



MarketLine Industry Profile

Internet Access in Brazil

October 2021

Reference Code: 0076-2284

Publication Date: October 2021

Primary NAICS: 517311

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1. Executive Summary

1.1. Market value

The Brazilian internet access market shrank by 16.6% in 2020 to reach a value of \$7,703.2 million.

1.2. Market value forecast

In 2025, the Brazilian internet access market is forecast to have a value of \$11,478.5 million, an increase of 49% since 2020.

1.3. Market volume

The Brazilian internet access market grew by 4.3% in 2020 to reach a volume of 173,768.7 thousand Internet users.

1.4. Market volume forecast

In 2025, the Brazilian internet access market is forecast to have a volume of 219,655.8 thousand Internet users, an increase of 26.4% since 2020.

1.5. Category segmentation

Fiber optic (ftth/b) is the largest segment of the internet access market in Brazil, accounting for 44% of the market's total value.

1.6. Geography segmentation

Brazil accounts for 8.3% of the Americas internet access market value.

1.7. Market rivalry

Rivalry within the internet access market is intensified by the presence of large players which benefit from economies of scale and diversification. Leading service providers compete intensely via quality measures, brand awareness, functionality and value pricing to try to capture new and retain existing customers. Some players have internet access as their core business and others offer this as part of a diverse range of communication services, which can help to alleviate rivalry between players.

1.8. Competitive Landscape

The Brazilian internet access market is dominated by leading players Oi S.A., America Movil, SA DE C.V., Telefonica, S.A. and TIM Participacoes SA. Leading players employ common strategies such as offering bundled services (fixed line and mobile) and digital media into all-in-one packages, as well as investing heavily on the quality of their network and other services.

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2. Market Overview

2.1. Market definition

The internet access sector consists of the total Internet Service Revenue charged for the provision of narrowband and broadband Internet connections through both consumer and corporate channels. All revenues calculated are retail revenues exclusive of taxes. Only fixed communication is included; mobile connections are not considered.

Digital subscriber lines (xDSL) refer collectively to all types of digital subscriber lines, including ADSL and SDSL, HDSL and so on.

Cable segment includes systems using coaxial cable and successive technologies (e.g., HFC) in transporting television broadcast, Internet and voice in the access network. Coaxial cable can achieve bandwidth speeds faster than 750 Mbps, but analog TV pictures require some 8 Mbps of bandwidth, and transmission of Internet and voice signals takes place at much lower rates.

Fixed Wireless Access category refers to local access via fixed wireless links.

Fiber Optic (FTTH/B) segment covers fiber to the home as well as fiber to the building connections.

The Other segment includes access through ISDN, WiMAX and other access mediums, such as satellite and powerline.

Market volumes represent total number of Internet users.

All market data and forecasts are represented in nominal terms (i.e., without adjustment for inflation) and all currency conversions used in the creation of this report have been calculated using constant 2020 annual average exchange rates.

Forecast figures presented in this report are calculated using crisis scenarios for the market. The length of the pandemic and restrictions introduced by various countries are still difficult to predict. Many governments had introduced the national lockdowns and temporarily banned sales of products that are deemed "non-essential". As the length of the pandemic and its impact on this market is not certain, the data used in this report has been modeled taking forecast impacts on national economics into consideration.

For the purposes of this report, the global market consists of North America, South America, Europe, Asia-Pacific, Middle East, South Africa and Nigeria.

North America consists of Canada, Mexico, and the United States.

South America comprises Argentina, Brazil, Chile, Colombia, and Peru.

Europe comprises Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

Scandinavia comprises Denmark, Finland, Norway, and Sweden.

Asia-Pacific comprises Australia, China, Hong Kong, India, Indonesia, Kazakhstan, Japan, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam.

Middle East comprises Egypt, Israel, Saudi Arabia, and United Arab Emirates.

2.2. Market analysis

The value of the Brazilian internet access market declined by 16.6% in 2020, a weaker performance as compared with 2019. The market is expected to recover in 2021, following a strong growth trajectory thereafter until the end of the forecast period.

Fierce price competition among providers, especially through promotions and discounts, has suppressed revenues. While the impact of the pandemic on consumer demand for internet services was limited, it was more evident on business demand, with business interruptions and closures amid the economic downturn resulting in revenue losses for providers. Although business demand accounts for a small share of the market value and even smaller share of volume, it remains a lucrative stream with a much higher revenue generated by business rather than residential subscribers.

The Brazilian internet access market had total revenues of \$7.7bn in 2020, representing a compound annual rate of change (CARC) of -0.3% between 2016 and 2020. In comparison, the US and Canadian markets grew with compound annual growth rates (CAGRs) of 3.5% and 5% respectively, over the same period, to reach respective values of \$65.6bn and \$8.7bn in 2020.

While the cost per Mbps has been constantly decreasing thanks to technological advancements, the average price of fixed broadband services paid by consumers has slightly increased overall in recent years as available internet speeds have grown sharply. This has been due to the stronger expansion of fiber optic network from providers, with increasing demand for bandwidth amid the evolution of digital media streaming urging consumers to trade up to these faster and more reliable internet services. In Brazil, revenues from fiber optic segment posted a CAGR of 49.4% in 2016-2020, with revenues from the DSL segment shrinking at CARC of -20% during the same period, as a result of consumers' switching. The average monthly fixed broadband internet traffic in Brazil, was estimated at 87.1GB in 2020, according to the International Telecommunication Union (ITU).

Overall, the cost of fixed broadband services in the Brazilian market is moderate in comparison to other markets. According to in-house research, the average yearly cost of fixed broadband services in this market is estimated at 0.66% of the country's gross national income (GNI) per capita. The ITU estimates the cost of an entry level fixed broadband subscription in Brazil at 13\$ as of 2020.

Market consumption volume increased with a CAGR of 5.3% between 2016 and 2020, to reach a total of 173.8 million units in 2020. The market's volume is expected to rise to 219.7 million units by the end of 2025, representing a CAGR of 4.8% for the 2020-2025 period.

Fixed broadband penetration in Brazil increased from 13 per 100 inhabitants in 2016 to 13.03 per 100 inhabitants in 2020, as per the ITU.

The Fiber Optic (FTTH/B) segment was the market's most lucrative in 2020, with total revenues of \$3.4bn, equivalent to 44% of the market's overall value. The Cable segment contributed revenues of \$1.9bn in 2020, equating to 24.6% of the market's aggregate value.

The development-lag in the infrastructure of earlier transmission technologies such as DSL has favored the expansion of the country's fiber optic network in the effort to catch up with developed countries. Additionally, with fast and reliable fixed internet access remaining a luxury for many consumers, the strong uptake in fiber optic connections is skewed towards upper-middle to high income consumers and large businesses who comprise most fixed broadband connections. Cable internet that has essentially been a predecessor of fiber optic internet in this market, mainly affordable for higher income consumers, is now becoming obsolete.

The performance of the market is forecast to accelerate, with an anticipated CAGR of 8.3% for the five-year period 2020-2025, which is expected to drive the market to a value of \$11.5bn by the end of 2025. Comparatively, the US and Canadian markets will grow with CAGRs of 3.7% and 7.8% respectively, over the same period, to reach respective values of \$78.8bn and \$12.6bn in 2025.

The Brazilian internet access market is expected to rebound in 2021, with economic recovery to boost spending confidence. The removal of containment measures as vaccine programs are rolled out will allow the gradual return of the economic activity to normal.

In the mid-term, the market's growth will continue to be driven by switching to the fiber optic technology, as the fiber optic network will be expanding, becoming more affordable for consumers. On the other hand, the DSL and cable technologies are set to become obsolete as demand for higher bandwidth increases, while providers will be seeking to push fiber optic technology to generate higher revenues.

3. Market Data

3.1. Market value

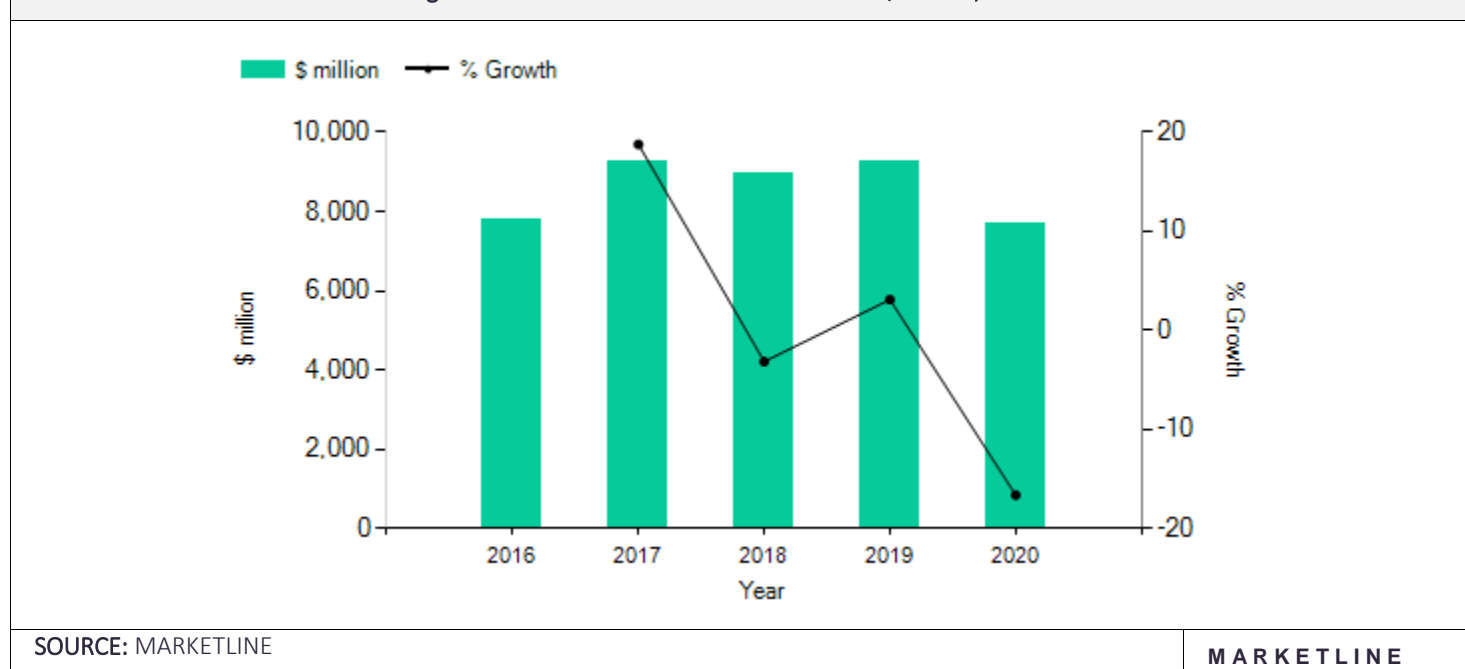
The Brazilian internet access market shrank by 16.6% in 2020 to reach a value of \$7,703.2 million.

The compound annual rate of change of the market in the period 2016–20 was -0.3%.

Table 1: Brazil internet access market value: \$ million, 2016–20

Year	\$ million	BRL million	€ million	% Growth
2016	7,791.1	40,131.9	6,805.1	
2017	9,253.1	47,662.6	8,082.1	18.8%
2018	8,961.3	46,159.3	7,827.2	(3.2%)
2019	9,239.1	47,590.5	8,069.9	3.1%
2020	7,703.2	39,678.9	6,728.3	(16.6%)
CAGR: 2016–20				(0.3%)
SOURCE: MARKETLINE				MARKETLINE

Figure 1: Brazil internet access market value: \$ million, 2016–20



3.2. Market volume

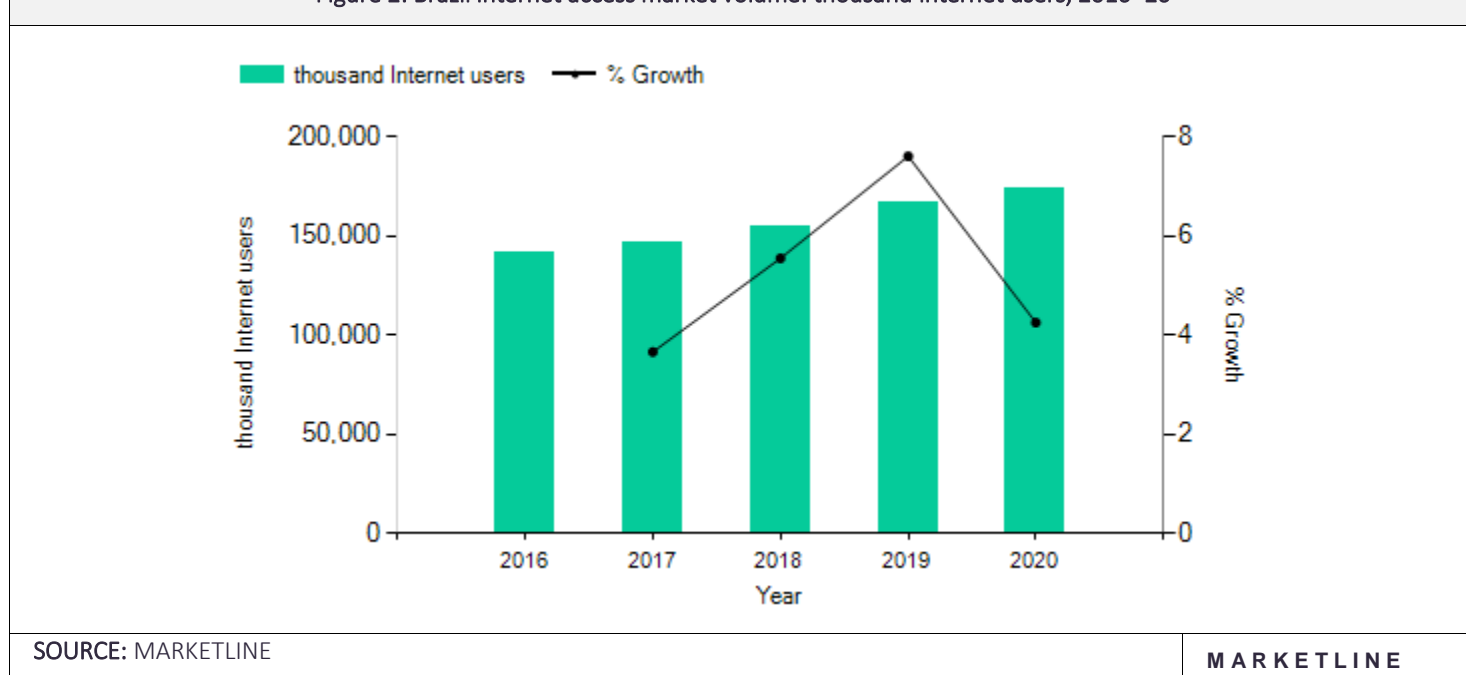
The Brazilian internet access market grew by 4.3% in 2020 to reach a volume of 173,768.7 thousand Internet users.

The compound annual growth rate of the market in the period 2016–20 was 5.3%.

Table 2: Brazil internet access market volume: thousand Internet users, 2016–20

Year	thousand Internet users	% Growth
2016	141,539.8	
2017	146,727.1	3.7%
2018	154,878.4	5.6%
2019	166,672.6	7.6%
2020	173,768.7	4.3%
CAGR: 2016–20		5.3%
SOURCE: MARKETLINE		MARKETLINE

Figure 2: Brazil internet access market volume: thousand Internet users, 2016–20



4. Market Segmentation

4.1. Category segmentation

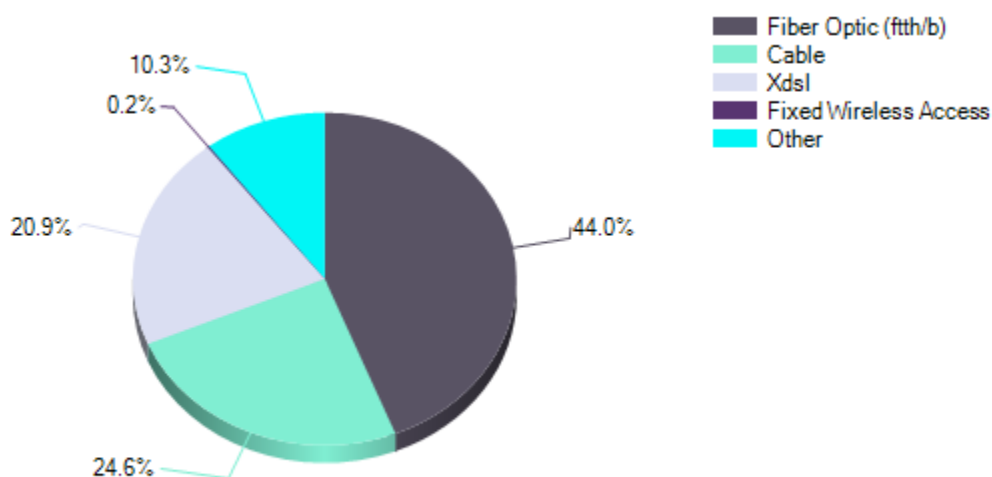
Fiber optic (ftth/b) is the largest segment of the internet access market in Brazil, accounting for 44% of the market's total value.

The Cable segment accounts for a further 24.6% of the market.

Table 3: Brazil internet access market category segmentation: \$ million, 2020

Category	2020	%
Fiber Optic (ftth/b)	3,388.8	44.0%
Cable	1,897.2	24.6%
Xdsl	1,611.5	20.9%
Fixed Wireless Access	12.5	0.2%
Other	793.2	10.3%
Total	7,703.2	100%
SOURCE: MARKETLINE		MARKETLINE

Figure 3: Brazil internet access market category segmentation: % share, by value, 2020



SOURCE: MARKETLINE

MARKETLINE

4.2. Geography segmentation

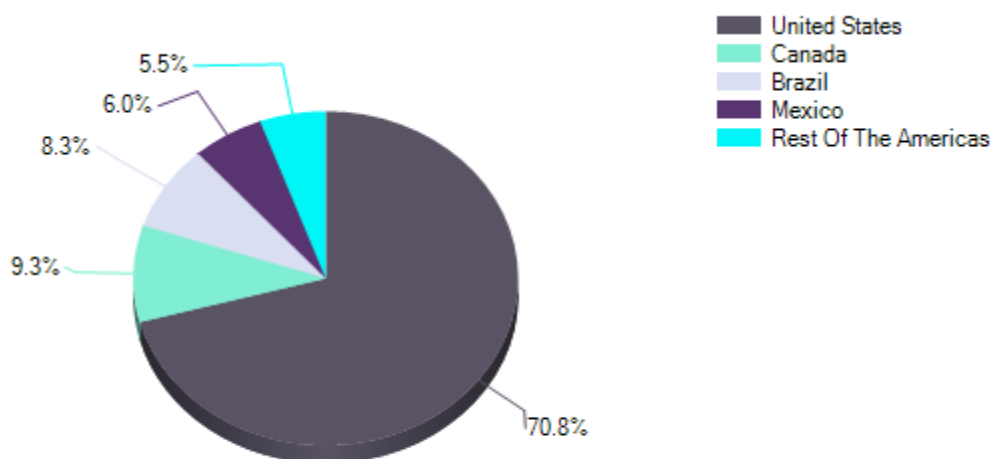
Brazil accounts for 8.3% of the Americas internet access market value.

The United States accounts for a further 70.8% of the Americas market.

Table 4: Brazil internet access market geography segmentation: \$ million, 2020

Geography	2020	%
United States	65,643.4	70.8
Canada	8,652.8	9.3
Brazil	7,703.2	8.3
Mexico	5,583.5	6.0
Rest Of The Americas	5,139.6	5.5
Total	92,722.5	99.9%
SOURCE: MARKETLINE		MARKETLINE

Figure 4: Brazil internet access market geography segmentation: % share, by value, 2020



SOURCE: MARKETLINE

MARKETLINE

5. Market Outlook

5.1. Market value forecast

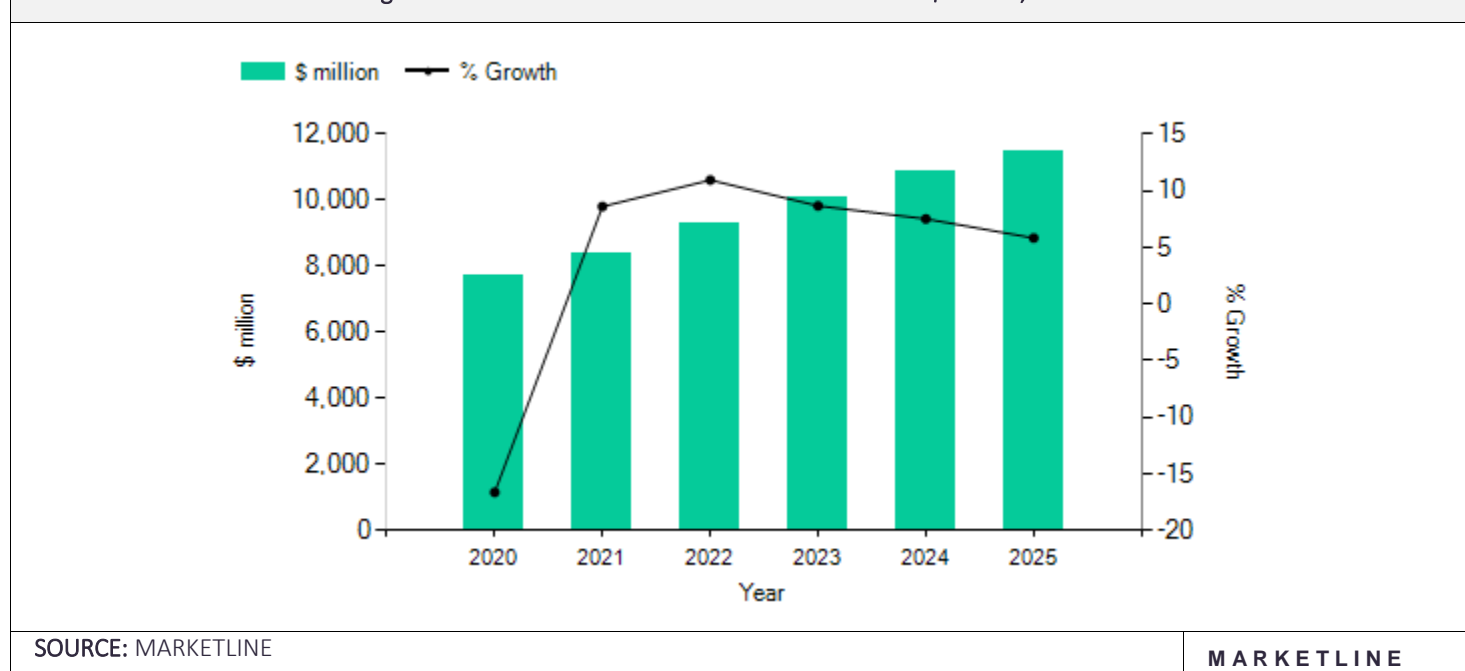
In 2025, the Brazilian internet access market is forecast to have a value of \$11,478.5 million, an increase of 49% since 2020.

The compound annual growth rate of the market in the period 2020–25 is predicted to be 8.3%.

Table 5: Brazil internet access market value forecast: \$ million, 2020–25

Year	\$ million	BRL million	€ million	% Growth
2020	7,703.2	39,678.9	6,728.3	(16.6%)
2021	8,366.8	43,097.1	7,307.9	8.6%
2022	9,282.5	47,814.0	8,107.8	10.9%
2023	10,087.4	51,960.3	8,810.9	8.7%
2024	10,846.0	55,867.7	9,473.4	7.5%
2025	11,478.5	59,125.5	10,025.9	5.8%
CAGR: 2020–25				8.3%
SOURCE: MARKETLINE				MARKETLINE

Figure 5: Brazil internet access market value forecast: \$ million, 2020–25



5.2. Market volume forecast

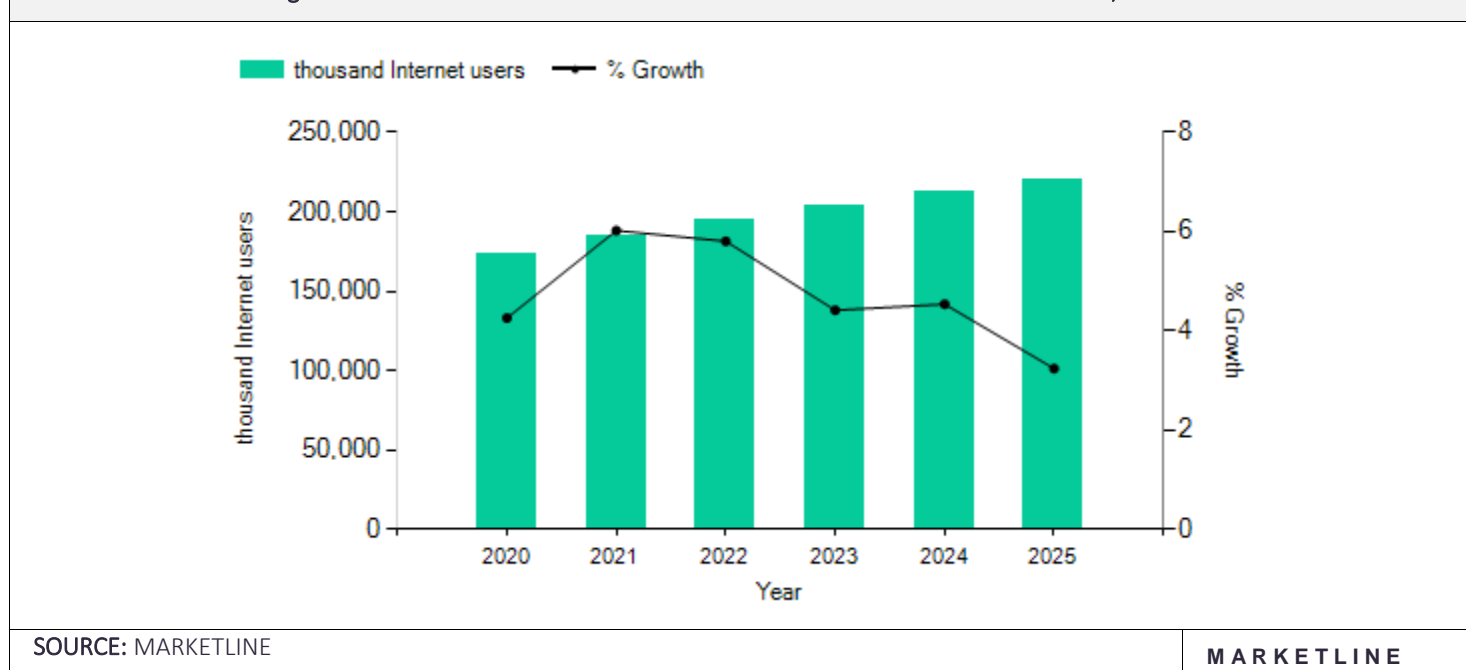
In 2025, the Brazilian internet access market is forecast to have a volume of 219,655.8 thousand Internet users, an increase of 26.4% since 2020.

The compound annual growth rate of the market in the period 2020–25 is predicted to be 4.8%.

Table 6: Brazil internet access market volume forecast: thousand Internet users, 2020–25

Year	thousand Internet users	% Growth
2020	173,768.7	4.3%
2021	184,228.4	6.0%
2022	194,920.7	5.8%
2023	203,527.1	4.4%
2024	212,761.3	4.5%
2025	219,655.8	3.2%
CAGR: 2020–25		4.8%
SOURCE: MARKETLINE		MARKETLINE

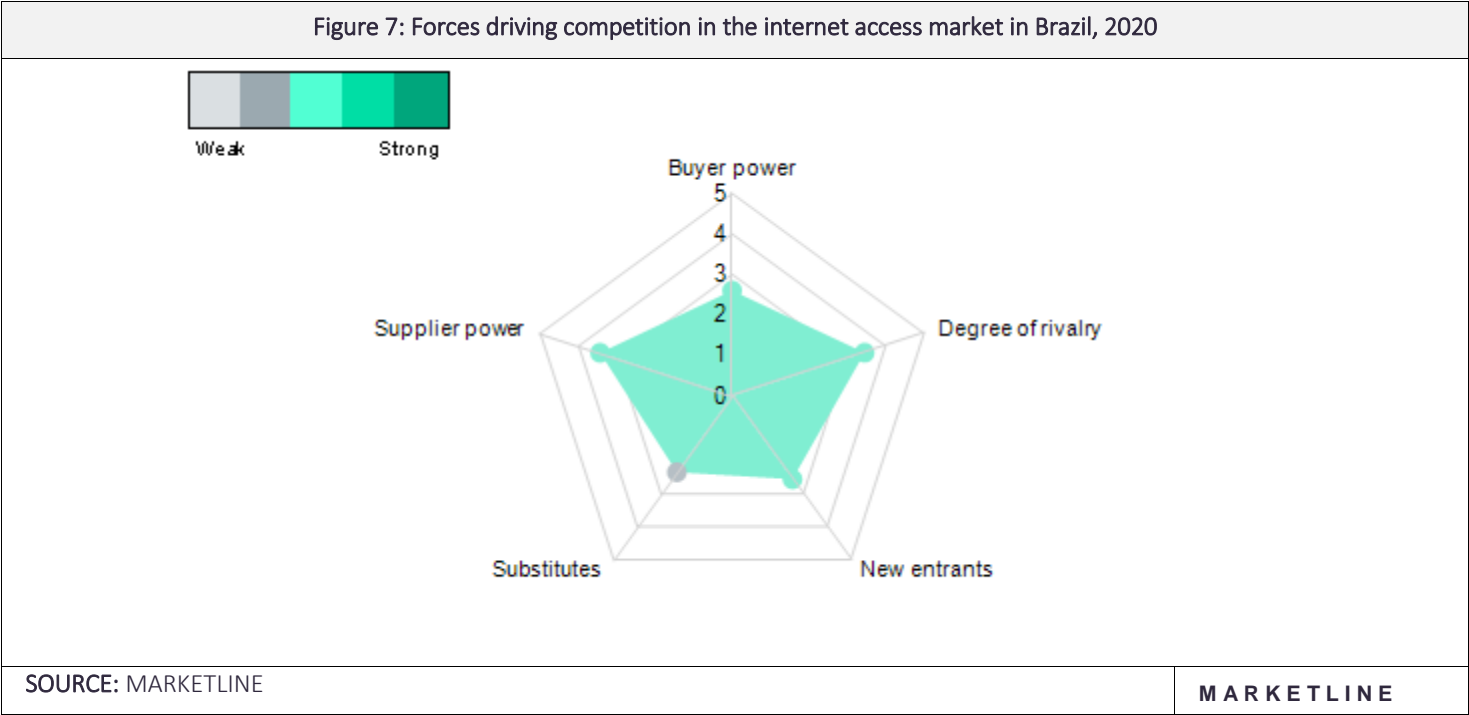
Figure 6: Brazil internet access market volume forecast: thousand Internet users, 2020–25



6. Five Forces Analysis

The internet access market will be analyzed taking internet service providers as players. The key buyers will be taken as end-users, and network owners and manufacturers of the hardware and software involved as the key suppliers.

6.1. Summary



Rivalry within the internet access market is intensified by the presence of large players which benefit from economies of scale and diversification. Leading service providers compete intensely via quality measures, brand awareness, functionality and value pricing to try to capture new and retain existing customers. Some players have internet access as their core business and others offer this as part of a diverse range of communication services, which can help to alleviate rivalry between players.

Customers within this market range from individuals to large corporations. For individual consumers, buyer power is weakened due to the lack of importance of one such buyer to a market player. Conversely, the loss of a large corporation would have a greater impact on the business of an internet service provider (ISP) and, as such, their buyer power is strengthened. Other parameters such as the number of different offerings and price-sensitivity of consumers also impact buyer power.

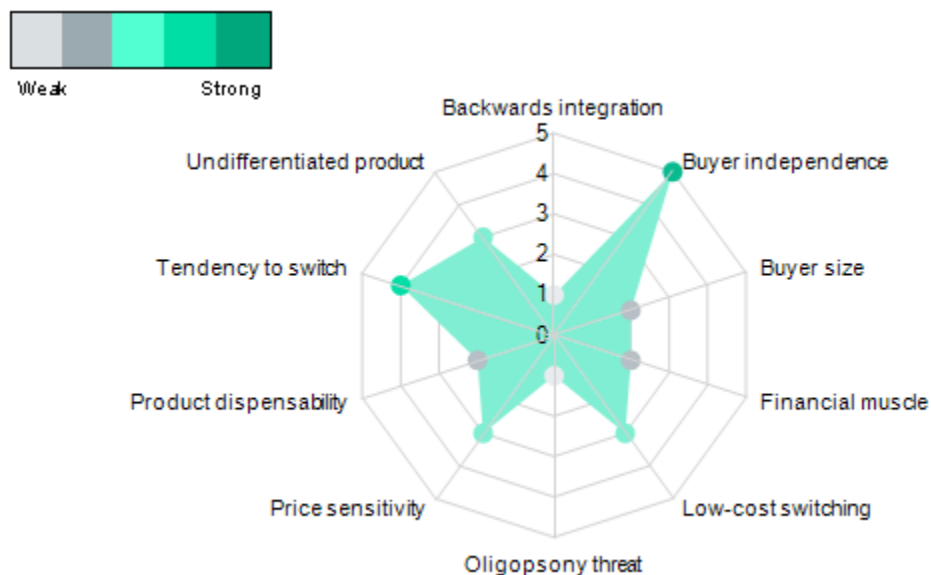
Internet service providers (ISPs) connect their customers to the telecommunication infrastructure. This telecommunication infrastructure underpins the internet technology, including the network of cable-lines, servers, and packet switching software. Manufacturers of this hardware and software are key suppliers for players (ISPs). The importance of this infrastructure and the reduced number of large suppliers due to the economies of scale and large investment required boosts supplier power.

Entering this market can involve significant capital outlay, in order to build infrastructure that covers the geographic area of interest. Gaining permissions from local governments and public utilities to deploy new broadband infrastructure is expensive and complex. A potentially lower cost mode of entry is to buy access to telecom networks. This reduces the capital requirements for market entry, but the intense power of incumbent firms that benefit from economies of scale, established infrastructure and strong brand awareness can dissuade potential new entrants.

The internet is a versatile tool that can be used for a whole spectrum of everyday activities and, presently at least, there are no real alternatives that can match its range. Although there are no alternatives for internet access as a service, there are alternatives for internet access through alternative means other than fixed broadband. Mobile broadband comprises the main substitute threat in this market.

6.2. Buyer power

Figure 8: Drivers of buyer power in the internet access market in Brazil, 2020



SOURCE: MARKETLINE

MARKETLINE

There are a range of buyers in the internet access market, including individual end-users, businesses and public organizations. This range in size has an impact on buyer power, which depends on their size. Individual consumers, for example, would have less buyer power in comparison to larger businesses which would require premium additional services at large scale. Residential internet users (consumers) typically account for 80% to 90% of revenues within the internet access market, with the rest comprised by business users, including public organizations. Although business demand accounts for a small share of the market value and even smaller of volume, it remains a valuable stream with much higher revenue generated by businesses rather than residential users.

Internet access has become virtually essential in modern days, deemed as vital for most consumers and businesses. Internet is highly indispensable in Brazil; 73.9% of the total population were internet users in 2019 as per the most recent data from the World Bank. This negates the bargaining power of consumers in this market.

The little differentiation of internet access as a service can theoretically make buyers more price sensitive, increasing buyer power. However, there are some possibilities of differentiation between players that can dilute this; for instance, one player may offer fixed internet access as a standalone service, while another bundles it with telecoms and wireless internet and cable TV services. In Brazil, the relatively low prevalence of bundle services indicates limited differentiation capacity from providers, and that serves in favor of buyer power.

Switching costs are moderate in this market. This can include the time required to leave one contract and move to a competing contract, or cancellation fees. In these cases, switching becomes more problematic and loyalty to a particular service provider is expected to be higher, reducing buyer power.

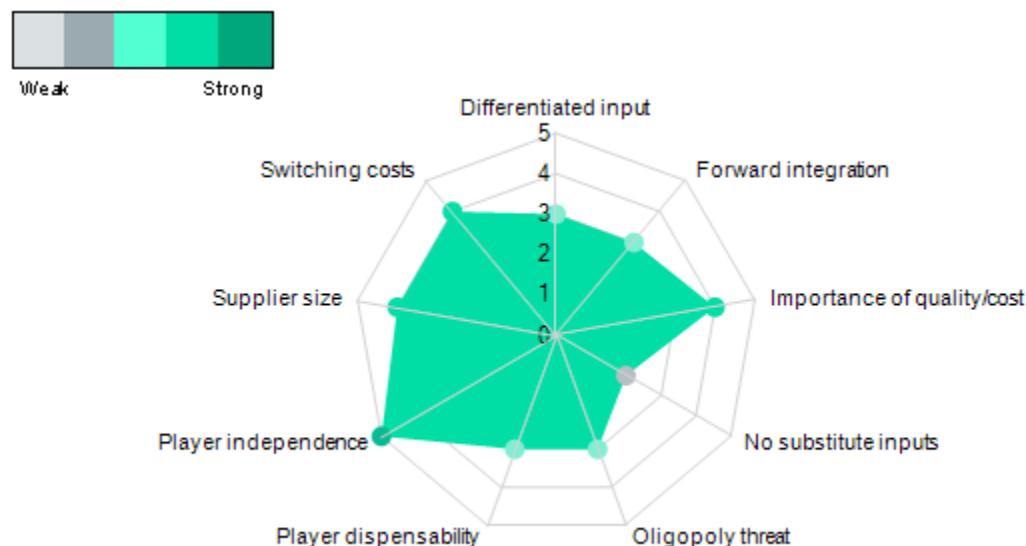
Although price remains an important consideration for buyers, brand power reputation along with factors such as speed of access and quality of connection can play an important role in this market; these factors tend to transcend brand loyalty to a particular ISP.

Buyer power, and thereby price, is also impacted by the choice of providers in certain areas. If a player monopolizes an area then this lowers buyer power significantly. Ultimately, the moderate cost of fixed broadband internet subscriptions in Brazil in comparison to other countries – estimated at 0.66% of the gross national income according to in-house research - reflects a moderate bargaining power.

Overall, buyer power is assessed as moderate in this market.

6.3. Supplier power

Figure 9: Drivers of supplier power in the internet access market in Brazil, 2020



SOURCE: MARKETLINE

MARKETLINE

Internet service providers (ISPs) connect their customers to the telecommunication infrastructure. This telecommunication infrastructure underpins the internet technology, including the network of cable-lines, servers, and packet switching software. Manufacturers of this hardware and software are key suppliers for players (ISPs). The importance of this infrastructure and the reduced number of large suppliers due to the economies of scale and large investment required boosts supplier power. Moreover, companies operating in telecommunications software and hardware, such as Cisco, Huawei, Oracle, Ericsson, Juniper, and ZTE, are too large – in some cases larger than providers – and well-diversified, thus having increased bargaining power.

The likelihood of backwards integration of providers depends on the type of infrastructure. Backwards integration to hardware infrastructure such as servers, masts and any other telecommunications equipment is limited as the high level of specialization required along with the vast amount of capital required for such manufacturing activities is out of scope for players.

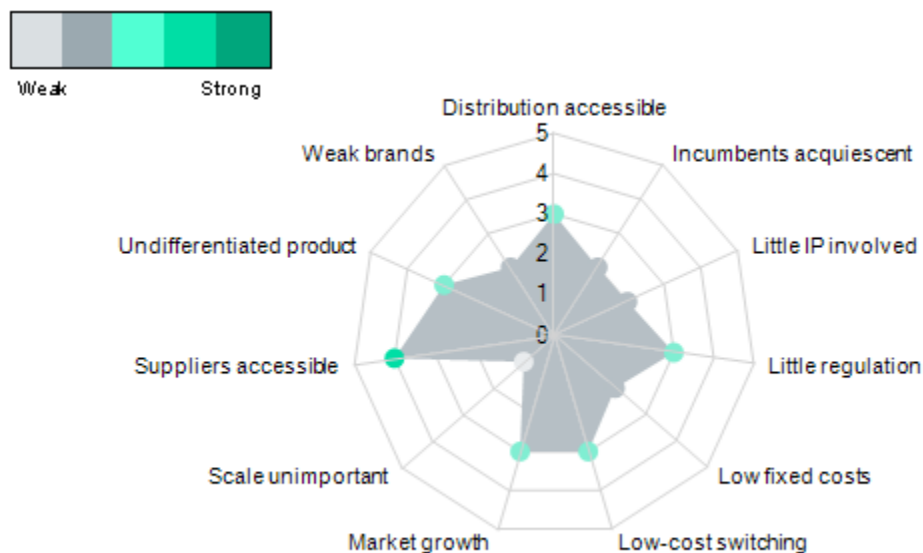
With regards to the physical network of cable-lines, only a few ISPs own an network extensive enough to connect to the backbone of the internet without the need to purchase access to other networks, exchanging traffic between them on settlement-free interconnection (also known as settlement-free peering). These providers include AT&T, Lumen Technologies, Liberty Global, Global Telecom and Technology (GTT), Telia Carrier, Deutsche Telekom, NTT Communications, T-Mobile US, Tata Communications, PCCW Global, Telecom Italia Sparkle, Orange, and Verizon. Those ISPs are known as Tier 1 ISPs and they can act as suppliers of other smaller (Tier 2 or Tier 3) ISPs who own less extensive networks or no networks at all. Tier 2 and 3 ISPs need to purchase wholesale access to the necessary infrastructure from bigger network operators to offer it at retail to end-users. For example, a Tier 3 operator will have to purchase IP transit or pays for peering to gain access to a Tier 2 ISP network which in turn will have access to the backbone of the internet through purchasing IP transit or paying for peering to the network of a Tier 1 ISP. Accordingly, the greater the network an ISP owns, the higher it is on the upstream part of the supply chain of ISPs and the less reliant on other networks.

While it is unlikely that ISPs of either type will integrate backwards, since the upstream businesses are very different to their own, most network owner-operators have already integrated forwards into the retail ISPs market, and are competing directly with ISPs that do not own networks. Network owners are not completely reliant on the ISP market for their revenues, as they can also operate in markets such as corporate intranet. Network owners usually generate revenue from telephone services, directory publishing, advertising, and their own ISP retail business, as well as wholesale internet access and the rapidly growing wireless segments. Internet exchange points and network access points, typically owned by commercial or public organizations exchange Internet traffic between countries and continents are also suppliers of all (Tier 1) ISPs, although they are typically allow access on settlement-free interconnection basis.

Overall, supplier power is assessed as strong.

6.4. New entrants

Figure 10: Factors influencing the likelihood of new entrants in the internet access market in Brazil, 2020



SOURCE: MARKETLINE

MARKETLINE

Entering this market can involve significant capital outlay, in order to build infrastructure that covers the geographic area of interest. Economies of scale serve as a critical barrier to entry: firstly, new entrants must install infrastructure, which has high associated fixed capital and construction costs; secondly, the fixed cost of setting up operational support systems; and thirdly, the cost of advertising and marketing campaigns in specific geographical regions, all of which make entry difficult. A potentially lower cost mode of entry is to buy access to telecom networks. This reduces the capital requirements for market entry, although customer demand for ever-increasing bandwidth may mean that investment in infrastructure will be needed for future growth.

However, there are many complications involved with entry to this market. The intense power of incumbent firms that benefit from economies of scale, established infrastructure and strong brand awareness also dissuades potential new entrants. Considering that brand names are important in this market, a new entrant could only attract consumers in the first place based on competitive pricing. This leads to extremely suppressed or non-existent profitability in the short-term; new entrants should have additional capital to sustain this. Indeed, a more cost effective option may be the acquisition of a company that already has infrastructure in place. Moreover, in order to gain clients, new entrants need to differentiate themselves from other incumbents, which is not an easy task when selling a commoditized service that can only be specified within a few parameters, such as bandwidth and down/upload time.

National governments and regulatory bodies are also important in this market, as they act as the gatekeepers to the electromagnetic spectrum and bandwidth supply. Licenses are allocated either through periodic auctions or 'beauty contests' (competitions on the basis of service provision). This is not simply a regulatory issue – bandwidth is also allocated in periodic auctions, and the amounts paid by successful bidders can be substantial.

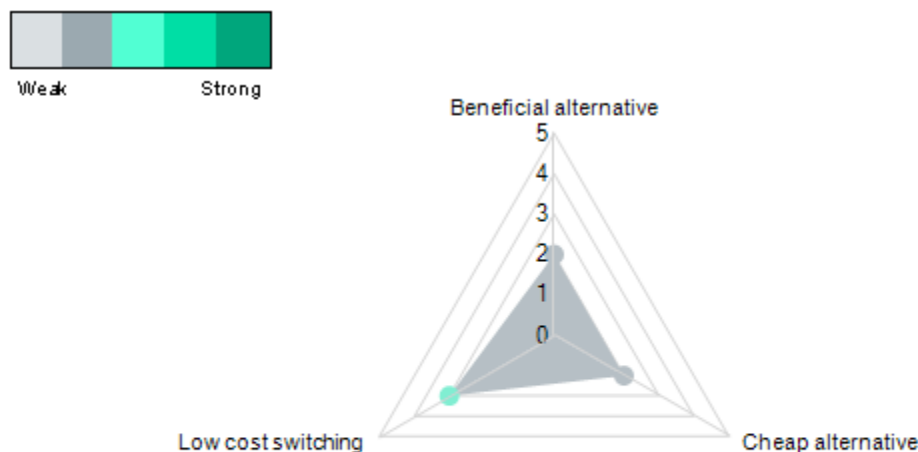
New entrants may also be attracted by the growing infrastructure of a market, especially when that is government funded. The expanding network of the advanced fiber optic technology offers such potential.

Ultimately, the growth potential of a market is a catalyst for a prospective entrants' decision. With fixed broadband penetration in Brazil standing low at 17.1 subscriptions per 100 inhabitants in 2020 as per the ITU, demand is still emerging, thereby increasing the likelihood of new entrants.

Overall, there is a weak likelihood of new entrants to this market.

6.5. Threat of substitutes

Figure 11: Factors influencing the threat of substitutes in the internet access market in Brazil, 2020



SOURCE: MARKETLINE

MARKETLINE

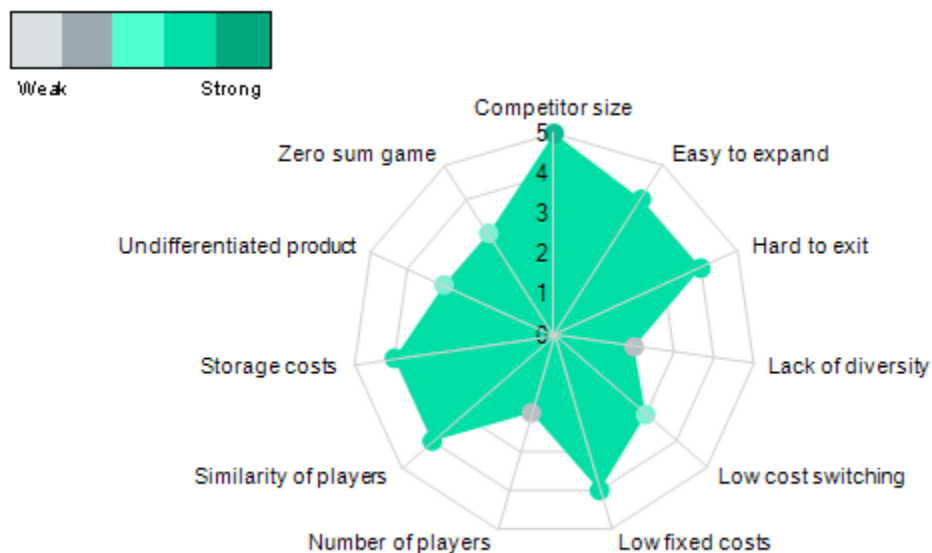
The internet is a versatile tool that can be used for a whole spectrum of everyday activities and, presently at least, there are no real alternatives that can match its range. The benefits of some older substitutes are assessed as not significant, as the internet alternatives have clearly demonstrated their popularity with consumer and corporate customers. However, two examples where older substitutes maintain advantages include consumers with concerns over the security of online financial transactions, and businesses wishing to advertise to segments of the population who are not online.

Although there are no alternatives for internet access as a service, there are alternatives for internet access through alternative means other than fixed broadband. Mobile broadband comprises the main substitute threat in this market. Mobile broadband was seen until recently as a last resort to fixed broadband, especially for consumers who did not have access to any fast fixed broadband connection or those who value the benefits of portable internet, as it can be less reliable and offer lower connections speeds than advanced fixed broadband connections. However, this is set to change with the roll-out of a 5G network that is claimed to deliver connections speeds competitive to those of fiber optic transmission, becoming a more attractive option for consumers. Nonetheless, players who are also involved in the mobile broadband field are able to counter that substitute threat.

Overall, the threat of substitutes is weak.

6.6. Degree of rivalry

Figure 12: Drivers of degree of rivalry in the internet access market in Brazil, 2020



SOURCE: MARKETLINE

MARKETLINE

Rivalry within the internet access market is intensified by the presence of a small number of large players which benefit from economies of scale and diversification. Leading service providers compete intensely via quality measures, brand awareness, functionality and value pricing to try to capture new and retain existing customers. Some players have internet access as their core business and others offer this as part of a diverse range of communication services, which can help to alleviate rivalry between players.

The ease of expanding services as variable costs tend to be low and supply capacity quickly available also intensifies rivalry further. Retaliation in terms of price competition is very likely in this market, as there are huge conglomerates present. Aggressive price promotions are sometimes employed by providers to urge consumers to switch. For end-users, switching costs are not very high, and 'customer churn' is often cited as an issue that ISPs must cope with, particularly in the consumer market. Investing in brand strength through advertising and providing great customer service is deemed essential to compete in this market.

To remain competitive in this market, buyers need to concentrate on margins. This is even more crucial for players reliant on a light business model, having to purchase their access to network infrastructure. Subsequently, vertical integration to the physical network infrastructure may offer a competitive edge.

Competition is intermodal in this market; players may operate in different segments such as DSL, fiber optic, cable or fixed wireless access, with these different technologies each having their own advantage and drawbacks that differentiate players. For instance, DSL providers are able to deliver affordable and reliable internet although at slower connection speeds than fiber optic and cable providers. On the other hand, cable and fiber optic providers offer faster connection speeds but at higher cost. This differentiation of services helps players target distinct consumer audiences, thereby alleviating rivalry. However, due to the technologically complex environment in this market, it is likely that new technologies will further increase the number of competitors for high-speed internet connections, particularly in the segment of fiber optic internet, thus heating up competition.

Players may also achieve differentiation offering a diverse range of communication-based services, such as telephony and TV and telephony, also increasing their diversity in this way as internet access business need not be vital to their survival. The available range of offerings in the Brazilian market tend to be limited though compared to other markets and that little differentiation increases rivalry.

The level of growth is what determines to a great extent the rivalry within the market. Rivalry has intensified as the Brazilian market has declined in recent years. Moreover, with the penetration of fixed broadband services in Brazil still expanding, players can add new subscribers without competing intensely. As the growth of players is still far from a zero-sum game, the degree of rivalry tends to be reduced compared to that seen in developed markets.

Rivalry in this market is assessed as strong.

7. Competitive Landscape

The Brazilian internet access market is dominated by leading players Oi S.A., America Movil, SA DE C.V., Telefonica, S.A. and TIM Participacoes SA. Leading players employ common strategies such as offering bundled services (fixed line and mobile) and digital media into all-in-one packages, as well as investing heavily on the quality of their network and other services.

7.1. Who are the leading players?

Telefonica is the leading telecommunication services provider in Brazil, operating through its Vivo brand in both the wireless and fixed-line segments. The company accounts for almost one-third of wireless subscriptions in the country. The company benefits from a strong financial performance, market position and a wide customer base. Vivo's market share has been increasing in recent years, at the expense of Oi and TIM. Vivo has also been trying to attract corporate clients, particularly SMEs, by offering unlimited voice plans.

America Movil is the second largest telecommunications service provider in Brazil behind Telefonica, operating in the country through its Claro subsidiary. The company accounted for a quarter of wireless subscribers in the country in 2019.

Oi has an established position in Brazil and accounts for over 15.5% of wireless telecommunication subscriptions in 2019. The company offers its services to almost 60 million customers, comprising wireless subscribers, broadband, pay TV and mobile network.

TIM Participacoes has a long history in Brazil accounts for almost one quarter of wireless telecommunication subscriptions in the country. The company has expanded its 4G coverage with investment of \$3.1bn (BRL11.3bn) over the 2018-2020 period.

7.2. What strategies do the leading players follow?

The leading players within the Brazilian internet access market use a variety of strategies to attract customers and drive growth. For instance, Telefonica, through its Vivo brand, has been investing in extending the coverage and capacity of its LTE mobile networks, the deployment and connection of fiber network, the improvement of network quality, the extension of fiber network in the fixed business, as well as network simplification and digitalization of processes and systems. The company has focused on enhancing its 4G offering in the country, with the introduction of 700MHz LTE network in all Brazilian state capitals. What is more, Telefonica is looking ahead to the deployment of 5G, with the company conducting a 5G trial in the 3.5GHz band with Huawei in July 2018 in Rio de Janeiro. The company has also been expanding its digital services to appeal to a wider customer base and diversify its revenue streams. This has included allowing users of its Vivo Fibra Internet packages access to movies, games, and sports content from numerous devices at the same time.

Similar to the other leading players in this market, America Movil has been focusing on expanding its 4G services in the country through its Claro brand. Throughout 2018 the company rolled out its 700MHz carrier aggregation-enabled LTE-A 4.5G service in a number of cities including Sao Paulo, Belo Horizonte, and Rio de Janeiro. The company has been marketing this service as faster than 4G speeds but not quite 5G. The telecoms provider has also been focusing on its offerings in the postpaid sector launching new 30GB and 60GB postpaid plans. It has also launched a Passport Europe roaming plan offering consumers benefits of its postpaid plans outside of Brazil.

Oi has been deploying a variety of strategies in this market, one of which has been focusing on price in order to attract consumers. For example, the company has lowered prices in its Oi Mais Digital postpaid plans, with its Top option being reduced from BRL299.90 (\$82.07) to BRL249.90 (\$68.39) and its Master option being lowered from BRL189.90 (\$51.97) to BRL164.90 (\$42.13). The company has also expanded its offering in its Oi Mais postpaid

plans, offering access to on-demand and live content from Fox+, HBO Go, WatchESPN, Colecao Oi, and Discovery Kids ON!, through Oi Play. Oi has also been focusing on strengthening its wireless networks in the country with LTE-A services being launched in numerous cities in Brazil throughout 2018. In October 2020, Oi started commercial operation of the 5G network in Brasilia with the capital chosen as the venue for the launch of the new technology.

As is seen across this market, TIM Participacoes has also been focusing on expanding its 4G coverage in Brazil. This has included the company planning to invest to invest \$3.1bn (BRL11.3bn) over the 2018-2020 period for LTE and fiber broadband network expansion. The telecoms provider plans to expand 4G coverage to over 4,200 cities and fiber broadband reach to 13 cities by 2020. TIM has also been focusing on its fixed broadband offering, launching an upgraded 2Gbps FTTH service to 200,000 households in Rio de Janeiro and Sao Paulo in 2018. In July 2020, TIM Brasil signed a Conduct Adjustment Agreement with the National Telecommunications Agency (Anatel) to launch 4G mobile broadband in 499 municipalities in Brazil that are currently not served by the technology.

In June 2020, Telefonica Brasil (Vivo) and TIM won the approval of the National Telecommunications Agency (Anatel) and the Administrative Council of Economic Defense (CADE) for network sharing agreements in the country. The agreements will include the creation of single 3G and 4G networks in cities with population of less than 30,000 and shared implementation of a single nationwide 2G technology network. This will enable Vivo to extend its coverage to 400 new cities in the first year of the contract as well as increasing efficiency and cost savings for both firms, who will maintain independence commercially and with customers.

7.3. What is the rationale for the recent M&A activity?

In 2019 America Movil, acquired Nextel in Brazil, owned by NII (formerly Nextel International), for \$905 million following fierce competition in the Brazilian internet access market. This is a move to scale up an existing carrier in competition with existing large players like Telefonica, Telecom Italia and Oi.

America Movil is already a leading, established player in the country through Claro, which it plans to merge with Nextel to “consolidate its position as one of the leading telecommunication service providers in Brazil, strengthening its mobile network capacity, spectrum portfolio, subscriber base, coverage and quality, particularly in the cities of São Paulo and Rio de Janeiro, the main markets in Brazil.”

2018 was significant year for America Movil, as the company acquired a variety of smaller firms in different markets in the South America region. More specifically, it acquired Telefonica’s assets in Guatemala and El Salvador respectively for \$333m and \$315m.

8. Company Profiles

8.1. Oi S.A.

8.1.1. Company Overview

Oi S.A. (Oi or 'the company') is a provider of integrated telecommunication services. The company offers fixed telephony services, mobile telephony services, data transmission services, network usage, Pay television, internet services and other telecommunications services. Oi caters its services to residential customers, small, medium and large companies and governmental agencies. The company offers its services under the Oi, Oi TV, and Claro TV brands. The company offers Pay-TV services using DTH satellite technology. Through subsidiaries, the company has business presence in Brazil, Portugal, and countries in Africa and Asia. The company is headquartered in Leblon, Rio de Janeiro, Brazil.

The company reported revenues of (Real) BRL9,284.3 million for the fiscal year ended December 2020 (FY2020), a decrease of 11.5% over FY2019. The operating loss of the company was BRL1,811.2 million in FY2020, compared to an operating loss of BRL4,597.7 million in FY2019. The net loss of the company was BRL10,530 million in FY2020, compared to a net loss of BRL9,000.4 million in FY2019. The company reported revenues of BRL2,234.8 million for the second quarter ended June 2021, a decrease of 0.2% over the previous quarter.

8.1.2. Key Facts

Table 7: Oi S.A.: key facts

Head office:	Rua Do Lavradio 71, 2 Andar, Centro, , Rio De Janeiro, Brazil
Telephone:	552131312918
Fax:	552131311383
Number of Employees:	13460
Website:	www.oi.com.br
Financial year-end:	December
Ticker:	OIBR4
Stock exchange:	Bolsa de Valores do Estado de Sao Paulo
SOURCE: COMPANY WEBSITE	
MARKETLINE	

8.1.3. Business Description

Oi S.A. (Oi or 'the company') is an integrated telecommunications company. The company offers mobile telecommunication and fixed-line services, network usage (interconnection), data transmission services (broadband access services), pay television (Pay TV), internet services and other telecommunications services. Oi offers its services to residential customers, small, medium and large companies, governmental agencies and, business and corporate customers. The company has business operations in Brazil, Portugal, Africa and Asia.

The company operates through two reputable segments include: Telecommunications and Others. The Telecommunications segment offers solutions under four categories include Residential Services, Personal Mobility, B2B and Other Services. Under Residential services, the company engaged in the sale of fixed telephony services, including voice, broadband and Pay TV services to residential customers. At the end of December 2018, the company had 11.8 million fixed lines in services, 360,000 kilometers of installed fiber optic cable, 4.9 million ADSL subscribers, and 1.6 million residential Pay-TV subscribers. Through Personal Mobility, Oi focuses on the sale of mobile telephony services to subscription and prepaid customers, and mobile broadband customers. At the end

of December 2018, the company had 37.7 million mobile subscribers in Brazil. Under B2B, the company offers corporate solutions to small, medium-sized, and large corporate customers. Through Other Services, the company provides corporate solutions including mobile voice and fixed-line services, mobile broadband and fixed-line services to small, medium-sized, and large corporate customers. In FY2018, the Residential Services reported revenue of BRL8,402 million, which accounted for the 38.4% of the segment's revenue, followed by Personal Mobility with BRL7,250 million (33.2%), B2B with BRL5,981 million (27.4%) and Other Services with BRL227 million (1.0%). In FY2018, the Telecommunications segment reported revenue of BRL21,860 million, which accounted for 99.1% of the company's total revenue. The company's Others segment include the net operating revenue of Africatel. In FY2018, the Others segment reported revenue of BRL200 million, which accounted for 0.9% of the company's revenue. The company also offers mobile telecommunications services throughout Brazil and subscription television services under Oi TV brand. Oi also operates a call center business for the sole purpose of providing services.

Table 8: Oi S.A.: Annual Financial Ratios

Key Ratios	2014	2015	2016	2017	2018
Growth Ratios					
Sales Growth %	-4.96	-8.49	-7.27	-52.44	-11.51
Operating Income Growth %	-159.24	-69.70	345.09	-179.45	60.61
EBITDA Growth %	-45.00	-32.84	322.00	-80.37	11.17
Net Income Growth %	-55.33	20.71	486.35	-136.60	-16.99
EPS Growth %				-111.80	
Working Capital Growth %	-380.75	25.86	-124.07	-42.04	156.32
Equity Ratios					
EPS (Earnings per Share) BRL	-11.88	-9.42	16.39	-1.66	-1.86
Book Value per Share BRL	-8.75	-16.20	7.10	2.97	1.30
Profitability Ratios					
Gross Margin %	38.39	37.01	26.66	23.92	21.68
Operating Margin %	-5.35	-9.92	26.23	-43.82	-19.51
Net Profit Margin %	-30.88	-26.76	111.47	-85.78	-113.42
Profit Markup %	62.32	58.74	36.35	31.44	27.68
PBT Margin (Profit Before Tax) %	-19.54	-23.36	96.74	-95.06	-157.24
Return on Equity %			108.56	-50.99	-135.84
Return on Equity %		-26.91			
Return on Capital Employed %	-29.69	-315.89	10.57	-7.66	-3.24
Return on Assets %	-9.50	-9.46	36.68	-13.11	-14.45
Return on Working Capital %			54.47	-74.67	-11.48
Return on Working Capital %		18.80			
Operating Costs (% of Sales) %	105.35	109.92	73.77	143.82	119.51
Administration Costs (% of Sales) %	31.46	31.86	29.88	51.36	53.49
Liquidity Ratios					
Current Ratio Absolute	0.43	0.35	1.99	1.52	1.88
Quick Ratio Absolute	0.42	0.35	1.96	1.49	1.86
Cash Ratio Absolute	0.13	0.10	0.43	0.19	0.24
Leverage Ratios					
Debt to Equity Ratio Absolute		3.12			
Debt to Equity Ratio Absolute			0.73	1.49	3.78
Net Debt to Equity Absolute	-5.42	-3.45	0.52	1.37	3.23
Debt to Capital Ratio Absolute	1.18	1.34	0.42	0.60	0.79
Efficiency Ratios					
Asset Turnover Absolute	0.31	0.35	0.33	0.15	0.13
Fixed Asset Turnover Absolute	1.00	0.90	0.80	0.31	0.29
Inventory Turnover Absolute	45.31	49.25	56.66	24.77	20.62
Current Asset Turnover Absolute	0.81	0.95	0.98	0.53	0.36
Capital Employed Turnover Absolute	5.55	31.83	0.40	0.17	0.17
SOURCE: COMPANY FILINGS				MARKETLINE	

Table 9: Oi S.A.: Annual Financial Ratios (Continued)

Key Ratios	2014	2015	2016	2017	2018
Working Capital Turnover Absolute			2.08	1.70	0.59
Working Capital Turnover Absolute		2.19			
SOURCE: COMPANY FILINGS				MARKETLINE	

Table 10: Oi S.A.: Key Employees

Name	Job Title	Board
Armando Lins Netto	Director	Non Executive Board
Bernardo Kos Wink	Retail Officer	Senior Management
Carlos Augusto Machado Pereira de Almeida Brandao	Chief Financial Officer	Senior Management
Carlos Augusto Machado Pereira de Almeida Brandao	Investor Relations Officer	Senior Management
Carlos Eduardo Monteiro de Moraes Medeiros	Regulation and Institutional Affairs Officer	Senior Management
Eduardo Levy	Director Institutional Relations	Senior Management
Eleazar de Carvalho Filho	Chairman	Executive Board
Jose Claudio Moreira Goncalves	Operations Officer	Senior Management
Jose Mauro Mettrau Carneiro da Cunha	Director	Non Executive Board
Livia Marquez	Director Communication and Media Portfolio	Senior Management
Luiz Modenese	Head Audit Directorate	Senior Management
Marcos Bastos Rocha	Director	Non Executive Board
Marcos Grodetzky	Vice Chairman	Non Executive Board
Maria Helena dos Santos Fernandes de Santana	Director	Non Executive Board
Paulino do Rego Barros Jr.	Director	Non Executive Board
Pedro Luiz Arakawa	Director wholesale and Franchising	Senior Management
Ricardo Reisen de Pinho	Director	Non Executive Board
Rodrigo Modesto de Abreu	Chief Executive Officer	Senior Management
Roger Sole Rafols	Director	Non Executive Board
Rogério Takayanagi	Director Innovation and Digital Directorate	Senior Management
Silvio Roberto Vieira Almeida	Administrative and Financial Officer	Senior Management
Suzana Santos	Corporate Communications Officer	Senior Management
Wallim Cruz de Vasconcellos Junior	Director	Non Executive Board
SOURCE: COMPANY FILINGS		MARKETLINE

8.2. America Movil, SA DE C.V.

8.2.1. Company Overview

America Movil, S.A.B. de C.V. (America Movil or 'the company') provides telecommunications services. Its service portfolio comprises wireless data, wireless voice, fixed voice, fixed data, Pay TV, IT services, broadband, data administration, over the top and hosting solutions. The company also offers computer accessories, mobile handsets and telecommunication equipment under Telcel, Telmex Infinitum, Claro and Straight Talk brands. It also provides services such as value added services, PayTV services and calls center services. The company provides its services across Europe, Andean Region, the Caribbean, South America, Central America, Brazil, Colombia, the US, and Mexico. America Movil is headquartered in Mexico City, Mexico.

The company reported revenues of (Mexican Pesos) MXN1,016,886.5 million for the fiscal year ended December 2020 (FY2020), an increase of 0.9% over FY2019. In FY2020, the company's operating margin was 16.3%, compared to an operating margin of 15.4% in FY2019. In FY2020, the company recorded a net margin of 4.6%, compared to a net margin of 6.7% in FY2019. The company reported revenues of MXN252,507.3 million for the second quarter ended June 2021, an increase of 1.7% over the previous quarter.

8.2.2. Key Facts

Table 11: America Movil, SA DE C.V.: key facts

Head office:	Lago Zurich 245 Colonia Granada Ampliacion, Mexico, D.F., Mexico
Telephone:	525525813700
Fax:	525525814440
Number of Employees:	183956
Website:	www.americamovil.com/es
Financial year-end:	December
SOURCE: COMPANY WEBSITE	
MARKETLINE	

8.2.3. Business Description

America Movil, S.A.B. de C.V. (America Movil) provides telecommunications services including mobile and fixed voice services, mobile and fixed data services, internet access and paid TV, as well as other related services. It has operations in 25 countries across the US, Latin America, the Caribbean and Europe.

The company classifies its business operation into two categories: Service, and Sales of Equipment. In FY2020, the company generated 83.2% of its revenue from the Service, followed by Sales of Equipment with 16.8%.

The company offers its products and services into two categories: wireless operations, and fixed operations.

Under the wireless operations category, the company offers postpaid and prepaid wireless voice and data services with a variety of plans to cater to the requirements of different market segments. Its data communications services include internet access, messaging and other wireless entertainment and corporate services. The company provides these services through GSM/EDGE, 3G and 4G LTE networks. America Movil also provides wireless services, including machine-to-machine services, wireless security services, mobile payment solutions, VPN services, mobile banking, video calls, and personal communications services. In FY2020, the wireless operations accounted for 78.1% of the company's total revenue-generating units (RGU). In FY2020, the company had 287 million wireless voice and data subscribers.

The company's fixed operations category provides fixed voice services including local, domestic and international long-distance public telephony; data services, including data centers, data administration and hosting services to

residential and corporate clients; broadband services; IT solutions; and Pay TV solutions. It also offers over-the-top (OTT) services, under which the company sells video, audio and other media content that is delivered through the internet directly from the content provider to the viewer or end user. In FY2020, the fixed voice, data, broadband and IT solutions accounted for 21.9% of the company's total revenue.

The company operates through ten reportable business segments: Mexico Wireless, Mexico Fixed, Brazil, Colombia, Southern Cone, Andean Region, Central America, The US, Caribbean, and Europe.

The Mexico wireless segment's service portfolio consists of voice services; data, messaging, mobile entertainment, and enterprise mobility services; data services; handsets and accessories; and related wireless services such as s PC and wireless security services, machine-to-machine services, near field communication services, mobile payment solutions, among others. At the end of December 2020, the segment had 21.9 million cellular subscribers. In FY2020, the segment reported operating revenue of MXN 214,578.6 million, which accounted for 20.7% of the company's revenue.

The Mexico Fixed segment of the company offers fixed voice and data services under the Telmex Infinitem brand. As of December 2020, the company had 21.9 million fixed voice subscribers. In FY2020, the Mexico Fixed segment reported revenue of MXN77,920.9 million, which accounted for 7.5% of the company's revenue.

The US segment offers wireless services and products through the TracFone and Straight Talk brands. It also provides prepaid wireless debit card services. As of December 2020, the segment had 20.9 million wireless subscribers. In FY2020, the segment reported revenue of MXN177,179.4 million, which accounted for 17.1% of the company's total revenue.

America Movil's Brazil segment offers wireless, fixed-line voice, broadband, Pay TV and directory services and products in Brazil. It provides wireless services under the Claro brand and fixed-line services under the Claro, Embratel, and NET brands. At the end of December 2020, the segment had about 63.1 million wireless subscribers and 32.6 million fixed voice subscribers. In FY2020, the Brazil segment reported revenue of MXN163,865.4 million, which accounted for 15.8% of the company's revenue.

The Europe segment provides wireless, fixed-line voice, and data, PayTV services through the A1 brand. As of December 2020, the segment had approximately 21.8 million wireless subscribers and 6.1 million fixed voice subscribers. In FY2020, the Europe segment reported revenue of MXN111,472.2 million, which accounted for 10.7% of the company's total revenue.

The Colombia segment offers wireless, fixed-line voice, broadband, Pay TV and directory services and products under the Claro brand. At the end of December 2019, the segment had 31.1 million wireless and 7.6 million fixed-line customers. In FY2019, the segment reported revenue of MXN74,274.7million, which accounted for 7.4% of the company's total revenue.

The Southern Cone segment provides wireless, fixed-line voice, broadband, and Pay TV services and products under the Claro brand in Chile, Paraguay, Argentina, and Uruguay regions. As of December 2020, the company had 33 million wireless subscribers and 8.3 million fixed voice subscribers. In FY2020, the Southern Cone segment reported revenue of MXN55,484.7 million, which accounted for 5.3% of the company's total revenue.

The Andean Region segment offers wireless, fixed-line voice, broadband, Pay TV and directory services in Peru and Ecuador. As of December 2020, the segment had 18.8 million wireless subscribers and 2.1 million fixed voice subscribers respectively. In FY2020, the segment reported revenue of MXN53,846.4 million, which accounted for 5.2% of the company's total revenue.

The Central American segment offers wireless, fixed-line voice, broadband, Pay TV, and directory services and products in Guatemala, Costa Rica, El Salvador, Honduras, Nicaragua, and Panama. As of December 2020, the segment had 15.1 million wireless subscribers and 4.2 million fixed voice subscribe. In FY2020, the Central American segment reported revenue of MXN48,073.4 million, which accounted for 4.6% of the company's total revenue.

The Caribbean segment provides wireless, fixed-line voice, broadband and Pay TV services and products in Puerto Rico and the Dominican Republic. As of December 2020, the segment had 6.4 million wireless subscribers and 2.5 million fixed voice subscribers. In FY2020, the Caribbean segment reported revenue of MXN37,182.8 million, which accounted for 3.6% of the company's total revenue.

Table 12: America Movil, SA DE C.V.: Annual Financial Ratios

Key Ratios	2014	2015	2016	2017	2018
Growth Ratios					
Sales Growth %	9.14	4.74	1.62	-2.97	0.95
Operating Income Growth %	-22.49	-8.64	39.36	10.95	6.79
EBITDA Growth %	-3.37	0.85	13.43	6.26	5.05
Net Income Growth %	-75.33	239.05	79.25	28.85	-30.83
EPS Growth %	-74.93	237.67	79.34	28.91	-31.71
Working Capital Growth %	52.91	-44.49	66.01	64.83	-24.40
Equity Ratios					
EPS (Earnings per Share) MXN	0.13	0.44	0.80	1.03	0.70
Dividend per Share MXN	0.28	0.30	0.32	0.35	0.38
Dividend Cover Absolute	0.47	1.48	2.49	2.93	1.84
Book Value per Share MXN	3.18	2.94	2.97	2.70	3.75
Profitability Ratios					
Gross Margin %	50.27	51.42	50.99	53.17	53.74
Operating Margin %	11.24	9.80	13.44	15.37	16.26
Net Profit Margin %	0.89	2.87	5.06	6.72	4.61
Profit Markup %	101.09	105.84	104.04	113.54	116.16
PBT Margin (Profit Before Tax) %	2.41	5.59	9.73	12.05	6.63
Return on Equity %	4.14	15.10	26.82	38.07	18.71
Return on Capital Employed %	10.49	9.33	14.50	15.38	14.79
Return on Assets %	0.62	1.95	3.61	4.57	2.97
Operating Costs (% of Sales) %	88.76	90.20	86.56	84.63	83.74
Administration Costs (% of Sales) %	23.39	23.55	21.88	21.44	20.86
Liquidity Ratios					
Current Ratio Absolute	0.73	0.83	0.75	0.63	0.71
Quick Ratio Absolute	0.65	0.73	0.66	0.55	0.65
Cash Ratio Absolute	0.17	0.20	0.15	0.13	0.18
Leverage Ratios					
Debt to Equity Ratio Absolute	3.39	3.59	3.26	4.19	2.95
Net Debt to Equity Absolute	3.01	3.16	2.90	3.81	2.58
Debt to Capital Ratio Absolute	0.77	0.78	0.77	0.81	0.75
Efficiency Ratios					
Asset Turnover Absolute	0.69	0.68	0.71	0.68	0.64
Fixed Asset Turnover Absolute	1.53	1.48	1.58	1.44	1.29
Inventory Turnover Absolute	13.39	13.12	12.86	11.59	13.16
Current Asset Turnover Absolute	2.85	2.99	3.00	2.96	2.94
Capital Employed Turnover Absolute	0.93	0.95	1.08	1.00	0.91
SOURCE: COMPANY FILINGS				MARKETLINE	

Table 13: America Movil, SA DE C.V.: Key Employees

Name	Job Title	Board
Alejandro Cantu Jimenez	General Counsel	Senior Management
Alejandro Plater	Chief Operating Officer Telekom Austria	Senior Management
Alfredo Escobar San Lucas	Chief Executive Officer Ecuador	Senior Management
Alfredo Peraza	Chief Financial Officer Puerto Rico	Senior Management
Angel Alija Guerrero	Chief Wireless Operations Officer	Senior Management
Antonio Cosio Pando	Director	Non Executive Board
Arturo Elias Ayub	Director	Non Executive Board
Carlos Hernan Zenteno de los Santos	Chief Executive Officer Colombia	Senior Management
Carlos Jose Garcia Moreno Elizondo	Chief Financial Officer	Senior Management
Carlos Robles Miaja	Chief Financial Officer Telmex	Senior Management
Carlos Slim Domit	Chairman	Executive Board
Carlos Solano	Chief Financial Officer Peru	Senior Management
Daniel De Marco	Chief Financial Officer Argentina, Uruguay and Paraguay	Senior Management
Daniel Feldmann Barros	Chief Executive Officer Residential Market Unit, Brazil	Senior Management
Daniel Hajj Aboumrads	Chief Executive Officer	Executive Board
Daniel Hajj Aboumrads	Chief Executive Officer Telcel	Executive Board
Daniel Hajj Aboumrads	Director	Executive Board
David Ibarra Munoz	Director	Non Executive Board
Eduardo Diaz Corona	Chief Financial Officer the US, Acting Chief Executive Officer the US	Senior Management
Enrique Ortiz de Montellano Rangel	Chief Executive Officer Puerto Rico	Senior Management
Ernesto Vega Velasco	Director	Non Executive Board
Federico Oguich	Chief Financial Officer Chile	Senior Management
Fernando Gonzalez Apango	Chief Financial Officer Colombia	Senior Management
Fernando Ocampo Carapia	Chief Financial Officer Telcel	Senior Management
Francisco Marmolejo Alcantara	Chief Financial Officer Dominican Republic	Senior Management
Francisco Medina Chavez	Director	Non Executive Board
Gonzalo Lira Coria	Chief Financial Officer Central America	Senior Management
Hector Slim Seade	Chief Executive Officer Telmex	Senior Management
Humberto Chavez Lopez	Chief Executive Officer Peru	Senior Management
Jose Antonio Guaraldi Felix	President Brazil	Senior Management
SOURCE: COMPANY FILINGS		MARKETLINE

Table 14: America Movil, SA DE C.V.: Key Employees Continued

Name	Job Title	Board
Jose Formoso Martinez	Chief Executive Officer Corporate Market Unit, Brazil	Senior Management
Julio Carlos Porras	Chief Executive Officer Argentina, Uruguay and Paraguay	Senior Management
Luis Alejandro Soberon Kuri	Director	Non Executive Board
Marco Antonio Campos Garcia	Chief Financial Officer Ecuador	Senior Management
Mauricio Escobedo Vazquez	Chief Executive Officer Chile	Senior Management
Oscar Borda	Chief Executive Officer Panama	Senior Management
Oscar Pena Chacon	Chief Executive Officer Central America	Senior Management
Oscar Von Hauske Solis	Chief Fixed Line Operations Officer	Executive Board
Oscar Von Hauske Solis	Director	Executive Board
Pablo Roberto Gonzalez Guajardo	Director	Non Executive Board
Patricia Raquel Hevia Coto	Chief Operating Officer Telcel	Senior Management
Patrick Slim Domit	Vice Chairman	Non Executive Board
Paulo Cesar Teixeira	Chief Executive Officer Personal Market Unit, Brazil	Senior Management
Rafael Moises Kalach Mizrahi	Director	Non Executive Board
Roberto Catalao	Chief Financial Officer Brazil	Senior Management
Rogelio Viesca Arrache	Chief Executive Officer Dominican Republic	Senior Management
Rolando Olivares	Chief Financial Officer Panama	Senior Management
Siegfried Mayrhofer	Chief Financial Officer Telekom Austria	Senior Management
Thomas Arnoldner	Chief Executive Officer Telekom Austria	Senior Management
Vanessa Hajj Slim	Director	Non Executive Board
SOURCE: COMPANY FILINGS		MARKETLINE

8.3. Telefonica, S.A.

8.3.1. Company Overview

Telefonica, S.A. (Telefonica or 'the company') provides communication services, including mobile and fixed communication services. The company's services include wireline, wireless, digital subscriber line, television, and other digital services. It also offers mobile business, digital services and value-added services, wholesale services to telecommunication operators, business solutions and services. The company executes contact center operations, and customer relationship management solutions. Its major brands include Movistar, Vivo, Telefonica, and O2. Through subsidiaries, the company operates across Europe (Spain, the UK, and Germany) and Latin America (Argentina, Chile, Peru, Colombia, Mexico, Venezuela, Central America, Ecuador and Uruguay). Telefonica is headquartered in Madrid, Spain.

The company reported revenues of (Euro) EUR43,076 million for the fiscal year ended December 2020 (FY2020), a decrease of 11% over FY2019. In FY2020, the company's operating margin was 9.6%, compared to an operating margin of 9.4% in FY2019. In FY2020, the company recorded a net margin of 3.7%, compared to a net margin of 2.4% in FY2019. The company reported revenues of EUR9,965 million for the second quarter ended June 2021, a decrease of 3.6% over the previous quarter.

8.3.2. Key Facts

Table 15: Telefonica, S.A.: key facts

Head office:	Gran Via 28 , Madrid, Madrid , Spain
Telephone:	34915840640
Fax:	34914827987
Number of Employees:	111490
Website:	www.telefonica.es
Financial year-end:	December
Ticker:	TEF
Stock exchange:	Mercado Continuo Espana
SOURCE: COMPANY WEBSITE	
MARKETLINE	

8.3.3. Business Description

Telefonica S.A. (Telefonica or "the company") is a telecommunications company with a diversified telecommunications network that provides a range of services. The company offers wireline, wireless, DSL, VoIP, TV, and other digital services. Telefonica has operations in 13 countries. As of December 2020, the company catered 345 million customers.

The company operates through seven business segments: Telefonica Spain, Telefonica Brazil, Telefonica Germany, Telefonica UK, Telefonica Hispam, Telxius Group, and Other Companies. These segments are engaged in providing wireless, wireline, Voice over IP (VoIP), cable, internet, broadband, mobile and Pay TV services, television businesses and other digital services.

Telefonica Spain offers fixed telephony, internet and data, mobile communications, Pay-TV, and wholesale services in Spain. As of December 2020, Telefonica Spain had 41.3 million total accesses. In FY2020, the Telefonica Spain segment reported revenue of EUR12,118 million, which accounted for 28.1% of the company's revenue.

Telefonica Brazil manages the company's telecommunications operations in Brazil. As of December 2020, the segment had 95.2 million total access. In FY2020, the Telefonica Brazil segment reported revenue of EUR7,406 million, which accounted for 17.2% of the company's total revenue.

Telefonica Germany serves the German market. As of December 2020, the segment had 48.8 million total access. In FY2020, the Telefonica Germany segment reported revenue of EUR7,500 million, which accounted for 17.4% of the company's total revenue.

Telefonica UK provides fixed telephony, internet and data, and mobile communications in the UK. As of December 2020, Telefonica UK had 36.5 million total access. In FY2020, the Telefonica UK segment reported revenue of EUR6,666 million, which accounted for 15.5% of the company's total revenue.

Telefonica Hispam offers the fixed and mobile telephony services, broadband, internet, data, broadband, television, value added services operations and their development in Colombia, Mexico, Central America, Ecuador and Venezuela. As of December 2020, Telefonica Hispam Norte had 64 108.5 million total access. In FY2020, the Telefonica Hispam segment reported revenue of EUR7,786 million, which accounted for 18.1% of the company's total revenue.

The Telxius Group of the company offers fixed wireless, mobile, Voice over IP (VoIP), Pay TV, FTTx and broadband services in Argentina, Peru, Chile, and Uruguay. In FY2020, the Telxius Group segment reported revenue of EUR322 million, which accounted for 0.7% of the company's total revenue.

The company's Other Companies segment offers cross-sectional services to other companies. In FY2020, the segment reported revenue of EUR1,288 million, which accounted for 3% of the company's total revenue.

Table 16: Telefonica, S.A.: Annual Financial Ratios

Key Ratios	2016	2017	2018	2019	2020
Growth Ratios					
Sales Growth %	-5.24	-0.05	-6.37	-0.56	-11.04
Operating Income Growth %	55.15	24.17	-3.96	-30.44	-8.77
EBITDA Growth %	14.28	7.07	-3.81	-2.90	-10.72
Net Income Growth %	284.58	32.21	6.35	-65.72	38.53
EPS Growth %	819.31	32.61	17.70	-77.99	151.72
Working Capital Growth %	-1.23	-40.98	-30.94	-7.07	-194.46
Equity Ratios					
EPS (Earnings per Share) EUR	0.38	0.51	0.52	0.15	0.23
Dividend per Share EUR	0.18	0.36	0.36	0.18	
Dividend Cover Absolute	0.19	2.09	1.40	1.43	0.84
Book Value per Share EUR	3.39	3.02	3.20	3.06	1.93
Profitability Ratios					
Gross Margin %	52.32	52.69	51.54	52.04	49.49
Operating Margin %	10.51	13.06	13.39	9.37	9.61
Net Profit Margin %	4.55	6.02	6.84	2.36	3.67
Profit Markup %	109.73	111.38	106.36	108.51	97.98
PBT Margin (Profit Before Tax) %	6.24	8.84	11.44	5.61	6.00
Return on Equity %	13.05	18.51	18.56	6.67	14.08
Return on Capital Employed %	6.20	7.90	7.73	5.12	5.38
Return on Assets %	1.94	2.62	2.91	0.98	1.41
Return on Working Capital %					74.74
Operating Costs (% of Sales) %	89.49	86.94	86.61	90.63	90.39
Administration Costs (% of Sales) %	22.23	20.05	18.07	20.81	16.55
Liquidity Ratios					
Current Ratio Absolute	0.56	0.69	0.79	0.81	1.20
Quick Ratio Absolute	0.53	0.65	0.73	0.74	1.14
Cash Ratio Absolute	0.19	0.25	0.27	0.30	0.29
Leverage Ratios					
Debt to Equity Ratio Absolute	3.16	3.12	2.92	3.32	4.54
Net Debt to Equity Absolute	2.79	2.68	2.48	2.79	3.82
Debt to Capital Ratio Absolute	0.76	0.76	0.75	0.77	0.82
Efficiency Ratios					
Asset Turnover Absolute	0.43	0.44	0.43	0.42	0.38
Fixed Asset Turnover Absolute	1.48	1.47	1.44	1.34	1.27
Inventory Turnover Absolute	19.76	22.66	16.80	12.58	11.71
Current Asset Turnover Absolute	2.69	2.61	2.25	2.03	1.49
Capital Employed Turnover Absolute	0.59	0.60	0.58	0.55	0.56
Working Capital Turnover Absolute					7.78
SOURCE: COMPANY FILINGS				MARKETLINE	

Table 17: Telefonica, S.A.: Key Employees

Name	Job Title	Board
Alfonso Gomez Palacio	Chief Executive Officer Telefonica Hispam	Senior Management
Angel Vila Boix	Chief Operating Officer	Executive Board
Angel Vila Boix	Director	Executive Board
Antonio Garcia-Mon Maranes	Corporate Legal Services	Senior Management
Antonio Garcia-Mon Maranes	Vice General Counsel	Senior Management
Antonio Garcia-Mon Maranes	Vice Secretary	Senior Management
Bernardo Quinn	Chief Executive Officer South Hispam	Senior Management
Carmen Garcia de Andres	Director	Non Executive Board
Chema Alonso	Chief Digital Officer	Senior Management
Christian Gebara	Chief Executive Officer Telefonica Brasil	Senior Management
Claudia Sender Ramirez	Director	Non Executive Board
Eduardo Navarro de Carvalho	Chief Corporate Affairs and Sustainability Officer	Senior Management
Emilio Gayo Rodriguez	Chief Executive Officer Telefonica Spain	Senior Management
Enrique Blanco	Chief Technology and Information Officer	Senior Management
Fabian Hernandez	Chief Executive Officer Telefonica Colombia	Senior Management
Francisco Javier de Paz Mancho	Director	Non Executive Board
Francisco Jose Riberas de Mera	Director	Non Executive Board
Guillermo Ansaldo Lutz	Chief Executive Officer Telefonica Infra	Senior Management
Ignacio Moreno Martinez	Director	Non Executive Board
Isidro Faine Casas	Vice Chairman	Executive Board
Jordi Gual Sole	Director	Non Executive Board
Jose Cerdan	Chief Executive Officer Business Solutions	Senior Management
Jose Cerdan	Chief Executive Officer Telefónica Tech	Senior Management
Jose Javier Echenique Landiribar	Vice Chairman	Executive Board
Jose Maria Abril Perez	Vice Chairman	Executive Board
Jose Maria Alvarez-Pallete Lopez	Chairman	Executive Board
Jose Maria Alvarez-Pallete Lopez	Chief Executive Officer	Executive Board
Juan Ignacio Cirac Sasturain	Director	Non Executive Board
Laura Abasolo Garcia de Baquedano	Chief Financial and Control Officer	Senior Management
Laura Abasolo Garcia de Baquedano	Head T. Hispam	Senior Management
SOURCE: COMPANY FILINGS		MARKETLINE

Table 18: Telefonica, S.A.: Key Employees Continued

Name	Job Title	Board
Maria Garcia-Legaz	Chief Staff	Senior Management
Maria Luisa Garcia Blanco	Director	Non Executive Board
Mark Evans	Chief Strategy and Development Officer	Senior Management
Markus Haas	Chief Executive Officer Telefonica Deutschland	Senior Management
Marta Machicot	Chief People Officer	Senior Management
Pablo de Carvajal Gonzalez	Director	Executive Board
Pablo de Carvajal Gonzalez	General Council & Regulatory Affairs	Executive Board
Pablo de Carvajal Gonzalez	Secretary	Executive Board
Peter Erskine	Director	Non Executive Board
Peter Loscher	Director	Non Executive Board
Sabina Fluxa Thienemann	Director	Non Executive Board
Veronica Pascual Boe	Director	Non Executive Board
SOURCE: COMPANY FILINGS		MARKETLINE

9. Macroeconomic Indicators

9.1. Country data

Table 19: Brazil size of population (million), 2016–20

Year	Population (million)	% Growth
2016	202.2	0.7%
2017	203.5	0.6%
2018	204.8	0.6%
2019	206.0	0.6%
2020	207.1	0.6%
SOURCE: MARKETLINE		MARKETLINE

Table 20: Brazil gdp (constant 2005 prices, \$ billion), 2016–20

Year	Constant 2005 Prices, \$ billion	% Growth
2016	1,211.8	2.4%
2017	1,244.5	2.7%
2018	1,280.7	2.9%
2019	1,320.8	3.1%
2020	1,365.0	3.3%
SOURCE: MARKETLINE		MARKETLINE

Table 21: Brazil gdp (current prices, \$ billion), 2016–20

Year	Current Prices, \$ billion	% Growth
2016	2,573.9	7.5%
2017	2,774.8	7.8%
2018	2,997.7	8.0%
2019	3,245.3	8.3%
2020	3,498.6	7.8%
SOURCE: MARKETLINE		MARKETLINE

Table 22: Brazil inflation, 2016–20

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Year	Inflation Rate (%)
2016	5.5%
2017	5.2%
2018	4.9%
2019	4.6%
2020	4.9%
SOURCE: MARKETLINE	
MARKETLINE	

Table 23: Brazil consumer price index (absolute), 2016–20

Year	Consumer Price Index (2005 = 100)
2016	178.2
2017	187.5
2018	196.8
2019	205.9
2020	215.9
SOURCE: MARKETLINE	
MARKETLINE	

Table 24: Brazil exchange rate, 2016–20

Year	Exchange rate (\$/BRL)	Exchange rate (€/BRL)
2016	3.4874	3.8596
2017	3.1930	3.6157
2018	3.6542	4.3068
2019	3.9457	4.4148
2020	5.1510	5.8973
SOURCE: MARKETLINE		
MARKETLINE		

Appendix

Methodology

MarketLine Industry Profiles draw on extensive primary and secondary research, all aggregated, analyzed, cross-checked and presented in a consistent and accessible style.

Review of in-house databases – Created using 250,000+ industry interviews and consumer surveys and supported by analysis from industry experts using highly complex modeling & forecasting tools, MarketLine's in-house databases provide the foundation for all related industry profiles

Preparatory research – We also maintain extensive in-house databases of news, analyst commentary, company profiles and macroeconomic & demographic information, which enable our researchers to build an accurate market overview

Definitions – Market definitions are standardized to allow comparison from country to country. The parameters of each definition are carefully reviewed at the start of the research process to ensure they match the requirements of both the market and our clients

Extensive secondary research activities ensure we are always fully up-to-date with the latest industry events and trends

MarketLine aggregates and analyzes a number of secondary information sources, including:

- National/Governmental statistics
- International data (official international sources)
- National and International trade associations
- Broker and analyst reports
- Company Annual Reports
- Business information libraries and databases

Modeling & forecasting tools – MarketLine has developed powerful tools that allow quantitative and qualitative data to be combined with related macroeconomic and demographic drivers to create market models and forecasts, which can then be refined according to specific competitive, regulatory and demand-related factors

Continuous quality control ensures that our processes and profiles remain focused, accurate and up-to-date

9.2. Industry associations

9.2.1. Abranet

Rua Tabapua, 627, 3º and - sl 34, BRA

Tel.: 55 11 3078 3866

www.abranet.org.br

9.2.2. International Telecommunication Union

Place des Nations, 1211 Geneva 20, CHE

Tel.: 41 22 730 5111

Fax: 41 22 733 7256

www.itu.inthome

9.3. Related MarketLine research

9.3.1. Industry Profile

Global Internet Access

Internet Access in Asia-Pacific

Internet Access in the United States

Internet Access in North America

Internet Access in Mexico

About MarketLine

In an information-rich world, finding facts you can rely upon isn't always easy. MarketLine is the solution.

We make it our job to sort through the data and deliver accurate, up-to-date information on companies, industries and countries across the world. No other business information company comes close to matching our sheer breadth of coverage.

And unlike many of our competitors, we cut the 'data padding' and present information in easy-to-digest formats, so you can absorb key facts in minutes, not hours.

What we do

Profiling all major companies, industries and geographies, MarketLine is one of the most prolific publishers of business information today.

Our dedicated research professionals aggregate, analyze, and cross-check facts in line with our strict research methodology, ensuring a constant stream of new and accurate information is added to MarketLine every day.

With stringent checks and controls to capture and validate the accuracy of our data, you can be confident in MarketLine to deliver quality data in an instant.

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