1. Political factors

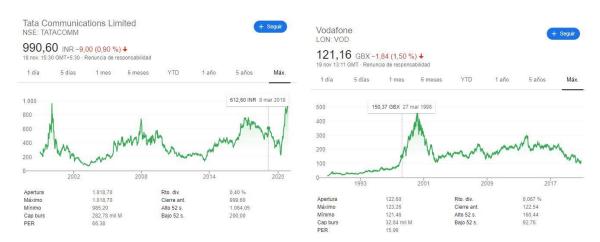
The political environment is full of risks for the telecom sector. The traditional political risks for telecom are the ones related to regulations, network licensing, national radio spectrums and in case of certain nations trade barriers. Generally, these issues have affected the network operators and the effect has been felt less by equipment and service providers. However, one factor that worked in the favor of the telecom industry was privatization and deregulation. For some time, the telecom industry enjoyed relative freedom based upon its importance in the process of globalization. However, several threats have emerged in last some years that could mean that political risks are on the rise again. Increased focus is on the growing markets like India. However, the level of government control in these markets is high.

Political risks rooted in national security and human rights issues are another major source of political pressure for the telecom sector. Governments across the world have launched measures to monitor and control communications motivated by political and security reasons. These measures have grown tougher in the aftermath of terrorist attacks and hacking attempts on governments databases. All these factors show that political risks are going to sustain.

2. Economic factors

It could seem that the telecommunications industry is a resilient sector, because, since the last century, and due to the globalization, it has become a necessity to communicate with any person worldwide, but, this is not completely true.

Every single recession since the end of the dot com bubble, has affected a lot the most important of the services companies. The luck is different for towers companies, which have been growing a lot in average, and seems that resist perfectly to every recession they have passed.



First, we can see the example of Tata communications, which is the biggest telecom company in India. As we can see, the dot com bubble affected a lot to the business, exactly as 2008 recession did. Despite of that, Tata communications has taken

advantage from 2020 recession, because we all needed to stay at home. This is an exception, because this company is above of all, an internet provider. The rest of services companies have been decreasing in average since 2001 recession, this is shown on Vodafone's chart, which approximates very well to the average of services companies.



companies, sector, that in average, has been

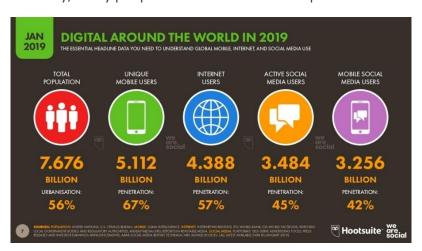
growing a lot, and seems that it is very resilient to recessions, in fact, seems that COVID-19 crisis, has affected positively to this sector.

3. Social factors

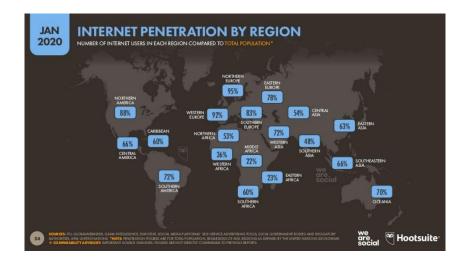
Telecommunication industry, has become essential for our lives, just imagine how would be nowadays world without internet.

Since the introduction of the telephone, our world has changed exponentially year by year because before that, we spent a lot of time in communicating with each other, and because of that, it was practically useless to communicate with someone far to you.

Nowadays, thankfully, many people have access to mobile phones and to internet.



As we can see in the image above by 2019, 67% of the global population were mobile users, and 57% had access to internet, this means that there's still a lot of people unconnected.



Most of unconnected people are located in Africa, Continent with the most important lack of connectivity, but, telecommunications is something so useful that sooner or later will arrive to the continent, maybe, it could be a good idea to start looking for potential developing countries, and it's telecom business.



Another important fact, is that the countries which are experiencing a fastest internet growth, are underdeveloped countries like Rep. of The Congo and Samoa, then, we can see some emerging economies like India, Egypt or Indonesia.

Related to social facts, we could also add that 5G technology is possibly going to accelerate even more this growing, because it will allow us to communicate even faster than we are doing now.

4. Technological factors

The entire telecom industry is based on technology and therefore technological changes influence it deeply.

The ways of transmitting the information have changed exponentially since the invention of the telephone. At the beginning, telecommunications took place analogically which little by little transformed into digital communications. Then, the

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Internet was made, and everything changed, letting us to communicate text, voice, images... in just a few seconds. The Internet, is one of the technologies that even nowadays, is still evolving very fast. 5G Has arrived recently, but seems that everyone is talking about it, and even, it is being implemented now in some cities, in my opinion, this is not going to change so much citizens lives because 4G was so fast enough that we won't observe practically any difference in terms of internet connectivity apart for those whose work involves a high use of the internet, 5G will possibly allow AI cars, which could be an important revolution, this technology will be very useful for those companies which have to send and receive huge amounts of data, and finally, it will allow telecom companies to save a lot of money in electricity, because the same amount of data, will be sent in much less time.

In geographical terms, it's clear that those countries which have less internet connectivity and less people that can have a phone, the telecommunications infrastructure won't be as developed than it's in the developed countries. So, as I said before, it could be great to look to underdeveloped countries with a good growth expectative.

5. Legal

Globally legal compliance gives rise to big risks for the telecom providers. Apart from the common labor and employment laws, there are several other laws and licenses that are essential to be complied with.

In US, the broadcasting regulations are overseen by the FCC which was established by the Congress in 1934. There are several laws including those related to telemarketing and privacy that the providers must comply with. Several changes took place in the aftermath of the 9/11 attacks that gave rise to additional pressures for the telecom providers.

In China, The MII (Ministry of Information Industry) is responsible, among other duties, for elaborating regulations, as well as for developing tariff rates. The MII has built up a nationwide regulatory system composed of provincial telecommunications administrations with regulatory functions within their respective provinces. A number of other significant institutions also influence the industry, such as the state development and reform commission. As a result of the entrance to the World Trade Organization, China allowed progressively to foreign investors to enter to China's telecom market.

6. Environmental

Telecommunication industry is not the most contaminating one, in fact, thanks to telecommunications, we can reduce a lot of costs, effort... related to data transport,

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which of course means that carbon footprint is being reduced thanks to this sector. For example, if we have a meeting in Australia, we don't need to take a plane and get there, we can just open our pc, and activate our cam.

Despite of that, telecom sector contaminates, and it would be perfect if green issues could been reduced, and most of this problem is caused by the huge amount of energy they need to use. Telecom companies are trying to find new ways to reduce and manage their costs, with environmental benefits consequent to reducing the need for energy usage. Tower companies, have been developing very fast, and in just 20 years more than two generations of products have been used, viewing that, we can think that this sector has reduced a lot it's energy usage since it began.

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