TeleCommunication

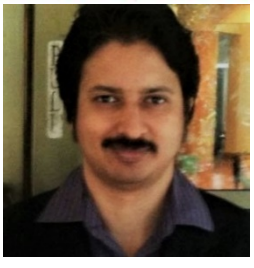
NOVEMBER 2016

samvad

Igniting Thoughts of Tomorrow

S.P MANDALI'S weschool Welingkar Education

WECHAT



MR. ANIL BAHUMAN
VICE-PRESIDENT- 4G ECOSYSTEM
RELIANCE JIO INFOCOMM LTD

FEATURED ARTICLE

THE GROWTH OF TELECOM INDUSTRY IN INDIA

ABOUT US

OUR VISION

"To nurture thought leaders and practitioners through inventive education"

CORE VALUES

Breakthrough Thinking and Breakthrough Execution

Result Oriented, Process Driven Work Ethic

We Link and Care

Passion

"*The illiterate of this century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.*" - Alvin Toffler

At WeSchool, we are deeply inspired by these words of this great American writer and futurist. Undoubtedly, being convinced of the need for a radical change in management education, we decided to tread the path that leads to corporate revolution.

Emerging unarticulated needs and realities need a new approach both in terms of thought as well as action. Cross disciplinary learning, discovering, scrutinizing, prototyping, learning to create and destroy-the mind's eye needs to be nurtured and differently so.

We school has chosen the 'design thinking' approach towards management education. All our efforts and manifestations as a result stem from the integration of design thinking into management education. We dream to create an environment conducive to experiential learning.

MESSAGE FROM THE DIRECTOR

Dear Readers,

Prof. Dr. Uday Salunkhe
Group Director

It gives me great pride to introduce Samvad's edition every month. Our Samvad team's efforts seem to be paying off and our readers seem to be hooked onto our magazine. At WeSchool we try to acquire as much knowledge as we can and we try and share it with everyone.

As we begin a new journey with 2016, I sincerely hope that Samvad will reach new heights with the unmatched enthusiasm and talent of the entire Samvad Team.

Here at WeSchool, we believe in the concept of AAA: Acquire Apply and Assimilate. The knowledge that you have acquired over the last couple of months will be applied somewhere down the line. When you carry out a process repeatedly it becomes ingrained in you and eventually tends to come out effortlessly. This is when you have really assimilated all the knowledge that you have gathered.

At WeSchool, we aspire to be the best and to be unique, and we expect nothing but the extraordinary from all those who join our college. From the point of view of our magazine, we look forward to having more readers and having more contributions from our new readers.

Samvad is a platform to share and acquire knowledge and develop ourselves into integrative managers. It is our earnest desire to disseminate our knowledge and experience with not only WeSchool students, but also the society at large.

Wishing everyone a very happy and prosperous new year.

Prof. Dr. Uday Salunkhe,
Group Director

FROM THE EDITOR'S DESK

Dear Readers,

Welcome to the November Issue of Samvad for the year 2016!

As we step into 2016, we promise to bring you the best that Samvad has offered till date. The response to Samvad has been overwhelming and the support and appreciation that we have received has truly encouraged and motivated us to work towards bringing out a better magazine every month. With renewed vigor and passion, we bring to you the November Issue of Samvad which revolves around the theme of "Telecommunication".

With WeSchool having courses pertaining to all spheres of management, it was natural for us to cater to all kinds of readers. And that has made us one of the few magazines in the country which invites articles from all spheres of management giving a complete holistic view.

We work on the platform of "***Igniting Thoughts of Tomorrow***" and we will constantly strive to provide articles which are thought provoking and at the same time adding value to your management education.

We hope you stay with us, read with us, share with us and grow with us!

Hope you have a great time reading Samvad!

Best Wishes,

Team Samvad.

"For last year's words belong to last year's language
And next year's words await another voice."

T. S. Eliot.

ACKNOWLEDGEMENT

Team Samvad would like to extend their heartfelt thanks to certain key members of the WeSchool family for their special efforts towards the making of this magazine.

We deeply appreciate the constant motivation & encouragement that our beloved **Group Director Prof. Dr. Uday Salunkhe** has always given us. His vision & result orientation has been the driving force in creating brilliant leaders and making WeSchool a name to reckon with, not only in India but also globally. His focus on the core values of Passion, We Link & Care, Result Oriented Process Driven Work Ethic and Breakthrough Thinking has formed the foundation of all the activities that we undertake as students of this esteemed institute.

We deeply appreciate the help and support given to us by **Prof. Deepa Dixit**. Her insight and expertise is our driving force to ensure the sustainability of our magazine.

We appreciate **Prof. Indu Mehta** for help in selecting the best marketing articles.

We would also like to appreciate **Prof. Jyoti Kulkarni** for her help in selecting the best articles on general management.

The Human resources article was scrutinized by **Prof. Rimmi Joneja**. We thank her for choosing the best articles.

We would like to thank **Ms. Yashodhara Katkar**, General Manager - Liaison, WeSchool and her PR team for helping us to reach out to our readers. Also we thank **Ms.Prachi Shah** and her team for helping us with the website updates of Samvad.

We are indebted to **Prof. Jalpa Thakker** for all her help and guidance in the making of Samvad. Her insight and suggestions have been of tremendous benefit to us. The Samvad Team would truly be incomplete without her.

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WE CHAT

MR. ANIL BAHUMAN

VP-4G ECOSYSTEM, RELIANCE JIO INFOCOMM LTD

TEAM SAMVAD

Could you give us a glimpse into your journey as a telecom professional?

After pursuing Master of Science(MS)-Artificial intelligence, I started my career in Software Product Design and Management, working with the likes of Boeing, Citibank, MIT Media Lab-Asia and IIT-Bombay. This experience was pre-cursor to my role and Managing Director and CEO at Agrocom Software technologies. After which, I joined Reliance Jio Infocomm Ltd as the Vice President- 4G Ecosystem. It has been a great journey.

What is your take on separate entities to pool spectrum (Sunil Bharti Mittal at the Mobile World Congress 2017, Barcelona)? Would it lead to long term cost reduction for spectrum acquisition?

Telecom Spectrum is a scarce resource and all operators have entered into agreements to share this resource to increase spectrum efficiency.

Telecommunication industry being a service industry, with similar offerings from each player, what could be a strong differentiator for the industry other than playing on price, as it is not sustainable.

Jio does have similar offerings as other telecom players however the Reliance Jio DNA sets it apart. We are a 4G-only provider, which means we do not operate on 2G or 3G spectrums, but purely 4G (needs fiber to each and every 4G tower). Other operators provide mostly 2G-3G and are catching-up with 4G. However they continue to interoperate with their legacy systems and legacy business modes.

India is the second largest mobile subscriber market; what could be the ideal number of telecom players in the market keeping in mind the recent announcement of merger between Idea and Vodafone?

It looks like we will end up with 5 which is much better than the scenario few year back when we had dozens of operators. Government ensures that on a circle-by-circle basis there is enough competition.

What is your view on implementation of 5G in India?

Wish it would be here today, however there are some technical challenges still to be resolved before it is truly ready for rollout. We are member of 3GPP consortium which is the standards setting body around the world.

BharatNet a project to establish a highly scalable network infrastructure accessible on a non-discriminatory basis, to provide on demand, affordable broadband connectivity of 2 Mbps to 20 Mbps for all households and on demand capacity to all institutions, to realize the vision of Digital India, in partnership with States and the private sector. To what extent can this give a boost to the Indian economy?

Public-Private partnerships take a lot of commitment on both sides and unfortunately move too slowly in our country. This has been the same with the National Broadband project where government is yet to connect most Gram Panchayats with fibre. We are happy to participate as soon as the Govt. opens this up to the private sector.

As a part of JIO, do you think 4G services would sound the death knell of the legacy 2G services being offered in India? Also, could JIO's services trigger a shift in the consumer behavior towards higher data consumption?

The fact that a larger number of existing 2G/3G user have embraced Jio with open arms definitely indicates this. Statistically speaking, 91% of total mobile data used in the last quarter was 4G data used by Jio customers. User now have access to high quality video & music content thanks to our apps and data speeds. Video call usage has seen a surge. If you take the case of social media and the Internet, more video content is being uploaded today than ever before. All of this is because of the availability of 4G data at zero cost. Now that tariffs are in place every household will make its decision. We believe they will permanently shift towards higher data consumption with Jio as their preferred provider.

What technology do you think is yet to be developed that you believe will change the face of the industry in the future?

Low-Earth-Orbit Satellites can help provide Internet to rural remote parts just like Dish TV. If this happens we do not need government to spend on Fiber. However in a world with both fiber and satellite, fiber will always carry the lion's share (90% of the total traffic).

What advice would you like to give to our students wanting to pursue a career in the Telecommunication industry?

If you are capable, innovative, and hardworking and stand out from the other, you can enjoy a successful career in the telecom industry.

(With inputs from Mr. Vishwanath Shanbhag, DGM – 4G Special Projects, Business & Engineering)

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OPERATIONS

EVOLUTION OF INDIAN TELECOM

Ishan Dobriyal, MBA (2016-18), SIBM,Pune.

1. INTRODUCTION

Indian telecom sector is more than 165 years old. Telecommunication industry first gained prominence in Kolkata when the first operational land lines were laid, although services were formally introduced in 1881. Later, in 1883, postal system was combined with telecommunication services and then in 1947 all foreign telecommunication lines were brought under Posts, Telephone and Telegraph (PTT).

The Indian government had complete control over the telecom industry until 1984, when private sector was allowed to manufacture equipment. The actual evolution of the industry started after 1985, when department of Telecommunications (DoT) was setup as a separate entity from Post and Telegraph. In 1999, the New Telecom Policy (NTP-99) provided the much needed impetus to the growth of this industry and set a trend for liberalization in the industry.

The entire evolution of the telecom industry can be classified into three distinct phases.

- Phase I- Pre-Liberalization Era (1980-89)
- Phase II- Post Liberalization Era (1990-99)
- Phase III- Modernization (Post 2000)

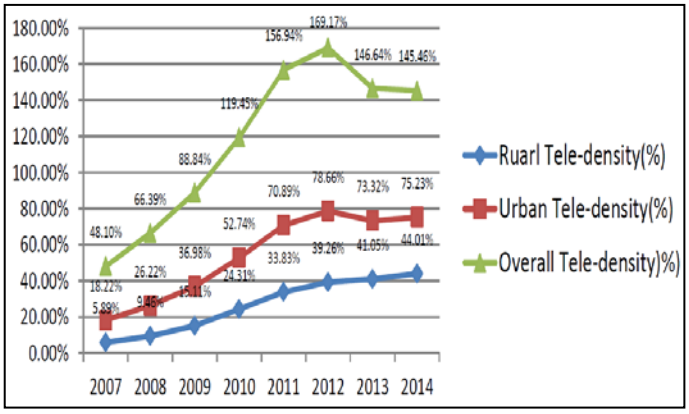
2. TRENDS IN THE TELECOM INDUSTRY

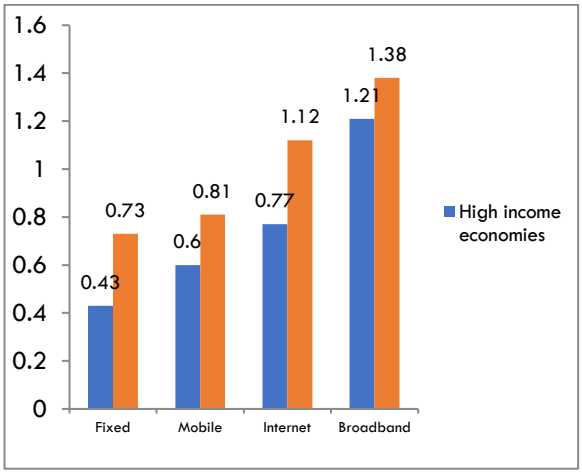
2.1. Teledensity

Teledensity is an important indicator of telecom penetration in the country and represents the number of telephones per hundred populations. There is an exponential growth of teledensity in our country due to evolution of hi-tech wireless technologies.

The Tele-density in 2015 in urban area was 149.70 % and had increased to 48.66% in rural areas. The overall teledensity in 2015 was 79.98 %. The exponential growth of wireless technology has helped in strong connectivity of rural areas. In rural areas where wireline facilities are difficult to reach, the wireless technology has been a boon and it can be seen that in 2015, teledensity of wireless communication in rural areas was 47.78 % whereas for wireline it was only 0.59 %.

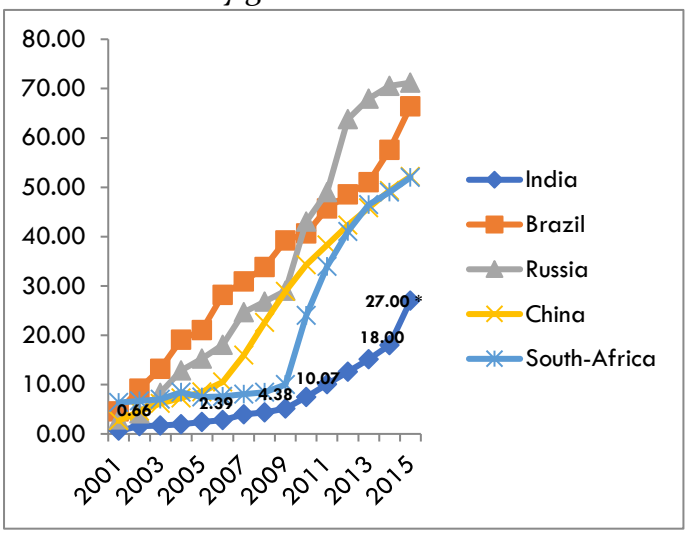
Figure 1: Important policies and decisions affecting telecom industry in chronological order





2.2. Wireless vs Wireline

With liberalization, the subscriber base of both the wireless as well as wireline medium has increased drastically. The subscriber base of telecom industry grew from around 18.68 million



during 1998 to 429.72 million during 2009 and a significant proportion of this growth has emanated from the private sector. With the gradual liberalization, the private players have been able to plan their growth wisely and with the help of fast growing technology they have been successful in firming their presence in the country. The introduction of the New Telecom Policy in 1999, enabled migration in the license fee payment mechanism from a fixed regime to a revenue-sharing regime, which eased the path of development for private players. Moreover, initiatives such as allotting third and fourth cellular licenses, shifting to a unified access licensing regime, execution of calling party pays (CPP) regime, making incoming calls free, also drew significant growth in the cellular subscriber base.

2.3. Growth of Internet services

Internet services in India have witnessed significant growth in the last few years owing to increased presence of the private players and emergence of new technologies. Although there has been significant development in infrastructure but there is enough room for improvement in customer experience.

Internet services were first rolled out in 1995 by VSNL (Videsh Sanchar Nigam Limited). However, growth stalled till 2004, when the Government introduced its first Broadband policy, which defined Broadband as:

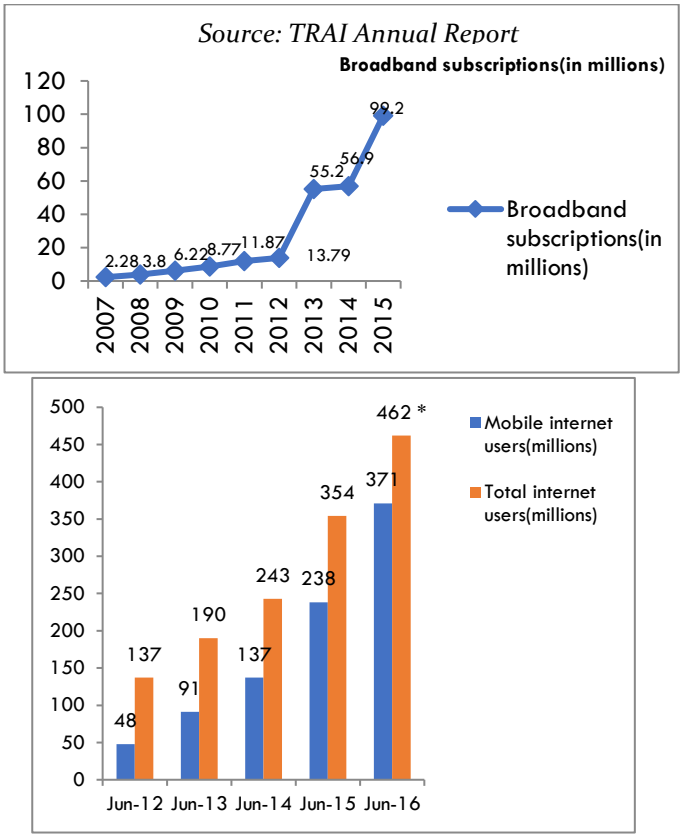


Figure 7: Bar graph showing mobile internet users and total internet users in millions

According to the report "Mobile Internet in India 2015", the share of mobile internet spends in the average monthly bill rose to 64% from 54% and the cost of accessing mobile data fell about 18% in 2015.

2.4. Advancement in Wireless communication technologies

With technology for wireless communication shifting from CDMA to GSM, from 2G to 3G and now 4G, India has advanced with the world. The people of India get access to latest of communication technology and corporate the same into their lives. With better signals and clearer transmission of voice, mobile handsets became a household objects. While there was a time when people used to stand in queues outside of STD booths to connect to their loved

ones, with India opening its door to wireless communication, STD booths have become obsolete now. Speaking across the states on mobile is much more affordable than it used to be through land-lines. Browsing internet on phones is faster than ever, allowing even HD Video streaming instantaneously.
According to a report by investment group CLSA, India's 3G and 4G subscribers have tripled to 120 million in 24 months but as affordability increases, the market will expand to 300 million by March 2018.

3. CONCLUSION

Although, the liberalization of telecommunication sector was a slow and gradual process but this gave enough opportunity to the government and companies for strategizing the growth roadmap wisely. Seeing, the boons and banes of technology especially wireless communication, it is important to regulate the sector.

The on-goings in political, economic, social and technical (PEST) share significant correlation with the developments in telecom sector and thus the later has a very pivotal role to play in shaping the nation. As quoted by former President Mr. APJ Abdul Kalam, the governance and technology should integrally work for PURA i.e. providing Urban Amenities in Rural Areas. This includes improvements in education, health, sanity and employment. With highest penetration in the country among modern technologies, telecommunication is the best medium for achieving this goal.

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FINANCE

TELECOM INDUSTRY CONSOLIDATION & IT'S IMPACT ON BOTTOM LINE

Mitesh Mundhara, PGDMFS (2016-18), SIMSR, Mumbai.

It all started when an unlisted and little known Infotel Broadband Limited won 4G Broadband Wireless Access (BWA) spectrum across all the 22 zones in India in an auction held in 2010 at a cost of Rs. 12,848 crores. The incumbent Telecom operators had already splurged on the 3G wireless technology and were set for intense competition. A day after the auction ended, Reliance Industries Limited announced their acquisition of Infotel Broadband – rechristened as Reliance Jio Infocomm Limited (RJIL) – at a cost of Rs. 4800 crores for a 95% stake. And it all changed from there on.

It took Rio 6 years and an investment of nearly Rs. 1.61 lakh crore to commercially roll out their services in September 2016. But it took them less than 6 months to acquire a subscriber base of 100 million. When Bharti Airtel, the biggest telecom operator in terms of subscriber base, released their Q3 FY '17 report, it had become apparent with a 54% drop in their Net Income that their business was hit hard due to Jio's aggressive push in the industry to gain subscribers. Their voice Average Revenue Per User (ARPU) in India fell by 6.4% and their data ARPU fell by 13%. Add to that a 17% Q-on-Q increase in Net Debt and one can Jio's aggressive entry in the already saturated market armed with its parent's deep wad of cash reserves prompted the incumbent operators to consolidate their businesses to be able to match up to the imminent threat proposed by Jio. With Reliance Communications (RCom.), MTS and Aircel deciding to merge and if the deal for merger between Tata Teleservices and RCom. goes through, it would create a combined subscriber base of 260 million users. With a net debt of Rs. 42,000 crores and lowering operating profits due to the change in status quo in the industry, RCom. in December 2016 has sealed a deal with Canada based Brookfield Group to sell a 51% stake in its tower unit, Reliance Infratel, for Rs. 11,000 crores. Both the mergers and sale of stake in tower unit will help RCom. cut its debt to Rs. 10,000 crores. With the Tata Group deciding to infuse around Rs. 10,000 crores into Tata Teleservices, it will help bring down the debt of the merged entity. This will result in lower financial leverage ratios and increased operating ratios.

The second merger in the works is the one between Idea Cellular Limited and Vodafone India (excluding Vodafone's 42% stake in Indus Towers). It is likely to go through by mid-2017 and would create a combined subscriber base of around 390 million. According to Bank of America Merrill Lynch, the merged entity would realize an increase EBITDA of 9-12% as a result of synergies in operating expenditure arising out of

the merger. With a combined net debt of more than Rs. 90,000 crores, it would still be lucrative to investors and lenders as it would have a combined market share of 43%.

Airtel's acquisition of Telenor India would help it breach the 300 million subscriber mark. It will also empower Airtel to make its existing 4G services more robust with the additional 43.4 MHz spectrum in the 1800 MHz band. Airtel, which has agreed to take over all the debts of Telenor India, will see no big impact on its debt position. Also, since Telenor's revenues are not even a tenth of Airtel's, it won't have a major impact on its revenues either. This acquisition is bound to give Airtel more spectrum in densely populated areas of India in which Telenor operates.

All of these mergers and acquisitions are slated to be completed by FY17. The combined result of all the consolidation efforts of the industry players promises a much leaner industry in terms of competitors and would result in better utilization of the resources across various geographies in India. What it also promises is a battle for higher revenue share amongst the resultant 4-5 competitors resulting in prices wars in an already constricted market. All the competitors will have higher debt resulting from a higher capital expenditure towards technology upgradation. Both the situations will, in combination, result in lower Earning Per Share for the shareholders in the short-term. Telecom Industry as a whole is going through the biggest transition in its history. At the end of this transition, it will make Investors happy with its handsome returns.

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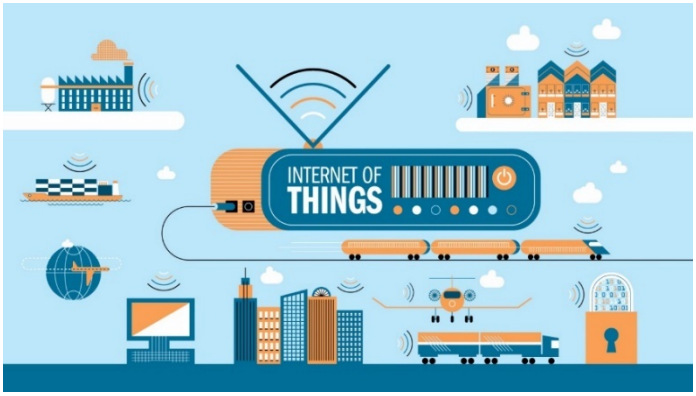
MARKETING

IOT- THE NEXT BIG WAVE

Shravan Balakrishnan, MBA-IB (2016-18), SIIB, Pune.

Communications Industry is in the throes of a digital shakeup. Internet, as we all know, is in its transitional phase. Today, it is a massive global network that helps people to communicate with each other. Be it Whatsapp, Facebook, Skype, we use all these apps to share data and communicate with each other. In other words, it is we, the people who drive the Internet. The data that we send comes from multiple client devices like a laptop, personal computer or a smartphone that goes to certain servers which transmit the information further. Looking from this perspective, we can say that the Internet is made up of three major components which are the people, devices that people use and the servers. However, in recent times, a whole new category is being added to the Internet. They have been unglamorously called as things and hence the term "Internet of Things" or IoT. "Thing" here basically refers to any object that has a sensor attached to it which can transmit data from that sensor to the cloud where analysis is made which in turn can be used in taking key decisions in any business. Temperature sensors, Traffic sensors, flow rate sensors, usage monitors and many more fall under Internet of Things. It won't be long before we see more things sending data around rather than people and this is exactly the reason why we consider IoT to be a disruptive technology.

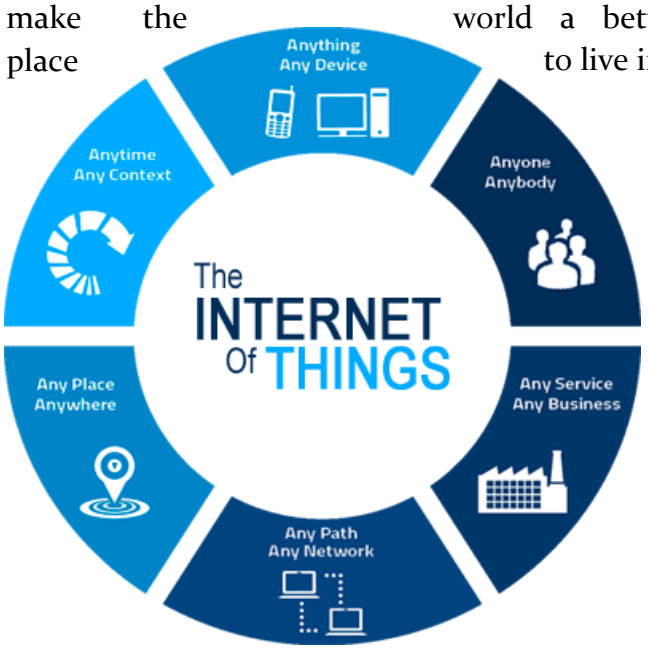
Cell phones, Internet, Smart phones for instance have all changed the way we do things both at a personal as well at a business level and clearly IoT would be no different. However, there are a lot of challenges for IoT which is at a nascent stage in order to make a significant impact. There are going to be a lot of technological challenges with respect to the devices that send the data which would include issues such as battery life, maintenance, compatibility, reliability and so on. There are multiple data issues around building systems that can process the entire data and achieve meaningful results. Security issues are in plenty. For instance, people wouldn't want to adapt to a smart home technology if there are chances of it being hacked.



Looking from a large-scale perspective say in case of Smart Cities or Smart Businesses, the impact could be immense. Companies, however, have been positive in terms of adapting to this technology. The reality of IoT from a consumer point of view took a giant leap when the Samsung CEO, Kwon Oh hyun announced that all Samsung products would be IoT enabled in the next 5 years. He also added that 90% of Samsung's products would be able to connect to the web by 2017 be it an air purifier, refrigerator or an oven. A key area of focus for companies is to ensure that these IoT devices provide a seamless experience to the customers.

A typical IoT device consists of a processor that would run at around 100 MHz which is much lesser than what is offered on a smart phone. This would mean that IoT devices would require a different type of Operating System. Companies like ARM(multinational semiconductor and software design firm) are trying their best to smooth out the road through their Embed OS. The Embed OS device would sit behind an IoT gateway and would use the gateway to talk to the IoT devices. It can also send this data to the cloud. For instance, if we decide to come back from our work early, we might want to switch the air conditioner early to ensure that the room is nice and cool before we arrive. This command can be sent from our smartphones and this will be relayed down the chain back to the unit that would achieve the desired results. Though this might sound very utopian, it has its own dangers as well. A recent security report from Intel's McAfee has singled out IoT as a potential area for security problems. It further goes on add that IoT related attacks will continue to increase due to the predicted fast growth of the number of connected devices. In 2013 at a White House security conference, it was demonstrated that webcams could be hacked that were connected to the Internet and the hackers could see what was going on. Though this is disturbing, unfortunately, this is the world we live in. Another aspect of IoT is the M2M which is nothing but machine to machine interaction. However, this is not new since we are used to it, for instance file transfers happening over Bluetooth, emails and so on.

Looking from a consumer point of view, IoT sounds very attractive. However, the big money is to be made on larger scale projects. Smart cities, Smart businesses and IoT enabled businesses are where the contracts are to be won. Everything from garbage to electricity, from trains to taxis, from parcels to production line can be built to use IoT. Though the initial investment would be high, companies would be able to save their costs looking from a long term perspective. The IoT revolution has just begun and there are going to be a lot of advancements in the next few years. It is going to be interesting to watch the journey until we reach a point where the IoT experience is seamless. There would be great innovations coming from surprising sources. Rich information sources will be available at our disposal. Imaginations are endless and opportunities are in plenty. However, as they say, with great power comes great responsibility, we would need to ensure that this disruptive technology is utilized for the right reasons and we make the world a better place to live in.



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HUMAN RESOURCES

A HUMAN RESOURCES PERSPECTIVE

Aarushi Nanavati, PGDM (2016-18), WIMDR(WeSchool), Mumbai.

Human Resource Development is a holistic concept, incorporating intrinsically social, cultural, and spiritual dimensions to build capacity and empower people.

This study sheds light on the HRD Practices in Public and Private sector companies of the Telecom Industry in India. Using case study method we have discussed BSNL and Reliance Communication Limited's to understand their role and contribution at a global level. Following Five dimensions have been selected for this article as follows:

Quality of Work life and Welfare Measures

This refers to a process through which an organisation provides a congenial working atmosphere that encourages better results at workplace and generates employee satisfaction.

Organizational Development

Organizational Development aims to bring about development in organizations in response to changes in the outside environment. Under this, attempts are made to solve these problems in ways that the organization grows and achieves greater efficiency and productivity.

Training and Development

Training and Development refers to the systematic process of developing the competencies and skills of the employees related to the job for carrying out the present and the future roles and responsibilities in the organization.

Performance Appraisal

Performance Appraisal comprises of a framework of planned goals, standards and competence requirements and it plays an important role in integrating the individual's needs with that of the organization.

Participative Management

It is a type of management in which employees at all levels are encouraged to contribute ideas towards identifying and setting organizational-goals, problem solving, and other decisions that may directly affect them.

Research findings gathered from a case study mentioned in Human Resource Development", Ane Books Pvt Ltd. New-Delhi. are as follows:

The study suggests that an adequate importance is being given by the organization to their human resource especially at non-managerial level in both the organizations of BSNL and Reliance Communication Limited, the response of employees in BSNL is 96.43 per cent and 94.64 in Reliance at non-managerial level. Whereas, the response from employees at managerial level is above average, which indicates that both the companies are showing good concern about the human resource.

It is been observed that the management is not cooperative in BSNL at either level of employees, as the responses are average at managerial level and very low at non managerial level. About 78 per cent of employees disagree with the statement that management goes out of its way to ensure the employees ease at work. Likewise, in Reliance Communication Limited also, the management is cooperating at an average rate at managerial level but interestingly, at non-managerial level, the employees agree with 94.64 per cent of majority that the management ensures their enjoyment at work.

It is been observed in the present study, that seniors supports their juniors at non managerial

level of employees in both the organizations, the results are almost near the excellent mark which indicates that juniors have been helped and guided by their seniors in performing their duties. But, at managerial level of employees, only 53.97 per cent in BSNL and below average per cent of 30.77 per cent in Reliance agree that their seniors are helpful and supportive.

About 95 per cent of employees working at non-managerial level are of the opinion that the top management is willing to invest a considerable part of their time and other resources to ensure the development of employees.

In BSNL, the employees at managerial level are not much helped by the management in acquiring competence in which they lag behind at work, as the response is average, while in Reliance Communication Limited the respondents reveals a good picture. On the contrary, the response is very good a non-managerial level in both of the companies, 98.57 per cent in BSNL and 94.64 per cent in Reliance Communication Limited which shows that the organizations take enough care in helping the employees in acquiring the skills and gain competencies in doing their jobs.

Therefore, as a whole after analysing the data the researcher came to the conclusion that the employees in both the Public and Private sector at non-managerial level are treated almost same on the grounds of Welfare Measures And Quality Of Work Life, Organizational development, Performance appraisal and Training and development while over the measure of Participation in Management the difference is found to be significant. Here at this point, the researcher feels that the top management of the companies should think about this aspect seriously and allow some degree of participation from non-managerial section of employees to enable them to expose their comprehensibility and experience. At managerial level, the focus is needed towards the training and development measures in the said organizations for the successful implementation of HRD Practices in Public and Private sector of telecom industry in India.

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GENERAL MANAGEMENT

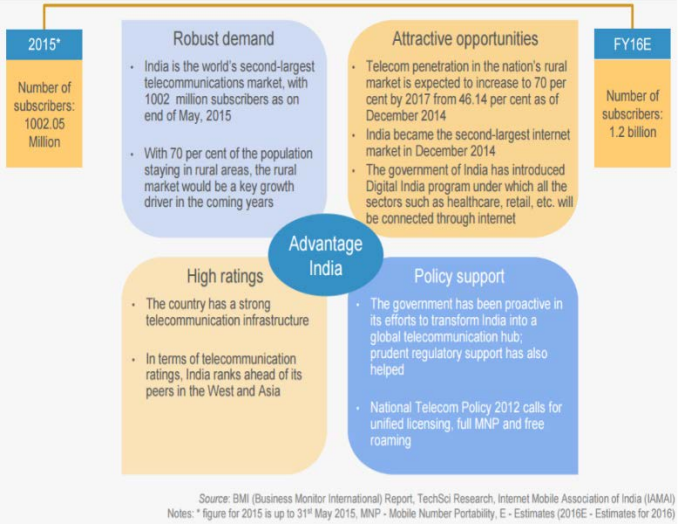
THE GROWTH OF TELECOM INDUSTRY IN INDIA

Gayatri Venugopal, MMS (2016-18), WIMDR(WeSchool), Mumbai.

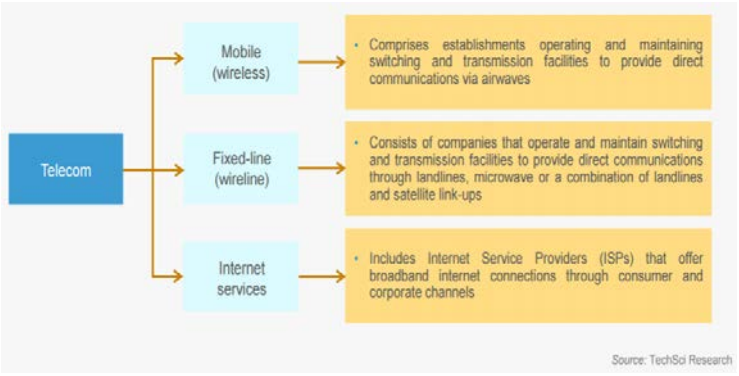
The telecom industry in India has grown remarkably. It is one of those key sectors that significantly contributed to the country's growing GDP. In FDI, this sector is the third highest contributor after services and construction right since FY 2000 with around $837 billion investment

The Telecommunications Industry of India is one of the vast and leading industries in the world. Through the use of telephone, television, satellite, radio, internet, people from different parts of the country stay connected. This industry is governed by The Telecom Regulatory Authority of India, also known as TRAI. TRAI has provided a regulatory framework and favourable environment for its efficient operation. The industry offers various services which are easily affordable to the customers of urban and rural areas of India. India's telecom network comprises some highly developed and exclusive know how.

Advantages of the Indian telecom industry:



The telecommunications sector in India is mainly divided into three segments:



Current trends:

There are two broad segments in the Indian telecom sector. They are:

- Fixed Service Providers (FSPs)
- Cellular Service Provider (CSPs)

This sector comprises of some vital telecom facilities like Telephone, Radio, Television, Internet etc. Nowadays, Indian Telecom Sector is specially giving huge importance to latest technologies like GSM (Global System for Mobile Communication) and CDMA (Code Division Multiple Access) along with Fixed Line, PMRTS (Public Mobile Radio Trunking Services) and WLL (Wireless Local Loop).

Growth of Telephones: The development of India's infrastructure plays an essential role in the development of Telecom Sector of India. The Indian government is providing certain benefits to infrastructure companies and the private companies are also encouraged more and more to invest in this sector. As a result very good growth in this sector can be seen in the country.

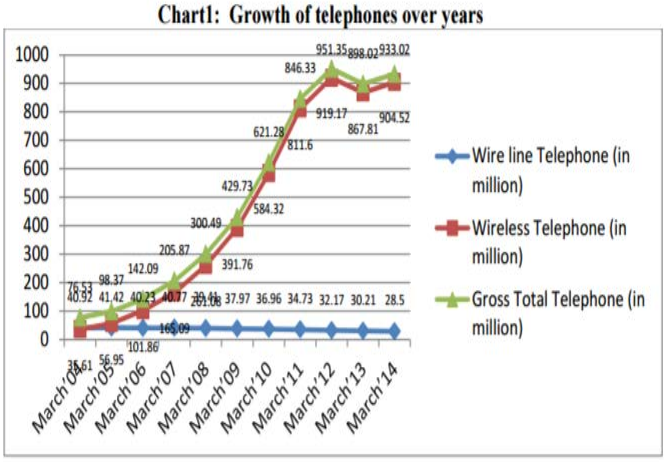
Table1: Growth of Telephones over the years (in million)

Sr. No.	Years	Wire line	Wireless	Gross Total	Annual Growth %
1.	March'04	40.92	35.61	76.53	40
2.	March'05	41.42	56.95	98.37	29
3.	March'06	40.23	101.86	142.09	44
4.	March'07	40.77	165.09	205.87	45
5.	March'08	39.41	261.08	300.49	46
6.	March'09	37.97	391.76	429.73	43
7.	March'10	36.96	584.32	621.28	45
8.	March'11	34.73	811.60	846.33	36
9.	March'12	32.17	919.17	951.35	12
10.	March'13	30.21	867.81	898.02	-6
11.	March'14	28.50	904.52	933.02	4

Source: Dept. of Telecommunication (DoT), Annual Report, 2010-11, And Annual Report, 2013-14

The above table shows that the growth is positive in case of wireless and marginally negative in case of wire line phones.

Chart1: Growth of telephones over years

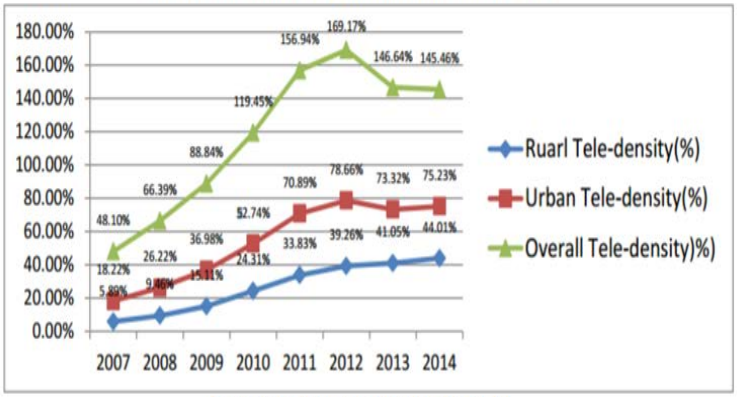


Source: DoT, Annual Report 2010-11 and Annual Report 2013-14

Tele-densities:

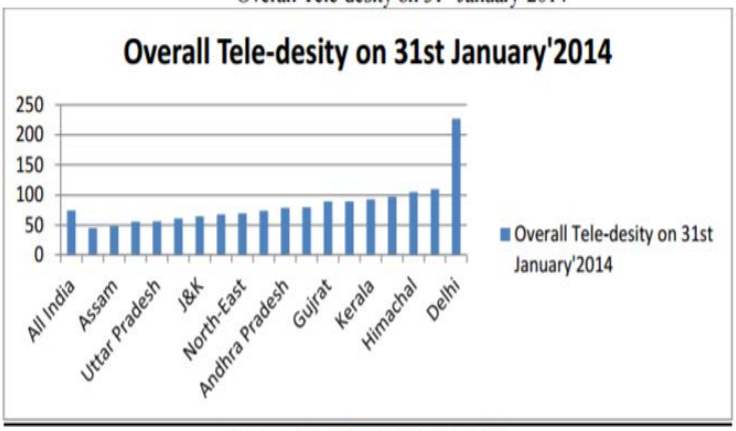
Tele-density is a gauge of the telecom diffusion in the country. It shows out of the country's current population, the number of telephone users for every 100 citizens. There is an exponential growth of tele-density in our country as a result of the advancement of hi-tech wireless technologies. The Tele-density of March 2004 was 7.02% and it has risen up to 53.46% in March 2010 and even increased to 74.5% in January'2014.

Graph 2: Trends in Tele-density from 2007 to 2014.



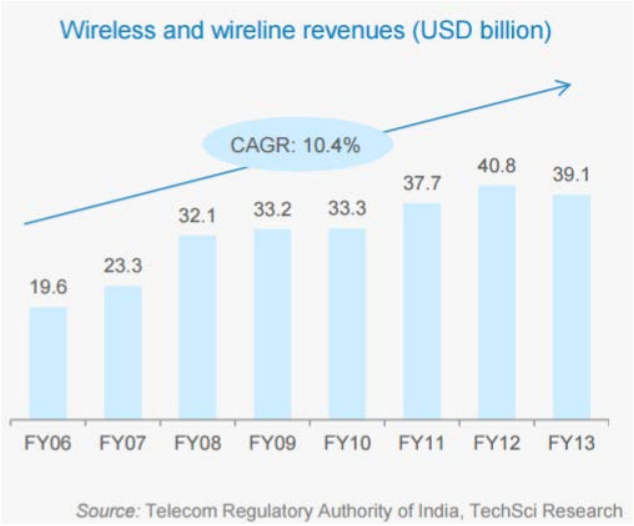
Source: DoT Annual Report 2013-14

Overall Tele-desity on 31st January'2014

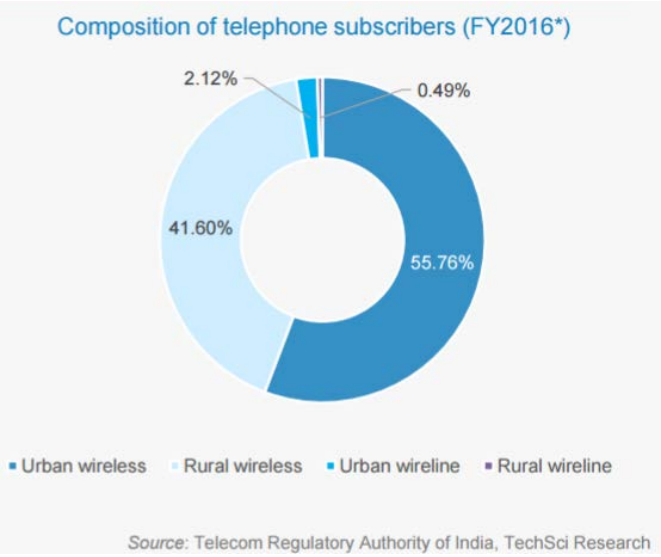


Source: TRAI Press Release, 2014

The revenue of the Indian telecom sector has grown by 10.7 % to USD 71.2 billion in FY14 as against USD 64.3 billion in FY13. The wireline and wireless revenue grew at a compounded annual growth rate of 10.4 % to USD 39.1 billion compared to FY06–13. Revenues from the telecom equipment are estimated to be around USD19 billion in FY15, which is again estimated to reach USD 34 billion in FY20.



The telephone subscriber base in India touched 1002 million in May, 2015. The wireless segment (97.36 % of total telephone subscriptions) captures the market, while the wireline segment comprise of the rest. Urban regions comprise of 55.76 % of telecom subscriptions, while rural areas make up the remaining.



Key companies in the market:

	Company	Ownership	Presence
MTNL	Mahanagar Telephone Nigam Ltd (MTNL)	Government (56.3 per cent), Life Insurance Corporation (18.8 per cent)	Fixed-line and mobile telephony (in Delhi and Mumbai), data and Internet
BSNL	Bharat Sanchar Nigam Ltd (BSNL)	Government (100 per cent)	Fixed-line and mobile telephony (GSM – outside Delhi and Mumbai), data and Internet in 22 circles
Reliance Communications	Reliance Communications	ADAG Group (approximately 67.9 per cent)	Mobile (CDMA) and broadband
Airtel	Bharti Airtel	Bharti Group (43.6 per cent), Pastel Ltd (14.8 per cent), Indian Continent Investment (6.7 per cent)	Broadband and mobile (GSM) in 22 circles
vodafone	Vodafone India	Vodafone (84.5 per cent), Piramal Enterprises (11.0 per cent)	Broadband and mobile (GSM) in 22 circles

Source: Companies' websites, Bloomberg, TechSci Research

Notable trends in the telecom sector:

Green Telecom

The main aim of the green telecom concept is decreasing the carbon footprint of the telecom industry by consuming of limited energy. TRAI has initiated a discussion session in May 2010 and has requested inputs from various firms across the telecom value chain to give suggestions on the green telecom's framework and its implementation.

Expansion to Rural Markets

Over 62,443 villages in India are uncovered; these would be given the village telephone facility with subsidy from the Government's Universal Service Obligation Fund (thus increasing the rural tele-density). In May 2015, over 42.1 % of the total subscriber base was comprised of the rural subscribers, thereby powering the sector's growth.

Emergence of BWA Technologies

The most noteworthy recent developments in wireless transmission also include the BWA technologies like LTE and WiMAX. WiMAX is estimated to have drawn around 8 - 10 million subscribers. Reliance Jio, which is the only operator to have bagged the 4G spectrum in all the 22 circles, started its services in September 2016.

Telecom Finance Commission

A Telecom Finance Corporation (TFC) is likely to set up by the Telecom Commission (TC) for directing funding for telecom projects at rates that are competitive for enabling investment in the sector.

Rising investments

To encourage local research and manufacturing of telecom products, the Indian government has recommended financing of USD 32.2 billion in the following three phases:

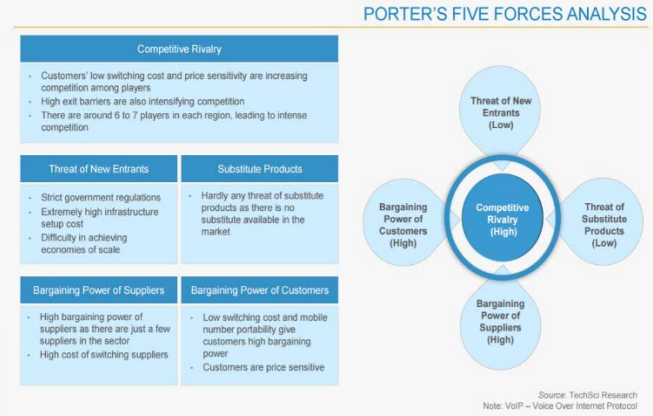
i) USD 9.2 billion to the Telecom Research and Development Fund,
ii) USD 4.6 billion for the Telecom Entrepreneurship Promotion Fund, and
iii) USD 18.4 billion to the Telecom Manufacturing Promotion Fund during the 12th Five-Year Plan

Outsourcing non-core activities

As part of the recent outsourcing trend, operators have outsourced functions such as customer service, maintenance of network and IT operations.

Mobile banking

In 2015, around 340 million banking transactions via mobile were reported. This is up by 75% from 2014. Availability of smartphones that are now affordable, accompanied by an increase in the safety level of mobile transactions, is predicted to increase the growth of transactions conducted through phones. Also, the total transaction value has been tripled in 2014 from 2013.



Future Growth Opportunities of Indian Telecom Sector:

As per TRAI, there are two other related facets for market growth namely - obtainability of band and obtainability of reserves for the development of network and expansion. As per the report of Department of Telecommunication, GOI has increased the FDI limit for this sector to 100 percent during August 2013 to make sure that there is an incessant flow of investments to increase the spread of mobile operators. Telecom operators have been acting on a segmented method to understand the potential of the market so that they can achieve their target and the estimates. As per the DoT (2013-14), Department of Telecommunication plans to help the country in its variety, new telecommunication amenities will be enabled to all the remote corners of the nation. For this, the telecom sector will give special emphasis on areas in the North-Eastern region and backward states of the country. At the same time, a comprehensive legislation is necessary to promote good competition, facilitate methods and procedures, stimulate innovative techniques and build connections with other sectors by simplifying growth of the economy by use of communication expertise.

Thus, the development and growth of Telecom sector of India has made it an important contributor in the country's economic and social development. Every functional division and service provider of this sector in India is tries to provide excellent telecom framework in its region of control to give facilities to its consumers, thus, enabling the country to development in the universal scenario.

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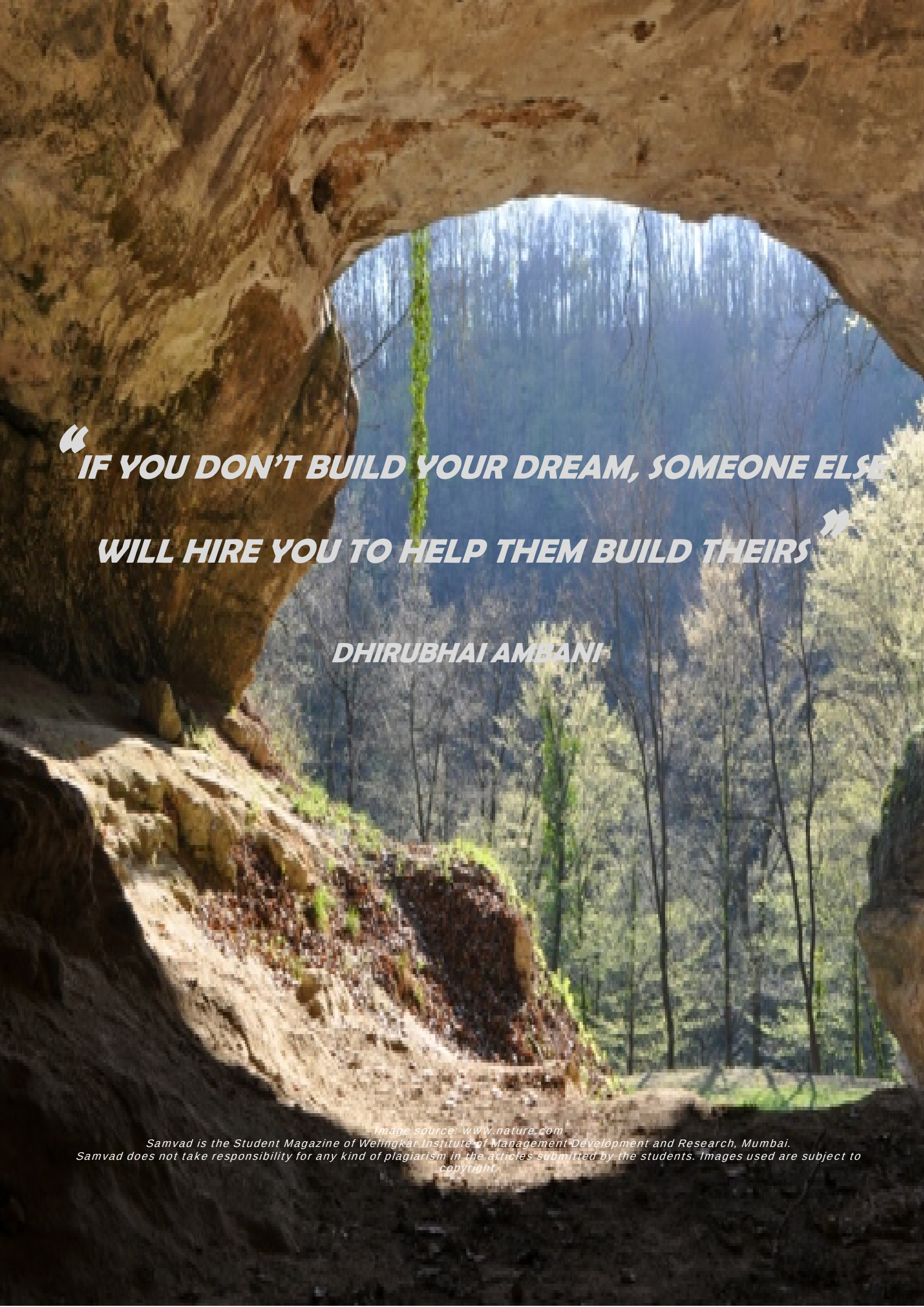

Image source: www.nature.com