



# COVID 19 ANALYSIS

I C T   I n d u s t r y

PREPARED BY

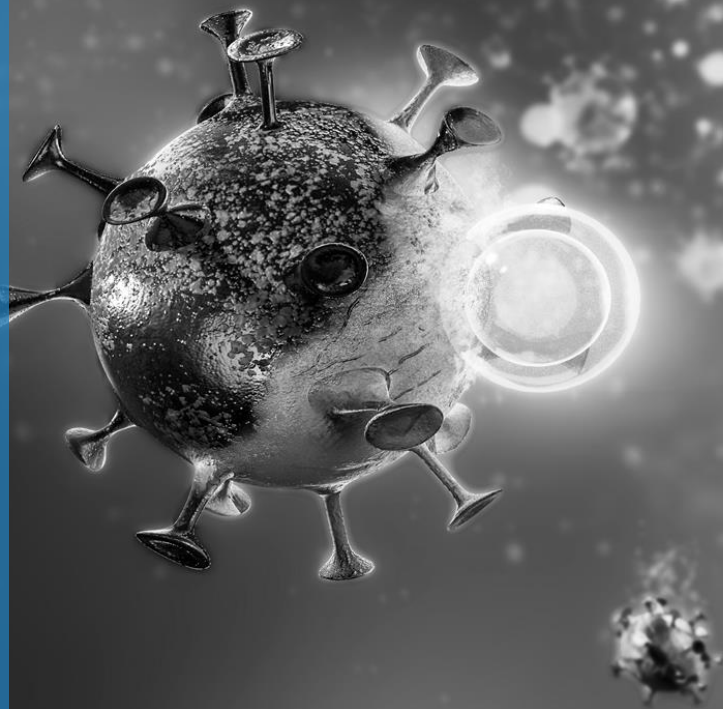
**MARKET RESEARCH FUTURE**

(Part of Wantstats Research & Media Pvt. Ltd.)

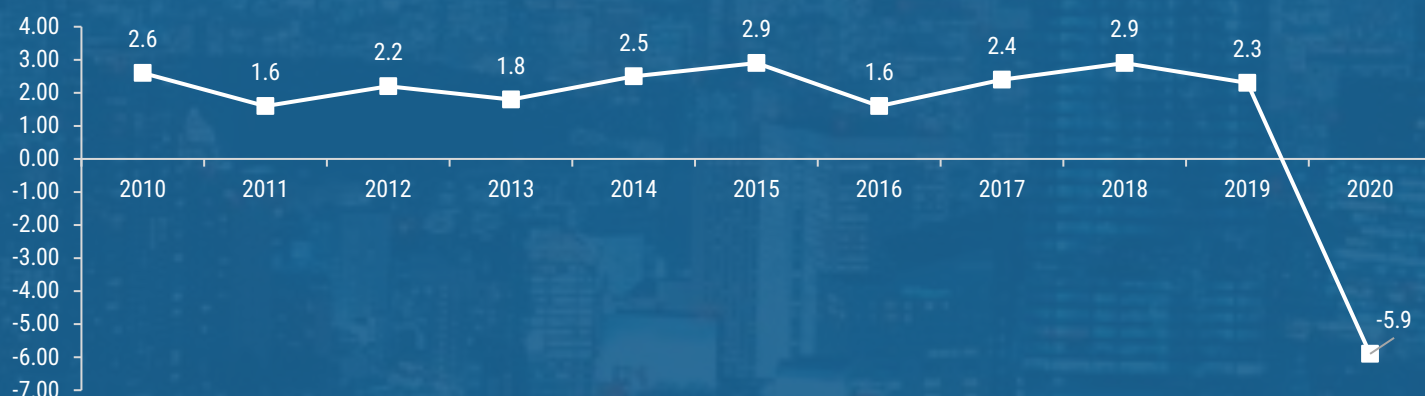


COVID 19 IMPACT ON  
**UNITED  
STATES**  
ICT INDUSTRY

20  
20



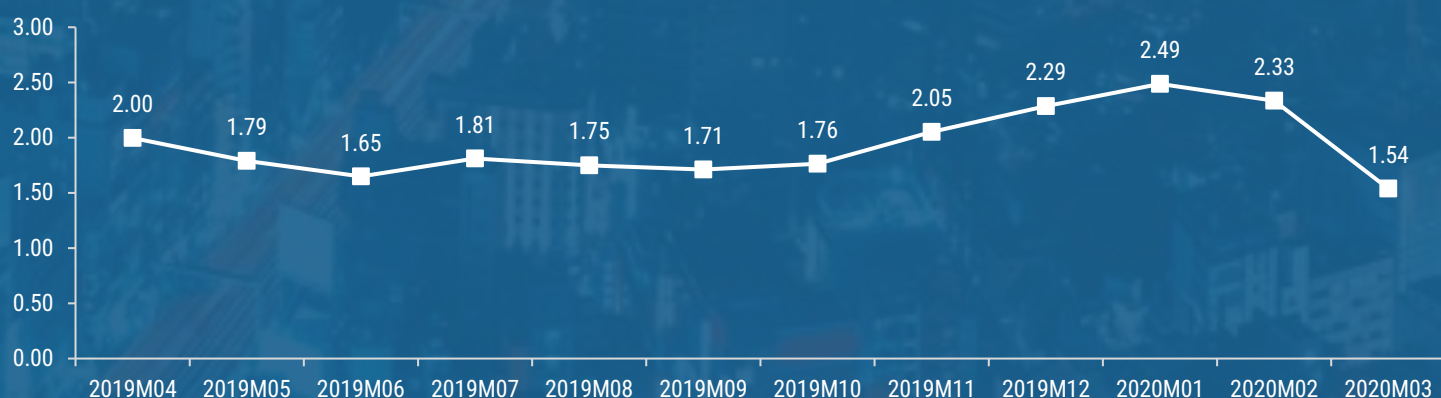
## US-Real GDP Growth (Annual Percent Change) 2010–2020



The US economy shrunk by 4.8% in the first quarter of the 2020. It's the country's first contraction since 2014 and the biggest largest drop in over the past ten years.

Consumer spending declined sharply in first quarter, contributing -5.3% points to the first quarter's contraction. Falling consumer spending has major effects on overall GDP growth in the US, as it accounts for nearly 68% of the GDP.

## US-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



The decline in GDP, due to the spread of COVID-19, as the US government issued 'stay-at-home' orders in March, which led to rapid changes in demand, as businesses and schools switched to remote work or shutdown. This has affected the overall consumer spending.

The impact of the COVID-19 pandemic on Consumer Price Index (CPI) data in the US was relatively minor for March 2020.



### VOICE OVER IP SUBSCRIBERS

There is rising number of VoIP subscribers from 1Q 2018 to 1Q 2020. However, there is considerable growth in the 1Q 2020 due to the outbreak of COVID-19 across the US. This is due to the rise in the work from home initiatives for the employees of major businesses. The major providers of VoIP include RingCentral, Nextiva, Ooma, Grasshopper, 8x8, Vonage, and Verizon. In this pandemic period, there has increasing adoption rate for VoIP residential telephone lines as compared to business phone lines. In the US, around 79% of the businesses use VoIP phones. The Federal Trade Commission and Federal Communications Commission has taken strict action against some of the VoIP providers that are using robocallers touting scams.



### MOBILE APPS DOWNLOAD

In the 2nd half of 2019, the most downloaded apps were Disney+, TikTok, Messenger, Facebook, and YouTube. The social media apps such as Instagram and Snapchat along with Netflix and Amazon are in the top 10 of the most downloaded apps. After the COVID-19 pandemic in the 1st half of 2020, Instacart app saw an increase of more than 600% between March and April. Also, the Houseparty app, which is a social video app, has gained popularity in the US. MyChart app in the healthcare sector is the most downloaded app in the US, due to the impact of COVID-19. Along with that, Netflix growth has increased 19% in downloads from March and April 2020.



### ONLINE CASINO USERS

The US has become the epicenter for the COVID-19 pandemic causing more than 50,000 deaths. Most of the population is home quarantine with more time. Due to this, people have turned to playing online based gaming platforms. The number of online casino players has gone up tremendously during this pandemic. About 96% of the entire gaming industry workforce in the US have lost their jobs and about USD 21.3 billion lost during this lockdown of about two months. According to MRFR analysis, there was upsurge in the use of online poker sites, including 255% increase in first-time pokerers.







### INTERNET USERS

Video streaming, group video conferencing, virtual schooling, and online mobile gaming has witnessed a peak due to the people across the globe working from home. Internet traffic has been increasing owing to increased streaming services across countries in Europe and the US, among others. Hence, Netflix, YouTube, and Amazon have recently agreed to the European Union that they will switch HD to standard quality for a few days in order to combat the strain on the Internet. Video calls on Zoom in the first two months of 2020 has witnessed a rise as compared to 2019. The need of interacting with colleagues, ensuring growth of kids via online education, and while away time on OTT platforms has significantly increased the consumption of Internet during pandemic.



### OVER THE TOP (OTT) SUBSCRIBER

The US is one of the top countries consuming OTT services even before the COVID-19 breakout. However, during the first quarter of 2020 in the COVID-19 pandemic and lockdown phase, Netflix had more than 69 million subscribers in the US. The subscriber base in the US accounts for around a third of Netflix's worldwide streaming subscriber base. Amazon Prime and HULU are constantly growing in the US. Most OTT households in the country are anchored by one of the three major OTT platforms—Netflix, Hulu, or Amazon Prime Video. However, the consumers are finding difficult to fulfill all their interests through a single service. Along with Netflix, Amazon Prime, and Hulu, other OTT platforms, which witnessed increased level of engagement and boost in subscriber base are Houseparty, Zoom Video, Nike Fitness, and Spotify. Players are focused taking various initiatives to increase their subscriber base. For instance, Nike, which offers NTC Premium service only for its US based customers, has dropped the subscription fee for provides streaming workout videos, training programs, and expert tips from trainers. OTT platform or e-learning and video conferencing have also witnessed a rise during the pandemic period.



### ACTIVE VIDEO GAMES USERS

The US is the largest market for online video. The growth of the US market is driven by the presence of many gamers in the region. The country holds some of the largest esports racing tournaments such as the eNASCAR Pro League, which has a large viewer base due to the popularity of the National Association for Stock Car Auto Racing (NASCAR). These factors and the presence of game developers and publishers, such as Ubisoft and Electronic Arts, drive the growth of the market in the country. Additionally, As the COVID-19 virus outbreak continues to spread and citizens have been encouraged to "self-isolation," many are moving to online gaming. The US video game usage during peak hours has gone up 75 percent since the quarantine first went into effect. Additionally, video streaming has also increased by 12 percent. Overall web traffic is up by approx. 20 percent.

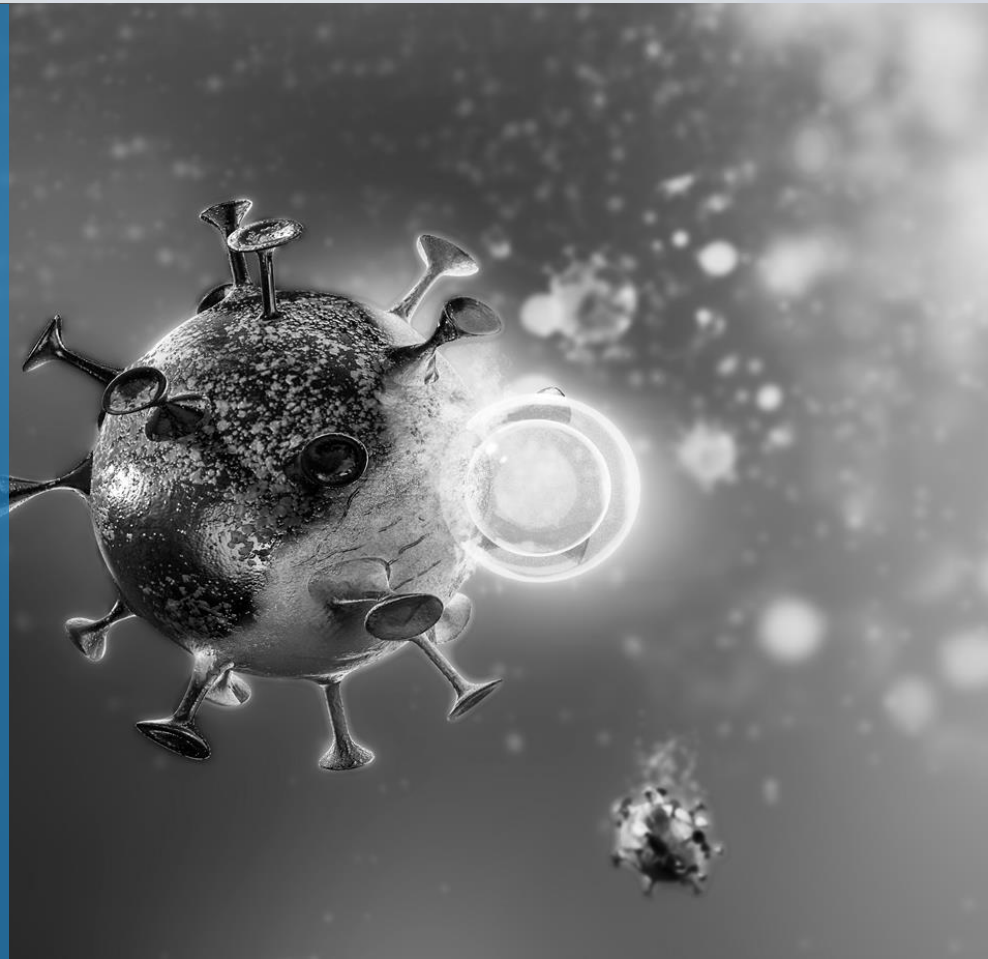




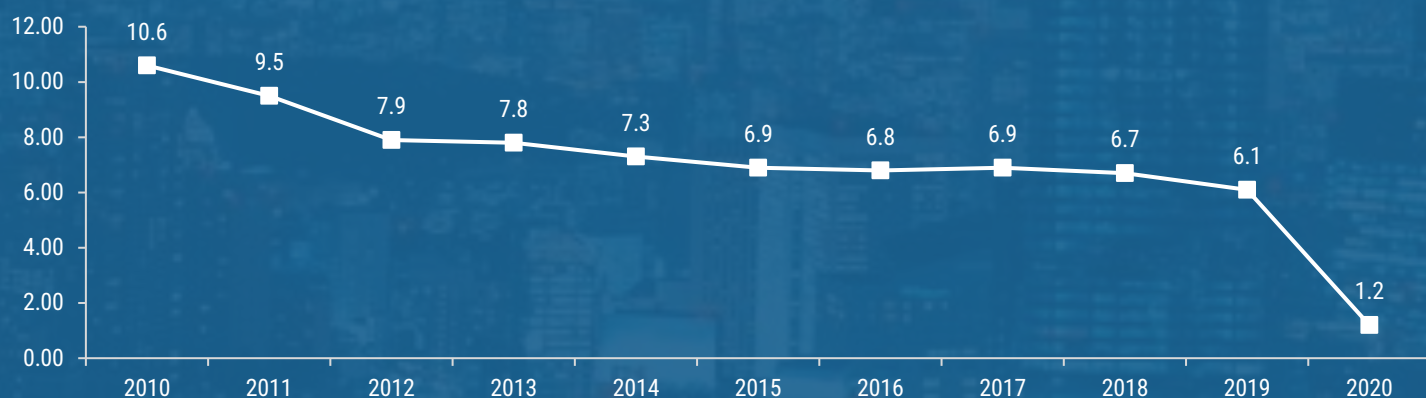
# COVID 19 IMPACT ON **CHINA**

## ICT INDUSTRY

20  
20



## China-Real GDP Growth (Annual Percent Change) 2010–2020



The Chinese economy contracted by a seasonally adjusted 9.8 percent on quarter in the three months to March 2020, following a 1.2 percent growth in the previous quarter and compared with market estimates of a 9.9 percent decrease. This was the first quarterly contraction on record, as the COVID-19 outbreak paralyzed production and activities.

## China-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



China's Consumer Price Index (CPI) growth was measured at 4.3 % YoY in Mar 2020, compared with a rate of 5.2% in the previous month.

E-commerce giants Alibaba (BABA), JD.com (JD), and Meituan each announced that they would monitor prices closely and remove overpriced items or ban merchants for price-gouging.



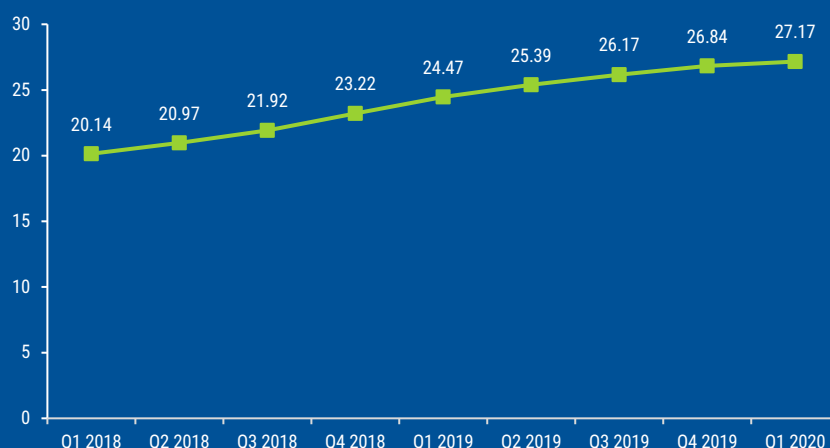
### VOICE OVER IP SUBSCRIBERS

China has seen the significant growth in the number of VoIP subscribers in the 4Q 2019 and 1Q 2020 due to the rising work from home of the employees and growing Internet penetration. China uses Cisco WebEx that includes persistent chat, video meetings, specialized work from home video devices, and calling from home location of the cities Suzhou, Shanghai, Hefei, Hangzhou, and Beijing, among others. According to Cisco, traffic connecting China-based WebEx users has seen a growth of 22 times.



### MOBILE APPS DOWNLOAD

The work from home apps such as DingTalk, Lark, and WeChat Work are the most downloaded and most used apps. The most downloaded apps in China since the impact of COVID-19 include grocery delivery, food delivery and food recipe apps, and social media app, such as TikTok. During the first half of February 2020, business and education apps were downloaded more than twice the weekly average in 2019. Popular apps during this time included HUAWEI CLOUD WeLink, DingTalk, and ZOOM Cloud Meetings. In February 2020, the average weekly game downloads in China increased by 80% compared to the average weekly download for the whole of 2019, with average weekly downloads of 63 million on iOS app store. China saw weekly downloads of Didi fall by 75% from the highest week to its lowest week in the period analyzed (Jan 29, 2019 through Mar 7, 2020).



### ONLINE CASINO USERS

After the outbreak of the deadly virus, Macau reported about 88% fall in the land-based Casinos. This in turn created huge traffic towards the online gambling sites up-surfing the demand for online casinos. The increase in the number of gambling operators in the country. Most of the foreign entities focusing on the Chinese market are based in either Cambodia or the Philippines.







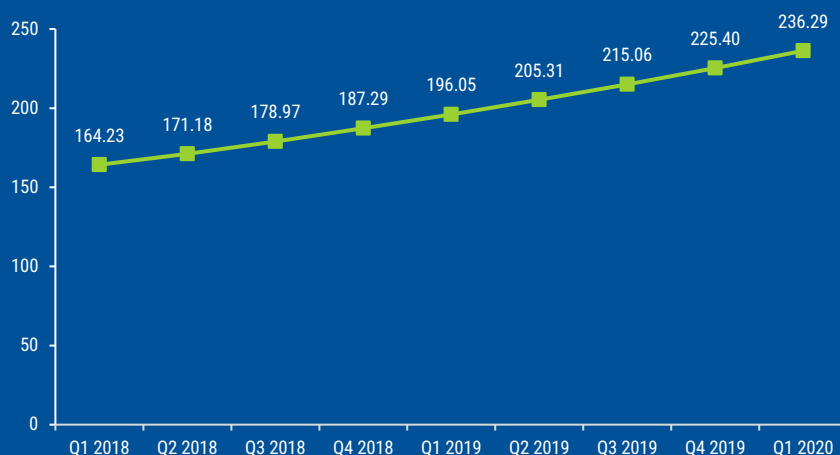
## INTERNET USERS

During COVID-19 pandemic in first quarter of 2020 in China has witnessed a boom shortly before the Chinese Spring Festival and stretching to the weeks afterwards. Most Chinese people are now restricted to homes and the use of Internet, particularly mobile Internet has seen a strong rise resulting into 7.3 hours per user per day. Another factor leading to a surge of Internet in the country is the continuous need of work and learn remotely.



## ACTIVE VIDEO GAMES USERS

China is the largest gaming market in the world. The country's increasing accessibility to the Internet, fast pace of technology evolution, and booming population consuming digital media have all paved the way for the development of China's game industry. The factor that is further contributing to the growth is that around 660 million people across China have access to the Internet. This allows easy access to esports games.





COVID 19 IMPACT ON

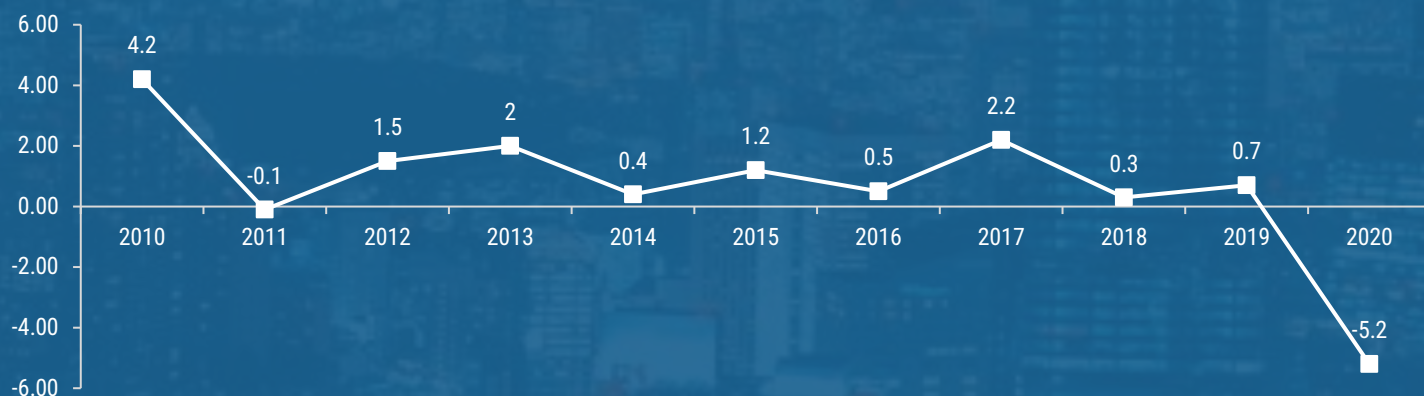
# JAPAN

ICT INDUSTRY

20  
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## Japan-Real GDP Growth (Annual Percent Change) 2010–2020



The gross domestic products (GDP) in Japan averaged USD 2,782.13 billion from 1960 until 2019, reaching an all time high of 6,203.21 USD billion in 2012.

As per the experts after the fallout from the COVID-19 outbreak, the Japan's economy will boost by up by 3.8% in coming year.

## Japan-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



Business sentiment among large Japanese companies in the first quarter fell to the lowest level in the past five years, majorly affected by the new COVID-19 outbreak and declining exports to China

The confidence index covering firms capitalized at USD 9.6 million and stood at minus 10.1% in the quarter of 2020.

# JAPAN - FACTORS (MN)

## (Jan '19-Mar '20)



### VOICE OVER IP SUBSCRIBERS

In Japan, the adoption rate from the 1Q 2018 to 4Q 2019 is considerably low due to the saturation of the VoIP in Japan. However, there is sudden rise in the number of VoIP subscribers in 1Q 2020 due to COVID-19 outbreak. The one of the most used VoIP in Japan is Cisco WebEx that has seen double the average time of users on WebEx in Japan.



### MOBILE APPS DOWNLOAD

A ride sharing app, Japan Taxi, has seen a decline in weekly downloads in Japan as an impact of the COVID-19 pandemic outbreak. Number of downloads of FinTech apps, food delivery apps, and grocery apps is increasing in the country. In Japan, weekly time spent on Android phones in FinTech app au PAY grew 20% week over week in the first week of March. The number of downloads of medical and health and fitness apps has increased in the country. ITICKET, a medical appointment-booking app, is one of the most downloaded in Japan during the week of March 1st.



### ONLINE CASINO USERS

Online casinos in Japan are outlawed. However, the international operators are accepting Japanese players to play casino online and make money in Yen. They can even invest in their own currencies.





# JAPAN - FACTORS (MN)

## (Jan '19-Mar '20)



### INTERNET USERS

A sharp increase in Internet traffic due to homebound workers and students constantly streaming entertainment shows and on video meetings. Schools are opting for online classes and businesses are also conducted remotely and virtually, which is further resulting into high data volume. This is the time that is also testing the durability of the country's Internet infrastructure. However, as per Japanese Internet providers, their infrastructure still can withstand huge traffic though the quality can be hampered. It has been claimed by NTT that the weekday daytime Internet traffic has spiked by 40% in March as compared to February.





COVID 19 IMPACT ON

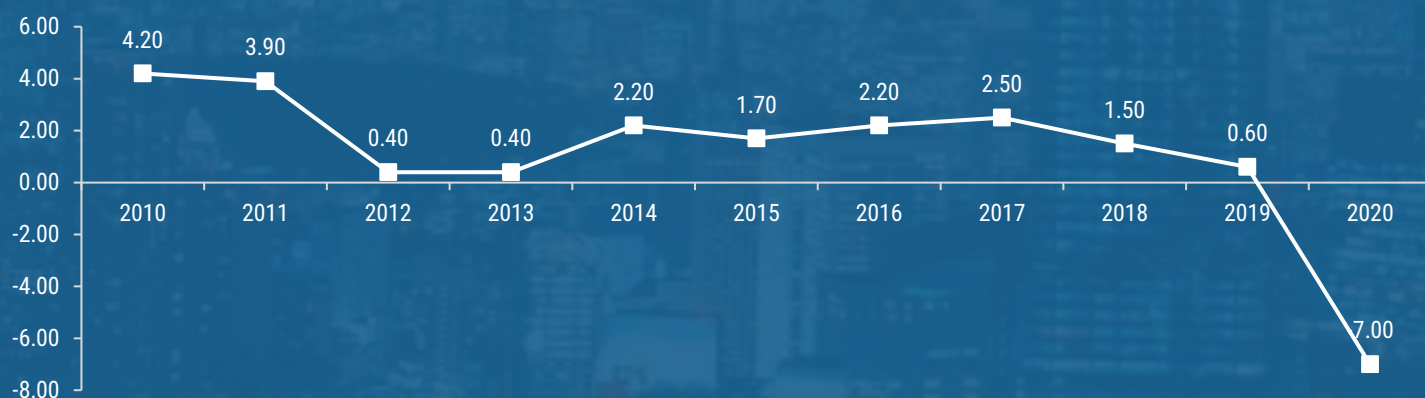
# GERMANY

ICT INDUSTRY

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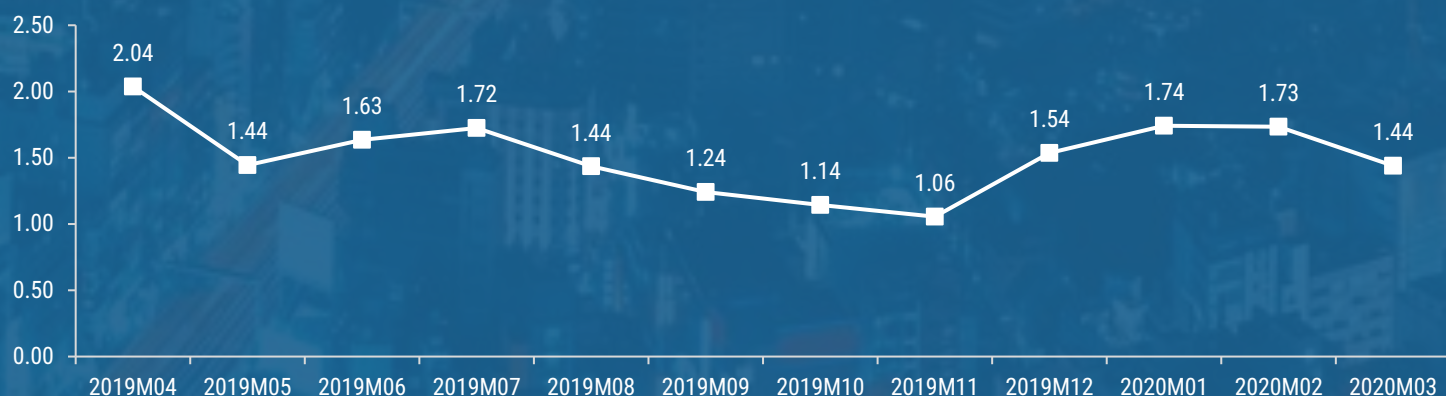


## Germany-Real GDP Growth (Annual Percent Change) 2010–2020



Germany is the fifth-largest economy in the world and the largest within Europe. Germany is the second-largest exporter in the world and exports account for more than one-third of national output. As such, the export of high added value products has been the main driver of growth in recent years. Composition of the GDP on the expenditure side: household consumption (55 percent), gross capital formation (20 percent, of which 10 percent in construction, 6 percent in machinery and equipment and 4 percent in other products) and government expenditure (19 percent). Exports of goods and services account for 46 percent of GDP while imports for 39 percent, adding 7 percent to total GDP.

## Germany-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



In Germany, the most important categories in the consumer price index are housing, water, electricity, gas & other fuels (32 percent of the total weight), transport (13 percent), recreation, entertainment & culture (11 percent) and food & non-alcoholic beverages (10 percent). The index also includes miscellaneous goods & services (7 percent), furniture, lighting equipment, appliances & other household equipment (5 percent), restaurant & accommodation services (5 percent), health (5 percent) and clothing & footwear (5 percent). The remaining 7 percent of the index is composed by alcoholic beverages & tobacco, communication, and education.

# GERMANY - FACTORS (MN)

## (Jan '19-Mar '20)



### VOICE OVER IP SUBSCRIBERS

The Germany VoIP subscribers has reached approximately 75 million in the 1Q 2020. The growth rate in the first quarter of 2020 is due to COVID-19 outbreak. However, the enterprise VoIP solutions have enabled the businesses of all sizes to create their own contact centers and deploy unified communications throughout the company, its mobility and flexibility have kept the employees intact, even in a COVID-19 crisis.



### MOBILE APPS DOWNLOAD

As of March 16, 2020, ZOOM Cloud Meetings application, for virtual meetings, is one of the most downloaded app. Other top downloaded communication apps are Jitsi Meet and WhatsApp Messenger. The top game downloaded are Slap Kings, Woodturning, Draw Climber, Will It Shred?, and Brain Out in the first quarter of 2020. The leading lifestyle apps in February 2020 include PAYBACK, McDonald's Deutschland, Rossmann, Immowelt, Tinder, and H&M.



### ONLINE CASINO USERS

The German government legalized online gambling on 19th March. It permitted 20 operators to offer online games. The German population has been involved in the online gambling during this lockdown, provided holding a large amount of spare money.





# GERMANY - FACTORS (MN)

## (Jan '19-Mar '20)



### INTERNET USERS

The public is using so much of Internet that it has resulted into surge of Internet traffic by more than 18%, due to millions of people streaming their choice of entertainment shows, and employees are working from home. Adding to it, Italy has witnessed a sharp decline in Internet speed due to older infrastructure and hence it has been observed that Netflix has reduced its traffic by 25% or so while YouTube has assured to slightly decrease the video quality for other platforms.



### OVER THE TOP (OTT) SUBSCRIBER

Germany had the largest and best-funded public broadcasting system across the globe, which made it a very tough for OTT market to break into. However, from 2019, OTT subscription has witnessed a rise in OTT subscriptions, the demand boosted after the COVID-19 breakout. Amazon Prime, and Netflix are the dominant subscribers in the country. These players dominate in the country in terms of content and overall penetration in the market. Netflix has lowered the streaming quality owing to the high demand and sudden rise in subscriber base in the country during the pandemic. The country has also witnessed in increasing demand for conferencing apps such as Zoom for commercial as well as personal communication during the lockdown phase. Educational apps such as Udemy and Unacademy have witnessed rise in subscription to enhance the skills during the stay at home period. Furthermore, the demand for Internet-based games is also driving the growth of OTT subscriptions in the country.



### ACTIVE VIDEO GAMES USERS

German gamers spend around 8 hours on gaming each week, which is the highest in the world. Germany is known for multiple independent game developers who serve a niche audience in the country. Esports is a major revenue generator in the country, with industry experts estimating USD 150 million in revenue by 2020. However, due to the pandemic, the e-sport event are greatly hit, which in turn has affected the overall revenue of gaming industry in the country. To promote local game development studios, the German government has approved funding of USD 60 million for local game studios. Government funding for local game studios is expected to drive market growth in the region during the forecast period.

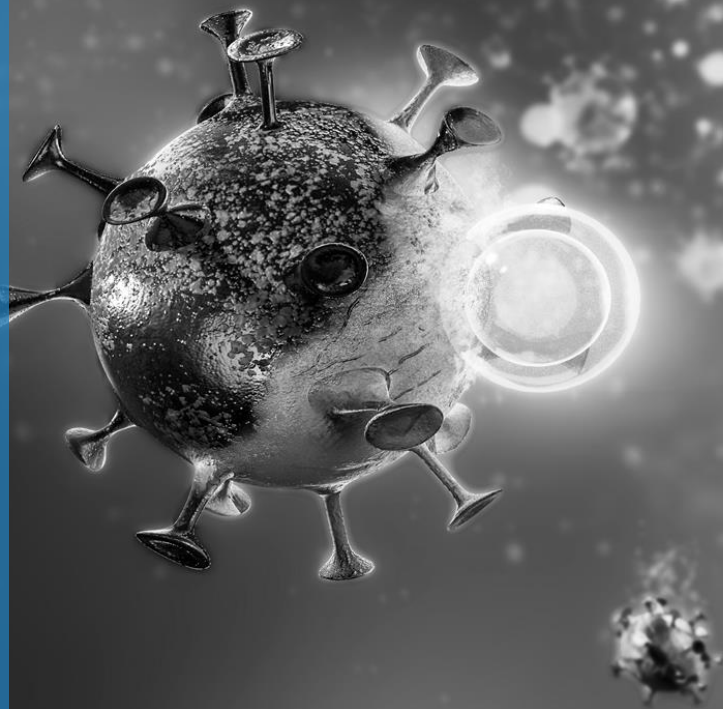




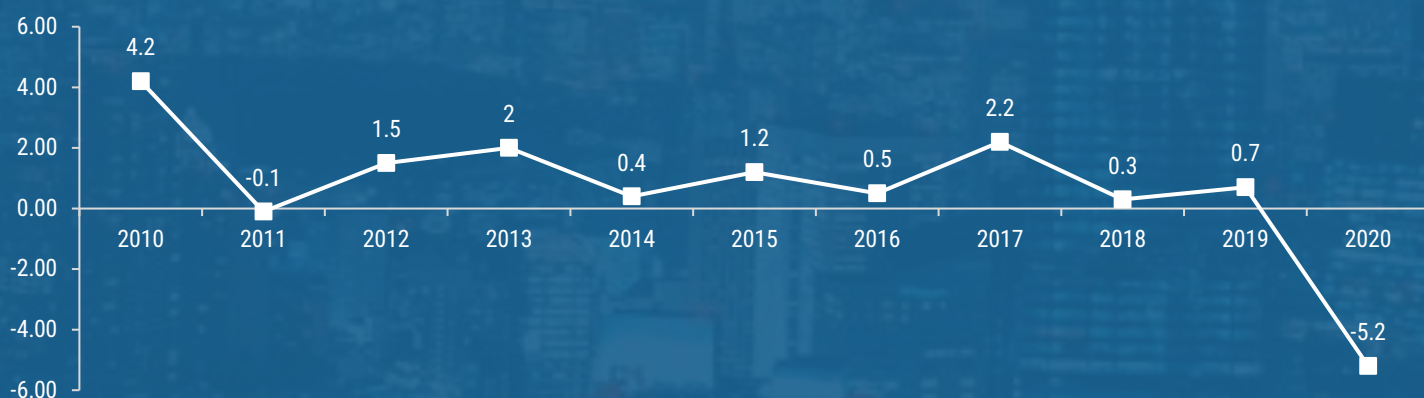
# COVID 19 IMPACT ON **INDIA**

## ICT INDUSTRY

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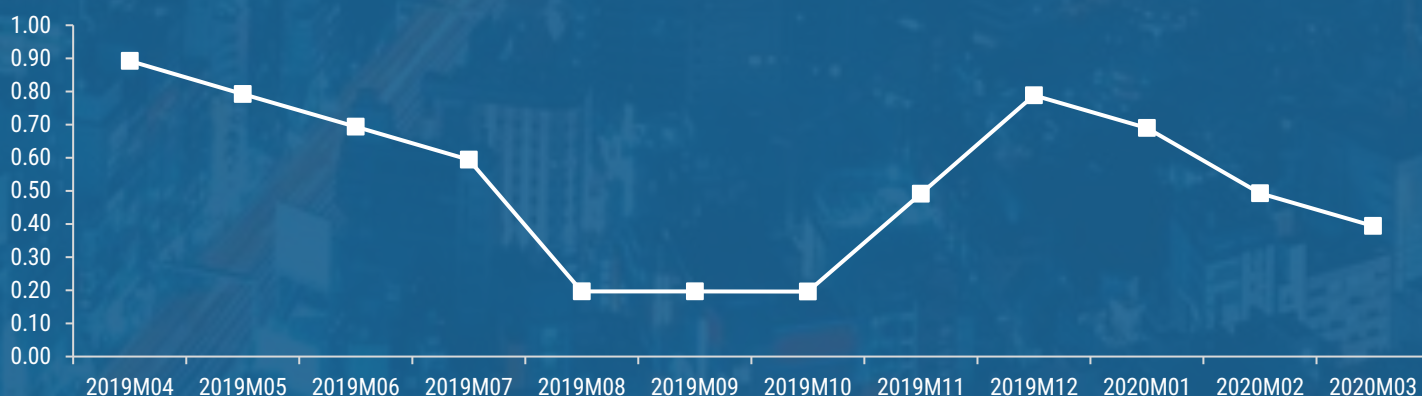


## India-Real GDP Growth (Annual Percent Change) 2010–2020



India has emerged as the fastest-growing economy in the world. It is expected to be in the top three economic powers of the world over in the coming years, owing to its strong democracy and partnerships. India's nominal GDP growth rate was estimated at 12% in 2019-20. However, due to the COVID-19 impact, experts have estimated that growth for the fiscal year 2021 is expected to witness the lowest figures India has seen in three decades.

## India-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



India's consumer price index or retail inflation has shown 5.9% YoY in March 2020 amid COVID-19-induced nationwide lockdown.

With falling crude oil prices, lower food prices, and weaker consumer demand for non-essential products due to the spread of COVID-19. The CPI is expected to show moderation in the coming months.



### VOICE OVER IP SUBSCRIBERS

The COVID-19 has hit India early March 2020. Due to this the government has lockdown the cities and made compulsory for the employees to work from home this has enable the increased the use of Internet. Additionally, as the teams work remotely, the VoIP enables them to access the entire suite of calling features and integrated communication tools that ensures business continuity while allowing the team to work efficiently and preserving the organizational culture.



### MOBILE APPS DOWNLOAD

The mobile game download rate has increased by more than 50% in the country in March-April 2020. ZOOM Cloud Meetings application, for virtual meetings, is one of the most downloaded apps in March 2020. The top downloaded apps include Kiddos in Kindergarten, WhatsApp Messenger, YouTube, Google Chrome, Facebook, App Vault, and Messages. The Arogya Setu app, a government owned app to combat COVID-19, became the fastest downloaded app on record, with 83 million users and counting in March 2020.



### ONLINE CASINO USERS

Indian land-based casino operators have migrated towards online casinos to make up with the losses they incurred amid COVID-19 lockdown. For instance, Delta Corp acquired online poker site. Since then, Delta Corp has seen an average of 12% increase in daily active players since pandemic outbreak.

The Indian market stood at USD 62 billion last year and is projected to reach USD 250 billion by 2024.





# INDIA - FACTORS (MN)

## (Jan '19-Mar '20)



### INTERNET USERS

India has witnessed a sharp increase of Internet consumption during COVID-19 epidemic. As of Mobile Broadband India Traffic Index (MBiT), India has seen an increase of around 13% since national lockdown. With the increased consumption of network at residential places, the nation is witnessing high Internet traffic. It has been observed that media & entertainment companies have agreed to disable the HD videos and optimize bandwidth to increase demand.



### ACTIVE VIDEO GAMES USERS

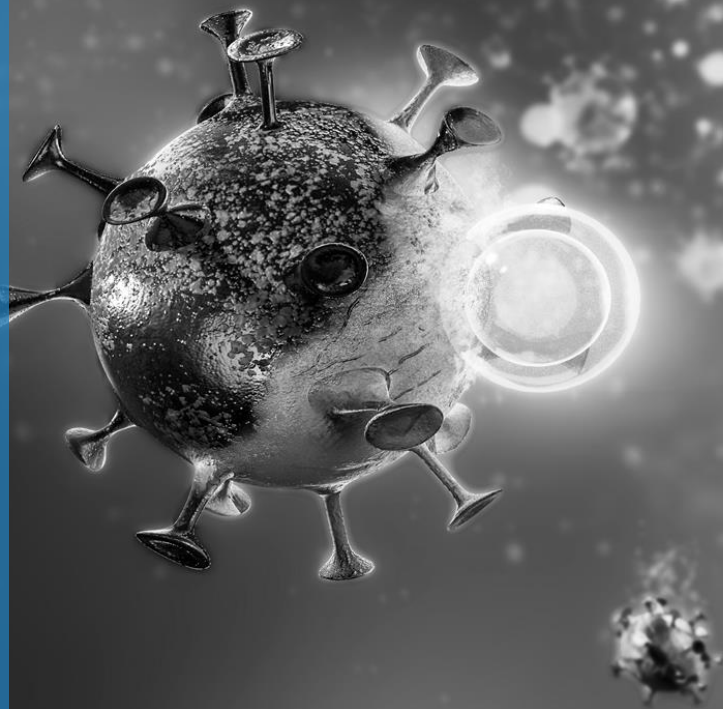
Owing to the growing Internet penetration and availability of affordable smartphones, more and more people are engaging in gaming. The market in India is expected to exhibit significant growth during the forecast period due to the growing number of gamers in the country. Additionally, due to nationwide lock down people have plenty of spare time that has increased the number of active gamers in the country.



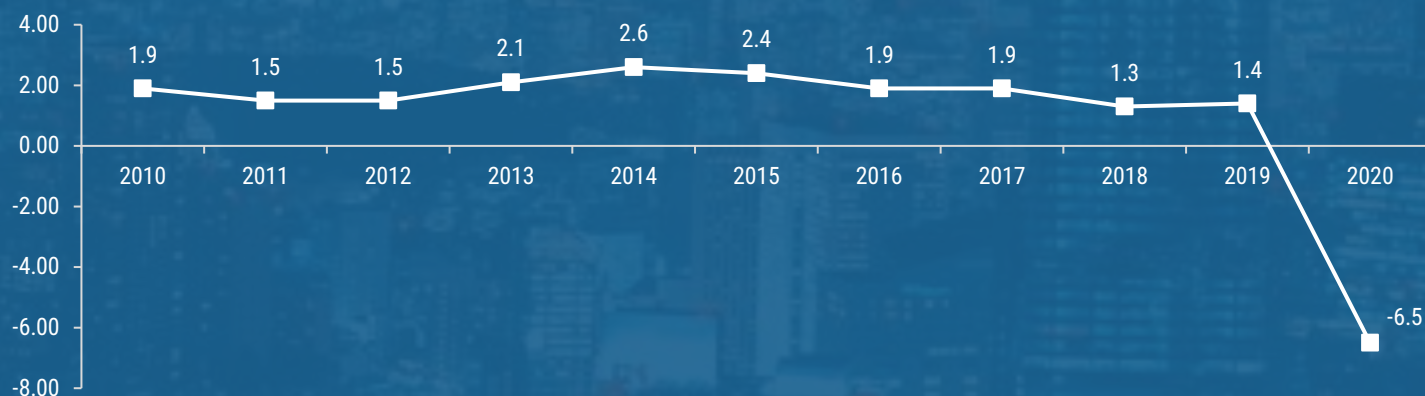


COVID 19 IMPACT ON  
**UNITED  
KINGDOM**  
ICT INDUSTRY

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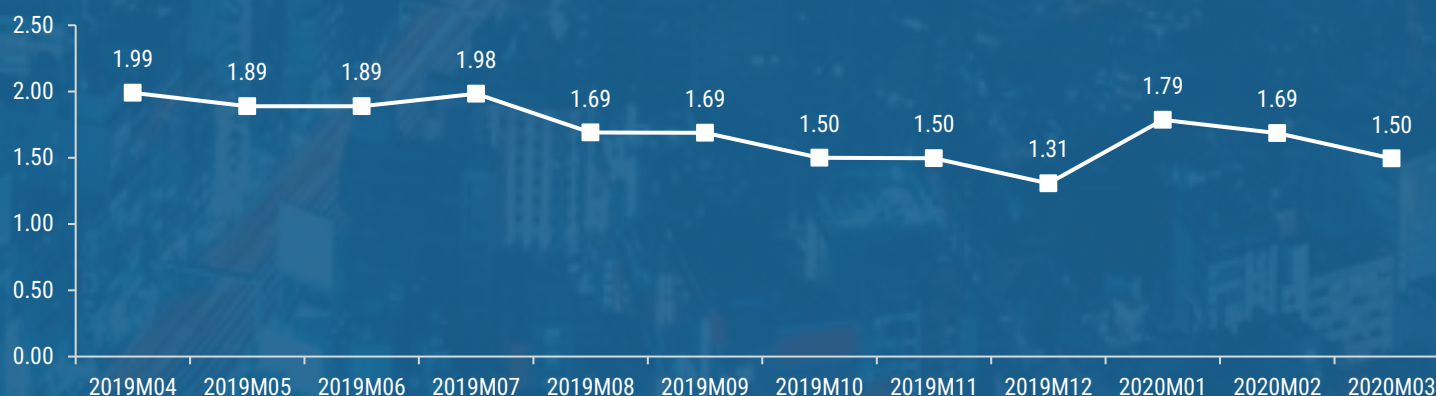


## UK-Real GDP Growth (Annual Percent Change) 2010–2020



Like all other European countries, the UK is also in a state of lockdown, followed by measures of social distancing. As a consequence of the COVID-19 pandemic, the UK economy has taken a sudden and dramatic hit, more severe than the global financial crisis of 2008.

## UK-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



Consumer Price Index (CPI) in the UK reached an all time high of 108.60 points in February 2020.

In the UK, the most important categories in the CPI (consumer price index) are transport and recreation & culture.



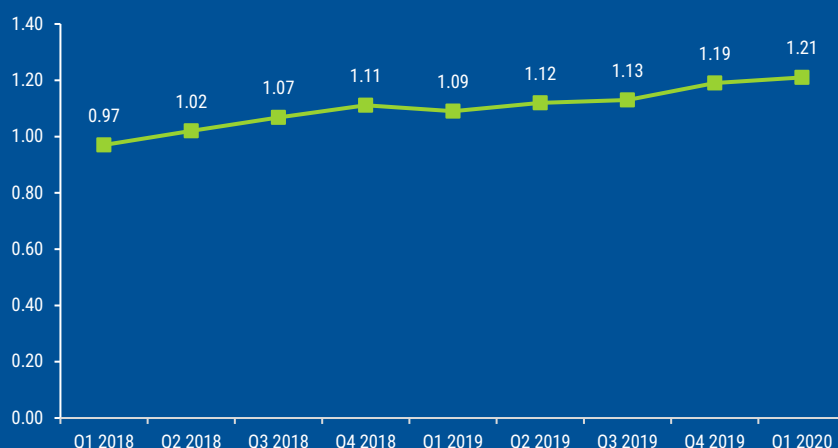
### VOICE OVER IP SUBSCRIBERS

Across the UK, the mobile voice traffic has increased by 56% in the last two weeks of March 2020. Vodafone also reported an increase in mobile calls made and received in London by more than 2%. VoIP calls were up 28% at the start of the week.



### MOBILE APPS DOWNLOAD

The top game downloaded are Slap Kings, Brain Test: Tricky Puzzles, Chores! - Spring into Cleaning, Woodturning, and Trivia.io in the first quarter of 2020. The number of downloads of TV apps and News apps increased in the country as more citizens preferred watching TV and news on their apps to be up -to-date about the impact of COVID-19 pandemic outbreak. The downloads of the real estate sector apps as well as ride-sharing and hailing apps has decreased in the country. Growth is seen in the downloads of online shopping, social media, healthcare, video chat, and conferencing apps.



### ONLINE CASINO USERS

Huge rise in revenues generated from the advertisements for online casino operators. The Gambling Commission in the UK reported 9.2% casino customers having serious problem as compared to 2.5% in online sports betting, including online casinos.





# UK - FACTORS (MN)

## (Jan '19-Mar '20)



### INTERNET USERS

Daytime traffic in the UK has been skyrocketing, which is a challenge in the country. However, the EU Commissioner Thierry Breton has asked content providers to block HD videos to prevent Internet overloads. Hence, Netflix has lowered the picture quality by 25%. Mobile networks in the UK have also seen issues in connectivity because of COVID-19.



### OVER THE TOP (OTT) SUBSCRIBER

The UK is one of the most developed OTT video markets in the Europe. Netflix, Amazon Prime, and Sky's NOW TV are the dominant OTT video services in the country accounting for almost 97% of the total subscription in the market. Furthermore, the entry of Disney, Warner Media, and NBC Universal in the OTT service market is further boosting the subscriber base in the country. Furthermore, growing demand for audio, gaming OTT services to keep oneself entertained during the stress full times of COVID-19 breakout is further increasing the subscriber base.



### ACTIVE VIDEO GAMES USERS

The UK has a total of 2,280 gaming companies, the largest in Europe. The UK game industry contributed USD 3.9 billion in gross value added (GVA) to the economy in 2016. In 2018, games accounted for 51.3% of the overall entertainment market in the UK, outselling music and video combined, for the first time. The UK is an internationally renowned start-up hub for innovative games and entrepreneurial developers of every stripe, from coders to designers to producers and developers. Due to the pandemic, the number of casual gamers in the country has drastically increased adding to the number of nation-wide active video game users.



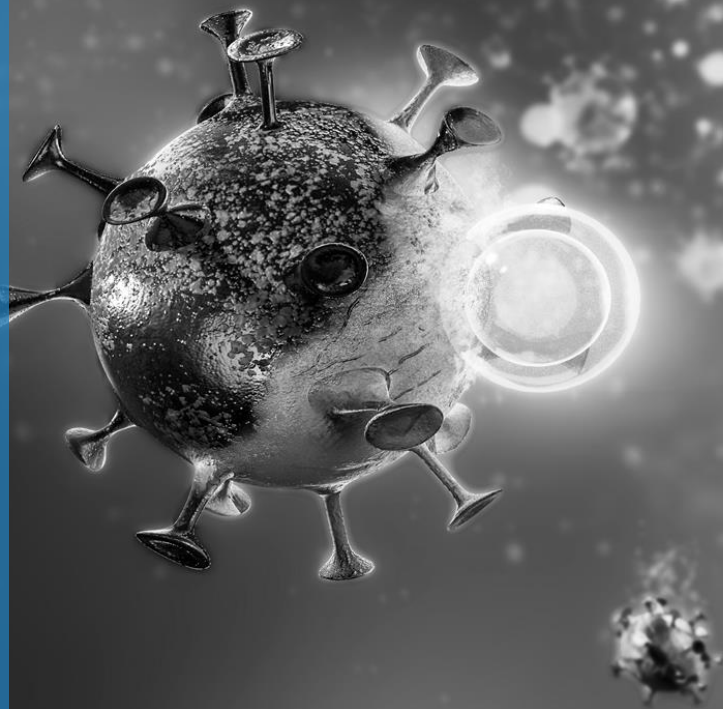


COVID 19 IMPACT ON

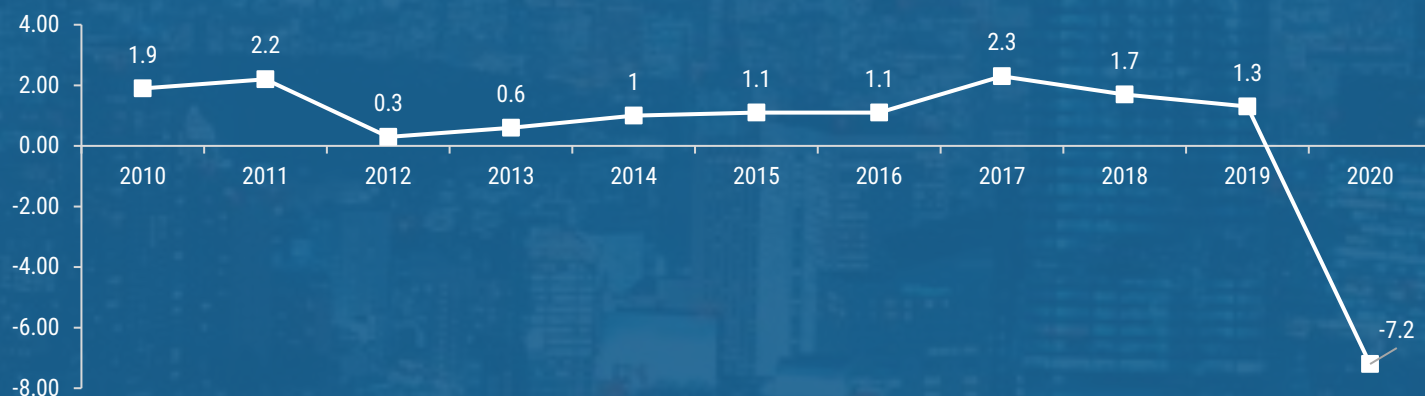
# FRANCE

ICT INDUSTRY

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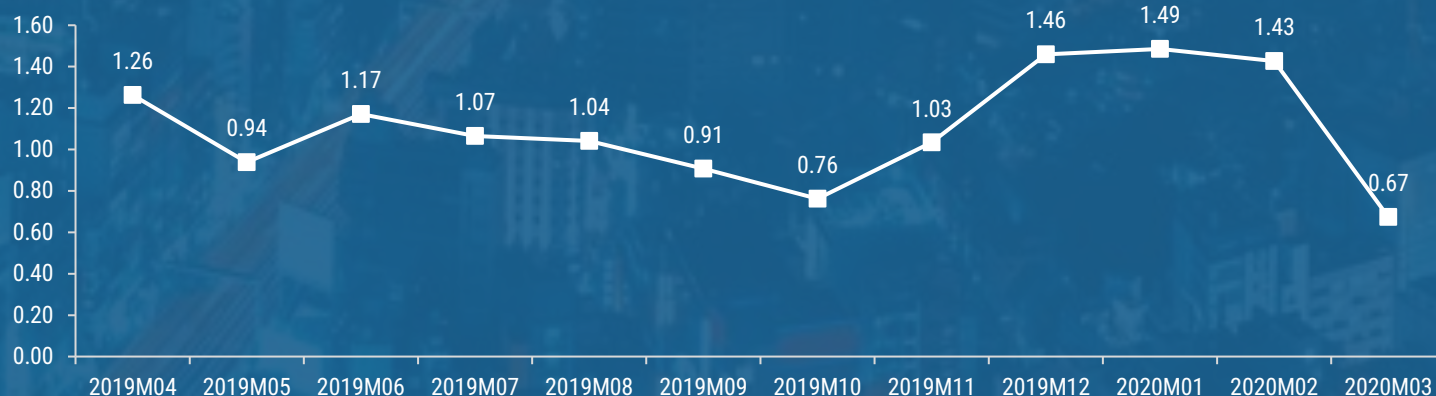


## France-Real GDP Growth (Annual Percent Change) 2010–2020



France is the seventh-largest economy worldwide and the second-largest in Europe. Household consumption (55%) is the biggest sector of the economy, followed by government expenditure (24%) and gross fixed capital formation (22%). The exports of goods and services account for 29% of GDP while imports account for 31%, subtracting 2% of the total GDP.

## France-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



In France, the most important category in the consumer price index is services (48 percent of total weight), especially actual rentals and services for dwellings (7 percent), health services (6 percent), transport (3 percent), and communication (2 percent). The index also includes manufactured products (26 percent) such as medical products (4 percent) and clothing and footwear (4 percent), food (16 percent), energy (8 percent) such as petroleum products (4 percent), and tobacco (2 percent).

# FRANCE - FACTORS (MN)

## (Jan '19-Mar '20)



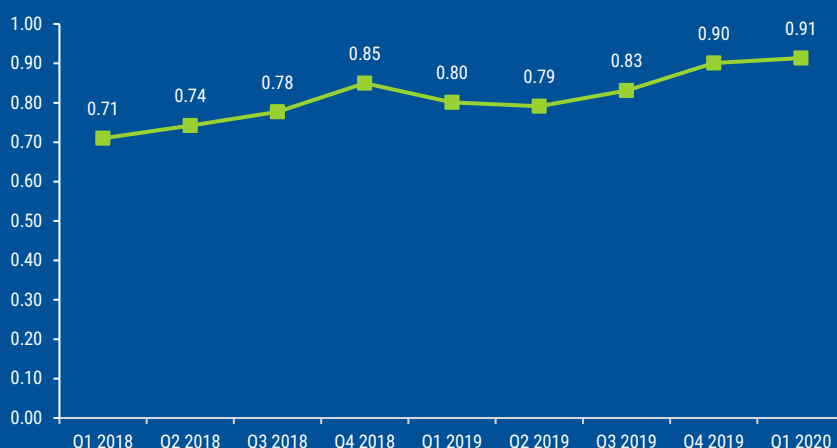
### VOICE OVER IP SUBSCRIBERS

The COVID-19 pandemic has also resulted in the growth of subscribers in France in the 1Q 2020. However, the businesses in the country has adopted VoIP phones for residential purpose as the government has ordered the employees to work from home to combat the spread of the virus.



### MOBILE APPS DOWNLOAD

The top game downloaded are Slap Kings, Brain Out, The Seven Deadly Sins, Trivia.io, Scrabble GO in the first quarter of 2020. The travel and hospitality apps, real estate apps, and mobility apps have shown a decrease in the number of apps downloaded in first half of 2020 in the country. The downloads and usage of food delivery apps increased in February and March 2020. The weekly downloads of BlaBlaCar in France fell 65% to its lowest week of Mar 7, 2020) from the highest week in Jan 29, 2019.



### ONLINE CASINO USERS

France's online gambling regulator has instructed its online poker licensees to stop offering bonuses to players who might be tempted to play more during COVID-19 self-isolation. Revenues have increased significantly for online pokers.





# FRANCE - FACTORS (MN)

## (Jan '19-Mar '20)



### INTERNET USERS

France is witnessing challenges such as calls being dropped and files unable to be downloaded. Ever since the government ordered people to work from home to combat the spread of the virus, the Internet has increased tremendously in the last quarter of 2020.



### OVER THE TOP (OTT) SUBSCRIBER

France has always witnessed increase in consumption of Internet based videos and games. Netflix is dominating the OTT Video subscription in the country owing to the unique content it offers to the users. Increasing demand for OTT gaming and fitness services in the country during the COVID-19 phase to keep them entertained and fit during the spare time is driving the growth of OTT subscriber base in the country. Additionally, the growing focus on e-learning during the pandemic phase has also accelerated the OTT subscriber base in the country.



### ACTIVE VIDEO GAMES USERS

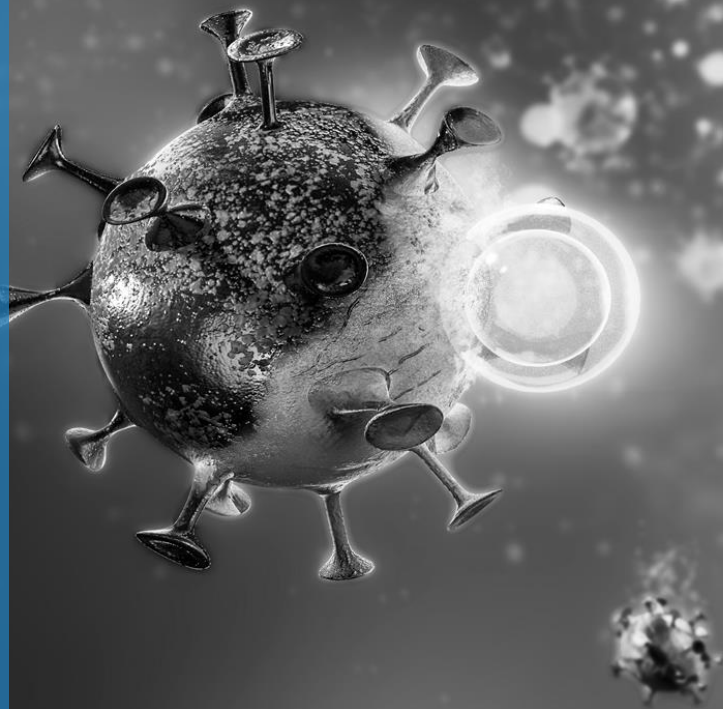
France is second in the world in terms of video game production according to the French Trade and Foreign Affairs Ministry. The country is home to some of the largest video game development studios such as Ubisoft and Gameloft, which are well known for games such as The Crew and the Asphalt series of mobile games. According to Syndicat National du Jeu Vidéo (SNJV), the national body representing the French video game industry, a total of over 1100 gaming-focused companies, including developers, distributors, publishers, and service providers are present in France.



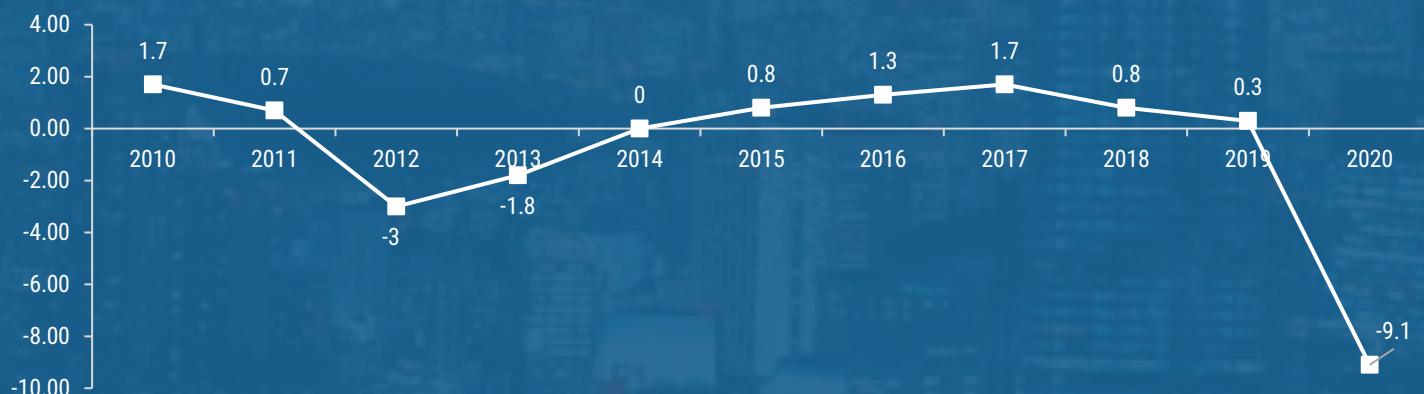


COVID 19 IMPACT ON  
**ITALY**  
ICT INDUSTRY

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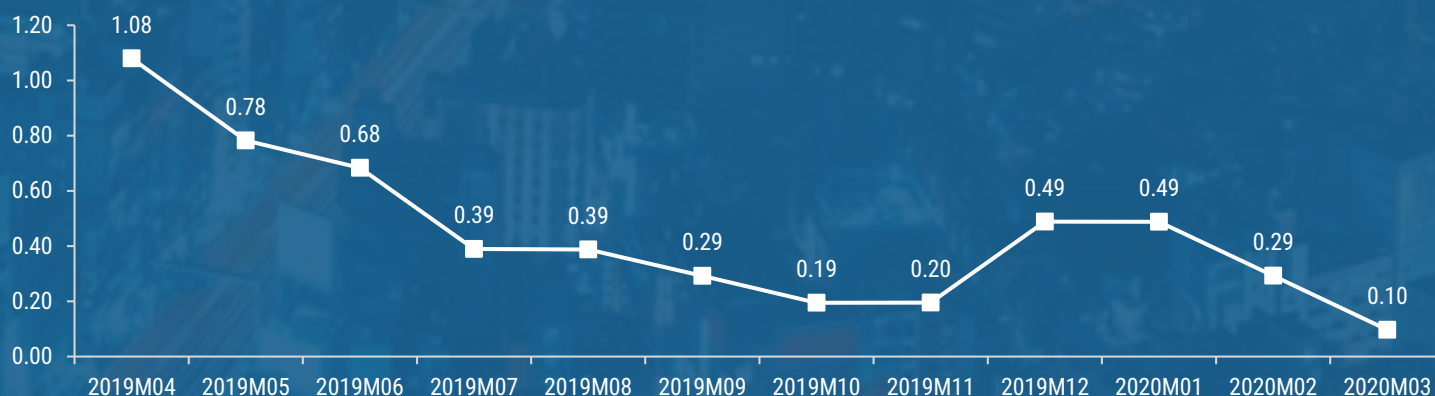


## Italy-Real GDP Growth (Annual Percent Change) 2010–2020



- The GDP (Gross Domestic Product) in Italy was worth 2030 billion USD in 2019, which represents 1.68% of the world economy.
- Italy also entered into a recession in the first quarter of 2020 with GDP decreasing by 4.7% compared to the previous quarter due to the impact of COVID-19, the country's GDP had contracted for the first time since 2014.
- The country follows contracting of 0.3% in the last three months of 2019.

## Italy-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



- Italy's Consumer Price Index (CPI) has shown a growth rate of 0.1% YoY in March 2020, compared with a rate of 0.3% in the February 2020.
- Consumers in Italy are unable or reluctant to purchase goods and services. Given the current environment of uncertainty and lockdown, enterprises are likely to delay investments, purchases of goods, and the hiring of workers.

# ITALY - FACTORS (MN)

## (Jan '19-Mar '20)



### VOICE OVER IP SUBSCRIBERS

As the Internet usage in the country has increased by due to the work from home and lockdown situation in the country. This has resulted in the growing adoption of residential VoIP calling in the country that has risen the subscribers by around 25% in the 1Q 2020 after the pandemic hits the country. However, the Italian Communications' Regulatory Authority is continuously monitoring the VoIP activities of the users to prevent its misuse.



### MOBILE APPS DOWNLOAD

After serious developments such as the quarantine of the country, in the first week of March there were 761,000 downloads in business applications from Google Play and iOS platforms. The top game downloaded are Slap Kings, Draw Climber, Woodturning, Brain Out, and Slap That in the first quarter of 2020. The number of downloads of TV apps and News apps TV increased by 14%. Additionally, there was a 150% increase in traffic on news sites. The travel and hospitality apps, real estate apps, and mobility apps have shown a decrease in the number of apps downloaded in first half of 2020 in the country.



### ONLINE CASINO USERS

Between 200 and 300 new accounts being created every day since the lockdown began. Since, Italy has been harshly affected with COVID-19 the self quarantined people are engaging in the online gaming activities.





# ITALY - FACTORS (MN)

## (Jan '19-Mar '20)



### INTERNET USERS

Internet has now become a primary source of entertainment especially between January and March. According to Cloudflare, Inc., the Internet usage has increased by 40% in the country ever since the Italian government asked workers and students to stay at home to prevent the spread of the virus.



### OVER THE TOP (OTT) SUBSCRIBER

Italy has witnessed a sudden spike in OTT subscribers during the COVID-19 pandemic. The telecom market of the country is one of the largest in Europe. Netflix, Amazon Prime Video, and Now TV are the leading SVOD service providers in the country. Presence of local players offering OTT services based is driving the market growth. Increasing Internet penetration and smartphones is driving the growth of OTT services in the country. However, majority of the users access free OTT content services such as YouTube, which is expected to hinder the market growth in the country. There has been an increase in the demand for gaming applications during the home quarantine phase.



### ACTIVE VIDEO GAMES USERS

Italy's school/colleges shutdown is driving a surge in Internet traffic as students turn to online video games to stave off boredom. With schools, shops, and restaurants closed to contain the COVID-19 outbreak, the amount of data passing through Telecom Italia SpA's national network has surged by more than two-thirds in the past two weeks. The lockdown factor is therefore contributing to the overall growth of the video gaming industry in the country.



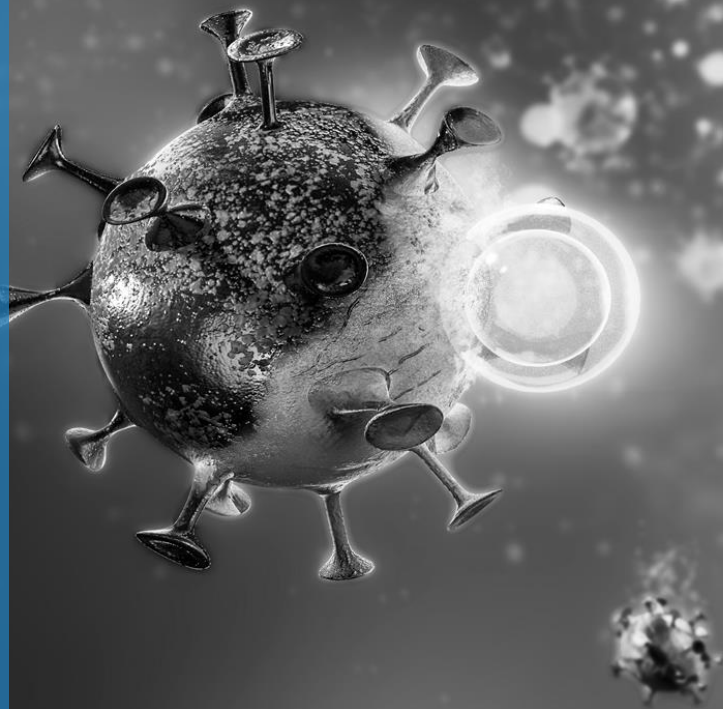


COVID 19 IMPACT ON

# BRAZIL

ICT INDUSTRY

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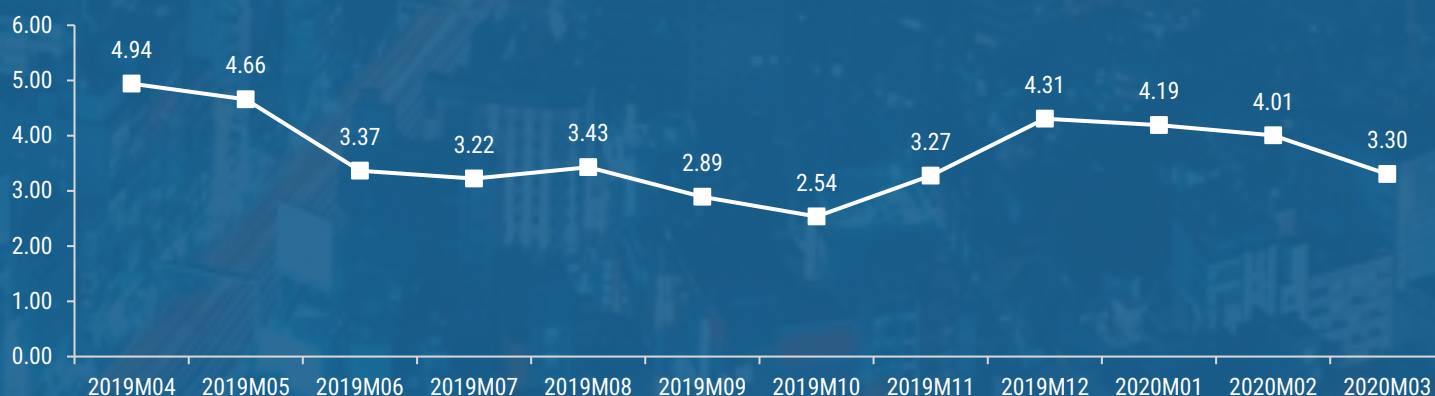


## Brazil-Real GDP Growth (Annual Percent Change) 2010–2020



Brazil is the tenth-largest economy in the world and the biggest in Latin America. The country's services sector is the most important and accounts for 63% of the total GDP. The biggest segments within the services sector are government, defense, education, and health (15% of total GDP), other services (15%), wholesale and retail trade (11%), real estate (8%), and financial services (7%). Additionally, manufacturing contributes to 18% of the GDP, with manufacturing (11%) and construction (4%) accounting for the largest share. The export of goods and services account for 13% of the GDP while imports account for 12%, adding 1% to the total GDP.

## Brazil -Consumer Price Index (CPI) April 2019-March 2020 (% Change)



In Brazil, the inflation rate measures a broad rise or fall in prices that consumers pay for a standard basket of goods. The most important categories of the index are food and beverages (26 percent of the total weight); transport (18 percent), housing (15 percent), health care (12 percent), and personal expenses (11 percent). Also, clothing accounts for 6 percent, education for 5 percent, household goods for 4 percent, and communication for 4 percent.

# BRAZIL - FACTORS (MN)

## (Jan '19-Mar '20)



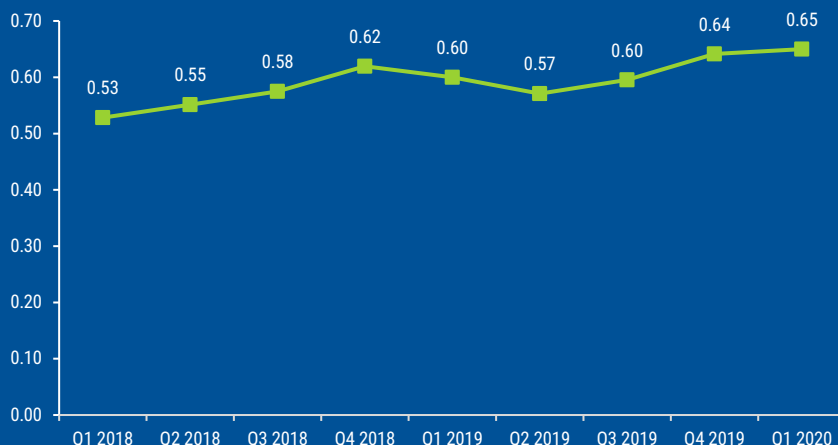
### VOICE OVER IP SUBSCRIBERS

Due to the COVID-19 pandemic, companies in Brazil such as AVOXI is providing business continuity by its VoIP services. The includes cloud-hosted PBX services at reduced call costs and improved efficiency in Brazil for the calling in over 160+ countries.



### MOBILE APPS DOWNLOAD

The number of downloads of food delivery apps have increased by 126% from March 1st to March 16th in 2020. The most downloaded apps in Brazil include TikTok, Caixa Tem, CAIXA Auxilio Emergencial, Zoom Cloud Meetings, Magazine Luiza: Compra em casa, Americanas, and Amazon Prime Video.



### ONLINE CASINO USERS

Online gambling in Brazil is illegal at this moment. However, the government is planning to permit 30 betting licenses after the third public consultation takes place. Sports betting could also generate over BRL 20 billion (USD 3.7 billion) a year in tax revenue. Currently, government-owned lotteries raise over BRL 15 billion (USD 2.8 billion) a year.





# BRAZIL - FACTORS (MN)

## (Jan '19-Mar '20)



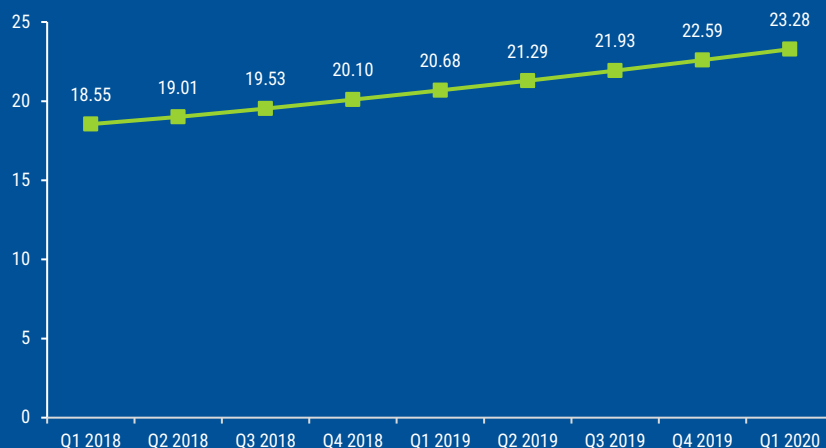
### INTERNET USERS

As per MRFR analysis, Facebook Inc. has lowered the streaming quality on its platform and on Instagram in South America order to ease the network congestion in COVID-19. Netflix, Amazon, Walt Disney, and YouTube in Brazil have also agreed to lower their video quality as they have agreed to do in Europe.



### ACTIVE VIDEO GAMES USERS

Brazil video game industry is continuously increasing due to strong smartphone penetration, better Internet connectivity, and large population of millennials. Additionally, with a growing number of video game developers in the country, the overall market opportunity is also expanding.





COVID 19 IMPACT ON

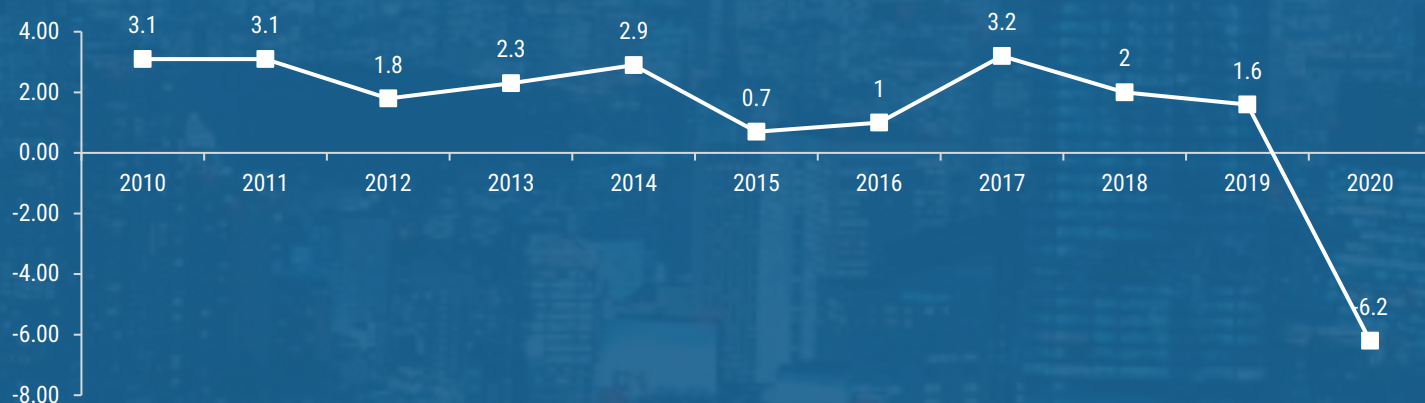
# CANADA

ICT INDUSTRY

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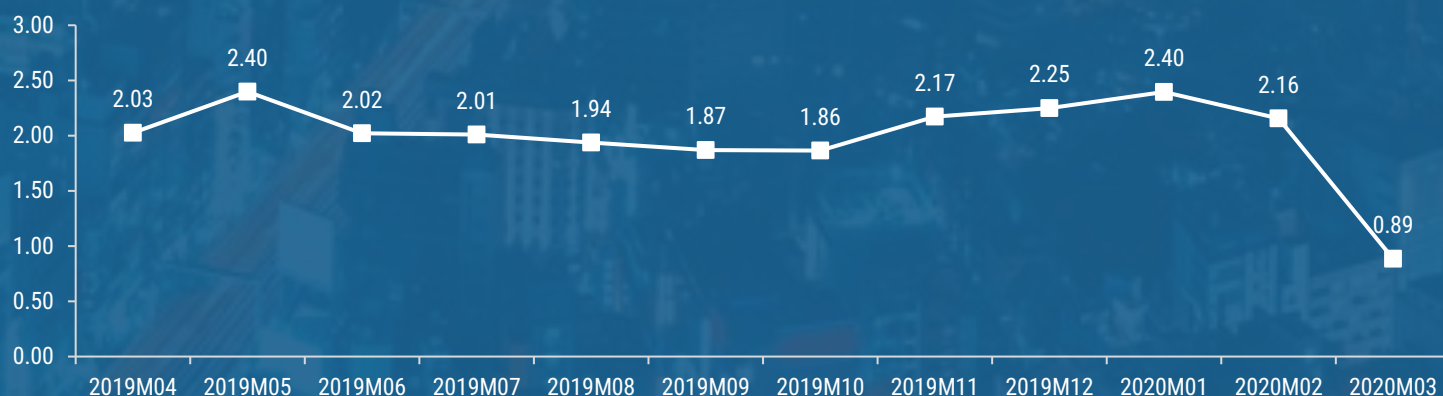


## Canada-Real GDP Growth (Annual Percent Change) 2010–2020



The Gross Domestic Product (GDP) in Canada expanded 1.50 percent in the fourth quarter of 2019 over the same quarter of the previous year. In Canada, services account for more than 70 percent of GDP. Within services the most important are finance, insurance, real estate, rental and leasing and management of companies and enterprises (21 percent of total GDP), retail and wholesale trade (12 percent), health (8 percent), and public administration (6 percent). Manufacturing accounts for 13 percent of the output and construction for 6 percent. Mining and oil and gas extraction constitute only 4 percent of GDP, yet Canada is a net exporter of energy. Finally, the agriculture, forestry, fishing and hunting account for 2 percent of output.

## Canada-Consumer Price Index (CPI) April 2019-March 2020 (% Change)



Consumer Price Index CPI in Canada decreased to 136.60 points in March from 137.40 points in February of 2020. The goods and services in the CPI basket are divided into 8 major components: food, shelter, household operations, furnishings and equipment, clothing and footwear, transportation, health and personal care, recreation, education and reading, and alcoholic beverages, tobacco products, and recreational cannabis. CPI data are published at various levels of geography including Canada, the ten provinces, Whitehorse, Yellowknife, and Iqaluit.



### VOICE OVER IP SUBSCRIBERS

To allow business continuity in the situation of the pandemic, VoIP providers in Canada is offering three months of free VoIP to the organization that are impacted by the COVID-19. This has significantly increased the VoIP subscribers in Canada.



### MOBILE APPS DOWNLOAD

Video conferencing app Zoom expanded its user base by 300% in just under a month on the COVID-19 pandemic. The travel and hospitality app downloads have declined by 10%, Airbnb has experienced a drastic decline in bookings. The downloads of Social Media apps and Online Games apps have increased in the first quarter of 2020. The most downloaded apps are those from the healthcare sector as well as from the food delivery sector.



### ONLINE CASINO USERS

Online casinos are legalized in Canada. In August 2019, the 76% (about 30 million) of adult Canadian citizens were involved in playing land-based casinos. It is illegal to operate online casino servers in Canada, so companies have placed their servers in other provinces. No income tax regulations on winning money in online gambling according to Income Tax Act. Online gambling website provide security to the players.





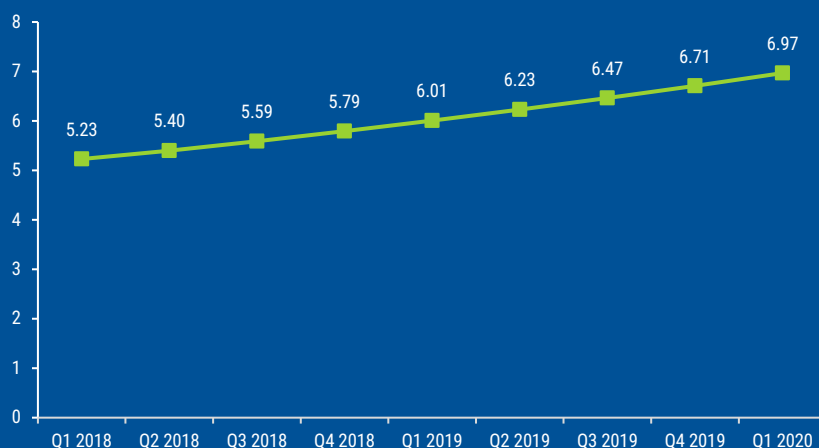


### OVER THE TOP (OTT) SUBSCRIBER

During the COVID-19 pandemic, the demand for SVOD apps such as Netflix and Amazon Prime have witnessed huge demand among all the other OTT platform services offered thereby increasing the OTT subscriber base in the country. SVOD OTT players such as Netflix, Amazon Prime, and Apple TV+ have offered various offers such one-month free subscription and free original shows to increase the subscription rate. Amidst lockdown video conferencing apps such as Zoom and Houseparty have witnessed and increased number of subscribers. Health and fitness related OTT platforms are also witnessing increase in subscriber base in the country due to the pandemic situation.

### ACTIVE VIDEO GAMES USERS

Canada has an active esports community that engages in competitive tournaments. Various esports leagues across the country, such as the Canada Esports League and the Ontario Esports League, organize competitive games for qualification rounds to international leagues such as the ESL. Additionally, the number of casual gamers in the country is also increasing adding to the total number of active gamers in the country.



# Thank You

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