

# TELECOM INDUSTRY

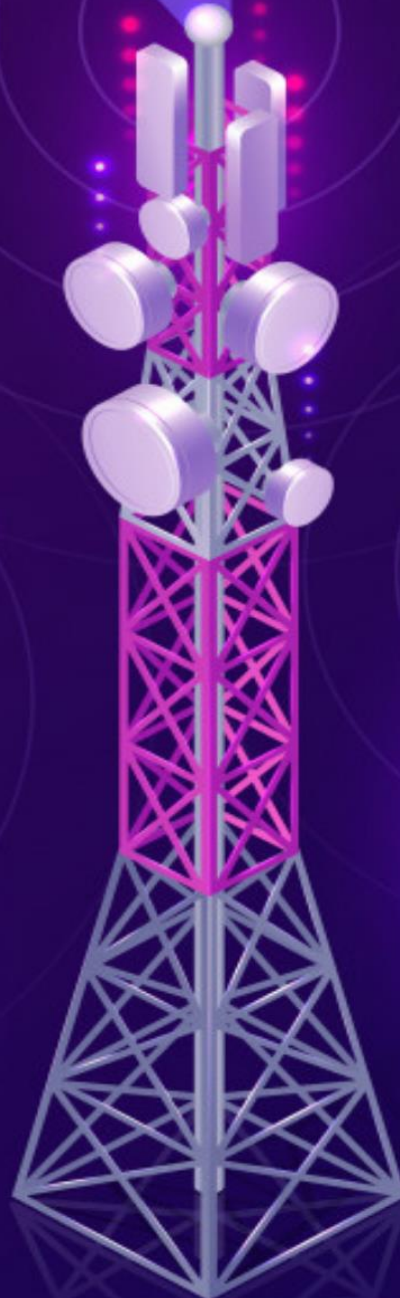
We are all now connected by the Internet,  
like neurons in a giant brain.

-Stephen Hawking

► **WeChat**



**SREEJITHA RAJAN**  
ASSISTANT MANAGER-  
CORPORATE SALES  
BHARTI AIRTEL



# 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 the 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 require 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,

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.



**Prof. Dr. Uday Salunkhe**  
Group Director

As we begin a new journey with 2020, I sincerely hope that SAMVAD will reach new heights with the unmatched enthusiasm and talent of the entire 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.

**Prof. Dr. Uday Salunkhe,**  
Group Director

## FROM THE EDITOR'S DESK

Dear Readers,

Welcome to the December Issue of SAMVAD for the year 2020!

SAMVAD is a platform for “*Inspiring Futuristic Ideas*” and we constantly strive to provide articles that are thought provoking and that add value to your management education.

With courses pertaining to all spheres of management at WeSchool, we too aspire to represent every industry by bringing you different themes every month. We have an audacious goal of becoming the most coveted business magazine for B-school students across the country. To help this dream become a reality we invite articles from all spheres of management giving a holistic view and bridge the gap between industry veterans and students through our WeChat section.

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.

We bring to you the December Issue of SAMVAD which focuses on “**Telecom Industry**”.

The Industry that acts as smart utility pipes, or which provides means of communication, is the Telecom Industry. One of the fast-paced industries today that has created a disruption due to its continuous innovation and evolution. From 74% FDI to 100%, the Industry has proved that it can lead the markets globally with rapid growth. And with Pandemic, the increasing number of smartphones and internet users has paved the way to penetrate more. So in the final edition of 2020, we have thrown light on how Technology has been a vital element to help evolve the Telecommunication Industry.

We hope you read, share and grow with us!

Hope you have a great time reading SAMVAD!

Best Wishes,

Team SAMVAD.



We Chat: Sreejitha Rajan

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# WECHAT

**Sreejitha Rajan**

**Assistant Manager-Corporate Sales, Bharti Airtel**

## *Team SAMVAD*

**1) Could you please take us through your journey from being a Welingkarite to date?**

**Ans:** I started my journey with Welingkar in 2017 with a specialization in Research and Business Analytics, eventually getting placed in Bharti Airtel in 2019 as a Territory Sales Manager. It has been a great experience as the courses in Welingkar are extremely well structured as per the specializations, which helped me in preparing better and making me confident to face companies for placements.

One of the major reasons for getting through the interview process is that I could easily channelize my learning and put it forward in a constructive way during the interviews.

**2) In your opinion, how has COVID19 pandemic impacted the Telecom sector in India?**

**Ans:** The pandemic initially did start off hitting almost every business sector. But I would like to highlight that within a month or two, we as a Telecom company could leverage and explore new opportunities like work from home solutions, e.g. Audio/Video Collaboration services, Wi-Fi's Dongles, etc. Telecom companies tried to make an opportunity out of the crises and managed to maintain the run rate by exploring and focusing more on solutions that people could use working from home. Instead of focusing more on the bread and butter products that were difficult to sell during

the pandemic, telecom companies focused more and came up with new products and initiatives in a span of 2-3 months that could help employees working from home.

**3) Many industries are going through major technological transformations using various emerging technologies like Block chain, Big Data, and AI. How telecom sector is leveraging these advancing technologies?**

**Ans:** Like other sectors, Telecom too has come up with many products based on AI and IoT, which have been fairly accepted by people. Also, we have been now using AI and Big data for competitor analysis and customer trend analysis to improve the customer experience and to fulfill any possible product requirement in the future.

**4) Over the past few decades Telecom sector has seen a big change, especially in India. How this sector has become more appealing for investors?**

**Ans:** Telecom sectors now have tied up and collaborated with many IT companies, Cloud platforms, Security platforms, etc. which have boosted the revenue. Also, due to the expansion of towers even in the remotest of areas, more people have got dependent on Telecom. And investors would find it appealing because the network is constantly upgrading and the 5G network is also coming.

**5) With educational, entertainment, and digital services now being somehow a lot more dependent on the telecom industry, what are your contingency plans with respect to operators wanting to provide more bandwidth to the end-users?**

**Ans:** So far, we as a telecom company are able to provide satisfactory bandwidth to all customers. Also, Airtel has been investing thousands of crores on infrastructure e.g. towers, network resources, etc. Therefore, the efficiency, capacity, network quality, and speed are only going to improve and are sure to meet every customer's needs. It would go without saying that the more investments in infrastructure and resources, the more improved the bandwidth and network quality would be.

about a variety of products and services being in this field.

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**6) What are some important challenges that this Industry is facing currently?**

**Ans:** As there are only very few operators in the Telecom Sector, the competition has reduced significantly, which in turn affects a healthy competitive environment and is opening more doors towards a monopoly kind of environment which could be a challenge for this sector.

**7) What is your advice to the young professionals who will be starting their careers soon?**

**Ans:** I would definitely recommend and encourage our youth to pursue their career in Telecom, as now the industry is expanding immensely with huge tie-ups with large Cloud, IT Organizations. Also, companies have been making huge investments in resources. Therefore, it is not going to saturate anytime soon and is only expected to grow further. The practical learning and exposure are immense in this field. One will definitely come out learning

# OPERATIONS

## Use of Blockchain to improve the supply chain in Telecom Industry

***Shubham Wagh –PGDM E-Business 2020-2022, Prin. L.N. Welingkar  
Institute of Management Development and Research, Mumbai***

Blockchain technology was first acquainted with the tech market as an approach to oversee and secure Bitcoin and other virtual or computerized monetary forms (digital currency). Notwithstanding, a couple of years after this, blockchain innovation has various applications in the field of land and Medical. Blockchain is a bunch of a set of distributed ledger technologies (information structure) that is customized to record and track any essential data from monetary exchanges to clinical records and resource proprietorship. Presently, this innovation is quickly advancing to upset how exchanges are being prepared, clients are being verified, and Instalments are being executed. Blockchain is turning into a norm in the business world. Blockchain as a technology can upset or change plans of action pretty much in every industry. While blockchain innovations have broad applications in areas like finance and production networks, Most Telecom organizations are yet to feel the full power of this arising innovation. Over the years, our SIM cards have become more modest and smaller. We presently have numerous approaches to communicate through sound, video, and text over the web, yet the dependency on Sim cards has not been reduced. The only change has been in the way of treating information.

One of the difficulties that telecom organizations face is the need to advance in a serious and competitive market while lessening operating costs simultaneously to keep their administrations at a reasonable value range. Existing Technologies of Telecommunication industries are not community-oriented and

secured. They have consistently provided low customer service; that's why they have made poor impacts on the profit-loss situation. Telecom Industry has the framework of the most complex operation involving many partners, vendors, customer groups, distributors and network providers. Most Telecom companies depend on complex connections between outsider suppliers to convey quality and extensive administrations to their clients. There are a lot of trust issues and transparency challenges due to the involvement of Multiple Entities besides many fraud activities in Telecommunication Organizations. As per a report delivered by Deloitte, Communication Service Providers (CSP) lose USD 40 Bn consistently because of fake exercises. Thus Blockchain would be a superior choice for it to solve all these problems. New Business model can be made more supply chain efficient and more client-oriented with the use of Blockchain. Embracing blockchain to upgrade productivity, improve supply chain processes, construct trust, and improve straightforwardness can help telecommunication organizations convey quick and solid assistance that clients love.

The use of Blockchain can be done in the Telecom sector in the following ways –

- Blockchain has enabled multiple digital assets, and it can be utilized to follow instalments between Third-Parties; it can help telecom organizations to keep an eye on the exchange of payments and avoid duplication of payment.
- The Telecom area needs to manage numerous agreements, License Agreements,



and protected innovation commitment, so Blockchain would be a superior alternative for that cycle. Since Blockchain utilizes decentralized records, those Decentralized digital ledgers can help telecommunication businesses to facilitate different expert associations with service providers and B2B clients to smooth out the cycle.

## Architecture of Blockchain Model

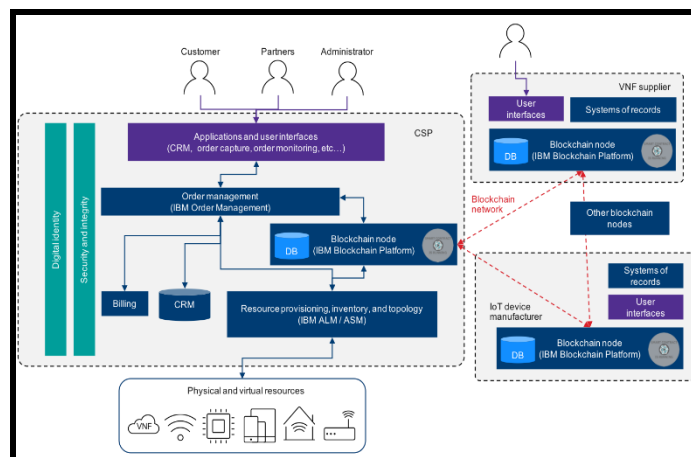


Image Source – IBM Developer

- Centre operations of Telecommunication organization, Operation Support System (OSS), and Business Support System (BSS) measure partner management, enterprise management, and customer management to address contracts, settlement, supply chain management, SLA management, SLA the executives. These processes are too complex and can get improved with the assistance of the Blockchain Process as it will be safer, straightforward and effective. In the business/operation support systems scenario, the facilities provided by Telecommunication organizations have a complex structure with a multi-string production network environment that requires interdependent teams. Blockchain would empower situations where Telecommunication organizations will have the option to eliminate agents in between transporter settlements, forestall misrepresentation during wandering, and versatile number movability measures. It will improve the efficiency of the process by eliminating most of the loopholes from the entire supply chain process. It can likewise provide an effective production network framework.
- In roaming partner settlements, the current telecommunication industry measures require a month, and the issue of goal timetables take two months. With blockchain, the process can get disentangled with continuous perspectives. This aids in quicker issue recognizable proof, goals, and decreased debates. Organizations can robotize SLA understanding reports into Smart Contracts through programmable blockchain arrangements and can give an actual view to all the stakeholders.
- Telecom Organizations can improve their supply chain management with the assistance of blockchain. Smart contracts empower software participation between the organization and the associate inside the chain, and it may robotize the Inventory Management process. Smart contracts have earlier settled terms, and the agreement self-executes only when the terms are satisfied totally. The utilization of Smart contracts offers extreme cost decrease for telecom business Organizations. It eliminates the middleman and keeps the record-keeping through the entire store network cycle simple and straightforward, which decreases the expenses of accounting and auditing.
- Numerous Subscription Identity burglaries occurred before in the telecom area when a Subscriber utilizes bogus recognizable proof or another supporter's
- ID to get the telecom administrations. There are numerous manners by which a supporter's character can be undermined, for instance, email phishing, SIM card misrepresentation, and so forth so this issue can be addressed with the assistance of blockchain to improve the cycle, Blockchain can be utilized to distinguish a device and connection that device to a Subscriber's identity. Rather than broadcasting the IMSI

to the net, the device produced public key has been shared. In such a case, neither the transporter nor some other outsider has to know the private key. Blockchain can assist with securing private data that is vigorously encoded in the private key. The private key is related to just a single device, so the probability of Data theft gets decreased.

- Soon the world will switch into a 5G Network, which will be multiple times quicker than 4G, will have a lot of lower inertness and more prominent limit. However, to do the management of such a complex network is a hard task, 5G is another innovation that can get profited by the blockchain. For the 5G System, The Telecom business needs to deal with various hubs and mechanism. It will be a hard task for telecom companies to choose the fastest access node for every user. Blockchain can empower such access determination components when 5G is created.

Blockchain is a trendsetting innovation that can make a tremendous commitment to the broadcast communications industry. It can improve security, make a supply chain process more efficient, and make open the gates for extra revenue for telecom endeavours. So, the adaption of the Blockchain telecom industry would be a great initiative towards a bright future.

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# MARKETING

## Freebie Marketing in Telecom Industry

*Visharad Bhatia– PGDM 2020-2022, Prin. L.N. Welingkar Institute of Management Development and Research, Mumbai*

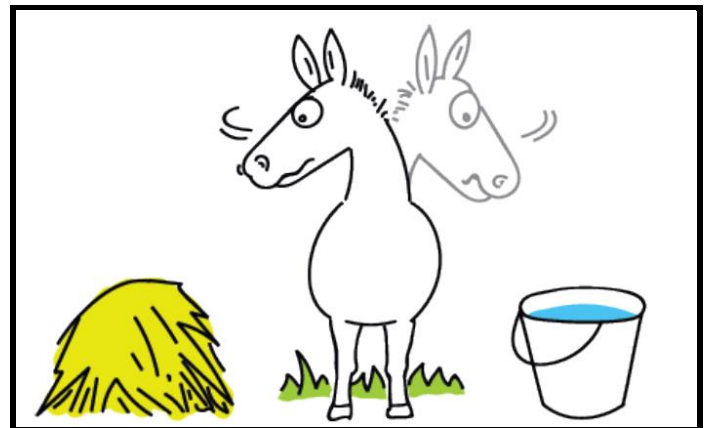
Freebie Marketing in layman's language is the added sugar to make the pie taste even sweeter. It is a promotional method wherein the marketer throws in something extra which turns the decision-making of the prospective customer in favour of the marketer's product. However, freebie marketing usually comes with an expiry date as it is tough for a company to keep using its share of profits and throw in something for no cost. That being said, for products on the introductory stage of the Product Life Cycle, freebie marketing is not a bad option taking into account a strong capital backing. It has been a market of our lives way before we learned of its nomenclature. Remember the free PokemonTazos with Cheetos? The tattoos with Boomer? The whistle on the lollipop stick? Yes, we have been victims (no, we all loved to show off those Tazos) of Freebie marketing whenever we chose Cheetos over Uncle chips just to get our hands on the latest Tazos in the market!



PokemonTazos (Source: facebook.com)

Why does Freebie Marketing work? Heard about "Choice Overload"? This term is literally made for the frustration and dilemma that customers are caught in while choosing among the alternatives when given too many options to

choose from. Customers are caught in a Buridan's Donkey like dilemma while picking the best among the alternatives. Let me un-complicate it for you: John Buridan came up with this theory in the 14th century that when a donkey, that is equally thirsty and hungry, is kept equidistant from a well and stack of hay, it will die of both thirst and hunger as he will be unable to make a decision. Thus, a customer is caught in a Buridan's Donkey like dilemma and the "freebie" by marketers is used to nudge the customer out of it.



Buridan's Donkey Philosophy

Today, Freebie marketing is used in all shapes and forms. From discount coupon giveaways in the online world to getting a chance to meet your favourite actor by buying a carbonated sugary drink, anything and everything is

possible today to enable the prospective customer to make the desired choice and freebie

marketing holds more rationale than it ever did. Why? Because gone are the days of "Shravanam, Mananam and Nidhidhyasana" (A quote from *Taittiriya Upanishad* that translates to "perceive, continuously reflect on what you've perceived

and deeply contemplate before arriving at the truth”). Today, the average attention span of Homo Sapiens have dropped to 8 seconds (that is even lower than a Star Fish’s!) and if your product can stand out from the crowd in those 8 seconds, you win! Freebie marketing was all-pervasive in the various sectors but Telecom. It was only after 5th September 2016 that it became a part of the Telecom Industry. How am I so sure about the date? It is the date when Jio entered the Telecom Industry and Reliance with its aggressive marketing burned the Lanka of other prominent players. Giving this reference from Ramayana seems unreasonable here because I am really unsure if it would be a “victory of good over evil” since so many rules and regulations of the Telecom Regulatory Authority of India (TRAI) were matched with Lanka too.

However, this set the dynamics of the whole industry into motion and the competitor’s started to cut down their pricing to ‘defend’ their turf. While the Jio sim cards were sold and the demand for which rose day after day, even a black market flourished for it in small towns.



Imagine the sort of fierceness among the major market players. Still can’t imagine? What if I tell you that the competition had to spend so much on Freebie Marketing that it was the primary reason for them to stand defaulter on their Adjusted Gross Revenue payments? The payment that was meant to be made to the centre stood at a whopping Rs. 1.6 Lakh Crores i.e., almost 55% of India’s 2019 GDP, the

payment dates of which had to be extended by the Supreme Court. Now imagine if the rules of TRAI were followed, the payments (or a part of the payment) could have been made, the amount which the GOI could have used in times like these were economy shows recessionary traits. Yes, agreed, only telecom players can’t be

blamed for this however it is just another Chicken or Egg dilemma.

Now coming back to the topic i.e., the freebie marketing in telecom. No coin has one side. Flip this one too and unravel the positives of it. Freebie marketing is actually the need of the hour. How? Thanks, (or no thanks) to the pandemic the usage of the internet is skyrocketing. Zoom, WebEx, Google Meet and whatnot, have started to play an essential part in our lives. The constraints of limited data would not allow a kid from a middle or lower middle-class family to attend online classes. It is times like these when we require freebie marketing more than ever. Even the government is promoting online education and plans on giving India its most awaited infrastructure to promote online education so that India gets armed with the required tools to face any pandemic in the future, God forbid if any. Most of the Telecom players have started to give out plans with x2 ‘Data Allowance’ for the same number of plans. This has actually brought down the absenteeism of students who are willing to attend classes but due to unavailability of data unable to do so.

Thus, it won’t be wrong to say that in a highly competitive environment it is a win-win for customers. The question however still stays – ‘For how long?’. It is times like these that huge players should step forward and bring about positive changes in the market and for the market. The answer to ‘For how long?’ should be ‘forever’. Telecom players should join hands with the GOI in its mission to penetrate internet facility in all the nook and corner of the country. The companies should accept student IDs with Aadhar Cards to roll out differentiated plans especially for students. This would not only increase their sales but also help them capitalize on the ‘Indian’ sentiment that is present in the current political environment.

Herein, my suggestion would be to have the Telecom players use the freebie essence in marketing to win more customers, but try to do

better to India as a whole, than to use it merely to make the opponents raise the white flag. I would like to recall Gandhi's Trusteeship theory and reiterate that companies exist due to customers and not vice versa. Telecom giants should understand that the direction of the wind is strong towards privatization and soon it will be a levelled playing field. It is only with collaborated efforts with the government that they will be able to gain substantial customer loyalty so that eventually when the facade is over and the curtain of "freebie marketing" falls, the market share stays intact. As the saying goes – "If you want to go fast, go alone. If you want to go far, go together."

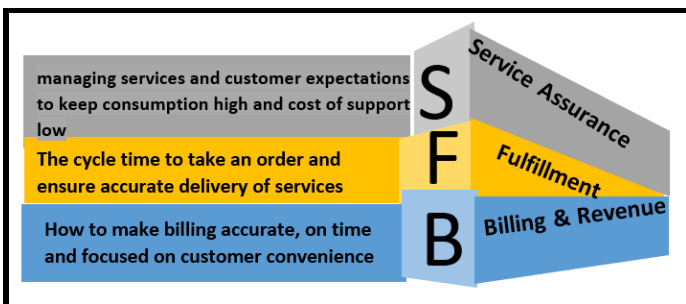
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# HUMAN RESOURCES

## Ways HR can Shape the Culture of Great Customer Experience in Telecom Industry

*Oshin Dewan & Sayantan Ghatak– HRM Batch 2019-2021, Xavier Institute of Management (XIMB), Bhubaneswar*

Customer experience in all facets of the buyer's journey is the perception your consumers have of your brand as a whole. This leads to your brand view and affect factors relevant to your bottom line, including profits. Customer experience is utmost important for any organization because it generates huge revenues for the company. There are various ways to enhance customer experience but it is the people of the organization who are central to providing great customer experience. And this is where the role of an HR is very crucial, and he/she can be an enabler to driving a great customer experience. As a part of improving the customer experience, operators have come up with series of initiatives such as –



There are 5 main factors involved to make the Customer experience a better one in a Telecom Industry which are as follows –




### Ways HR can shape the culture of great customer experience

- Before driving a culture of customer experience, it is imperative to start from hiring for this customer-orientation (competence). This may be done by asking the right set of questions about any situation faced wherein the prospective candidate has had a tough client and then what he/she did about the situation and what were the results of the same. This is purportedly done to send a clear message to the candidates and also to the hiring managers that customer-centricity has to be the way of working every day and it of much significance to the company.

- According to various research done, great employee experience leads to great customer experience. Companies that excel in better customer experience have 1.5 times more engaged employees. And business units with engagement scores in the top 25% had 10% stronger customer metrics. 79% of the employees at companies with above-average customer-experience are highly engaged in their jobs. Therefore, customer experience is also linked to how much engaged employees are in the organization. And HRs need to build such engagement strategies which drive employees to excel at their work for customer experience. Engagement is not just restricted to fun activities, but it also extends to providing employees good project



opportunities, responsibility, autonomy. Providing them skills, knowledge and developmental programs in areas which may be more client facing can provide them requisite knowledge and skills, in dealing with the clients. Therefore, finding the need analysis of the job/work required, L&D programs need to be developed in accordance with the same.

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 ■ Creating a culture of employee empowerment means giving employees the autonomy and freedom to handle customers in their own way, however, that does not mean they are not supervised. But they should be given some autonomy to deal with the client because they may know the customer at the ground level. And empowered employees take pride in their work. And empowerment becomes more important when it comes to **'top talent'** (employees). Top talent associate more with an organization which empowers them to do their job effectively. According to one study, organizations that empower employees experience **50%** higher customer loyalty and all this will be reflected in excellent customer service. And HRs can bring in such changes by bringing in flexible work hours and communicating to the managers about the need to empower employees with the autonomy to carry out their work.
- There may be certain sets of customer complaints/queries/feedback which have a procedural way to attend to. Or there might be a certain set of queries which may be standard. Therefore, there needs to be a knowledge repository for the same so that employees can refer to it when in need and also it can save some costs of training new employees on easy processes and up to \$990

can be saved due to this. HRs would need to drive this by segregating the knowledge repository documents according to the role of the employee because not every document is for every employee and not every employee needs to see non-role or sensitive document of the company. Already existing knowledge would mean that customer queries are resolved fast and this leads to better customer experience. However, organizing Knowledge transfer on the knowledge repository has to be facilitated by the HR if the company is just starting with the knowledge management repository such as in a start-up.

- HRs can also fuel a culture of great customer experience by tying the performance-metrics and compensation with the customer experience. There can be customer-centric metrics for measuring the performance such as customer-feedback-rating, number of customer complaints/queries resolved, customer retention etc. And then this can be tied to their short-term incentives or bonus. Star employees' stories of customer handling should be communicated to everyone. This will not only increase the morale of the start performers but also instil a sense of motivation in other employees to perform at their best.
- Companies that have a highly effective communication had **47%** higher total return to shareholders over the last five years. HRs need to build a strong internal communication strategy to mobilize employee's customer dealing with the vision and mission of the organization. Only when the employees are motivated to carry out their work effectively for better customer experience, they would be able to face new challenges that might come every day at work and then take decisions accordingly.

- Building a culture of collaboration needs to be facilitated by HR because the customer sees the organization as one whole big unit to provide services to it. HRs would need to drive a culture of open-door policy and integrate such communication and collaboration tools for the employees to effectively communicate for cross-teams and cross-functions to carry out customer services effectively. HRs can also incorporate Wi-Fi and mobile expenses in the reimbursement components/ set of benefits for the employees to collaborate with one another while working from home.
- Developing a culture of emotional intelligence is to be facilitated by HRs so as to deal with tough customers. This can be done by introducing programs specially designed around the same. Also, in the induction/orientation process itself, business vision of providing great customer experience should be communicated to the new hires.

Customer experience is not only affected by the company strategy but also by its culture, people, policies, etc. and HRs can be a catalyst in doing so by facilitating collaboration, revamping policies if possible and instilling empathy for customer needs as one of the values, apart from the ones discussed above. Therefore, the role of the HR in bringing a culture of customer experience is not just of a facilitator but that of an enabler.

Companies that invest in employee experience are 4 times more profitable than the ones who do not.

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# FINANCE

## 5G Services: An Economic Opportunity Game Changer in the Telecom Industry

*Aditi Pandey – PGDM 2020-2022, Prin. L.N. Welingkar Institute of Management Development and Research, Mumbai*

While many businesses experienced their shutters closed by the fallout from the COVID-19 pandemic, the telecom industry was burgeoning and kept the world's economic clock ticking.

In the 'new normal' that the COVID-19 pandemic is creating, businesses across the world are in the middle of a major digital transformation, and connectivity has become necessitous in terms of providing linking opportunities while increasing organizational resilience. The future value of telecom, beyond being an enabler of connectivity, lies in innovating customized experiences and value services. The current telecom industry is proliferating with innovations.

The 5G services are on the top of the innovation list, as it is transforming the levels of connectivity, making it better, more secure, and has enhanced customer expectations.

With the 5G opportunity empowering the emerging technologies (IoT, AI, big data, edge computing, etc.) and maturing together, 5G is set to be a game-changer for the telecom industry all over the world and is expected to yield enormous economic opportunities over the next three to five years.

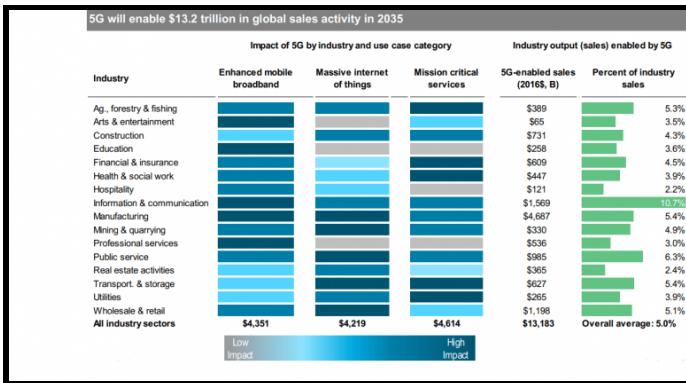
According to a KPMG International survey report 2020 by KPMG international, the deployment and augmentation of enterprise 5G will impact almost all major sectors of the world economy, with the potential to unlock USD4.8 trillion globally.

KPMG in India estimated that India Inc. has the potential to hike up to USD48.69 billion (INR3408 billion) through the deployment of 5G over the next four years, and the contribution of 5G to annual GDP is likely to be in the range of 0.35 to 0.50 percent.

The economic output expected from the rapid speed internet connectivity enabled by the 5G network is approximately \$3.6 trillion and 22.3 million jobs by 2035 in the global 5G value chain alone. This will transform the global economic value across industries by \$13.2 trillion, with manufacturing representing over a third of that output; information and communications, wholesale and retail, public services, and construction will account for another third combined.

To make these digits real, trillions will first have to be invested to introduce global 5G networks. 5G was initially defined as fifth-generation cellular network technology, which has been evolving since 1980. 5G is expected to leverage the mobile network significantly, enabling more connections and interactions. This connectivity enhancement across networks will provide significant potential for various industries to improve their bottom line and flourish with the telecom industry.

Unlike previous generations of mobile networks, 5G is unlikely to be considered as any single form of networking technology. It's often called "the network of networks" because it paves a channel between existing and future standards, including current advanced LTE (4G) networks.



To authenticate the fact, 5G isn't an extension of 3G and 4G networks but rather a network that combines Wi-Fi, 4G, wireless access technologies, and millimeter-wave. The 5G services also leverage various aspects like cloud infrastructure technology, virtual network core, and intelligent edge services.

5G is set to be the confluence of high-speed data collection and computation with billions of devices.

Key features of 5G:

Here are a few features of 5G services:

- **Faster Speeds** – 5G is set to be much faster than previous generation networks 3G/4G. It is expected to offer speeds as fast as 10 Gb/s.
- **Lower Latency** – The latency rate is expected to be too low for 5G services. Currently, 4G networks offer a latency of typically around 40-50 milliseconds. Assuring a lower latency, 5G services will be one millisecond or less, which is undetectable to the user.
- **Greater Capacity** – 5G will have greater capacity. Hence it will be more feasible for the networks as they will be able to cope better with many high-demand applications all at once.
- **Reliability** - This 5G network service is known as 'ultra-reliable,' meaning no dropped calls or connectivity.
- **Flexibility** – 5G networks promise to be more flexible than the other old 3G/4G services.

### Economic impact of 5G Services in the telecom industry

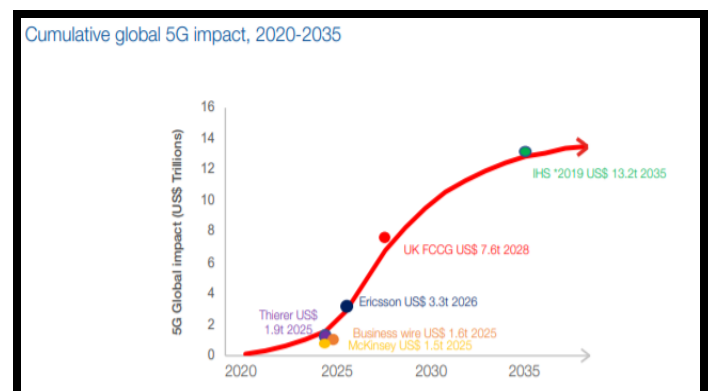
A report from PSB Research was prepared, wherein over 3,500 people, including business

decision leaders, analysts, and tech enthusiasts, predict the future of 5G services in the telecom industry; the results founded were:

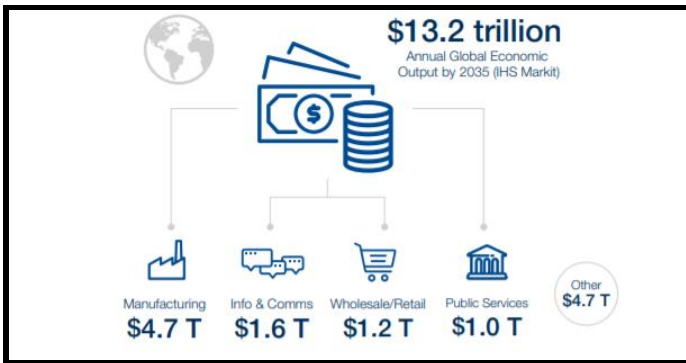
- 91% expect new products and services that have yet to be invented in the telecom industry
- 87% expect new industries to emerge
- 82% expect business growth and more global competition for marketers
- 85% expect it to make companies more globally competitive in the telecom sector
- 89% expect increased productivity in the organizations.

### Economic and social value

As per the report by GSMA, Investments in 5G networks will reach \$1 trillion worldwide by 2025. It also predicts that the global 5G network investment cycle will be longer than 4G or any other connectivity service in the telecom industry. The coexistence of 4G and 5G will last into the 2030s.



When combined with technology solutions, such as the internet of things, artificial intelligence, or big data, the 5G network showcases its potential to deliver large-scale societal value. A report designed by Tech4i2 indicates that 5G will support 137,000 jobs in Switzerland alone and create an economic output of 42.4 billion Swiss francs by 2030. Another study by the European Commission conducted in 2016 concludes that The potential economic output of 5G as provided by the European Commission Study conducted in 2016 is estimated to be €141 billion with 2.3 million jobs created in the 28 Member States of the European Union.



The deployment of 5G is likely to disrupt our day-to-day lives and transform sectors with an array of applications. The manufacturing and transport, energy and utilities, smart cities, and public sectors will be the major beneficiary sectors during the early stages of 5G adoption.

After the deployment, organizations will be able to use sensors connected to 5G networks to improve their ability to track raw materials and components throughout their supply chain. This will help the tracking team, who will be able to collaborate remotely and conference on the go, to optimize transportation routes and reduce inventory requirements.

In the telecom industry, this accelerating 5G network services will make the industry economically robust by offering a wide range of employment opportunities and by providing customers with a high speed, consistent internet connection. 5G network services will hence help build the factory of the future and will prove to be an Economic Opportunity Game changer in the Telecom Industry.

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# GENERAL MANAGEMENT

## Role of Telecom Sector in Digital India Campaign

**Animesh Pandey – PGDM Research & Business Analytics 2020-2022, Prin. L.N. Welingkar Institute of Management Development and Research, Mumbai**

“In this digital age, we have an opportunity to transform lives of people in ways that were hard to imagine a couple of decades ago”- Narendra Modi.

With this quote, PM Modi launched Digital India Campaign on 1st July 2015 to create safe and secure digital infrastructure, delivering government services digitally and improving digital literacy. This campaign played an important role in creating Jan Dhan bank accounts under Prime Minister Jan DhanYojna that enabled the rural population to receive money from Government’s scheme directly in their bank accounts.

This campaign enabled rural and poor sections of the population to access the internet. India’s smartphone userbase grew steadily from 2014 to 2019.

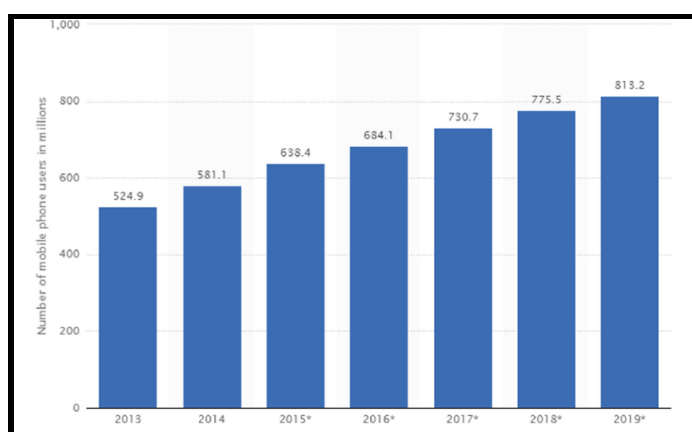


Image Source: [statista.com](https://www.statista.com)

India became the world’s second-largest data consumption country in 2020, with a mobile user base of 813 million. The consumption rate

in 2020 is around 13 GB/month and will increase to 25GB/month by 2025 (Source: Business Standard). One of the key contributors for this growth rate is the telecom sector.

### Telecom Sector’s Role in the Digital India Campaign

In India, the Telecom sector played a huge role in this campaign. One of the major players that helped achieve the vision of Digital India is Jio. Jio was launched on 5th Sept 2016 to provide 4G services at an affordable cost. Jio services were launched with a promotional offer of free internet and voice call services. It helped Indians get a 4G sim free of cost. Data consumption grew when Prime Minister announced demonetization on 8th November 2016 that emphasized digital transactions. Jio’s affordable internet plans helped reduce the cost of data from ₹ 300/GB to ₹ 50/GB making 4G internet in India the cheapest in the world.

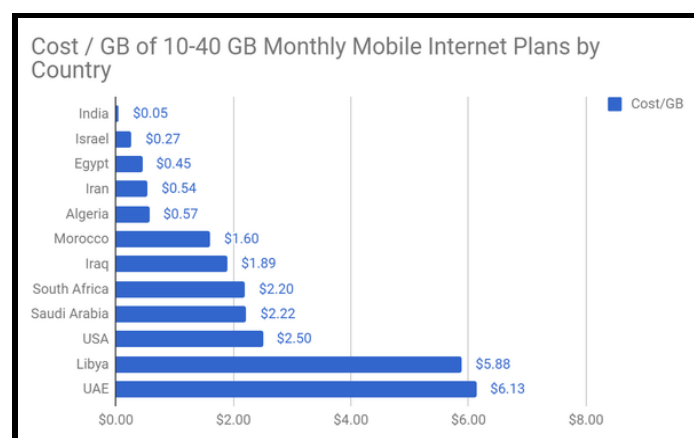


Image source: [Quora](https://www.quora.com)

Although India achieved a lot with Digital India Campaign, it did face some key issues which affected the growth of this campaign. These

issues if unresolved might affect the objectives that were to be achieved with this campaign. Some of the key issues are:

- **Migrating rural people from 3G to 4G phones**

Since India had a predominant 2G/3G system going on for the past 10-15 years, with rural people using GSM/CDMA sim card for their handsets, it was quite a challenge in migrating them to 4G sim since no handsets were supporting 4G sim card in these areas. They also lacked digital literacy to use mobile apps and smartphones.

- **Lack of Network Towers to support 4G frequency**

Before Jio launched their 4G services, all the network towers in India supported 2G/3G frequency. For 4G, all the network towers in India need to upgrade to support 4G frequency. It created an issue with network speeds and voice call services in 4G sim cards.

- **Congestion in networks**

India is a country of 1.3 billion and, to fulfil the Digital India campaign, we need to migrate our population to 4G networks. Since the density of the population in India per kilometre is high, this is bound to create congestions in-network services. Internet speeds in India are at 11.46 Mbps that is low as compared to other nations.

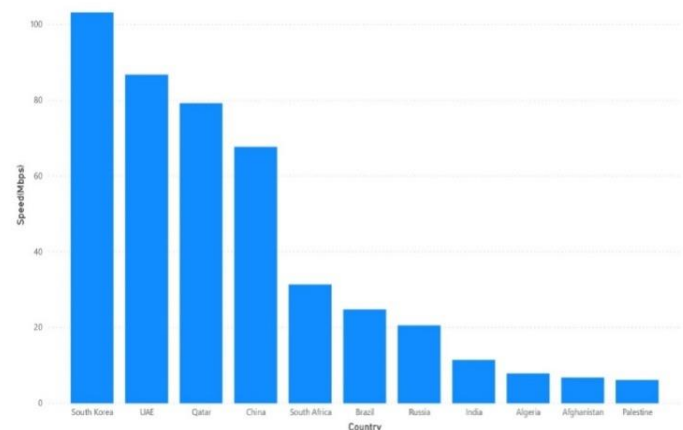
- **Network Security**

Since monetary transactions are taking place online, there can be good chance of these transactions being hijacked by hackers. Critical documents are being stored in a cloud system provided by a third-party vendor, so it is quite crucial that these systems have a robust network security.

- **Call drops in using Voice over Internet Technology**

Generally, 4G networks use VoLTE (Voice over Internet) for voice calls. It improves call quality as HD voice calling is supported using this technology. In India, users experienced call drops in the voice calls that caused issues using 4G sim networks.

Speed(Mbps) by Country



- **Digital Literacy**

One of the biggest challenges of the Digital India Campaign is Digital Literacy in rural areas, as educational levels in these regions are low. To shift the rural population from 3G to 4G networks, digital literacy must improve in these areas.

The above-mentioned issues were addressed to a certain extent by the following initiatives from the Government and the telecom companies.

- **Pradhan Mantri Gramin Digital SakshartaAbhiyan (PMGDISHA) scheme**

The Government launched a scheme of PMGDISHA to improve digital literacy in rural areas by covering around 6 crore rural households by 31st March 2019. The focus of

this scheme was to train the beneficiaries on the use of Electronic Payments systems such as UPI, USSD, PoS, AEP, Cards, Net Banking.

- **Digi Locker**

Digi Locker is an Indian digitalization scheme issued by Ministry of Electronics and Information Technology which provides every Aadhar Card holder to access authentic documents and certificates like PAN, driving license, academic marksheets from their original issuers of these certificates.

- **Bharat Interface for Money(BHIM)**

BHIM is a mobile payment app created by the National Payments Corporation of India. It is built over Immediate Payment Service(IMPS) infrastructure to facilitate e-payments directly through banks and allows the user to transfer money between two bank accounts instantly.

- **Special 4G phones for rural areas**

Telecom companies like Jio and Airtel launched their new headsets like Jio Phone and Airtel Phone for rural areas. These headsets are similar to the older ones but support 4G sim networks. It helped in migrating rural people from 2G/3G to 4G networks.

- **Network upgrades to support VoLTE**

The Telecom operators in India such as Vodafone & Idea, Airtel, and Jio upgraded their call networks to support VoLTE. It is the main step as the Internet became an important source of call networks.

These initiatives will align India in the right direction and will help achieve incredible milestones in the future. The future looks bright with the launch of 5G that will help achieve the target of 25 GB/month data consumption by 2025. It will make the economy robust, give new

employment opportunities, and improve ease of doing business in India. The Digital India campaign has proved to be the game-changer of the 21st-century Indian economy.

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## CALL FOR ARTICLES

We invite articles for the January 2021 Issue of SAMVAD.

The Theme for January 2021 month- “**Economy Post Covid-19**”

The articles can be from Finance, Marketing, Human Resources, Operations or General Management domains.

You may also refer to sub-themes on Dare2Compete.

### **Submission Guidelines:**

- Word limit: 1000 words or a maximum of 4 pages with relevant images.
- Cover page should include your name, institute name, course details & contact no.
- The references for the images used in the article should be mentioned clearly and explicitly below the images.
- Send in your article in .doc or .docx format, Font size: 12, Font: Constantia, Line spacing: 1.05' to **samvad.we@gmail.com**. **Deadline for submission of articles: 19<sup>th</sup> February 2021**
- Please name your file as: <Your Name>\_<title>\_<section name e.g. Marketing/Finance>
- Subject line: <Your Name>\_<Course>\_<Year>\_<Institute Name>
- Ensure that there is no plagiarism and all references are clearly mentioned.
- Clearly provide source credit for any images used in the article.

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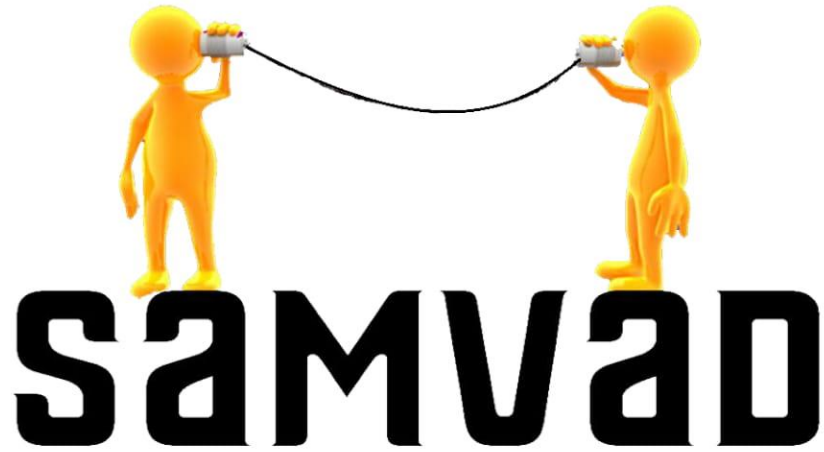
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The background of the image is an abstract, textured composition. The left side is dominated by bright orange and yellow tones, while the right side features vibrant teal and blue hues. The overall effect is that of thick, expressive brushstrokes or marbled paint, creating a dynamic and colorful backdrop for the central text.

**BE SO GOOD  
THEY CAN'T  
IGNORE YOU**

**~ STEVE MARTIN**