics professionals. If we talk about

jobs across various cities in India, the number of jobs have gone up everywhere, however the percentage distribution has changed.

Almost all the industries seem to have adopted analytics and data science with time, but it is banking and financial sector that turned out to be the biggest influencer in the analytics job market.

In terms of education, companies still prefer B.E/ B.Tech degree in the incumbents, however other qualifications such as MBA and PGDM also gain a major traction.

Overall, it brings a constructive picture of analytics and data science jobs in India this year, especially for freshers or for professionals who are looking to make a shift into analytics industry.



RESEARCH METHODOLOGY

This study is a result of extensive primary and secondary research which has been carried out over a period of six months by Analytics India Magazine, in association with Edvancer. It includes consultation with numerous analytics experts, HR professionals, job portals, and companies who have furnished their valuable expertise for the study.

The research methodology included a systematic plan to identify the various factors influencing job scenario around analytics and data science in India. The data was collected by following all the leading job portals in India, interacting with 100+ companies and 1000+ professionals across all major cities in India. The various

industries for this study included retail, FMCG, healthcare, energy & utilities, hospitality, finance, banking, telecom, media etc.

The samples were collected by quizzing the participants on the trends around analytics and data science jobs, the salary structure from fresher's level to the managerial level, cities that offer best opportunities for these jobs, tools and skills that company's demand, analytics jobs across company type and much more.

After a careful collection of information and data, they were classified, counted and distributed to reach the conclusions as depicted in the study.





ABOUT ANALYTICS INDIA MAGAZINE

Founded in 2012, Analytics India Magazine has since been dedicated to passionately championing and promoting the analytics ecosystem in India. It chronicles the technological progress in the space of analytics, artificial intelligence, data science, big data by highlighting the innovations, players in the field, challenges shaping the future, through the promotion and discussion of ideas and thoughts by smart, ardent, , action-oriented individuals who want to change the world.

Analytics India Magazine has been a pre-eminent source of news, information

and analysis for the Indian analytics ecosystem by covering opinions, analysis and insights on the key breakthroughs and developments in data-driven technologies as well as highlighting how they are being leveraged for future impact.

With a dedicated editorial staff and a network of more than 250 expert contributors, AIM's stories are targeted at futurists, AI researchers, Data science entrepreneurs, analytics aficionados and technophiles.



ABOUT EDVANCER

An IIM-IIT alumni venture, Edvancer was setup with a mission to make India's youth employable in the services sector by providing them job specific skill-sets through industry oriented education & training. It provides skills and training for new age and high growth jobs like business analytics, information and cyber security managers, with specific goals in mind, such as:

- Providing the best career oriented education possible by evolving a new paradigm of learning focusing on the needs of industry and training the aspirants through its practical, hands-on, short-term certificate courses, created and delivered by industry experts.

- Providing anytime, anywhere learning by providing access to courses online, 24x7x365. They believe strongly in the fact that when a person wants to learn they should get access to the learning, and not wait for academic years to start.
- Providing a high ROI for the student by providing the students course options specific to the needs of their immediate career goals, hence keeping the costs and time commitments low.
- Creating a knowledge hub for each domain by providing a range of courses to meet the need and requirement of the industry and the person's career stage.



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