



Guide to doing business in Brazil

Mapping opportunities

2021

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Table of contents

Introduction

- Overview

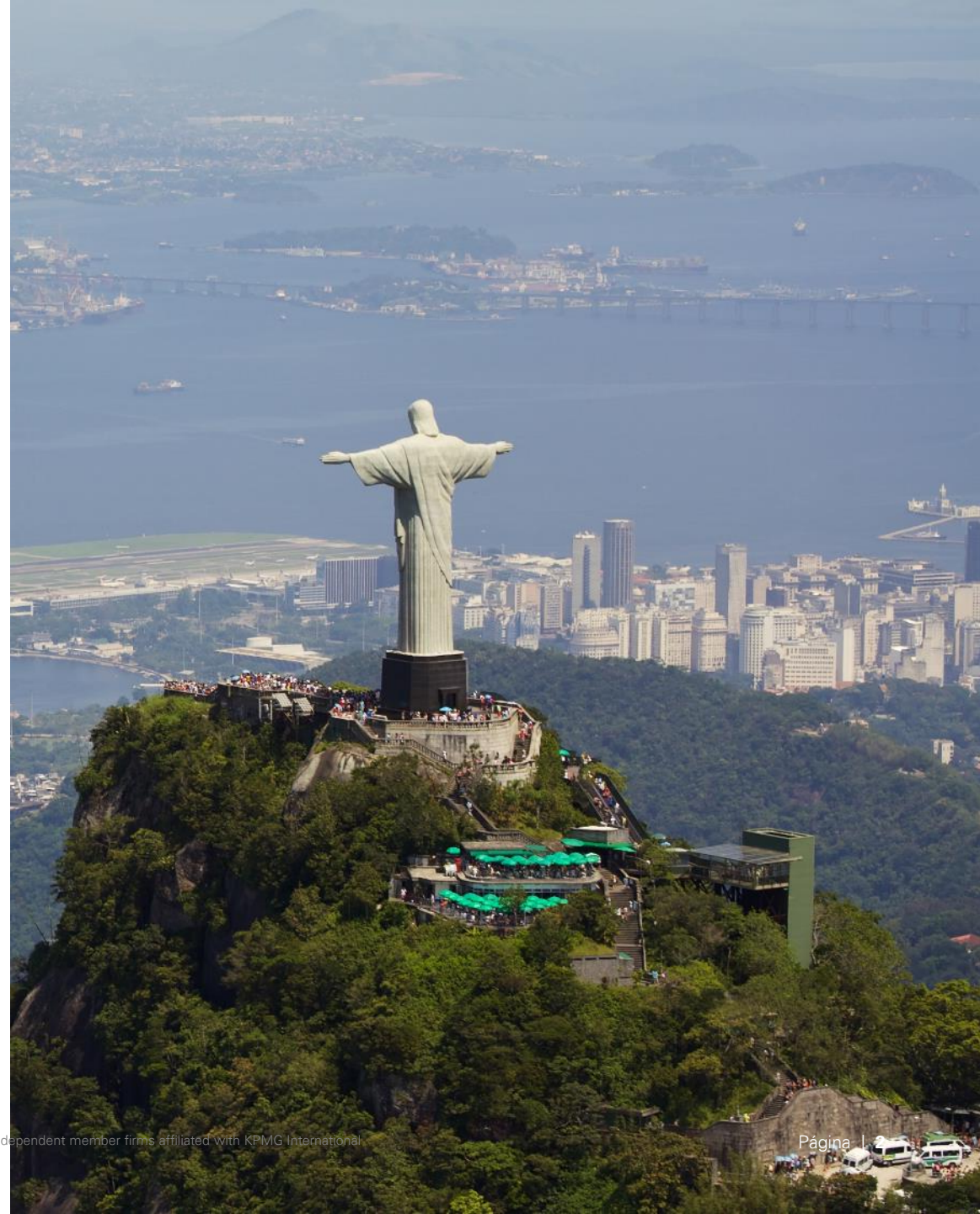
Mapping Opportunities

Regional Profile

- Brazil
- North region
- Northeast region
- Midwest region
- Southeast region
- South region
- Hot Topics

Sector Profile

- Automotive
- Industrial Manufacturing
- Agribusiness
- TMT - Technology, Media and Telecommunications
- Consumer and Retail
- Beverages
- Infrastructure
- ENR - Energy and Natural Resources
- Financial Services
- HealthCare
- Life Sciences
- Education
- Private Enterprise



Preface



We are pleased to present the "Business Guide in Brazil", jointly launched by BRIL Chamber and KPMG, to help foreign investors to know more about the Brazilian market and be able to navigate business opportunities. The material presents investment opportunities by region of Brazil and also in different sectors of the economy. The investor thus has a real photograph of the current Brazilian market to support his decision making.

Brazil is one of the 12 largest economies in the world, the largest in Latin America, and 11th in the global ranking of foreign investment attraction, is one of the most attractive thanks to factors such as a domestic market with more than 211 million people, abundance of natural resources and easy access to other Latin American markets both by land and within tariff agreements.

The "Business Guide in Brazil" provides an overview, challenges and opportunities, trends, and information about the reality of sectors such as Automotive, Industrial Manufacturing, Agribusiness, Technology, Media and Telecommunications, Consumer and Retail, Beverages, Infrastructure, Energy and Natural Resources, Financial Services, Health Services, LifeScience, Education and Private Enterprise. Some common characteristics among them include the impacts of the pandemic, digitization and the adoption, at different stages, of ESG criteria.

We wish a good reading and good business.

Renato Ochman

President of BRIL Chamber – Brazil-Israel Chamber of Commerce and Industry

Felipe Catharino

Lead partner of Israeli Desk and Technology segment in KPMG Brazil

Mapping Opportunities

Regional Profile



Brazil

Source: IBGE e Bacen. Elaboração Pezco Economics.

Population (number of people, 2020)	211.755.692
GDP per capita (BRL, 2020)	35.172
GDP (BRL million, 2020)	7.447.858
Exports (US\$ million, 2020)	209.180
Imports (US\$ million, 2020)	158.787
Unemployment rate (average 2020)	13,5%
Income Mass (real monthly average, R\$ million, 2020)	215.777
Credit Stock (% of GDP, 2020)	53,5%

**5th largest country
in the world**

**8th largest economy
2020 (purchase prices)**

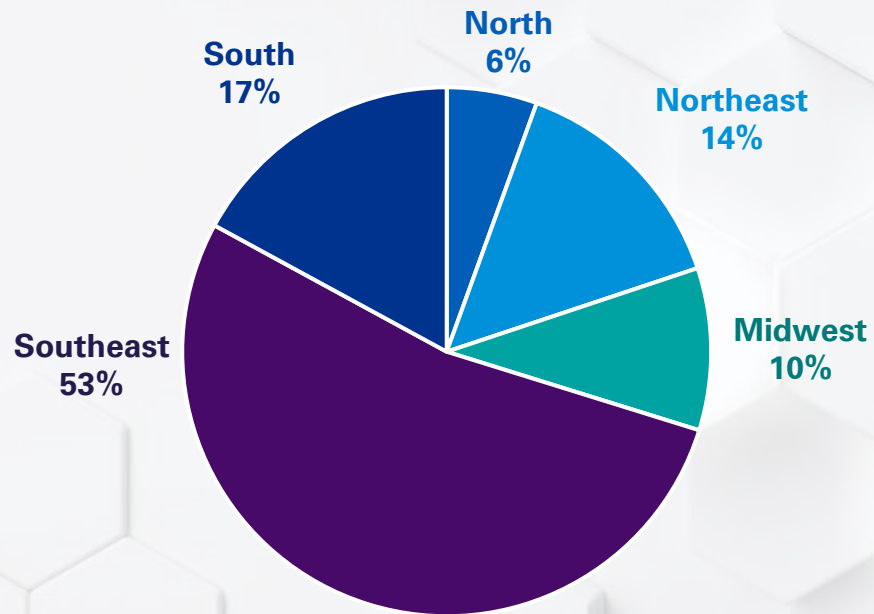


**The Southeast, including
São Paulo, is the key
region with ~ 53% of GDP
and ~ 42% of the
population.**

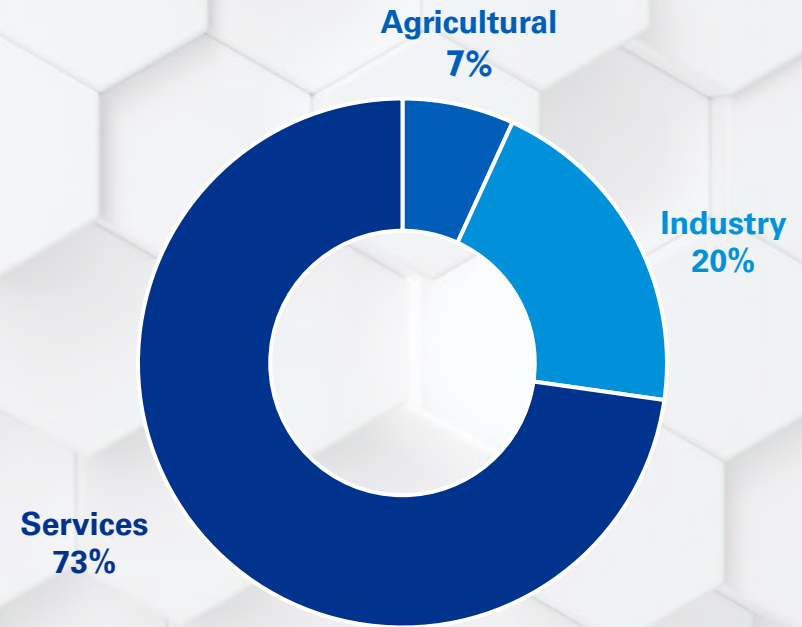
Brazil

Source: IBGE e Bacen. Elaboração Pezco Economics.

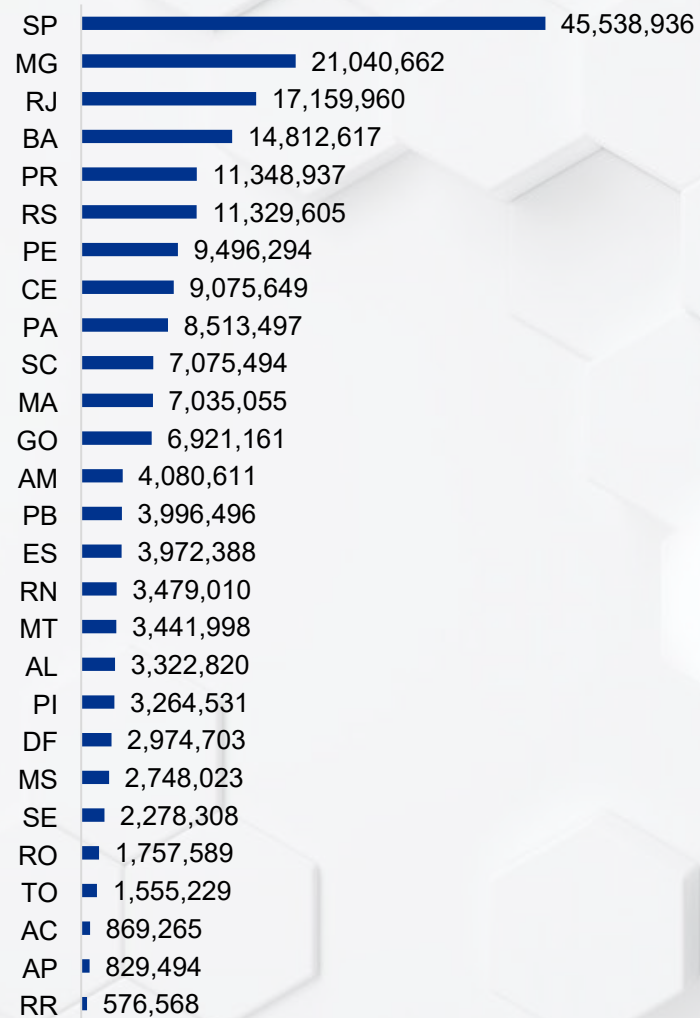
GDP contribution by region (2018)



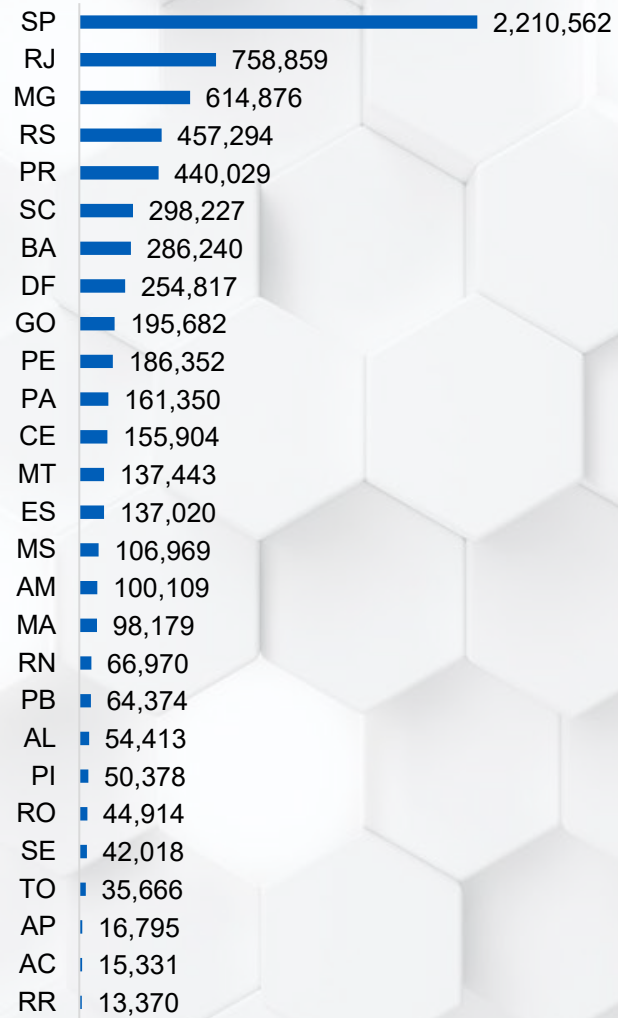
GDP Composition (Brazil, 2020)



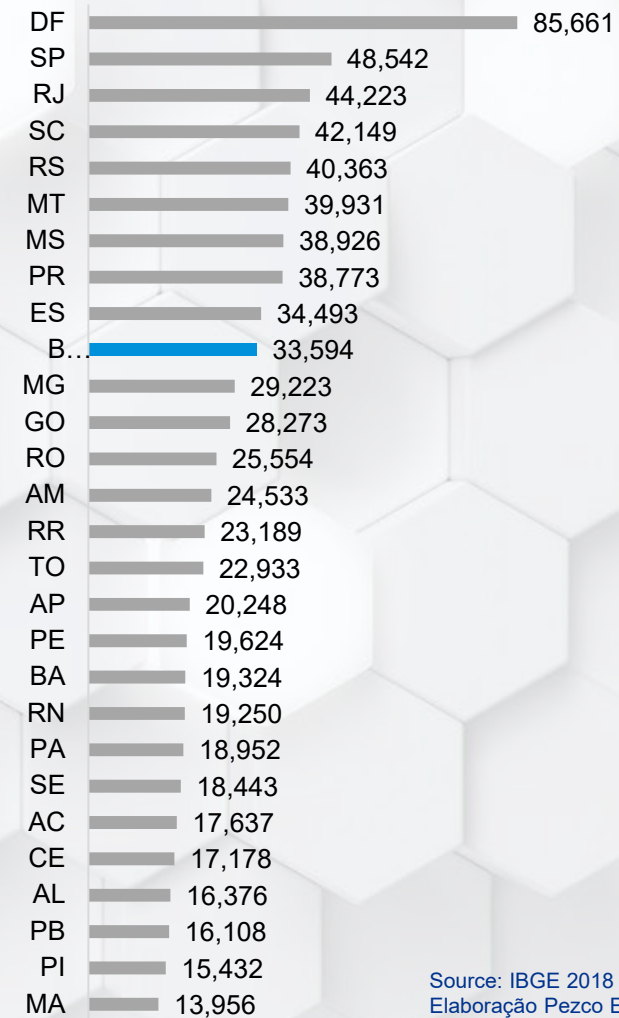
State Ranking – Population (number of inhabitants)



States Ranking - GDP (BRL million)



States Ranking - GDP Per Capita (Brl)



Source: IBGE 2018 e Bacen.
Elaboração Pezco Economics.

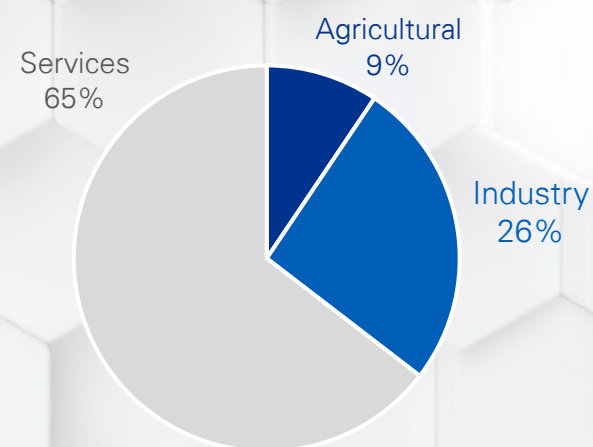
North Region

Source: IBGE e Bacen. Elaboração Pezco Economics.

The North region has 3.85 million km² of extension and represents about 45% of the national territory. Of this total, approximately 86% form the Amazon Forest. About 26.2% of the GDP of the extractive industry is in the region, occupying the second position, behind only the Southeast region (MG and RJ). Economic activity also revolves around the industry located in the Free Trade Zone of Manaus. It has large rivers, such as the Amazon, with significant potential for generating hydroelectric energy. The logistical infrastructure is disintegrated and leaves room for improvement.

Population (number of people, 2020)	18.672.591
GDP per capita (BRL, 2018)	21.314
GDP (BRL million, 2017)	387.535
Exports (US\$ million, 2020)	24.682
Imports (US\$ million, 2020)	11.956
Unemployment rate (average 2020)	12,3%
Income Mass (real monthly average, R\$ million, 2020)	13.292
Credit Stock (% of GDP, 2020)	33,0%

**GDP composition
(North region)**



Northeast Region

Source: IBGE e Bacen. Elaboração Pezco Economics.

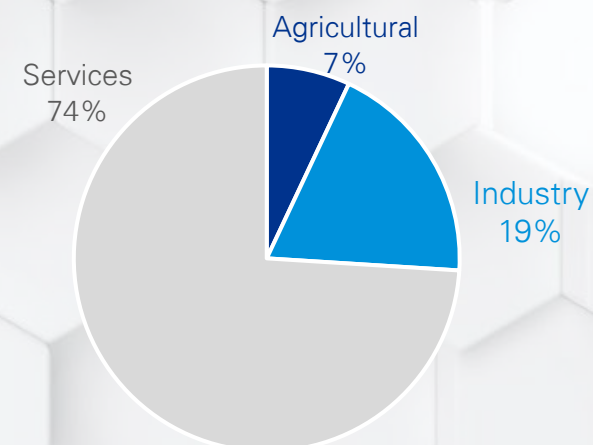
Northeast region extends over an area of 1.55 million km² and represents about 18% of the national territory. About 1.1 million km² (71.3%) of the region's territory is in the Polígono das Secas ("dry region"), distributed in 1,348 municipalities in 8 UFs (AL, BA, CE, PB, PE, PI, RN, SE).

The region holds 20% of GDP in accommodation and food, due to the importance of tourism. In addition, it has the second largest GDP in electricity, gas and sanitation.

The Northeast is a region with high indices of poverty and the lowest GDP per capita in the country. The unemployment rate is above the national average. Not surprisingly, it concentrates the largest number of beneficiaries of social assistance programs.

Population (number of people, 2020)	57.374.243
GDP per capita (BRL, 2018)	17.703
GDP (BRL million, 2018)	1.004.827
Exports (US\$ million, 2020)	16.149
Imports (US\$ million, 2020)	15.534
Unemployment rate (average 2020)	16,7%
Income Mass (real monthly average, R\$ million, 2020)	32.615
Credit Stock (% of GDP, 2018)	42,0%

**GDP composition
(Northeast Regiono Nordeste)**



Midwest Region

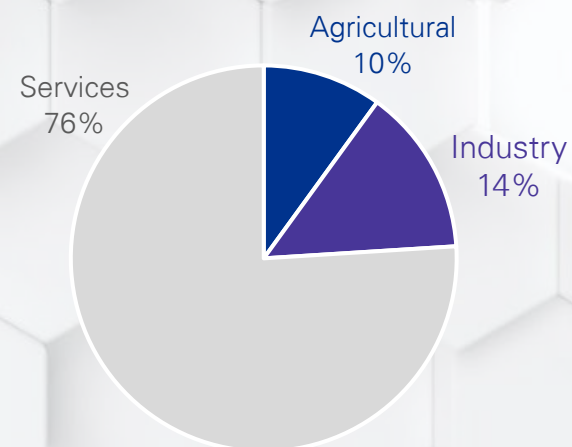
Source: IBGE e Bacen. Elaboração Pezco Economics.

Midwest region extends over an area of 1.6 million km² and represents about 19% of the national territory. The region has become Brazil's agricultural heartlands with states that have disproportionately more cattle than human inhabitants. The region's economic activity revolves around agriculture and livestock. Despite this, the region's agricultural GDP of 19% lacks behind the South (with 27% share) and Southeast (with 24%).

The Midwest is the region with the highest GDP per capita in the country and the second lowest unemployment rate. The logistical infrastructure, however, remains precarious, especially for the bulk transport of agricultural commodities.

Population (number of people, 2020)	16.504.303
GDP per capita (BRL, 2018)	43.200
GDP (BRL million, 2018)	694.911
Exports (US\$ million, 2020)	32.362
Imports (US\$ million, 2020)	8.357
Unemployment rate (average 2020)	11,9%
Income Mass (real monthly average, R\$ million, 2020)	20.650
Credit Stock (% of GDP, 2018)	53,2%

**GDP composition
(Midwest region)**



Southeast Region

Source: IBGE e Bacen. Elaboração Pezco Economics.

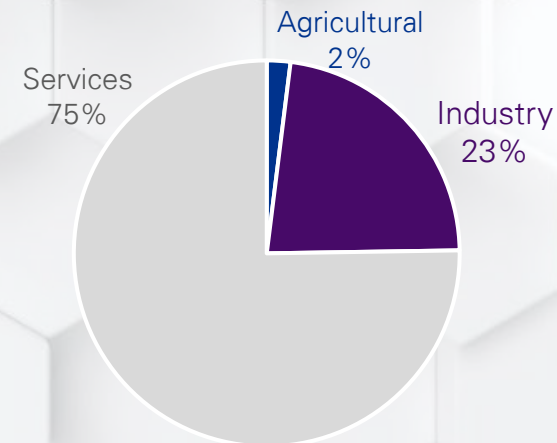
Southeast region extends over an area of 0.9 million km², about 11% of the national territory. It is the most economically developed Brazilian region and also the most populous, around 42% of the Brazilian population lives in the Southeast.

The region represents approximately 53% of the national GDP and economic activity revolves around industry, finance and services. It is the most important financial center in the country and in Latin America. Not surprisingly, it is the region with the best developed infrastructure.

It has best qualified labor and a number of important educational centers. The high number of inhabitants, high density of housing and the scarcity of space keep property prices and the cost of living high.

Population (number of people, 2020)	89.012.240
GDP per capita (BRL, 2018)	42.427
GDP (BRL million, 2018)	3.721.317
Exports (US\$ million, 2020)	96.438
Imports (US\$ million, 2020)	85.912
Unemployment rate (average 2020)	14,1%
Income Mass (real monthly average, R\$ million, 2020)	110.652
Credit Stock (% of GDP, 2018)	45,2%

**GDP Composition
(Southeast region)**



South Region

Source: IBGE e Bacen. Elaboração Pezco Economics.

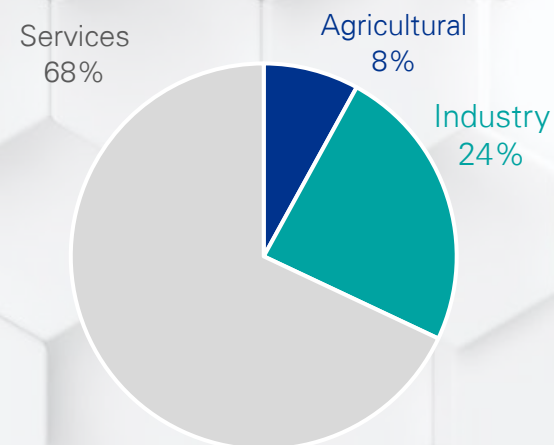
The Southeast region is 0.6 million km² in length and represents about 7% of the national territory. It is the second region with the highest demographic density in the country (52 inhabitants/km²).

The region represents approximately 17% of the national GDP and economic activity revolves around industry and agriculture. It has good logistical and economic infrastructure.

It has a good supply of qualified labor and educational centers. It has the second highest GDP per capita and the lowest unemployment rate.

Population (number of people, 2020)	30.192.315
GDP per capita (BRL, 2018)	40.181
GDP (BRL million, 2018)	1.195.550
Exports (US\$ million, 2020)	38.443
Imports (US\$ million, 2020)	35.573
Unemployment rate (average 2020)	8,5%
Income Mass (real monthly average, R\$ million, 2020)	38.569
Credit Stock (% of GDP, 2018)	51,3%

**GDP Composition
(South region)**



DF / GO / TO – Hot Topics

Source: IBGE e Bacen. Elaboração Pezco Economics.

Federal District government published a decree that regulates the concession of public lighting service to Companhia Energética de Brasília (CEB) for 30 years, covering the activities of planning, investment and management of the implementation, installation and modernization of the assets of the public lighting system. CEB already provided this service through contracts and agreements with the Department of Works and Infrastructure.

Social isolation reduced the federal government's expenses with daily rates, tickets and transport of servers in the Federal District from BRL 265.2 million to BRL 65.7 million between March and May 2020 compared to the same period in 2019, according to data of the Ministry of Economy. The biggest reduction was in international travel (down 86% YoY), followed by domestic travel (-72.9% YoY).

BRB is preparing a real estate fund of up to R\$ 5 billion to invest in Biotic, a project to create a technology park in the Federal District, an effort by the district government to change the economic matrix and reduce dependence on public services. In addition to the technological park, the project includes the development of residential, commercial, leisure and hotel areas.

The Legislative Assembly of Goiás approved a bill that determines that gas stations put up posters with the phrase “When fueling, choose ethanol,” to encourage the use of hydrated ethanol in the state. The project also provides that state public agencies should prioritize the use of this fuel in supplying their fleet of flex vehicles.

The government of the State of Tocantins announced a privatization program with an initial goal to attract R\$ 9 billion in investments. All projects are in the initial structuring phase, the most advanced being the concession of nine highways, with potential for R\$ 5 billion in investments in works, which is in the contracting phase of studies. The package includes the concession of the Tocantinense Sanitation Agency, the Jalapão State Park, bus terminals, a children's hospital and a prison unit.

SP / MT / MS – Hot Topics

Source: IBGE e Bacen. Elaboração Pezco Economics.

According to the IBGE's Regions of Influence of Cities 2018 survey, Campinas became the first metropolis in the country without originating from the state capital. The metropolitan region of Campinas has 2,140,988 inhabitants, a demographic density of 312.4 inhabitants/km² and a GDP per capita of R\$ 48,902. IBGE identified 15 metropolises in Brazil in 2018. According to IBGE's criteria, a metropolis covers the city of origin and surrounding municipalities, as long as they are strongly integrated to the point of forming a single node of the urban network, especially when commuting to work and study.

Cocamar has already invested R\$ 7 million of an estimated total of R\$ 10 million in the construction of a factory for the immediate production of thirteen liquid foliar fertilizers and four adjuvants for soy, corn and wheat. In 2020, the first year of operation, the factory will have the capacity to produce 6 million liters of liquid foliar fertilizers. When the plant's facilities are completed in 2021, production of solid fertilizers will begin. Cocamar earned R\$ 4.6 billion in 2019 and expects to earn R\$ 5.7 billion in 2020. There are about 15,500 members – soy, corn, wheat, orange, coffee and cattle raisers in the States of Paraná, São Paulo and Mato Grosso do Sul.

After signing the early renovation of the Malha Paulista network, which will require R\$6.1 billion in new investments, Rumo announced the plan to build a line between Rondonópolis and Lucas do Rio Verde, which could reach 600 km. The plan is to create a large corridor to transport production from Mato Grosso through the Port of Santos. The renovation of Malha Paulista was a first step and now, the company will start negotiating rounds with the government and regulatory agencies.

Demand for modular warehouse structures to store sugar has grown recently, due to the strong pace of production of the commodity in the Center-South region. Most of the hiring of temporary warehouses takes place until June, when the size of production is clearer for the mills. According to Topic (a company that installs modular sheds), around 60% of the demand is for plants in São Paulo, followed by Minas Gerais (30%) and Mato Grosso do Sul (10%). According to Unica, the plants have the capacity to store 40% of the production projected for this year.

North and Northeast- Hot Topics

Source: IBGE e Bacen. Elaboração Pezco Economics.

Northeast should receive R\$ 50 billion in emergency aid from the federal government, equivalent to 6.3% of the region's GDP, according to estimates by economists Ecio Costa (UFPE) and Marcelo Freire (PE's Economic Development Department). In Maranhão, the injection of resources can reach 8.6% of GDP, while in Bahia, the estimated impact is 5.8% of GDP. According to the study, the aid is concentrated in municipalities with the worst living conditions, attesting to the effectiveness in achieving the objective. However, some obstacles may have limited people's access to the benefit. About 5.6% of the volume of funds was made available in municipalities without Caixa's branch. In addition, 36% of the region's population does not have access to the internet, making it difficult for those who were not registered with Bolsa Família.

According to the IBGE's Regions of Influence of Cities 2018 survey, Brazilians travel the longest distances in the search for airports and highly complex healthcare services. The linear distance covered in the search for an airport estimated by IBGE was about 174 km, on average, being the largest in the survey. Second, there is the search for highly complex health services (surgeries and cancer treatment), with an average distance of 155 km covered. For services of low and medium complexity (dentist and orthopedic services), the average distance is 72 km. Overall, the North region had the highest average travel (210 km, on average), with Roraima (274 km) and Amazonas (272 km) in the lead. In the Northeast region, the average was below 100 km.

The self-construction segment (renovations and home expansions) boosted cement sales in the first half of 2020, which reached 26.9 million tons – growth of 3.6% over the same period in 2019. Sales per business day in June grew 16.1% YoY, with highlights for the Northeast (+44.8% YoY) and North (+28.4% YoY). Self-construction and real estate works represent 80% of cement consumption in the country.

BNDES expects the portfolio of projects in basic sanitation to show rapid growth, especially in the North and Northeast regions. The current portfolio has 8 projects with an estimated investment of R\$50 billion throughout the concession. The bank's expectation is that the Alagoas sanitation operation will be granted this year. In 2021, it is expected that the sanitation operations in Acre and Amapá will be granted, in addition to the sewage concession in Fortaleza.

Minas Gerais – Hot Topics

Source: IBGE e Bacen. Elaboração Pezco Economics.

Although the international price of iron ore remains above US\$ 100 per ton (62% pure ore at the port of Qingdao), analysts expect that the normalization of supply will pressure prices down in the second half of this year and early 2021. Projections indicate that the price of iron ore should drop to the range between US\$ 80 and US\$ 90 per ton in the next 12 months. Vale's production is expected to be 90 million tons per quarter in the second half of the year, well above the 59 million tons in the first quarter of 2020.

Vale announced the resumption of operations in the Itabira Complex, which has been banned since June 5 by decision of the Minas Gerais Sub-secretariat of Labor Inspection. In the period, the estimated loss of production is 1 million tons. The company's projection for total production in 2020 is between 310 and 330 million tons. The stoppage in activities in Itabira would explain part of the increase in the price of iron ore in June – above US\$ 100 per ton.

Sigma Lithium obtained a US\$ 45 million financing from Société Générale bank to begin construction of the lithium battery plant for electric cars in Minas Gerais. The company has shares listed on the Canadian stock exchange, but 70% of the capital is in the hands of private equity fund A10. Sigma signed an agreement for the supply of 55,000 tons of lithium per year, for six years, with the Japanese group Mitsui – which will grant US\$ 27 million for the construction of the factory – the estimate is that the construction cost will be US\$ 74 millions.

Anglo American signed an agreement with Casa dos Ventos for the supply of wind energy for 20 years. Casa dos Ventos will supply 195 MW (95 MW of firm energy) of energy produced in the Rio do Vento (RN) complex – representing around 30% of Anglo American's consumption in its iron ore and nickel operations. Energy represents 30% of the total nickel production cost and 20% of the total iron ore production cost. The miner expects to produce between 22-24 million tonnes of pellet-feed iron ore – 40% of which is exported to China – and between 42-44,000 tonnes of iron nickel.

Sul – Hot Topics

Source: IBGE e Bacen. Elaboração Pezco Economics.

CMN defined the new rates for contracting Proagro in the 2020/21 harvest. In the Proagro Mais category, rates rose from between 3%-6% to between 3%-7.5%, differentiated by region. In Proagro Tradicional, the rates went from 4%-6.5% to between 4%-8.5%. The Proagro rate for off-season corn in the South region will be 8.5% (against 7% in other regions).

The drought in Rio Grande do Sul will generate compensation of up to R\$1.9 billion to affected producers who have taken out insurance, according to a survey by the Department of Risk Management of the Agricultural Policy Secretariat of the Ministry of Agriculture. About 35% of Proagro's operations and policies for soybean and corn in the state's federal premium subsidy program reported losses in the harvest – the highest loss ratios since 2006. Of the total, R\$ 906 million must be paid by Bacen, administrator of Proagro . Another R\$985 million must be paid by insurers accredited by the federal program. Drought is the explanation for about 96% of claims. RS represents about 80% of Proagro's loss announcements in the country.

Of the 15 locations that are part of the IBGE industrial survey, 12 grew between April and May this year. The highlight was Paraná, with growth of 24.1% in the month and after a sharp drop of 31.8% between March and April. In Rio Grande do Sul, the growth of 13.3% was above the national average (7%) while in Santa Catarina, the growth was 5.4%. The strong performance of Paraná is associated with the recovery in vehicle production, according to the IBGE.

According to the IBGE, the slaughter of pigs totaled 11.88 million heads in the first quarter of 2020, growth of 5.2% over the same period in 2019, especially in Santa Catarina (352.09 thousand more heads). Chicken slaughter totaled 1.51 billion heads in the same period, a historic record, with growth of 5% year-on-year. Highlight for Paraná (38.31 million more heads) and Rio Grande do Sul (10.02 million heads).

Sectoral Profile

Automotive



Overview

Brazil produced around 2 million vehicles in 2020, which represents around 2.5% of the world production of vehicles and places the country in ninth position in the world production ranking in the sector. In the Brazilian market, according to data from ANFAVEA (National Association of Automotive Vehicle Manufacturers), Brazil ended 2020 with 1.84 million licensed vehicles, which represented a drop of 25.8% compared to the result obtained in 2019.

Due to COVID-19, the year 2020 was suffocated in relation to expected growth. ANFAVEA estimates for this year growth of 15% in sales, 25% in production and 9% in exports. Despite all the difficulties caused by the second wave of the pandemic in Brazil and the production bottlenecks, the automobile industry has managed to maintain a good pace of activity. Vehicle production in April 2021 was 190.9 thousand units, 4.7% below March, but in a month that had three working days less than the previous one.

Source: ANFAVEA

Exports, in turn, grew by 34.7% accumulated in the year. In all, 33.9 thousand vehicles were exported in April and 129.6 thousand in the year. Shipments increased for most of the market, especially to Colombia.

It is important to note that the automotive industry went through a long process during COVID-19 that impacted the world economy. The transformation of the digital environment and services, such as car rental, began to become a trend, as the customer started to seek comfort/safety added to the avoidance of high costs from vehicles.

Another relevant factor is the increase in sales of used cars. According to CNN, the problems of lack of parts faced by automakers during the pandemic and the consequent rise in prices of new vehicles ended up pushing Brazilians to purchase already-run cars, with some of them resorting to the so-called "change for change" in search of some financial relief in the crisis.

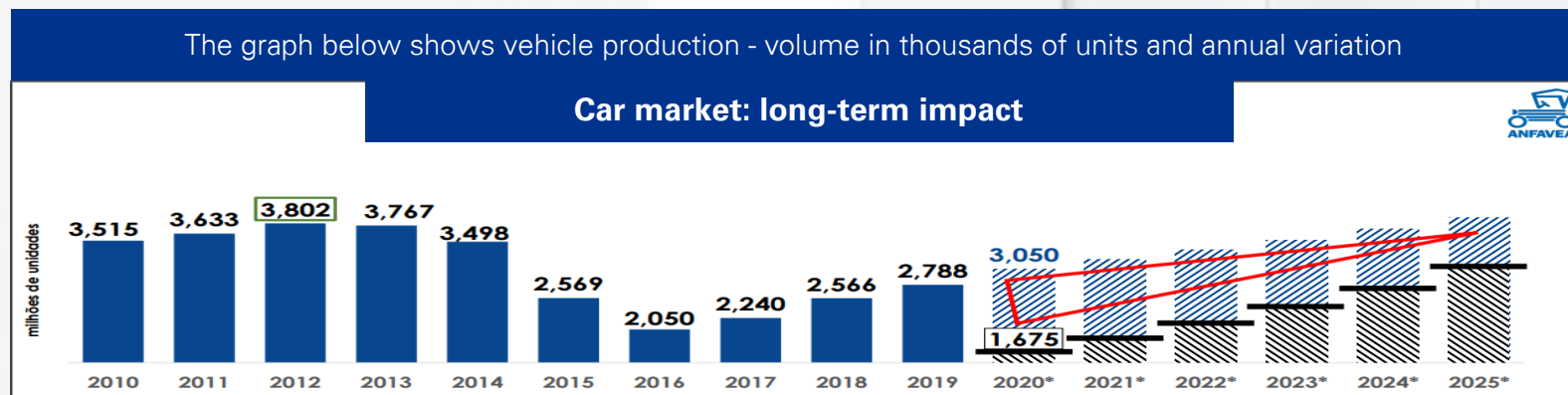


Overview

In 2020, sales of used and used vehicles totaled 11.4 million units, or 83% of the total market, an increase compared to 80% in 2019. A similar leap was seen in financing, with used vehicles starting to account for 67% of the contracts approved by banks in 2020, against 63% in the previous year.

In conclusion, it is important to highlight that, as in more developed markets, the automotive industry in Brazil is also undergoing a strong transformation process. Issues such as urban mobility, the lifestyle of the new generations (millennials), electrification, connected and autonomous cars are also relevant in the Brazilian market and force companies to seek the best strategy that guarantees the sector's longevity, maintaining cash flow, generating flow to make the necessary investments in new business models and satisfy shareholders.

Issues such as electrification and autonomous cars tend to face a somewhat slower development process in Brazil, mainly due to the lack of infrastructure and government regulation. But connectivity and mobility problems are already a reality, in addition to some peculiarities of the Brazilian market, such as the deep adoption of ethanol as the fleet's energy matrix (more than 85% of the fleet is made up of "flex" fuel).

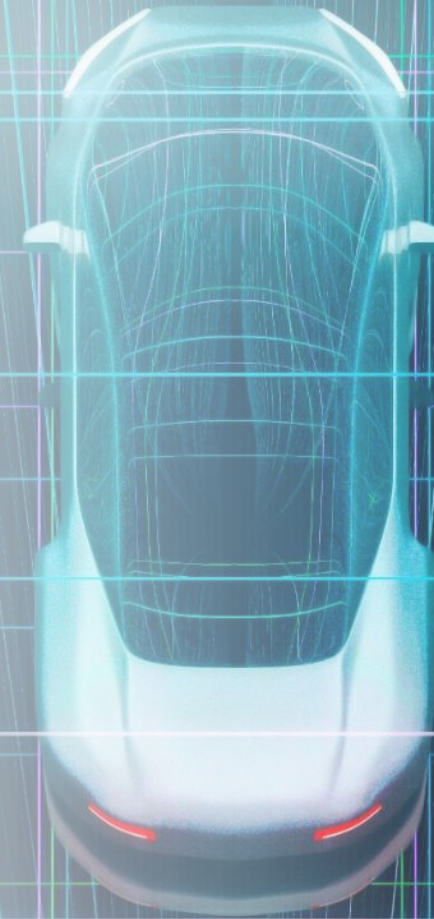


Trends

Source: KPMG – Nova realidade Covid-19 após 1 ano

According to the 2021 edition of the Automotive Sector Survey after a year of the Covid-19 pandemic, the Brazilian automobile industry presents the following trends for the sector:

- Review of the budget and cash flow for the year, focusing on liquidity;
- Focus on reducing operating costs;
- Focus on efficient inventory management (finished products and parts);
- Review of agreements with suppliers and dealers;
- Evaluation of M&A opportunities between suppliers and dealers to make them more structured;
- Review of supply-chain models;
- Sectoral government support measures;
- Strengthen business diversification strategy and online sales;
- Greater presence in digital media;
- Acceleration of subscription vehicle offers, as a way to reduce the perception of new car costs;
- ESG as a fundamental drive of strategic industry management.



New reality

Source: KPMG – Nova realidade Covid-19 após 1 ano

Due to the new reality caused by COVID-19, Industries/companies will have to travel along an extended path, requiring capital reserves to resist and transform operational and business models to emerge stronger and more aligned with changing priorities and in the behavioral patterns of consumers.

Business Model:

Creation of new revenue lines by offering services related to mobility, connectivity and after-sales services. Creation of offers that reduce the entry ticket and TCO of products (subscription); creation of offers that balance product customization and greater operational efficiency (just in time); creation of "digital culture" in the relationship with consumers throughout the journey; increase in the customer experience strategy; strengthening of export strategy (more products and in diversified markets)

Operational Model:

Reduction of operational costs (RPA in the back-office, home-office where applicable); increase in operational efficiency (just in time) Reduction in the number of dealers and suppliers, both larger; reduction of dependence on imports of parts and components, translated into the strengthening of the initiative to increase the percentage of nationalization. Industry undergoing an important transition worldwide, to electric cars and others, with entire countries committing to zero emissions. The simplification of electric motor construction and deep automation have an impact on Brazilian industry planning

Changes In Consumer Habits:

Search for products with lower entry tickets and TCO; an increase in advertisements about health safety, which consequently brought about the revaluation of ownership of the vehicle itself and the rationalization of the use of mobility/public transport services. Greater acceptance of the use of digital channels to purchase vehicles.

Lean Strategy:

Improvement of financial / operational indicators panel using new technologies.

New reality

Employees:

Improvement of the production model to accommodate the hybrid work model.

Capital Structure:

Strengthening commercial / operational / financial strategies that offer better margin and lower risk.

Risk Management:

Improved monitoring of the financial and operational health of dealers and suppliers; reduced dependence on revenue from product sales.

Source: KPMG – Nova realidade Covid-19 após 1 ano



Opportunities and Challenges

Opportunities

Rota 2030:

At the end of 2018, the federal government approved a new policy to stimulate the sector, called Route 2030. This program provides tax benefits not only to vehicle assemblers (OEMs), but also to suppliers of parts and systems. The program lasts for 15 years. The granting of tax benefits is strongly based on investments to be made in innovation, research and development of new products, vehicle safety and energy efficiency.

Tax benefits are strongly associated with corporate income tax, which, in practical terms, means that the benefits are effectively exploited if companies are in a profitable position.

Challenges

Production: Lack of basic inputs to feed the industry's production process. Demand is repressed, with pressure on production. The high exchange rate in the import of parts is accelerating the movement of the nationalization index of parts and systems;

Sales: Used cars with better performance than new cars, but it is not linked to the lack of new cars in the market, but to the low price. Acceleration of subscription vehicle offers, as a way to reduce the cost perception of the new car;

Exports: The lack of a more robust and diversified export strategy continues to make it difficult to find alternatives, as local products are competitive in several target markets, despite a more favorable exchange rate for exports.

Source: KPMG – Nova realidade Covid-19 após 1 ano



Industrial Manufacturing



Overview

The resurgence of the Covid-19 pandemic has once again lit the red light of the acute economic and social crisis that has befallen the country since last year.

Thanks to measures approved by the National Congress and implemented by the Federal Government – several of them suggested by the CNI and other entities in the sector – at the end of 2020, Brazilian industrial production had already surpassed the pre-pandemic level, while GDP had returned to the same landing.

In early 2021, the economic recovery was underway and there were still several obstacles to be overcome to enable a sustainable resumption of economic growth. But here, in the first quarter, unfortunately, came the second wave of covid-19, which hit the whole of Brazil very hard.

The challenge, which was already great for 2021, has become even greater. What would be a year of implementation of structural policies to consolidate recovery and lay the foundations for sustained growth gave way to the pressing need for new emergency measures to support citizens and businesses.

In addition to the extension of financial assistance to families, which has already been provided by the Government and Congress, it is essential that measures are also reissued to help ensure the survival of companies and the maintenance of jobs. And it is necessary that these actions, which proved to be efficient last year, are urgently redeployed, since there was a sharp drop in economic activity in March and, probably also in April.

Source: CNI



Overview

However, we cannot lose sight of the need to implement strategic policies and structural reforms that enable a consistent resumption of productive activities and sustained economic growth.

Over the past 10 years, the country's GDP has grown at an average annual rate of just 0.3%, while the manufacturing industry's GDP has shrunk by 1.6% per year, on average. We need to focus our efforts on two goals: Conquering the Crisis and Re-Growing. The construction of the bases for sustained growth should be done in parallel with actions to alleviate the effects of the crisis generated by the pandemic.

To overcome the crisis, we need actions to alleviate its effects on companies, employment and income. Here, we already know the way: to reissue the measures that worked out last year, even if it is necessary to decree, once again, a state of public calamity. In addition to providing emergency aid to the most vulnerable, it is necessary to take measures to maintain formal employment, financing working capital, postponing tax and financial expenses and reducing bureaucracy for companies.

Source: CNI

In order to grow again, we need to reduce the Brazil Cost, which has been preventing the growth of the Industry and, consequently, of the country.

For this, it is essential to streamline, among others, the approval of new legal frameworks in the infrastructure sector and the implementation of tax and administrative reforms. Only then will we return to sustained growth, at rates of 3% or more per year. Only in this way will we be able to reduce unemployment and raise the population's income and standard of living to levels closer to those prevailing in developed countries.



Trends

- Diversify lines of business and revenue generation;
- Strengthening of cash management;
- Adequacy of the workforce and people management;
- Negotiations with government authorities, aiming at incentive programs for the industry;
- Improving industry digitization and automation;
- Supply Chain + Third Party Risk Mngt, expansion of the discussion on the nationalization of parts and components;
- Greater investment in the use of technology for chain integration;
- Business diversification (conglomerates);
- Improvement of Corporate Governance models;
- ESG as a fundamental drive of strategic industry management.

Source: KPMG – Nova realidade Covid-19 após 1 ano



New reality

Business Model:

Legal uncertainty and Brazil Cost are factors that make it difficult for the industry to resume.

Operational Model:

Entrepreneurs recognize that they must think about diversifying their business, including improving governance and people management, business models, remodeling the supply chain, including digitizing and automating the operation. The sector is undergoing an important transition worldwide, with entire countries committing to zero emissions. Deep automation has an impact on Brazilian industry planning.

Changes In Consumer Habits:

Leverages for retail growth may boost the Industry, anchored in a joint work between the sectors. Pay special attention to Direct To Consumer (DTC).

Lean Strategy:

Industry 4.0 (IoT, D&A, ML, AI Robotization) – Focus on productivity and competitiveness with low cost, greater efficiency, including connectivity with third parties (suppliers, customers, employees and others).

Source: KPMG – Nova realidade Covid-19 após 1 ano

New reality

Employees:

Improvement of the production model to accommodate the hybrid work model.

Capital Structure:

Strengthen commercial / operational / financial strategies that offer better margins, protect cash, reducing operational risk.

Risk Management:

Improving the monitoring of the financial and operational health of suppliers; reduction of dependence on revenue from product sales, with greater focus on diversifying service offerings.



Source: KPMG – Nova realidade Covid-19 após 1 ano

Opportunities and Challenges

Opportunities

- Approve the Tax Reform - taxation on consumption;
- Prioritize BNDES financing for industrial modernization and foreign trade;
- Regulate the National Credit Guarantee System;
- Accelerate the deployment of 5G networks in Brazil;
- Reduce bureaucracy and foreign trade costs.

Challenges

- Improvement of the production model to accommodate the hybrid work model;
- Difficulty in acquiring inputs and raw materials to feed the production chain;
- Significant reduction in the supply of working capital in the financial system;
- Difficulty in accessing credit for micro and small companies;
- Maintenance of operational health, given the impacts of the Brazil Cost, which was even more aggravated by the pandemic;
- Brazilian fiscal risk impacts the cost of financing production.

Source: KPMG – Nova realidade Covid-19 após 1 ano

Agribusiness



Overview

The economic crisis caused by the Covid-19 pandemic brought several challenges to the world. For the agribusiness, however, it also brought growth opportunities. Although demand for food continues to grow, what has really changed is the consumer's watchful eye. Consumers are now focused on good socio-environmental and governance practices. In this sense, the Brazilian agribusiness sector, in addition to remarkably resisting the setbacks caused by the pandemic, has strategically positioned itself as a net food exporter.

The sector's resilience and possibility of good performance can be demonstrated by the growth of its share in GDP, not only in terms of value but also in terms of participation. In the year 2020, Brazilian agribusiness registered a record income growth of 24.3%. Increasing its share of Brazil's GDP to 26.6% against 20.5% in the previous year. For 2021, expectations point to further growth. In the first quarter of the year, agricultural exports show a growth of 6% (Cepea/Esalq-USP and CNA).

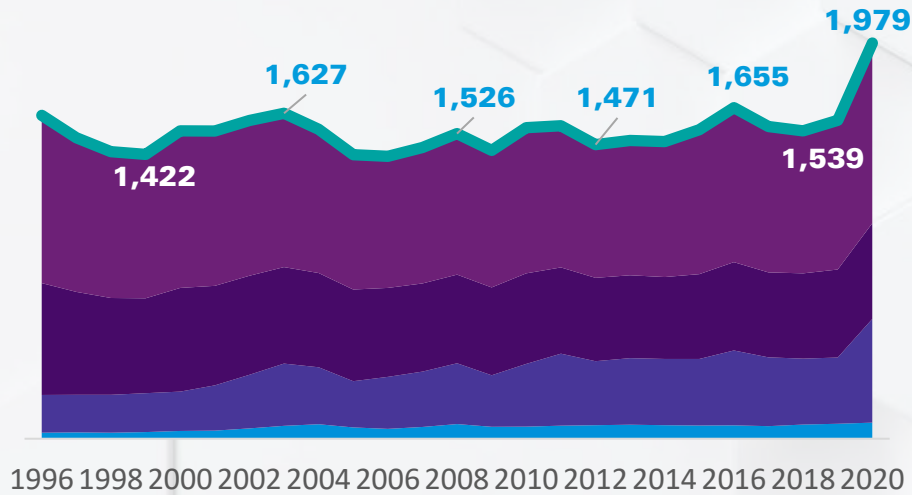
The challenges for Brazilian agribusiness are to continue growing, preserving profitability, sustainability and creating new paradigms of trust with consumers. To do so, the sector relies on technologies not only related to traditional farming technologies but ever more also on digital technologies. The digital transformation of agribusiness has promoted disruptive changes in the agri-food value chain, which has the consumer as its focal point. Connectivity, agricultural 4.0, back office 4.0, predictive digital solutions, digital platforms, traceability technologies, innovation HUBs are being diffused in the agribusiness sector in Brazil. 5G technology, changes in rural credit and the new regulation of credit payments in Brazil are potential accelerators of the positive agendas of agribusiness in the country.



Overview

Evolution of GDP-Income and GDP-Agribusiness Volume

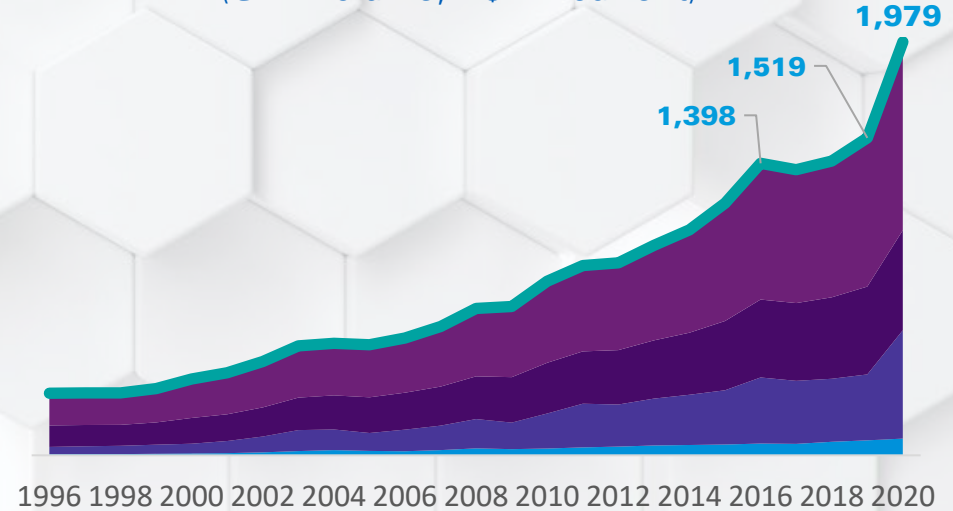
Brazilian Agribusiness Real Income
(GDP-income, R\$ BL of Dec/2020, deflated)



- Inputs
- Farming
- Industry
- Services
- Total Agribusiness

Source: CEPEA/ ESALQ

Brazilian Agribusiness GDP
(GDP-volume, R\$ BL current)

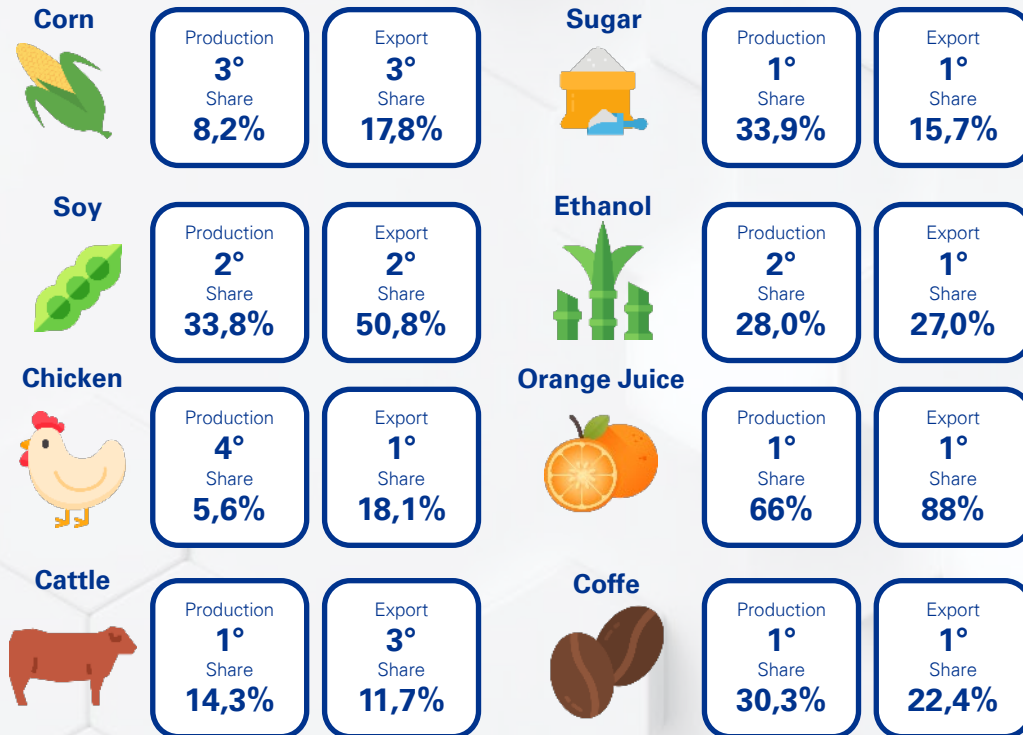


- Inputs
- Farming
- Industry
- Services
- Total Agribusiness

Overview

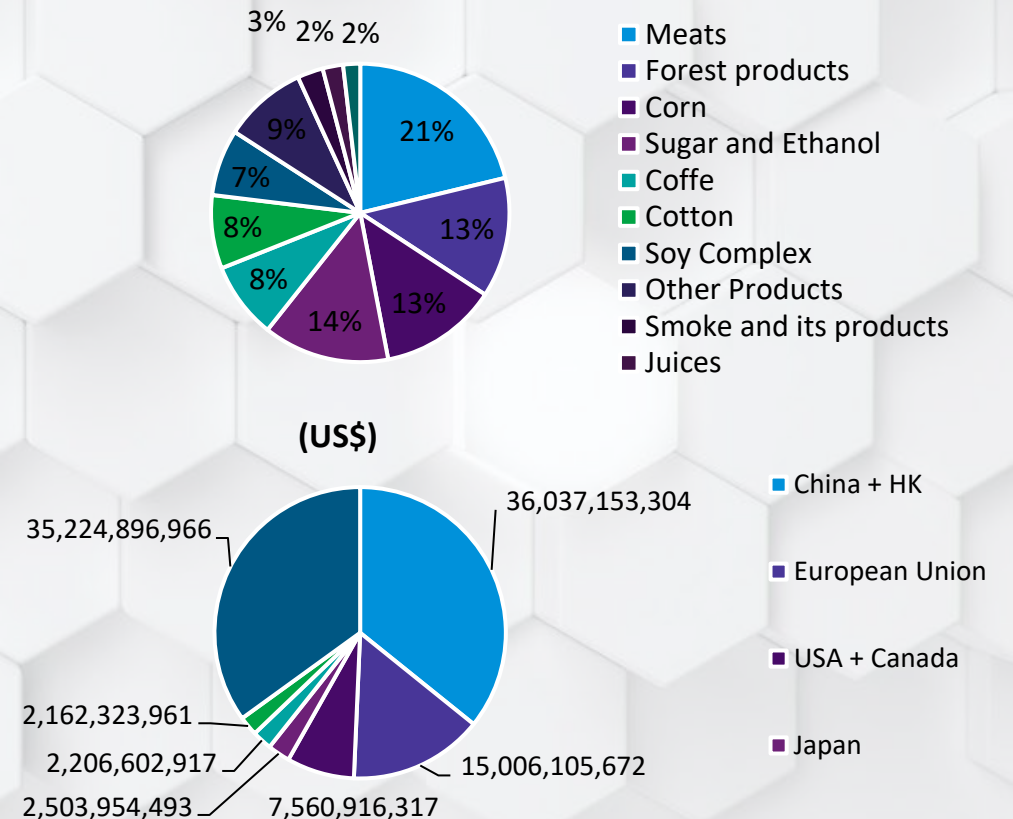
Brazil's Prominence in Global Agribusiness

Ranking in Total Production and Exports (US\$) Global



Source: USDA; Embrapa

Products and Destinations of Brazil Exports (US\$)

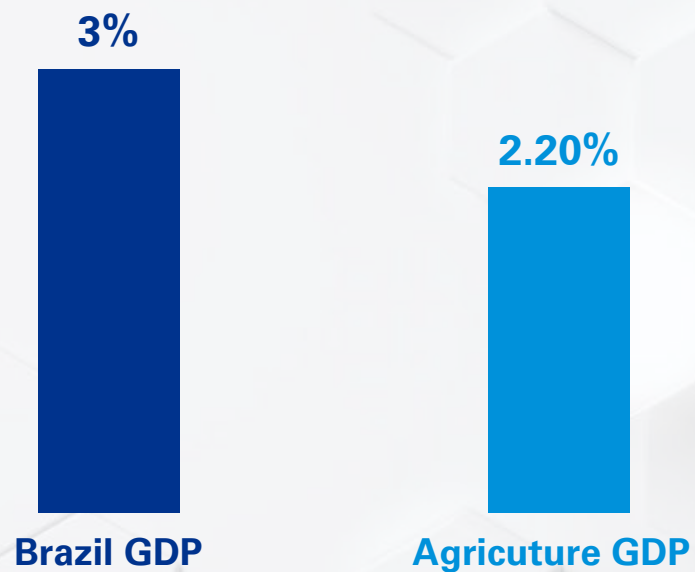


Source: MAPA

Trends






Expectations for Agribusiness Growth

Estimates for Brazil GDP and Agribusiness GDP (2020)



Source: BACEN, IPEA, FIESP

Forecasts for Agribusiness Production Growth in Brazil (2019-2029)

	Corn	Production	51%
		Planted Area	32%
		Productivity	15%
	Soy	Production	44%
		Planted Area	24%
		Productivity	17%
	Beef	Herd Of Cattle	9%
	Pig Meat	Production	35%
	Dairy	Production	39%

New reality

The New Reality in Agriculture in Brazil has been guided by a massive investment in technologies, in order to guarantee competitiveness in production and marketing. Digital technologies have been transforming the traditional value chain into a value network, enabling new ways to produce and sell agricultural products - marketplaces and digital platforms for capturing and insights into data - as well as the development of new products and new business models. The demand for security and traceability technologies has been growing, in a context of consumer concerns about the way food is produced. Good governance and risk management practices still need to be disseminated, particularly in a business environment increasingly driven by ESG. The consolidation of links in the agricultural value chain also characterizes the new reality, with the creation of scale entities. The need to finance growth and the search for capital diversification have been translated into increasing access to the capital market - through structured debt and equity operations, with emphasis on the issuance of bonds linked to sustainability goals.

The pandemic not only amplified the signs of rupture that had been forming in the fuel market for transport purposes worldwide, but also brought structural changes and challenges, as well as opportunities for the sugar and alcohol sector in Brazil. To face the challenges, a radical change will be needed in the way of production, towards the digital transformation of operations, and in the culture of organizations facing innovation in business models. The more advanced the organization is on this journey of digital transformation and innovation, the greater the resilience and the greater the potential for growth in the future (organic and inorganic). At first, this transformation focuses on operational efficiency, cost reduction, product diversification, while the next move will be in data monetization through own or shared ecosystems and, finally, in the management of collaborative digital platforms, leveraging new business models and opening a new horizon for growth. Among the opportunities, the sector's repositioning in the capital markets within the business environment guided by ESG stand



Opportunities and Challenges

Challenges

Global and Local Agribusiness Challenges

Global Agribusiness will have to feed an additional 2.5 billion people over the next 30 years. To do so, commercial animal feed production will need to increase by 70% by 2050, according to estimates by the Food and Agriculture Organization of the United Nations (FAO).

The immediate challenge for agribusiness is to increase agricultural production profitably, given the growing competition for arable land and land use.

In addition to producing more and increasing the profitability of production, it is necessary to do so by meeting the growing demands of end consumers regarding the way the food is produced.

Global Agribusiness will have to feed in the next 30 years:

- **+2,5 billion People**

Commercial animal feed production will need to increase by:

- **+70%**

The use of productive land for agriculture will come under increasing pressure, not only from the demand for more production but from the increasing environmental and ethical demands of final consumers regarding the way in which food is produced. The threat of value destruction caused by negative narratives is growing every day.

Opportunities and Challenges

Opportunities

Agribusiness Value Generation Journey in Brazil

Profitability

- Generating more value on the asset base.
- Precision farming tools.
- Crop-livestock integration.
- Digital and IoT solutions.
- Rethink ownership of fixed assets..

Sustainability

- More production with less inputs.
- Sustainable and efficient management of resources.
- Reduction in the use of water and land, the use of fertilizers, pesticides, and development of biological solutions.
- Adequacy for a low carbon economy.
- Circular economy.

Diversification of Financing Sources

- Increase in Agribusiness Private Financing.
- Dissemination of titles for Agribusiness: CPR Digital, CRA for medium-sized companies in the sector, CDCA for agribusiness.
- “Green” financing.
- Capture of agricultural machinery financing through digital platforms.
- Rural Credit modernization and reduction of bureaucracy - pre-approved systems in digital channels.

New Trust Paradigms

- Agribusiness value network shaped by the perception of consumers and other stakeholders.
- Trust seals - Certifications, trust audits.
- Data/information transparency.
- Cyber security.
- Incorporation of social, environmental and governance (ESG) aspects into business models to meet the growing demands of consumers and stakeholders.

TMT

Telecommunication, Media and Technology

Overview

The telecommunications sector around the world is generally organized around the competition of private entities, regulated and supervised through regulatory agencies managed by the government. Brazil also follows this logic, having practically 4 operators that dominate telecommunications, which are subject to regulation/supervision by ANATEL (National Telecommunications Agency), and operate within a competitive environment, which makes disputes over the price of the services offered frequent. The companies' focus on offering mobile data services and fixed broadband services follows the global trend. In Brazil, telecommunications services are segmented through the acronyms STFC, SeaC, SCM and SMP; there are other segments, but these are the most targeted by the market.

The Switched Fixed Telephone Service (STFC):

Is the service that, through the transmission of voice and other signals, is intended for communication between certain fixed points, using telephony processes. Simply put, it is fixed telephony.

The Conditional Access Service (SeAC):

Is the service, the reception of which is subject to paid contracting by subscribers and intended for the distribution of audiovisual content in the form of packages. It's traditional pay TV. In recent years, this service has been under strong pressure due to the dispute with streaming services such as Netflix, Amazon Prime

The Multimedia Communication Service (SCM):

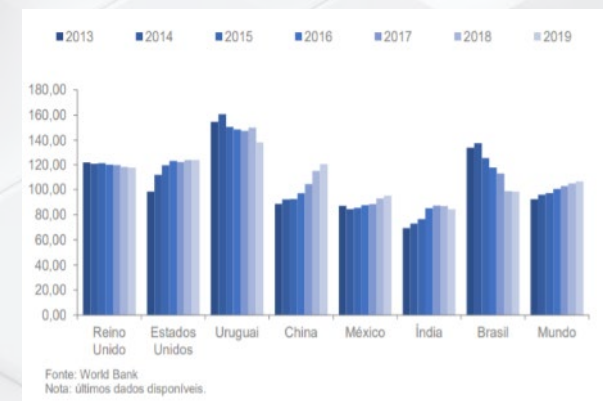
Is a fixed service, provided nationally and internationally, which makes it possible to offer multimedia information transmission, emission and reception capacity, also allowing the provision of an internet connection. These are fixed broadband connections.

The Personal Mobile Service (SMP):

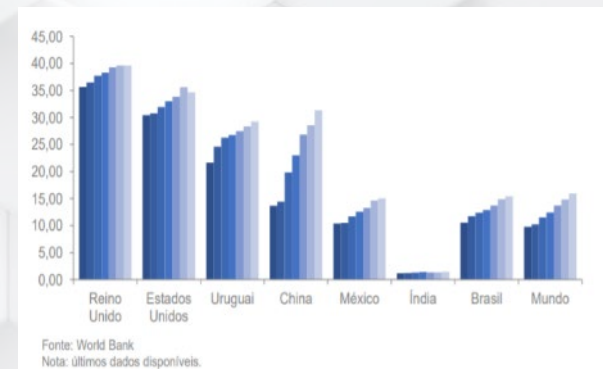
Is the land mobile service that enables communication between mobile stations and from mobile stations to other stations (switching centers). It's cell phone communication. In the near future, this service will be profoundly modified by 5G.

Source: LAFIS

Mobile cell line accesses, per 100 inhabitants - 2013-2019



Fixed broadband line accesses, per 100 inhabitants - 2013-2019



Trends

Source: LAFIS

Businesses in continuous consolidation, transformation and disruptions that challenge brands to maintain the commitment to deliver promises in a differentiated experience for their customers.

- In 2020, the mobile segment presented a reversal of the trend observed in previous years, with an increase in the number of accesses, driven by remote work and study, given the effects of the pandemic. Possibly, this movement was also driven by emergency aid
- In general terms, in 2021 the telecommunications sector should maintain the trajectory already observed in recent years in terms of the number of accesses: expansion in the number of fixed broadband accesses and retraction in the mobile telephony segments (close to stability), TVA and telephony fixed. However, considering an economic scenario of activity recovery in 2021, combined with a more moderate retraction in the number of accesses in most telecom segments and migration to higher value-added services, Lafis projects growth of 0.4 for the year. % of the sector's Net Operating Revenue (NOR).
- In 2021, in addition to the new competition structure expected by the sector due to the consequences of the sale of assets by Oi, there is also great expectation regarding the beginning of the development of 5G technology in Brazil.
- The improvement in the services of "Customer Experience" and "Fraud Prevention" and the consolidation of ISPs across the country are also a topic for discussions on general trends in the sector.

New reality

Focus on High Value Segments

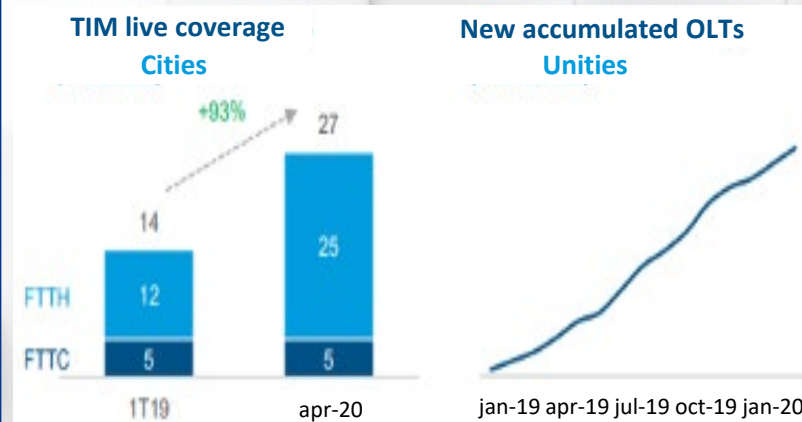
FTTH and 4.5G footprint expansion



“We reinforced our capacity and network quality to be able to handle the higher traffic seen in recent weeks and continue to offer a unique experience to our customers through the best telecommunications network in Brazil, combining the largest mobile internet coverage and FTTH footprint”



- Network expansion raising the potential market (FTTH → +93%)

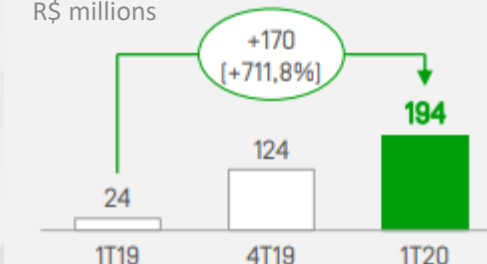


- FTTH Strategy Em Linha:** FTTH growth continued apace, reaching 11.7% of Residential's net revenue

The annual optical fiber Internet revenue growth (170 M) more than offsets the decline in copper-based broadband networks (-120 M) and DTH TV (-27 M) revenues combined (-148)

FFTH Revenue

R\$ millions



New reality

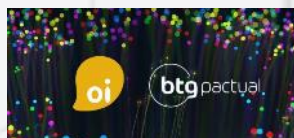
Creation or spin-off of the fiber business of operators in Brazil in partnership with PE investors



Oi closed a binding agreement to sell its fiber optic operation, InfraCo, to a fund managed by BTG Pactual, in a deal that is expected to close in the fourth quarter of 2020 or in the first quarter of 2021.

Binding proposal of funds from BTG Pactual to sell InfraCo's control confirmed. In a relevant fact, the telephone operator said that the proposal has the "right to top", the right to cover an offer in the judicial auction, which does not yet have a date to take place.

The proposal includes BTG Pactual Economia Real Fundo de Investimentos and the submarine cable company Globenet, which belonged to Oi and was purchased by BTG in 2013



"Company will receive proposals from September to form a partnership with interested in building optical access network following TIM Live's expansion strategy. According to the CEO, there is no interest in buying Infraco from Oi."

TIM revealed investment in fiber optic network, named TIM Live Project. According to the company, the idea is to spin-off Live TIM in 2020. The business would already start with revenue, as it would have the fiber network built so far, in 30 cities, and which is used by the operator to connect more than 600 thousand customers with broadband.

In addition to owning this network, the project will have a contract with TIM for the use of the infrastructure and will be responsible for taking FTTH to new cities. According to Adrian Calaza, TIM's CFO, 30 confidentiality agreements have already been signed with those interested in the partnership. Among which, he said, there are investment funds and infrastructure companies that are already operating.

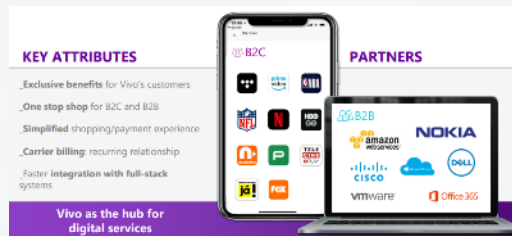
New reality

Digital Innovation

New IoT services, SVAs and multi-sector services, massive low-cost solutions



- VIVO is advancing beyond telco services to become a partner hub for digital solutions



- Develop IoT at scale and monetize verticals**
ConectarAGRO - The only operator in this initiative developing solutions for agribusiness
- New partnership with C6 Bank**
First partnership between a telco and a bank to develop joint solutions
- Mobile Advertising**
TIM Ads test campaign for prepaid customers: reward in data package for video viewing



- Claro + Plug and Play**
Claro joins the global innovation platform to seek new business opportunities with startups
"The partnership with Plug and Play establishes a great ecosystem of collaboration, acceleration and co-creation with startups, mainly in the areas of IoT, Smartcities, connected homes and cars, Industry 4.0, connected agriculture and fintechs"
- Claro's Marketing Director, Marcio Carvalho**
- GM connected car** with 4.5G in partnership with **Claro**
With "Wi-Fi Powered by Claro", passengers can use the vehicle itself as a hotspot to access the operator's mobile internet, without consuming data from the smartphone.

New reality

Transformation

5G, Big Data, Smart city's, 4.0 Agro, 4.0 Industry, automation



- Vivo will invest R\$ 9 billion during 2019. A large part of the resource will be applied to the expansion of 5G coverage in the Brazilian territory. The contribution will be directed to the construction of infrastructure works that enable an expansion of the connection between users.



TIM fears the need for 'additional investments' in calculating the 5G spectrum:

- TIM is afraid that the non-collection bias of the 5G auction may have reservations. In an event of the Lide consultancy on 5G this Thursday, 28, the regulatory and institutional vice president of the operator, Mario Girasole, highlighted that "the devil is in the micro, not the macro", referring to details of the proposed modeling with the Net Present Value (NPV) equation minus obligations to obtain an administrative cost and investment plan for the next five to seven



Oi signs a contract for the sale of mobile assets for TIM, Vivo and Claro:

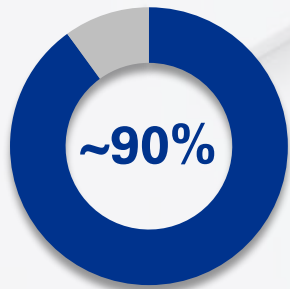
- Oi said in a statement that last Thursday it signed the sale contract of the Specific Purpose Society (SPE) Assets Mobile, to TIM, Claro and Vivo, for R\$ 16.5 billion, of which R\$ 756 millions refer to transition services to be provided for up to 12 months by Oi to purchasing companies



América Móvil Group intends to invest R\$ 30 billion in Brazil over the next 3 years. The investment project includes the development and application of 5G mobile data technology.

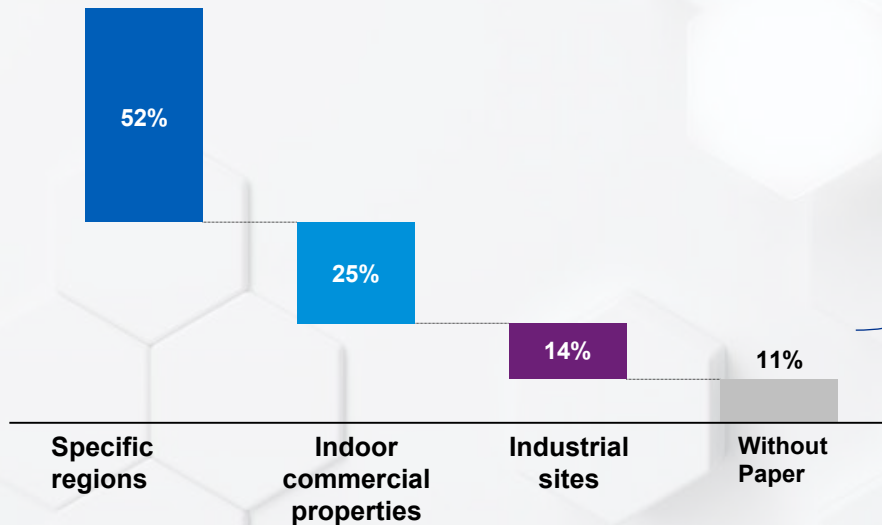
New reality

Opportunity for neutral network player

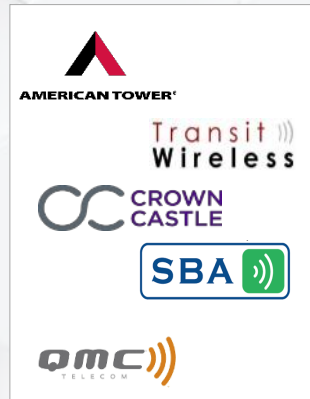


of operators believe that the neutral host will play an important role in 5G adoption

Expected function of neutral hosts



Using a host-neutral infrastructure can help operators roll out 5G more cost-effectively, while also providing better connectivity and productivity



Benefits generated by host neutra infrastructure

- More economical use of infrastructure through higher levels of sharing / utilization
- Reduced network lifecycle costs
- Allows MNOs to improve the quality of service by increasing the number of available points of presence, their network speed and capacity



- Independent neutral hosts are estimated to deliver up to 3x vertically integrated asset connectivity



- Solves space restrictions and facilitates management of obligations by local laws and regulations

Source: McKI, 2018, 5G Survey; 46 operadores

New reality

5G arrival and its opportunities in B2B

"To meet the shift in demand towards data-centric usage, Telco's have split their business into infrastructure and services to "monetize" their assets and disintegrate their business between provision of infrastructure and connectivity services."

Traditional Integrated Model



New Disintegrated Model (Network as a Service)



New reality

Digital Customer and Digital Business

Digital relationship with customers for segments B2C and B2B, RPA and AI / ML, Blockchain

As of March 2020, people and companies had to face an intense process of Digital Transformation. The Covid-19 pandemic forced the suspension of physical store activities and the adoption of internet and smartphone channels to continue selling and relating to the customer.

Among the forms of relationship with the customer are:

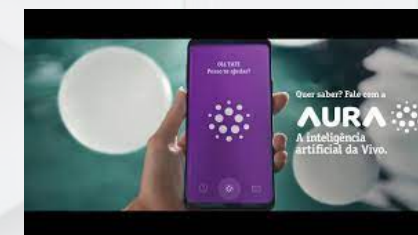
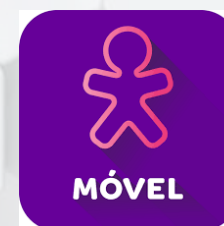
- Data from audios and links
- Hybrid service model
- Home care
- Anticipation of demands
- New role for customer service

The main mobile operators in the Brazilian market (Claro, TIM and Vivo) recorded important advances in digital customer service throughout 2020. Enthusiastic about the model, Anatel, however, still sees transparency and quality challenges to be faced.

According to ANATEL, last year, around 47% of Brazilian consumers contacted operators through digital channels.

In the case of Vivo, the VP of customer experience, Fabio Avellar, revealed that 80% of the interactions received by tele occurred from the Meu Vivo app. The platform would have 80 million contacts a month and about 19 million unique users. "Customers have changed consumption habits very quickly", noted the executive, citing the de covid-19 pandemic as one of the causes.

Contact with customers through artificial intelligence platforms has also grown a lot in recent months, as is the case with Vivo's AURA.



New reality

Competitive Position

Competitive ISPs consolidation

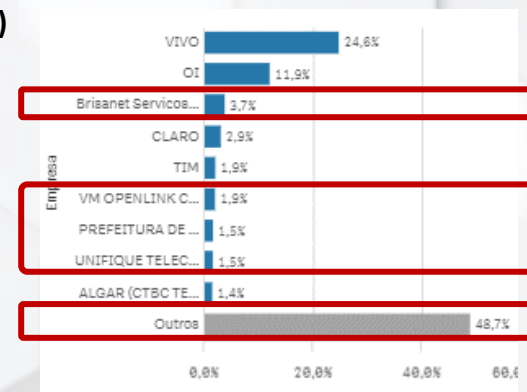
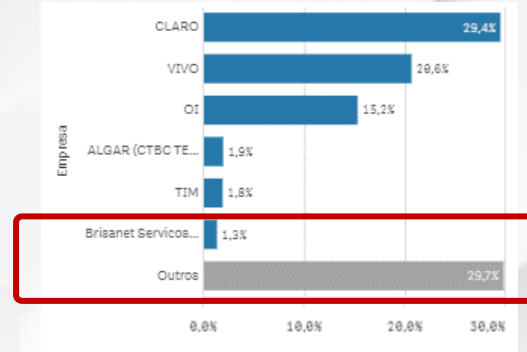
Fixed Broadband (04/20)

(Fibra + Coaxial + Metal cable)

- By 2019, regional Internet providers (or ISPs) have already surpassed large telcos

Fixed Broadband – Optical fiber (04/20)

- A major highlight in the market in recent years, optical fiber Internet accesses (FTTH) have grown strongly by ISPs and other competitive operators



Market Trends

- Oi's repositioning will be on the radar of major world players
- Private equity funds
 - Warburg Pincus, which has a global portfolio of more than \$60 billion and joined this year in the capital of AmericaNet
 - Vinci Partners, a Brazilian manager with over R\$20 billion, formed the operator Vero
 - B Capital, which is booming through its operator, Sumicity
 - The Acon group, which acquired six operators, is still in negotiations with other regional operators
- Consolidators
 - Mob Telecom recently launched debentures, in a demonstration that it has a strong appetite for expansion.
 - The leader, Brianet, decided to adopt an even more aggressive stance: he left the hinterlands of the Northeast to start competing with the big telecoms in the big cities
- Turrets
 - American Tower, which bought Cemig Telecom, and Fênix show signs of further expansion

New reality

Fiber is already a reality in Brazil



- **Brazil has 79% of municipalities served by fiber optic networks, a 9% increase in 2020**

In all, according to a survey carried out by Anatel with companies and associations, there are at least 4,403 municipalities served by fiber in Brazil, which represents 79% of Brazilian municipalities. As a result, 1,167 municipalities are not yet connected by fiber

- **Vivo Signs Billion Dollar Agreement with New Partner to Expand Optical Fiber**

Canadian fund pays R\$1.8 billion for a 50% stake in FiBrasil, which will expand fiber outside the state of SP

- **Optical fiber connecting Brazil and Europe always operating in June**

The Ministry of Communications (MCom), in partnership with Telebrás, provided the first investment to make the project feasible, whose conclusion was in charge of the company EllaLink. The implementation of the infrastructure prepares Brazil for the very high speed internet that will be offered by 5G, as fiber optics is one of the infrastructures that support this new generation of telephony. The initiative, promoted by the MCom, results in improvements in all telecommunications platforms.



New reality

New Laws and Regulations

LGT, LGPD and PLC79

General Telecommunications Law (LGT)

In December 2019, President Jair Bolsonaro sanctioned the new text of the General Telecommunications Law (LGT). The rules in force so far had not changed since 1997.

Fundamental principles:

- The guarantee of access to telecommunications for the entire population, at adequate prices and quality;
- The freedom of choice for consumers, who should have the greatest access to information and access to the service by them, should not be discriminated against by service providers;
- Consumers have the right to respond to complaints and repair their lines of communication by providers;
- Public authorities need to encourage the expansion of communications networks;
- Strengthening the regulatory role of the State in the sector;
- Public authorities have a duty to encourage competition and diversity in the provision of telecommunications services.

LGPD

- The General Data Protection Law entered into force on September 18, 2020 and regulates the processing of personal data by public and private companies. With this, any company that includes in its database information about its customers, no matter how basic it is — such as name and email—, must follow the procedures of the new law.
- Due Diligence, data security, governance, certification and auditing are among .

PLC79/RBR

- Controversial topic boosted by the proximity of the end of concession contracts

Main Changes:

- Review of new investments in broadband
- New calculation of reversible assets" of the concessionaires and that would revert to the Federal Government
- Authorization to create a secondary spectrum market, in which private companies may sell or lease frequencies
- Fixed telephony commercial offers in areas without competition
- Allows for successive renewals, by the same operator of frequencies.

Consumer and Retail



Overview

The consumer and retail sector is a major driver for the country in terms of investments, growth and transformation of the business environment, directly related to socio-economic development.

In 2020, the beverage and food segment had revenues of R\$789.2 billion, representing 10.6% of GDP and 24.2% of jobs in the manufacturing industry. Online sales registered a record increase in 2020 of 68%, according to data from the Brazilian Association of Electronic Commerce (ABComm), in partnership with Neotrust, reflecting the restrictive measures to close physical stores due to the pandemic, which consequently, the number of companies that decided to enter e-commerce increased. It is also estimated that 20.2 million consumers made a purchase on the internet for the first time in 2020 and 150 thousand stores also started selling through digital platforms. There were more than 301 million purchases over the internet, with an average value of R\$419, according to the balance sheet.

South America, like other regions, is facing unprecedented challenges due to the crisis caused by the new coronavirus. On the other hand, one of the effects considered of the current scenario has been the acceleration in the adoption of digitalization, as well as the acceleration of different changes that, although gradual, were already taking place before the outbreak, transforming supply and demand in several areas.

In this context, we see an excellent opportunity in the South American market, as the pandemic boosted transformation processes, thus shaping a new market. Given this situation and, mainly, because of the speed with which it requires changes, the evolution of the business model, the purpose, customer choice and the weight of operating costs represent trends, whose role is crucial in the strategic pursuit of retail companies and consumer goods for remaining solid, sustainable and well positioned in the market.



Overview

To understand COVID-19's lasting impact on consumer needs, behaviors and preferences, KPMG International sponsored the “Consumers and the new reality” survey, with more than 75,000 consumers in 12 markets in six distinct waves over 4 months .

In addition, we are in the 3rd Edition of the study “Me, my life, my wallet,” carried out with 18,000 consumers, with the objective of understanding consumer trends during the Covid-19 pandemic. Global data reveals that 81 % of respondents are currently shopping more online, while 58% are using technologies other than what they were used to. Many consumers who were not yet used to e-commerce also needed to change old habits. Those already shopping online have expanded their digital presence: 44% of respondents to the global study reported that they are using more and more varied technologies.

From a Brazilian perspective, the vast majority (94%) of consumers who changed their shopping behavior during the pandemic intend to continue using e-commerce sites, online platforms or market places going forward. Due to the pandemic, the jump in online shopping was 81 % in comparison between 2020 and 2019.

The survey also revealed that nearly half (53%) of Brazilian consumers consider compliance with the rules of the General Data Protection Law (LGPD) a priority in online relationships. Another data is that a third of them (31%) updated their social media privacy settings before the pandemic, a percentage that increased to 38% afterwards.



4 Global Macro C&R Trends



New Business Models and Associations

- The restrictions and changes imposed by the pandemic have forced companies to rethink their existing business, channel strategies, employment contracts and partnerships;
- Technology adoption has accelerated like never before, pushing the industry towards digitization with little time to learn;
- The platform ecosystem and omnichannel strategy are driving the evolution of the industry's business model.



Rethink the cost of doing business

- The increase in digital commerce and the restrictions imposed, added to a consumer who seeks differentiated experiences, further pressured the profit margins in the sector;
- The last mile is one of the most expensive stretches of logistics and puts even more pressure on margins in digital commerce, in addition to being the stage where most bad consumer experiences happen;
- The cost of doing business is increasing and traditional reduction actions are not enough, making it necessary to look for other options.



Demonstrate Purpose

- Purpose is a concept that goes far beyond profit or even corporate vision and mission, as it supports not only owners and shareholders, but also employees and society as a whole;
- Consumers value not just the product or service, but the experience the brand provides throughout the shopping journey;
- Consumer relationships are based on trust and "purpose" is one of the generative pillars.

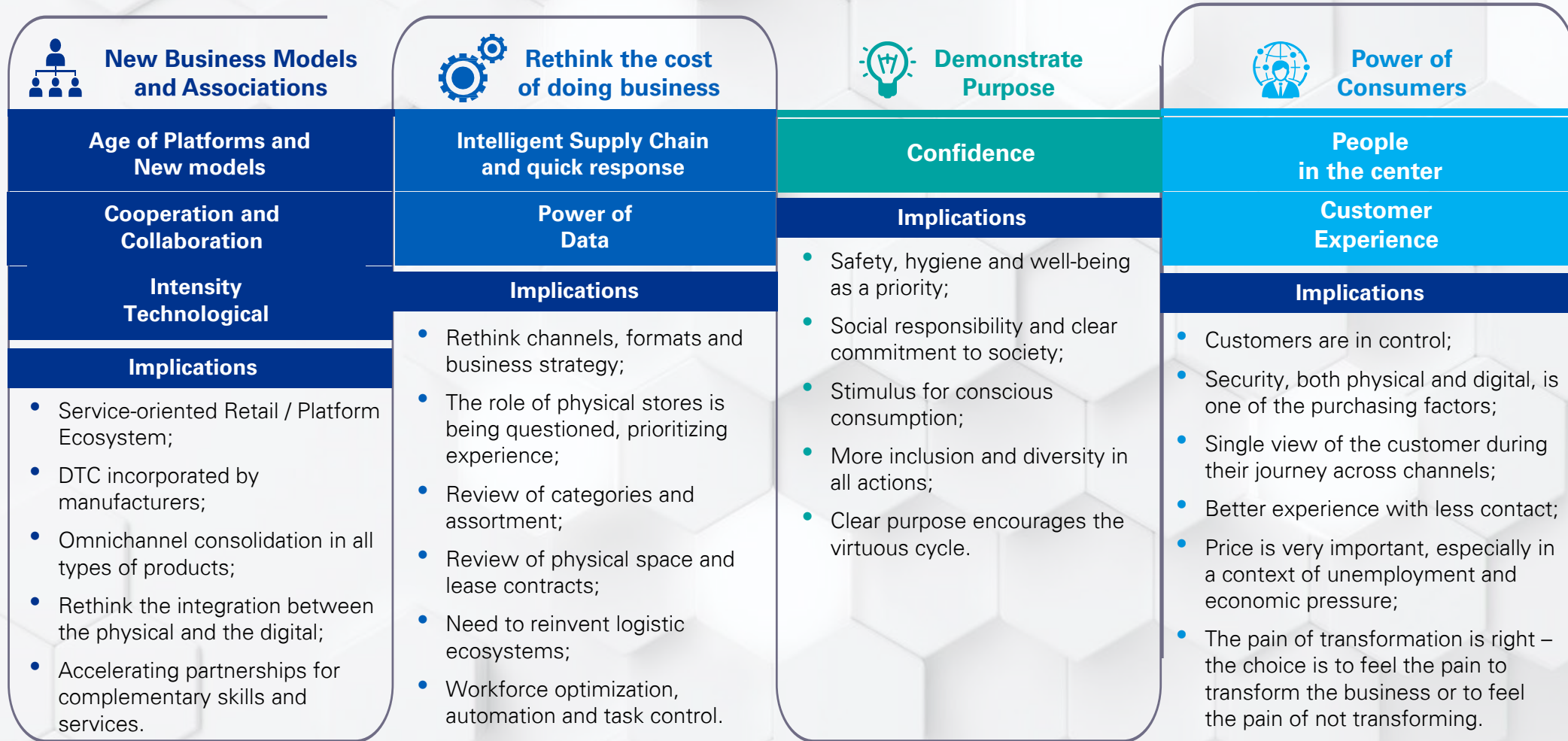


Power of Consumers

- Consumers are still very demanding and demanding, seeking to save, but without reducing their purchasing power, resulting in greater complexity to deliver with limited capital and resources;
- Consumer choice power is growing exponentially, making it a real challenge for retailers to be relevant and retain their customers;
- Retail is moving very quickly from a push (B2C) to a pull (C2B) model.

Source: KPMG – NRF 2019, 2020 e 2021

Macro Global Trends in South America



Source: KPMG – NRF 2019, 2020 e 2021

South America Trends

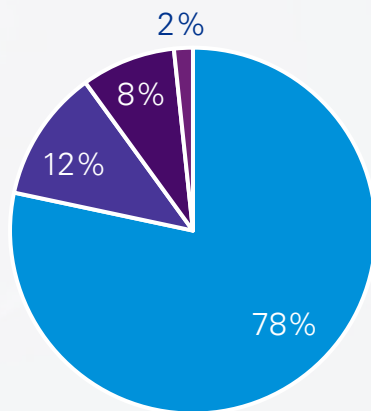
People in the center	Confidence	Customer Experience	Cooperation and Collaboration
<ul style="list-style-type: none"> • Safe retail focused on employees and customers; • Constant training of professionals, with a focus on digitization; • Agile methods for project delivery; • Processes that make life easier for the customer and make interactions (payment, receipt, exchange, problem solving, etc.) fluid. 	<ul style="list-style-type: none"> • Safe retail – Physical and Digital; • ESG - Real concern with reputation, brand and sustainability; • Inclusion and diversity drive the purpose; • Conscious Consumption: Circular economy, with popularization of reuse and sharing; • Fulfill what was promised. 	<ul style="list-style-type: none"> • Best experience regardless of the form of contact; • Price is very important, especially in a context of unemployment and economic pressure; • Analytical tools understanding new consumption habits; • The power of influencers online and on TV shows; • Dark Stores enabling virtual product demonstrations; • Services influencing the experience. 	<ul style="list-style-type: none"> • "Together we are stronger", especially during the pandemic, tends to remain in the post; • Collaborating with other companies, including competitors, strengthens the segment, the market and the economy; • Proximity retail: small retailers, neighborhood stores, gained prominence and tend to remain relevant.
Intelligent Supply Chain and quick response	Age of Platforms and New models	Data Power	Intensity Technological
<ul style="list-style-type: none"> • Optimization of the Supply Chain, greater efficiency and effectiveness made possible by Digital Transformation and Process Automation (RPA); • Deliveries where, how and when the customer wants; • Diversity in Contactless Delivery: Curbside pick up, BOPIS and BORIS; • Dark Store consolidates itself as a last mile enabler. 	<ul style="list-style-type: none"> • As a Service Platform; • Frequent subscription and replacement; • Physical retail supporting digital retail and vice versa; • Rent becomes an alternative in some categories; • First exchange with free shipping. • D2C 	<ul style="list-style-type: none"> • Data paradox - Willing to share their data, "SINCE" they gain something in return and do not have their data exposed; • Data as a strategic driver; • Use of real-time data from the digital and physical journey, in compliance with LGPD; • Prediction as a way to expand business and gain relevance with the consumer. 	<ul style="list-style-type: none"> • Technological architecture as an enabler of digital retail; • Connectivity enabled by 5G; • Smart stores; • Cyber security for secure digital retail; • IOT inserted in the consumption journey.

Source: KPMG – NRF 2019, 2020 e 2021

New reality

Corporate digital transformation in Consumer and Retail and the impact the pandemic has had on progress

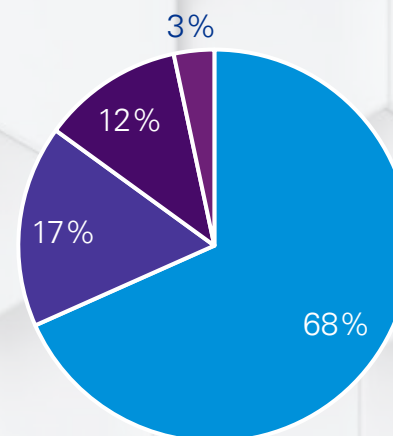
Digitizing operations and creating a next-generation operating model:



- Progress accelerated in a matter of months
- Progress has accelerated dramatically, putting us years ahead of where we expected to be
- Progress is the same as before the pandemic
- Progress expired

Source: CEO Outlook 2021

Creating new digital business models and revenue streams:

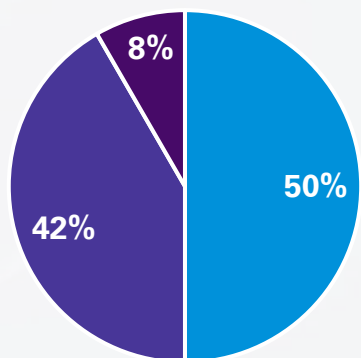


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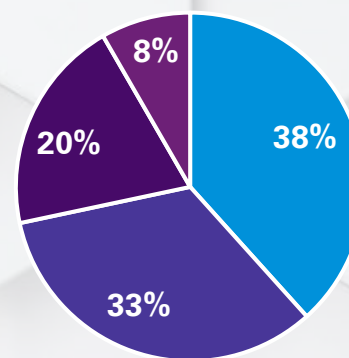
Creating a seamless digital customer experience



- Progress accelerated in a matter of months
- Progress has accelerated dramatically, putting us years ahead of where we expected to be
- Progress is the same as before the pandemic

Source: CEO Outlook 2021

Creation of a new workforce model, with human workers augmented by automation and artificial intelligence



- Progress accelerated in a matter of months
- Progress has accelerated dramatically, putting us years ahead of where we expected to be
- Progress is the same as before the pandemic
- Progress expired

Digital experience

69%

Since COVID-19, consumers are buying more online with 44% using different technologies, for example, mobile apps or voice activated devices

38%

Consumers consider it very important for a company to have a website, with 31% considering e-commerce / online shopping and access to web chat with a very important person for 29%



26%

Have application availability



15%

Voice interaction



12%

Artificial cognitive intelligence, for example, interactive robots in the store



22%

Digitized physical experience, for example, mobile phone that can be used interactively in the store



13%

Augmented or virtual reality, for example, in-store headphones



11%

Chat on the web with a robot

Source: Me, my life, my wallet – 3º Edição

Opportunities and Challenges

Challenges:

- **Food and Pharma Retail:** The search for essential items even generated price increases, which led the segment to reduce promotions. With the gradual reopening of stores in malls, this segment returned to normal faster than the others, which makes it stronger. The reduction in purchasing power remains a concern.
- **Online retail:** Tremendous acceleration of the digital channel, with new entrants every day. Urban logistics and cybersecurity advanced, but at a slower pace.
- **Retail - Other Segments and Food Service:** It was the most affected by the closing of stores, which forced the segment to follow a path of accelerated adoption of digital to continue with its business, strongly encouraged by promotions. With many people at home, the home became the new center of coexistence, which ended up boosting the consumption of electronics, construction and decoration materials, making these segments stand out, coming out of the crisis stronger and more digitalized.
- **Food and Beverage / Hygiene:** Consumption in homes was not enough to compensate for the loss of revenue with the closing of restaurants and bars. Conscious and healthier consumption habits have led to changes in the portfolio and portion sizes. To mitigate risks, alternative sources for imported raw materials were developed.
- **Consumer Goods - Cyclic:** Adjustments were made at the beginning of the crisis, in which a less optimistic scenario was planned. The recovery was better than expected, even leading to a shortage of raw materials, making it necessary for companies to replan their strategy. It advanced the development of local suppliers, as well as positive actions to face the crisis on behalf of society.
- **Consumer Goods – Non-Cyclic:** With the focus of consumers on essential products, it was one of the segment that worked very hard on pricing and promotion strategies to encourage sales.

Source: KPMG – Nova realidade Covid-19 após 1 ano

Opportunities and Challenges

Opportunities:

- ESG - Real concern with reputation, brand and sustainability;
- Technological architecture as an enabler of digital retail;
- Cyber security;
- Urban logistics, focusing on the "Last Mile" (BOPIS, BORIS, BOPAC)
- Mini Hubs and Dark Stores, enabling last mile;
- Prediction to gain relevance with the consumer;
- Training focused on digitization;
- Reformulation of loyalty programs;
- Intensive use of platforms;
- Advance in the adoption of digital payments;
- Physical retail supporting digital retail and vice versa;
- Data intelligence, generating customer service customization;
- Application, Mobile and WhatsApp enhancing e-commerce;
- Video, social media and influencer-driven app purchases;
- Increased service via chatbots, especially for FAQ;
- Dark Stores using virtual and augmented reality for better visualization of products;
- New exchange and return policies - First exchange with free shipping;
- Adaptation to enable voice research; Shopping Clubs or Subscription Services - Frequent subscription and replenishment;
- Accelerated advancement of digital payment methods;
- Manufacturers increasingly present in digital commerce through D2C (Direct To Consumer);
- Age of Platforms - Anyone who is not a platform has joined one.

Source: KPMG – Nova realidade Covid-19 após 1 ano

Beverages



Overview

The sale of alcoholic beverages continues to rise in Brazil, maintaining the trend registered since the beginning of the pandemic. Growth is leveraged by the so-called off trade sector, which includes supermarkets, stores and retail in general, as consumption migrated from bars and restaurants (on trade sector) to households when social distancing measures began to be adopted in Brazil.

According to the Brazilian Association of Beverages (ABRABE), the segment's revenue in 2020 reached BRL 141.1 billion, against BRL 137 billion in 2019, representing 1.9% of the Brazilian GDP. Beers represent about 90% of the volume consumed in the country. The enormous evolution of e-commerce accelerated the process of rising numbers.



Trends

Source: KPMG – Nova realidade Covid-19 após 1 ano

Business models and partnerships

- Customer demands and channel usage have evolved in recent years, resulting in greater complexity to deliver with limited resources and capital
- Retailers will need to reconsider their business models and consider partnerships to stay relevant

Declining Margin and Productivity – Cost of Doing Business

- With today's disruption and today's technology and talent gap, retailers need to evolve over time or fall behind
- The cost of doing business is just rising while profit margins are shrinking, so costs need to be radically rethought.

Purpose and reputation – Sustainability and greater purpose

- If retailers cannot articulate why they are in business and what they stand for, they will increasingly lack the legitimacy to exist as a business

Customer Power

- If retailers don't know who their customers are and why they want to interact with your brand, they're likely to disappear
- Retail is moving from a push (B2C) to a pull (C2B) model



New reality

Source: KPMG – Nova realidade Covid-19 após 1 ano

Food safety

- Consumers concerned about the origin of products (traceability)
- Reputable brands - security and credibility
- Consumption “IN-HOME” x “OUT-OF-HOME” – reversal of trends and increased consumption at home.

Conscious consumption

- Growing food awareness – healthier choices
- Social and environmental concerns - ethical and sustainable brands
- Favor traditional brands and/or brands with sustainable appeal – which protect the environment, support social causes.

Connected Consumer

- E-Commerce - Enabling convenience and safer shopping (vs physical retail stores).
- Last-Mile and Agile – enable deliveries in time and conditions acceptable to the desires of the “new” consumer. E.g.: Zé Delivery
- Advocacy in Social Media - opine, consult services or brands on social networks

Value For Money

- Increasing Financial Constraints - Possible and Right Choices
- Planned Purchases vs. Impulse Purchases
- Higher volume x value products – Family size / multipack / promotional packagings etc.
- Indulgence x value for money

Purpose Brands

- Brands that convey purpose and adapt to multicultures / new generations / diversity
- Brands that support environmental causes and are protagonists in protecting the environment
- Brands that promote social inclusion and support social causes

Opportunities

Opportunities

- **Customer Centricity** - Knowing consumer habits (B2B and B2C) and knowing when and what to offer (data, experience...)
- **Multichannel Journey** - Customer can place orders, interactions in different channels. Start a request on one channel and follow on another. (Omini-Time-In-Full)
- **Availability and Visibility** - B2B x B2C deliveries within 1 hour and that allow for traceability (where and with whom is my order?)
- **Predictive S&OP** - based on AI, Responsive SCM & Control Tower
- **Digital Transformation** - technology as a strategy, both to obtain greater efficiency (digitalization) or improve customer relationships, as well as to create new ways of generating value.
- **New Business Models** - D2C & Digital Shopping Clubs
- **New Models Enabler** - M&A or partnerships to enable Last-Mile, Diversified Delivery Models (Ex.: UBER / Zé Delivery, Individuals on the go - etc.)
- **Inorganic Growth** - M&A, considering IVD and ESG
- **Financial Transformation** - open banking, adoption of new Digital and Facilitated Payment Means (Touchless / Pix) + financing of the supply chain and traditional points of sale
- **ESG Mindset** - packaging, supply chain, waste, fair labor in the entire chain, diversity in the team
- **Collaborative mindset** - customer oriented / maturity and correct attitude without prejudice to results (startup communities, new partnerships)

Source: KPMG – Nova realidade Covid-19 após 1 ano

Challenges

Challenges

Increase growth

- Invest in high-growth categories and geographies
- Invest in strategic areas such as:
 - E-business, including digital marketing and e-commerce
 - "Award"
 - D2C (direct to consumer)
 - Adjust units/categories with low performance
 - Manage portfolio, disinvesting in underperforming or non-essential businesses and acquiring core strategic businesses

Improve margins

- **Reduce** costs in all areas of manufacturing, procurement and administration (optimizing production, leveraging scale in acquisition, simplifying and standardizing processes).
- **Increase operational efficiency** by adapting the group's organization to be more agile, simple and digital.
- **To drive agility**, further empower markets and zones, increase accountability, improve decision-making and encourage calculated risk-taking.
- **Being digital**, increasing skills and developing digital platforms.

Prudent capital allocation

- **Invest in growth levers** in the form of investment in R&D, brand support and capital expenditure to support profitable organic growth, with a strong focus on working capital
- **Exercise discipline in acquisitions.** The goals must have a good strategic and cultural fit with our organization, offering attractive financial returns
- **Return to shareholders** through an increase in dividends and regularly return surplus cash to shareholders through share buybacks

Source: KPMG – Nova realidade Covid-19 após 1 ano

Infrastructure



Overview

Inadequate infrastructure has been widely seen as one of the main impediments to development in Brazil.

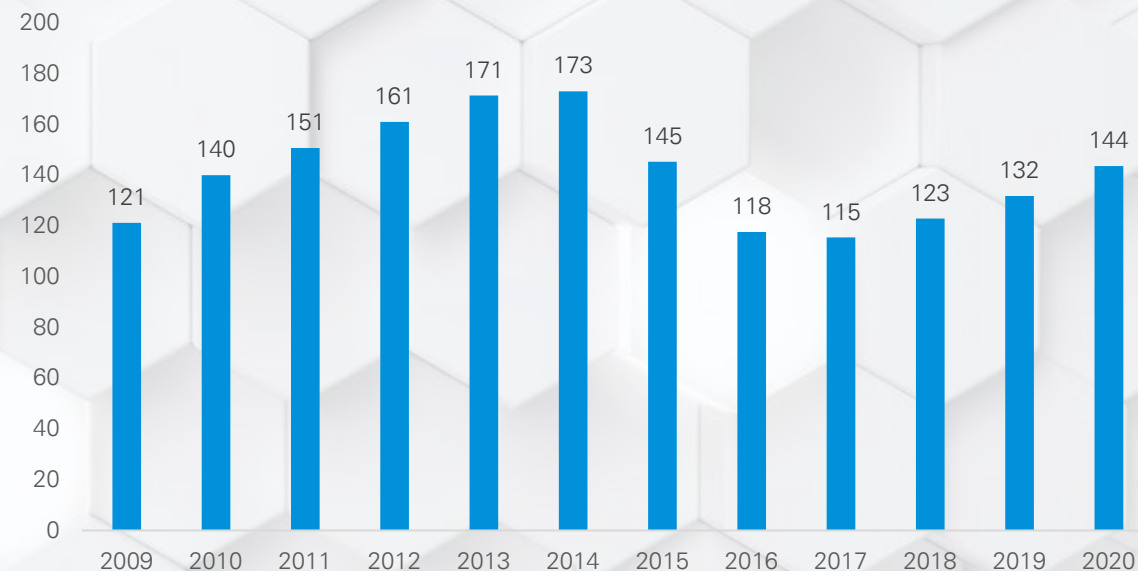
Brazilian GDP and Infrastructure

1,86% Investment of GDP between 2008 to 2019 in Infrastructure

2% Estimated to cover depreciation and maintenance of assets

4% Required level for sustainable development

Evolution of Investments in Infrastructure
(In constant values updated by IPCA 2018. In R\$ billion)



Sources: ABDIB (2019 e 2020), Banco Mundial

Overview

| Building & Construction

- For 2021, there are a series of expectations for the government to implement legal reforms, privatizations and new regulations capable of boosting the economic recovery through works to improve the country's infrastructure conditions.
- The concessions of public assets to the private sector should yield the country around 260 billion in infrastructure investments by the end of 2022, with large-scale auctions in 2021 and 2022, being the concession of extreme importance to leverage investments in infrastructure in Brazil . Infrastructure Minister Tarcício de Freitas stated that the economic impacts will not be immediate, but it can be projected that in the years 2024 to 2026 Brazil will become a major “construction site”

Source: Portal da Industria e Agência Brasil

Brazilian infrastructure in 2020



R\$31 billions
in investment



86 public works
completed.



1.200km
paved highways

Sources: ABDIB (2019 e 2020), Banco Mundial

Overview

I Building & Construction

- Brazil, which still occupies the position of No. 78 among 141 countries in the infrastructure ranking of the Global Competitiveness Report of the World Economic Forum.
- With the reduction of the infrastructure stock from 58.3% in 1984 to 36.1% of GDP in 2019, the Brazilian index is now half the world average.
- In addition to reducing investments and reducing the number of infrastructure works, the Covid-19 pandemic brought to everyone the need to adopt efficient and transformative measures in a very short period of time.
- In the heavy construction-infrastructure industry, there are currently more than 2 million workers with a formal contract and directly moving 62 segments. With a very high percentage of formalization, heavy construction stands out for its socioeconomic role, and for every R\$1 million invested, it multiplies 1.4 times, generating 34 new occupations and more than R\$514,000 in salaries over a period of one year.



Sources: ABDIB (2019 e 2020), Banco Mundial

Overview

Ports and Navigation

- Due to the production of agricultural commodities, the sector is driven by growth. The Covid-19 pandemic did not negatively impact the volume handled by the national ports and Private Use Railways.
- The sector's recent cost increases are expected to pressure the price of freight with a view to expanding the sector's revenue.



Sources: ABDIB (2019 e 2020), Banco Mundial

Overview

| Road transport

- The transport and urban roads sector should concentrate investment intentions (48.3%), followed by the energy sector (20.9%) and industry (26.9%), the latter driven by planned contributions in the area of paper and cellulose.
- Judicialization of contracts to release the continuation of works, economic-financial rebalancing of contracts and/or return of Concessions. Repositioning of opportunities in sectors that will receive greater support from the Government, as instruments for economic recovery in the short and medium term. Digital Solutions will advance faster towards modal integration and creation of new business models.

| Air Transport

- Brazilian air transport is focused on passenger transportation and has expanded in recent years, becoming as popular as road transport. For cargo transportation, the Federal Government is studying ways to encourage the use of this modal.
- The pandemic in Brazil affected airport concession contracts. The significant drop in demand, variation in exchange rates, scarcity of products were some of the challenges faced by the sector in 2020. Sand companies, market leaders, reported losses of around R\$6.2 billion.

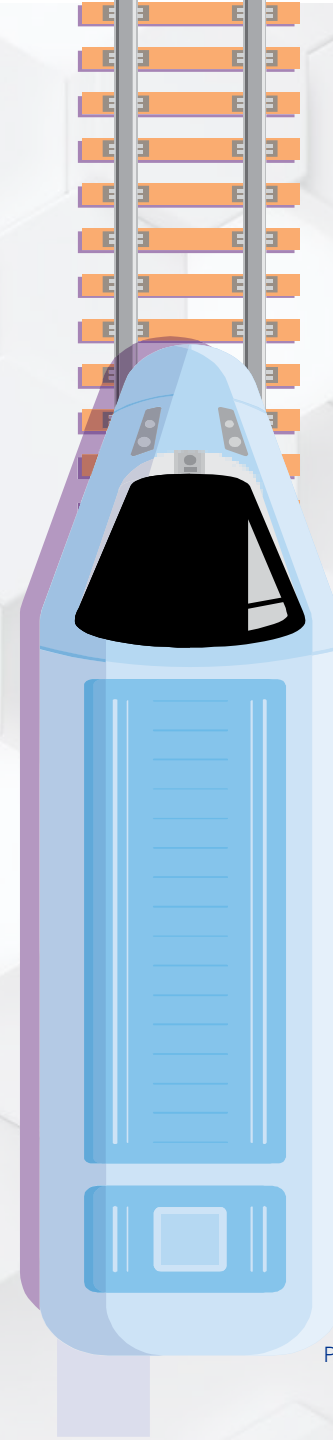
Sources: ABDIB (2019 e 2020), Banco Mundial

Overview

Rail transport

- In Brazil, road transport represents the majority of land transport, with road freight transport holding 60% of the total volume transported between all modes. In this sense, Brazil stands out as a country with a large network, however, due to its territorial extension, the availability of road infrastructure available in Brazil is still limited.
- The volume of cargo handled in containers on Brazilian railways grew by more than 20% in November 2020.
- Containerized cargo has greater added value and the change demonstrates the confidence of the private sector in the country's economic growth. The increase in demand for such products is directly related to the resumption of economic activities.

Source: EPL e ANTT, 2021



Trends

Building & Construction

- Even with an unfavorable political and economic scenario, investments in infrastructure and industrial works in Brazil should total 71.2 billion reais in the period 2021 to 2026 - an estimated growth of 24.7% compared to the period 2020 to 2025.
- The works of wind farms, thermoelectric plants, subways and highways concentrate the majority of investments.
- Even during the coronavirus crisis, governments did not cancel or postpone large projects, which helps to understand the growth in numbers even in an adverse scenario.

Source: Exame, Sindipesa e Agência Nacional, 2021

Trends

Air Transport

- Consolidation of airlines,
- New generation aircraft, which consume less fuel, this will lead to the removal and reconfiguration of the fleet in the sector. Some types of aircraft will be converted to cargo transport.
- Operational Flexibility: the flight scheduling window changed to six to eight weeks (prev.
- es of the pandemic was from six to eight months).
- Rise of leasing, due to the financial impact of the pandemic on the airline industry, the share of leasing companies in the global fleet is expected to exceed 50%.

Source: Aeroin, 2021

Sea transport

- Decrease in container shortages
- Increase in commodity exports

Road transport

- Investments in new technologies and training of the segment's workforce.
- The popularization of e-commerce and the increase in commodity exports will positively impact the segment.

Source: MundoLogistical, Funcional Consultoria, 2021

Trends

Rail transport

- The volume of cargo handled in containers on Brazilian railways grew by more than 20% in November 2020.
- The increase in demand for such products is directly related to the resumption of economic activities.
- A strong trend for the segment is the concession of railways, such as Ferrogrão (under construction) and Fiol.
- According to the Minister of Infrastructure, Tarcísio de Freitas, the construction of Ferrogrão, a 933 km railway project between Sinop (MT) and Miritituba (PA), will transport most of Mato Grosso's grain crop after 9 years of concession. The auction is scheduled for the 3rd quarter of this year.
- When it is ready, Ferrogrão will absorb all the load on that axis, according to technical studies. It is expected to reduce the freight cost from US\$120.00 per ton to US\$80.00 per ton. The construction of the line will take five years.
- FIOL had approved two stretches of concession to the private initiative, and an investment of R\$9.8 billion is expected.
- The Federal Government plans, in 2021, to renew, for another 30 years, the contract with the railway concessionaire MRS, which operates in the Southeast region. The concessionaire is responsible for one of the country's railways with the highest productivity and links three important states, which are Minas Gerais, Rio de Janeiro and São Paulo.

Source: EPL, Pode 360, ANTT, e Governo do Brasil, 2021

New reality

I Building & Construction

- Habit Change – Clients will look to make their real estate platform more flexible as an action to mitigate uncertainty: increasing demand for new workplace designs that include more digital, flexible and healthcare-oriented workspace solutions. Exchange of large urban centers for more spacious residences, as the home office consolidates itself as a viable alternative to face-to-face work.
- Greater allocation of capital, by the consumer, in real assets, as a reaction to an environment of low interest and earnings uncertainty: the Capital Structure of businesses will consider not only the availability of capital to face the opportunities, but the inflow of new partners that bring competitive advantages to a new reality.



Source: ABDIB (2019 e 2020), Banco Mundial

New reality

| Transports

- Passenger transport: greater integration between public transport (bus, metro, train), private (taxi, UBER) and micro-mobility (bikes and scooters)
- Cargo transportation: greater integration of logistics companies with delivery companies to meet the growing e-Commerce, due to the change in consumption habits.
- Concessionaires: economic-financial rebalancing of contracts and new ancillary revenues to offset losses with a permanent reduction in demand
- Logistics: focus on Digital solutions and new business models. Possible consolidation in the market due to new digital platforms.



Source: ABDIB (2019 e 2020), Banco Mundial

Opportunities

Building & Construction

- The Government's needs in carrying out the construction of public works guarantee the sector a certain level of demand.
- Forecast of large-scale works such as the São Paulo Metrô - the extension of the Green Line 2 to Penha -, which is authorized by the state government and is expected to be delivered between 2025 and 2026.
- Projects such as the Metrô Mets Orange line and large industrial projects in the pulp and paper area, which continue to drive investments in this sector.
- 14% increase in investment intentions announced for the period 2021 to 2026, totaling R\$ 882.3 billion. Despite the expressive numbers, only 8% of these works in the design and intention stage have a start forecast - a percentage that has increased over the years -, which means that the amount of investment at stake is real, but execution depends on will, political priority and strategic planning.

Source: Exame, 2021

Opportunities

Building & Construction

- Infrastructure-oriented ESG practices: In addition to the external social and economic benefits already presented, the adoption of ESG practices in infrastructure projects can facilitate the financeability of these projects.
- Investment Partnership Program (PPI) of the federal government: strengthen the integration between the State and the private sector, offering concession projects that develop the national infrastructure and improve the provision of services to the population. It is essential to promote a favorable business environment in the country, with transparency and legal certainty. Hence the importance of approving projects for new regulatory frameworks for the sector, such as the legal framework for sanitation.

Source: Exame, 2021

Opportunities

Air Transport

- Due to the reconfiguration of the fleet, large aircraft will be used to transport cargo, which, thanks to the growth of e-commerce, will be boosted.
- The restructuring of the flight schedule, which went from six to eight months, to six to eight weeks, allows airlines to be more agile in reacting to socio-political changes.
- Leasebacks, as an immediate source of financial resources.
- Use of AI to improve passenger confidence and improve the flying experience.

Source: Exame, 2021

Road Transport

- Concession of highways tends to improve the quality of infrastructure, impacting on increased safety, reduction of store bottlenecks and corrective maintenance of the fleet.
- Popularization of Logistics 4.0 among carriers.

Ports and Navigation

- Infrastructure concession projects will offer higher rates of return, in order to stimulate business interest in the sector

ENR

Energy and Natural Resources



Overview

The Energy and Natural Resources sector in Brazil – represented by the electricity, oil and gas, public utilities (sanitation, gas distribution, etc.), renewable energy, mining and metals and chemical industries – represents approximately 25% of the national GDP . In addition, they are sources of economic and social development in the country and Revenues amount to approximately R\$230 million.

Source: KPMG – Nova realidade Covid-19 após 1 ano

Trends

The ENR sector has the following general trends:

- Digitization and automation of the operation for operational excellence.
- ESG / Risk / Governance.
- Infrastructure sharing / New business / Additional revenue.
- Cyber security at the “front-office”.

In addition to general trends, trends are also identified by each segment:

Power & Utilities

- Impact on demand with the possibility of retraction;
- Risk of increased default with the 3rd wave;
- Impact on energy tariff (increase)

Chemicals

- Opening up of the gas market in Brazil can boost the sector;
- Great dependence on other sectors (automotive, hospital, etc.);
- Reduction in the use of installed capacity, which was already at low levels in previous years.

Renewables

- ESG driving investments in renewable energy;
- Market transformation, resilience, innovation and collaboration.

Metals & Mining

- Increased demand in recent months and the price of mineral commodities;
- Expansion of debates on health, safety and the environment

Oil & Gas

- US and China Geopolitics;
- Fall in fossil demand;
- Resumption of projects;
- Increase in pre-salt production;
- Medium-term barrel price returning to normality.

Source: KPMG – Nova realidade Covid-19 após 1 ano

New reality (by segment)

I Electricity

- **Business Model:** Expansion of platforms linked to the sale of financial solutions linked to energy contracts.
- **Operational Model:** Modernization of management, including digitization and automation of operations and administration.
- **Consumer Habits Changes:** Growing focus on energy efficiency, greater free market share.
- **Lean Strategy:** Impact for large generators.
- **Collaborators:** Boards with more analytical profiles and market vision.
- **Capital Structure:** Investment alternatives in renewable assets in alignment with the energy transition.
- **Risk Management:** Growing concern with cyber, business (climate, regulatory, ESG) and market risks.

I Public utility (sanitation, gas and energy)

- **Business Model:** Creation of new businesses with added value service to customers.
- **Operational Model:** Expansion of electronic measurement, adoption of digital twins and improvement of consumer interface.
- **Changes in Consumers' Habits:** More aware consumers, demanding in relation to the level of service
- **Lean Strategy:** More centralized structures and remote operations
- **Collaborators:** Professionals with a "client centricity" and intrapreneurial vision
- **Capital Structure:** Trends to Growing Cross-Sector Partnerships
- **Risk Management:** Improvement of strategic business risk structures, including ESG.

Source: KPMG – Nova realidade Covid-19 após 1 ano

New reality (by segment)

I Chemicals

- **Business Model:** Opening the gas market in Brazil will stimulate investments in the chemical sector.
- **Operational Model:** Search for alternatives in supply chain.
- **Circular Production Model:** Advocates the reduction of consumption of raw materials, the reuse, recycling and use of renewable energies and new materials
- **Changes in Consumer Habits:** Wide variation depending on various segments.
- **Lean Strategy:** Low impact.
- **Employees:** Moderately affected by the variety of sectors that consume the raw material.
- **Capital Structure:** Market consolidations in large groups.
- **Risk Management:** Alternatives that mitigate impacts on exchange variation

Source: KPMG – Nova realidade Covid-19 após 1 ano

I Mining and metals (iron, copper, nickel and gold)

- **Business Model / Risk Management:** Review of the relationship of companies with regulatory agents and impacted communities, impacting the operating model in mining projects. Greater transparency. Better stakeholder relationship management.
- **Operating Model:** Expansion of operational automation, electrification of vehicles / equipment and alternatives for remote control of the production process through the use of new technologies.
- **Changes in Consumer Habits:** Increased demand for strategic minerals applied in new technologies, such as electric vehicles and batteries.
- **Lean Strategy:** Low impact
- **Employees:** Implementation of strategies to protect employees from exposure to COVID-19 and limit the risk of interruption of operations
- **Capital Structure:** Challenges for accessing new sources of capital

New reality (by segment)

I Renewables (HPPs, SHPs, Solar, Wind, Biogas, Hydrogen)

- **Business Model:** Resumption of new energy auctions
- **Operating Model:** Declining Costs and Increasing Competitiveness of Battery Storage
- **Changes in Consumer Habits:** More conscientious consumers, demanding in relation to the level of service
- **Lean Strategy:** Impact on large generators.
- **Employees:** Staff with more analytical profiles
- **Capital Structure:** Investment alternatives in assets so as not to miss the “wave” of renewable infrastructure debentures.
- **Risk Management:** Business risk (climate, regulatory) and market;
- **Specific ESG aspects for each segment:** Circular economy (solar and wind), traceability (biogas), etc.

I Oil and gas

- **Business Model:** Rethink the fuel consumption model – customer experience; collaborative materials platforms; offshore contracting model - daily rate vs. Performance; etc.
- **Operational Model:** Digitalization of manual processes, mainly offshore, and operation automation; increased use of artificial intelligence in the maintenance process; intensified use of D&A for reservoir assessment; etc.
- **Changes In Consumer Habits:** Reduced Urban Mobility Vs. greater use of e-commerce.
- **Lean Strategy:** Rethink the “Asset Light” model – technology company.
- **Employees:** Resumption of jobs. Market reheating.
- **Capital Structure:** Focus on asset portfolio diversification.
- **Risk Management:** Low impact.

Source: KPMG – Nova realidade Covid-19 após 1 ano

Financial Services



Overview

The SFN - Brazilian National Financial System is basically formed by banks, savings banks, exchange brokers, fintechs, consortium administrators, credit cooperatives, payment institutions, brokers and distributors, all under the supervision of the Central Bank of Brazil and under the structure of the National Monetary Council.

It is considered a system with advanced technological infrastructure and its formation over the years has participants of different profiles and activities, and among the largest banks in the country there are public banks, national banks and international banks, in addition to large banks, others with activities in niches, international banks, banks with regional operations and, more recently, fintechs have emerged with specific service offerings.

Large banks have a bancassurance structure, in which, through investees or alliances, they operate in the insurance market. Banks also have Asset Management activities in their structures and, more recently, fintechs have expanded their activities in the financial system. A few years ago, physical presence, through the branch network, was a relevant factor for the performance of a retail bank, which created a challenge due to Brazil's territorial extension. This has naturally changed due to new technologies, new entrants and the recent context of the pandemic.

According to the regulations of the Central Bank of Brazil, the financial system is segmented into 5 levels, called S1, S2, S3, S4 and S5, based on their representativeness in relation to GDP, if greater than or equal to 10% of GDP in the case of S1, and so on, even those smaller than 0.1% of GDP, S5. Between the end of 2019 and the beginning of 2020 around 50 institutions were classified in the three highest levels S1, S2 and S3 and around 1,200 institutions in levels S4 and S5, which include credit unions.

The concentration observed in the Brazilian banking sector has not been very different from the concentration observed in other sectors of the economy and the Central Bank's role has been to encourage the entry of new participants while maintaining regulatory demands to ensure the stability of the system.

Trends

The Brazilian Financial System has followed many of the trends in the international banking market and over the past few years the market has addressed some issues such as:

- **Digital transformation:** SFN has undergone a continuous evolution and digital transformation, especially in the form of customer experience. More recently, an instant payment system (PIX) was implemented by the Central Bank, in addition to the phased implementation of “Open Banking”; which generates an expectation of market reconfiguration with the entry of new players.
- **ESG – Environmental, Social and Governance:** The ESG agenda is becoming more and more a priority and can be considered a success factor for players that operate in the market and have greater capacity to meet the ESG agenda.
- **Banking:** Increasing the number of people with a banking relationship has been one of the great challenges and opportunities in the market, which has revealed new business models with successful projects.
- **Regulatory environment:** The transition of the regulatory environment closer to international precepts has increased interest in the Brazilian financial system and contributed to the analysis of performance and business management. Some regulatory asymmetries are noted that must be compensated with regulatory revisions and their application to different types of market participants.
- **Economic environment:** The current economic environment with base interest rates at levels much lower than historical ones, combined with a strong demand for infrastructure and sanitation projects as well as driven by financing related to the agribusiness and real estate sector, are other examples of opportunities related to the Brazilian financial system.

New reality

The new reality imposed by the COVID-19 pandemic crisis has generated important challenges for the sector, although many of them demonstrate a certain acceleration of what was already being planned for the coming years, of which they stand out:

- Review of business models that consider the operational flow in remote mode and are more digital, the increasing relevance on the customer experience, digital transformation and the entry of new competitors;
- Customer service and relationship structure, favoring the migration of the relationship to digital and revisiting physical structures, such as the network of branches and service stations;
- Digital transformation enhances risk management related to cyber security and fraud monitoring in a digital environment
- In this new environment, it is expected that there will be a greater movement of acquisitions or, mainly, partnerships that enable a better composition for offering to customers.



Opportunities and Challenges



Digital transformation:

- The main opportunities and challenges of the financial system are related to digital transformation, in particular with a focus on improving the customer experience and, more recently, on reviewing more efficient and effective operating models to serve the customer. It is expected that this movement will be driven by the implementation of Open Banking, reconfiguring the financial system with new players and alliances.

Healthcare



Overview

- Health Care includes everything that encompasses the health value chain, such as clinics, laboratories, hospitals, health insurance companies, preventive medicine and medical equipment.
- The Brazilian health system is shared by the public and private initiative, the latter being managed by health plan operators and private hospitals.



Overview

I Funding Sources:

- Brazil's Universal Health System, the Unified Health System (SUS), was created in 1988 with the aim of providing universal health care. It is financed through the social security budget, which is based on tax revenue as well as payroll contributions from employment and corporate profits. These funds are distributed to 26 regions, with responsibility for health provision fully delegated to autonomous health councils.
- SUS health services are available to everyone, free of charge at the point of use. SUS funds are allocated to private and public providers. Private hospitals, some of which are non-profit, can be reimbursed by the government; they perform more than 50% of the medical procedures performed in Brazil.
- About 75% of the population depends on public health and only 43% of all health spending came from general government spending in 2015 (most recent data available), according to the World Health Organization. Brazil has a strong private health insurance industry and out-of-pocket contributions to alleviate a very underfunded health care system.



Overview

I Private Health Insurance

- Private health accounted for 58% of total health expenditures in Brazil 2018, according to WHO data. More than half of that private expense comes from private health insurance. The Brazilian private health insurance market is the second largest in terms of population in the world. Private plans covered 47 million people in 2018 – approximately a quarter of the country's population.
- Supplementary health accounts for half of the medical treatments performed in the country, that is, it not only complements, but contributes to national health, alongside the Unified Health System, public medical assistance.



Trends

- Integration of patient data between systems.
- New regulations: the use of telemedicine brought the need for regulations on the use of new technologies in the sector, as occurred in 2020. With this, modalities of assistance emerged, namely:
 - Tele-orientation: allows the physician to serve at a distance for orientation and referral of patients in isolation
 - Tele-monitoring: enables medical supervision remotely
 - Tele-interconsultation: Allows the exchange of information and opinions between physicians to aid in the diagnosis.



Source:Portal Telemedicina, 2021

Trends

- Solutions in teleconsultation and tele-interconsultations
- Remote reports
- Health Tech Growth
- Data science and predictive analytics

Source: Portal Telemedicina e Abrale, 2021



New reality

- The strong impact of the pandemic made the sector look for technological solutions capable of providing better support and increasing the quality and speed of medical care.
- Companies were also challenged to expand the care of their employees, not just hospitals, medical clinics, health laboratories, which had to be able to provide care without losing quality.
- With the pandemic, part of the population began to consider having health care, whether in the form of a benefit plan, plan or discount on medical services, thus contributing to the expectation of growth in the sector.

Source: Portal Telemedicina, 2021



Opportunities

The use of technology in healthcare services contributes to innovation and improvement of quality, agility and expansion of care, but it is essential that management professionals, such as directors and owners of clinics, keep up-to-date on the impacts of changes and market trends.

Support for standardized decisions and workflows

01

- Data for evidence-based clinical decision making and operational flows aiming at patient efficiency and experience.

Patient engagement and empowerment

02

- "Self-service" options can create more meaningful user participation, more satisfying outcomes, and reduced workload for both the clinical and non-clinical staff.

More proactive, targeted and personalized care

03

- It reduces costs and allows providers to intervene sooner to keep patients cared for with a predictive and preventive focus

Better coordinated service

04

- It reduces costs and redundancies, supporting the provider to offer an efficient service with value generation.

Greater access to specialized knowledge and services

05

- Access to medical specialties and highly specialized services

Better resource management

06

- It uses technology to plan flows and processes of its own resources, whether human or technical

Smart access and regulation

07

- Patient navigation in the system ensuring care in the right measure and in the right place.

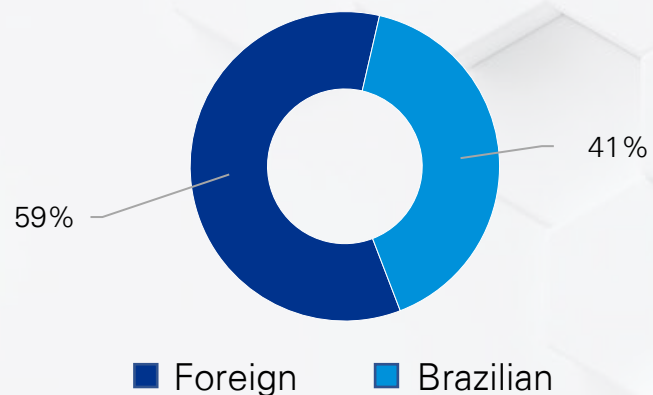
Source: Portal Telemedicina, 2021

LifeSciences



Overview

Pharmaceutical Industry in Brazil



Representativeness of the Brazilian industry in domestic sales in 2019



- Competition in the Life Science segment has been intensifying in Brazil in recent years.
- Aiming to achieve greater economies of scale and the implementation of operational efficiency and the development of innovative products, the Brazilian pharmaceutical industry follows the path of organic growth, internationalization of its operations and acquisitions.
- Despite the national dominance in the sector, several foreign players enter the country attracted by the large domestic market and the opportunities to be explored in various market niches and regions.



Source: Revista da Farmácia, 2021

Trends

- The pharmaceutical industry in Brazil is growing at a fast pace. Currently, the country occupies the seventh position in the world ranking of pharmaceutical markets, with expectations of reaching the 5th position by 2023. (Revista da Farmácia, 2021).
- Acceleration of the digital transformation in the value chain – multiple channels for contact with physicians and in the client-patient relationship.
- New business models, industry with greater customer-patient proximity.
- Use of technologies and artificial intelligence to identify significant health outbreaks, as well as to accelerate drug development.
- Potential reduction in private value chain participants due to financial consequences resulting from the situation of isolation and sudden drop in revenue.



Trends

- The domestic pharmaceutical market is expected to accelerate in 2021, due to an increased focus on the health and well-being of the population during the COVID-19 pandemic and on improving economic conditions. Cheaper generic drugs will continue to be the main driving force, supported by new product launches and government cost-cutting measures.
- The domestic pharmaceutical market is expected to accelerate in 2021, due to an increased focus on the health and well-being of the population during the COVID-19 pandemic and on improving economic conditions. Cheaper generic drugs will continue to be the main driving force, supported by new product launches and government cost-cutting measures.
- The growth of chronic diseases and government efforts to ensure adequate vaccines and medical treatment for COVID-19 for the population will increase the demand for patented drugs, however, the profitability of the local industry will remain hampered by three main factors:
 - A. Increased costs of imported inputs due to the devaluation of the Brazilian Real;
 - B. Excessive tax burden;
 - C. Governmental mechanism to control drug prices.



New reality

- Strong pressure on the supply chain – logistical restrictions and relevant exchange rate increase.
- Decrease in demand – reduction in the sale of medicines and devices (implants and materials) due to the focus on combating Covid19 and postponement of elective treatments (with a strong retraction in the dispensing of hospital and retail pharmaceutical drugs).
- Operational-financial sustainability mainly of domestic capital and smaller investors.
- Greater prominence in the client-patient relationship – regulatory challenges.



Opportunities

- Despite the slowdown in the national drug market, Brazil remains attractive to new investors willing to take advantage of the strong development opportunities arising from positive demographic trends, the incidence of non-infectious diseases and a still large portion of the unassisted population, mainly in the North and North East.
- The preferred methods of entry are investments "in new areas" and the acquisition of local drug manufacturers that specialize in niche segments or that have offered products for sale at very low prices.

Opportunities

- Considering the deficiencies of the public health system, health services will continue to be the most attractive sub-sectors for new medium-term investors. Between January 2017 and September 2018, 11 foreign companies (USA, Canada, Germany, Sweden, Australia and Argentina) entered the market and expanded their operations in the Brazilian healthcare sector through M&A operations.
- Access to more modern treatments for complex diseases such as cancer as well as degenerative and neurological problems would provide considerable growth.
- The increase in life expectancy of Brazilians - from 65 years of age onwards, the tendency to have chronic diseases is high. And, given that 42% of people over 60 years old take, on average, 5 medicines a day, the potential for expansion of this industry is clearly seen.

Education



Overview

Panorama of Education in Brazil

In Brazil, Education is considered a universal right of all citizens and a duty of the State, as defined by the Constitution of 1988. Education should be promoted and encouraged with the collaboration of society, aiming at the full development of the person, his preparation for the exercise of citizenship and their qualification for work.

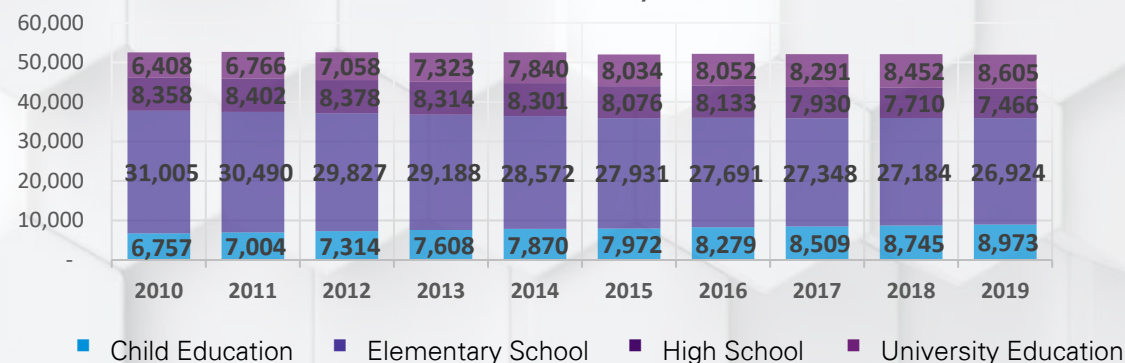
The Constitution also defines that the State and the Private Sector may offer educational services to the population, whether at the levels of Basic Education (early childhood, elementary and high school), as well as in Higher, Technical or Complementary Education, in the face-to-face and Distance Education (EaD). In the Brazilian scenario, all educational services provided by the Public Sector, regardless of the administrative, federal, state or municipal level, are free, without the payment of fees or contributions.

Evolution of Education in Brazil

Education in Brazil has gained a prominent role in the last two decades, through a strong set of public and investment policies, a broad process of expansion of the educational sector was initiated.

With a view to meeting the UN's international goals on education and long-term economic results, public and private educational institutions have increased the number of places. This expansion of vacancies was central to increasing the supply and geographic coverage of education in Brazil, reflecting an annual increase in the number of students enrolled in the country.

NUMBER OF ENROLLMENTS BY STAGES (IN THOUSANDS)



Sources: Ministério da Educação, Inep, Lei de Diretrizes e Bases da Educação e Plano Nacional de Educação, IBGE - Instituto Brasileiro de Geografia e Estatística

Overview

I Regulation of Education in Brazil

Currently, the public education and private education systems are regulated by the guidelines of the Ministry of Education (MEC), which is the department responsible for educational policy throughout Brazil. The body's main competences are directly related to the Brazilian educational system, from early childhood education to professional and technological education. In addition, it is responsible for drafting the Law on Education Guidelines and Bases (LDB). As for the National Education Policy (PNE), it is up to the elaboration and execution.

In a complementary role to that of the MEC, the State and Municipal Education Secretariats are responsible for public education and for regulating schools, universities and private institutions.

The Law of Directives and Bases of Education establishes the division of Brazilian education into two levels: basic education and higher education.

I About National Education Plan

In 2014, the Federal Congress sanctioned the National Education Plan (PNE) with the purpose of directing and organizing efforts and investments among federative entities to improve the quality of education in the country. With the force of law, the PNE establishes 20 goals to be achieved in the next 10 years.

The National Education Plan (PNE) establishes guidelines, goals and strategies that should govern initiatives in the area of education. Therefore, all states and municipalities must prepare specific plans to support the achievement of the foreseen objectives — considering the situation, demands and local needs.

Monitoring of the PNE must be done every two years. The first report with the results for each target was released in November 2016 and, so far, only one target has been fully met, while others have shown a drop since the release of the first report.

Among the goals of the PNE, Goal No. 20 on Education Financing is one of the most ambitious goals of the National Education Plan (and which supports a good part of the other goals) aims to increase the Union's investment in public education, in order to reach 7% of Gross Domestic Product (GDP) by 2019 (intermediate target not met) and the equivalent of 10% of GDP by 2024.

Sources: Ministério da Educação, Lei de Diretrizes e Bases da Educação e Plano Nacional de Educação

Overview

I Educational Levels in Brazil

The Law of Directives and Bases of Education establishes the division of Brazilian education into two levels: **basic education** and **higher education**.

Basic Education

- Basic education is made up of kindergarten, elementary school and high school. Under the responsibility of the municipalities, early childhood education can be free, but it is not mandatory. In it, the student can attend day care centers from 0 to 3 years and pre-school from 4 to 5 years.

Kindergarten: Kindergarten is subdivided according to the age of the children, being:

1. Nursery: for babies and newborns;
2. Maternal: for children from 0 to 3 years of age;
3. Pre-school: for children aged 3 to 5 years that are divided into periods according to age.

Elementary Education: Elementary education consists of one of the levels of basic education, mandatory in Brazil. It lasts for nine years and is mostly aimed at people aged between 6 and 14 years.

- The law determines that enrollment in elementary school is mandatory, being a joint responsibility between those responsible for the child and the government.
- It is up to the parents or guardians of the students to enroll, while the State is responsible for guaranteeing the supply of the necessary number of places in public schools. However, this educational service can also be offered by private education.

Secondary Education: Secondary education is the last stage of basic education in Brazil. It has an average duration of three years and precedes admission to higher education.

- The objective of this teaching stage is to provide training aimed at the labor market, in addition to improving the knowledge of citizens already acquired in the previous stages and as a human being endowed with reason.
- Although secondary education is the final stage of basic education, it is not yet considered mandatory and according to the Law of Guidelines and Bases (LDB) on education, this responsibility rests with the States. They have the role of progressively making secondary education mandatory, making more places available to all graduates of primary education, as established in the National Education Plan (PNE).
- Secondary education can also be offered along with training for the exercise of technical professions, provided that this type of education meets the training and the general objective of this stage.

Sources: Ministério da Educação, Lei de Diretrizes e Bases da Educação e Plano Nacional de Educação

Overview

I Educational Levels in Brazil

The Law of Directives and Bases of Education establishes the division of Brazilian education into two levels: **basic education** and **higher education**.

Higher education

Is the responsibility of the union, and it can be offered by the state and the municipality, as long as they have already met the levels for which it is fully responsible. It is also up to the Union to authorize and supervise private higher education institutions.

Brazilian education also has specific types of education, which can meet all levels of national education, such as:

- special education,
- distance learning,
- the education of young people and adults and
- indigenous education.

Higher education is the highest level in the system, usually referring to education carried out at universities, colleges, polytechnic institutes, colleges or other institutions that award academic degrees or professional diplomas.

In Brazil, higher education is composed of the following modalities:

Graduation:

- These are courses that confer a higher education diploma and can give graduates the title of:

Bachelor's Degree:

- Trains professionals and researchers for the job market.

Licentiate:

- Trains teachers for primary and secondary education.

Technologist:

- Courses with shorter duration compared to bachelor's and licentiate's, which train professionals for specific areas of the market.

Sources: Ministério da Educação, Lei de Diretrizes e Bases da Educação e Plano Nacional de Educação

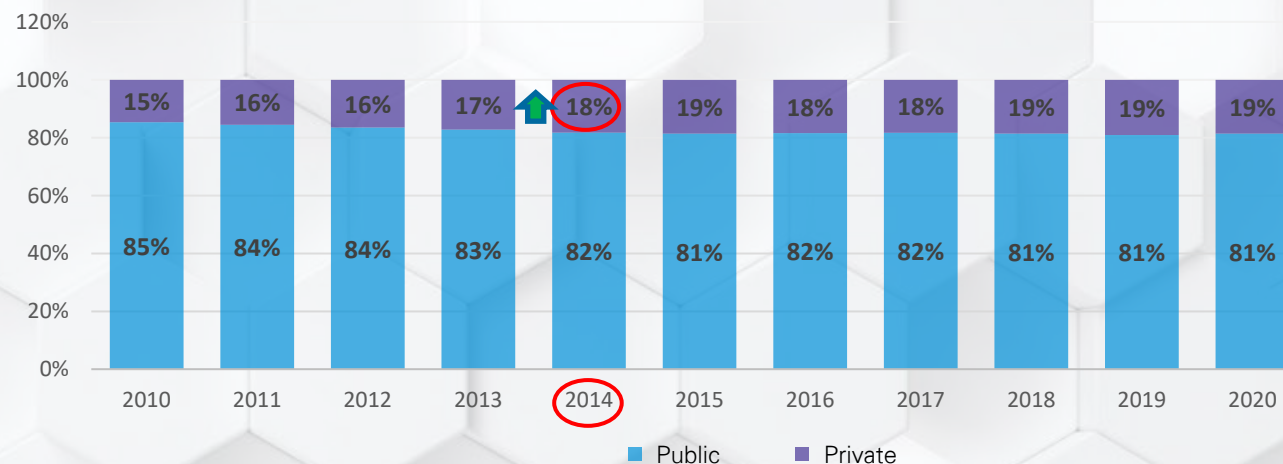
Overview

Private Education and Basic Education

Private education plays a very important role in Brazil and is free to participate at all educational levels, subject to prior government approval. Public education at the elementary and secondary levels falls under the jurisdiction of municipalities and state governments. As there is currently no consistent public system of pre-primary education, the segment is mainly developed by the private sector.

It is possible to notice a growing participation of private institutions in basic education as of 2014. In 2020, the year in which the impacts of the pandemic began to be felt, there was a decrease in the total number of enrollments (public and private) 47.3 million, the smallest, when analyzing the history of the last 10 years, but even so, the private education system maintained its percentage of participation.

PARTICIPATION OF PRIVATE EDUCATION IN BASIC EDUCATION (BY % ENROLLMENT)



Basic Education Enrollments Number, by administrative dependence						
Year	Federal	State	Municipal	Private	Public	Total
2010	235.108	20.031.988	23.722.411	7.560.382	43.989.507	51.549.889
2011	257.052	19.483.910	23.312.980	7.918.677	43.053.942	50.972.619
2012	276.436	18.721.916	23.224.479	8.322.219	42.222.831	50.545.050
2013	290.796	17.926.568	23.215.052	8.610.032	41.432.416	50.042.448
2014	296.745	17.294.357	23.089.488	9.090.781	40.680.590	49.771.371
2015	376.230	16.548.708	22.813.842	9.057.732	39.738.780	48.796.512
2016	392.565	16.595.631	22.846.182	8.983.101	39.834.378	48.817.479
2017	396.482	16.222.814	23.101.736	8.887.061	39.721.032	48.608.093
2018	411.078	15.946.416	23.103.124	8.995.249	39.460.618	48.455.867
2019	404.807	15.307.033	23.027.621	9.134.785	38.739.461	47.874.246
2020	405.997	15.199.500	22.898.611	8.791.186	38.504.108	47.295.294

Sources: Ministério da Educação, IBGE - Instituto Brasileiro de Geografia e Estatística

Overview

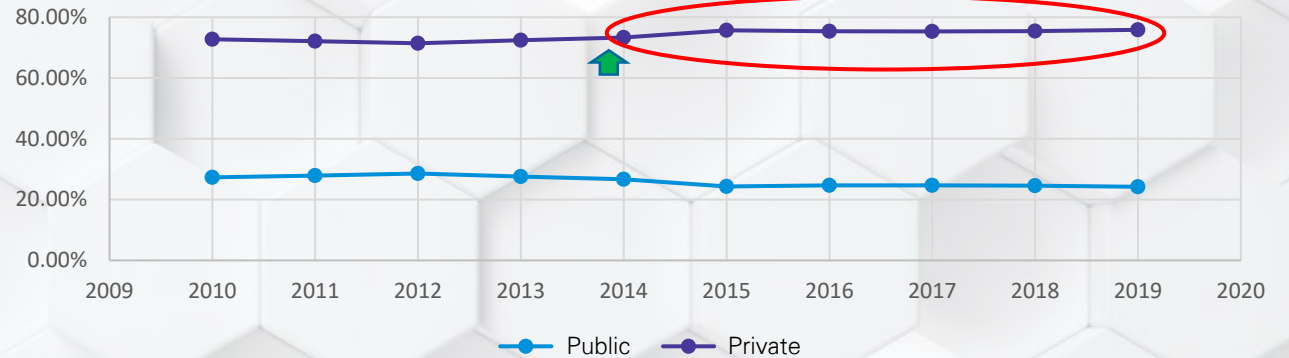
Private Education and Higher Education

It is possible to trace a trend towards an increase in the participation of private institutions in Brazilian higher education. The reasons for this trend are diverse; however, it can be briefly highlighted that there was a significant growth of a young portion of the Brazilian population that pressured the demand, in addition, there were important initiatives by the Federal Government in order to expand the offer of higher education courses.

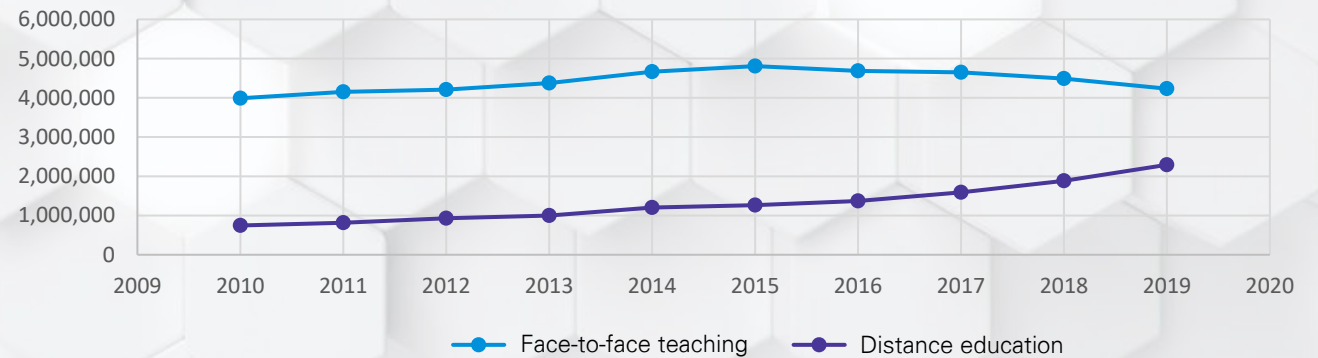
A large part of the private higher education groups in the country have been adopting remote learning since 2020, even with the release of the Ministry of Education, in view of the good adaptation and acceptance of distance classes during the pandemic.

Sources: Ministério da Educação e Lafis

Evolution of the participation of Brazilian enrollments in the higher education system



Evolution of Brazilian enrollments in the private higher education system



Overview

Major Federal Programs for Higher Education

The proliferation of initiatives to access and improve higher education in Brazil stemmed from measures initiated in the first Lula administration (2003-2006), whose prominence remained in the University for All Program (PROUNI); but it should be noted that there were other important initiatives, including those prior to this administration. This space shows these programs and some of their aspects.

National High School Exam(ENEM)

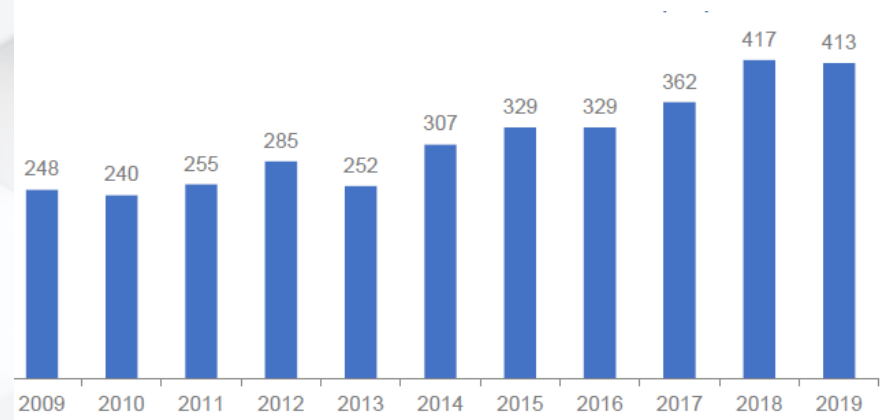
Despite not being an education incentive program, ENEM is an extremely valuable initiative for private higher education institutions, especially those that have recently entered this market, as it reduces costs inherent to the selection process in the institution.

Sources: MEC, organização, Lafis

University for All Program (PROUNI)

This Federal Government program is based on the simple granting of full or partial scholarships in undergraduate courses offered by private higher education institutions, and since its implementation, it has been successful and effective, as shown in the graph below:

Number of scholarships awarded through PROUNI (thousand) - 2009 to 2019



Overview

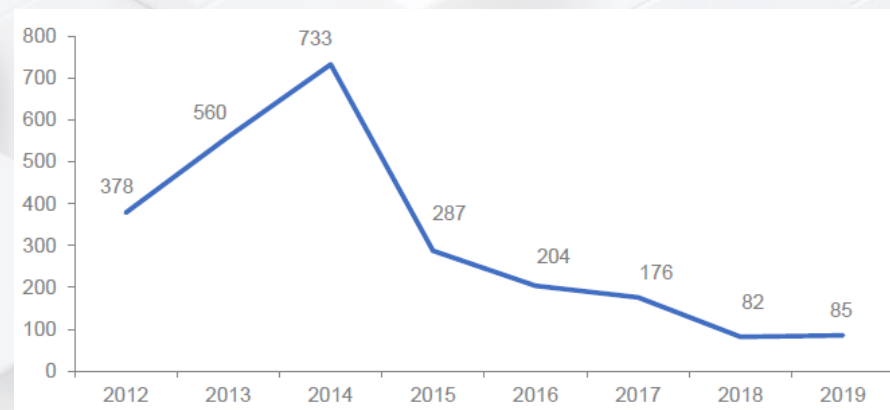
Major Federal Programs for Higher Education

Higher Education Student Financing Fund (FIES)

This initiative by the Federal Government emerged in 2001 with Law No. 10,260/2001 when using funds from Caixa Econômica Federal and MEC to create a fund to finance higher education for students enrolled in non-free institutions. FIES is managed by the MEC and the National Education Development Fund (FNDE), the former of which supervises and formulates credit supply policies, and the latter manages the FIES assets and liabilities. Until 2014, the program had many resources and financed several enrollments in private universities, however, the fiscal crisis of 2015 began to bring increasing restrictions to the program, especially with defaults that increased with unemployment caused by the recession. The program has undergone changes since then.

Sources: MEC, organização, Lafis

Number of student financing contracts signed via FIES (thousand) - 2012 to 2019



Other Programs:

PRONATEC : Aims to expand the offer of professional and technological education courses, through the granting of a Training Scholarship or partnerships with SENAI, SENAC, among others;

Research Incentive Law: The proposal is that companies invest in research, developed by scientific and technological institutions (ICT's), and in return receive tax exemption inversely proportional to the property right.

Trends

I Innovation

There are many startups in Brazil supporting schools and universities. According to a survey carried out by the Brazilian Education Innovation Center - CIEB together with the Brazilian Association of Startups - ABstartups, in 2020 in Brazil there were 566 edtechs (education startups) active in Brazil, with 50.7% of them offering solutions for the basic education (kindergarten, elementary and high school). Among the services offered by these startups, those that offer online content platforms (with courses, games, audios, interactive content), tools to support academic, administrative and financial management of schools and educational games stand out.

I Public sector and barriers to innovation

Despite the favorable national market for educational technologies, with a series of resources to support pedagogical practices and administrative processes of educational institutions, the study carried out by CIEB and ABstartup also identified that **only 13% of edtechs are able to work in public education.**

Barriers for the public-private partnership range from lack of familiarity of managers with new technologies to low teacher training for digitization in education, through the low structure to receive technologies, such as lack of connectivity and **bureaucracies in the public procurement process.**

I Security in the online world

Brazilian educational institutions need to invest more in data protection, cyberbullying and forgery, as the online environment can facilitate the occurrence of plagiarism and crimes related to authorial production.

I M&A

The education sector in Brazil is one of the largest that in recent years had completed M&A processes. According to surveys carried out by KPMG, **43% of executives in the education sector intend to buy other institutions in the next 12 months.** To finance such expansion operations, the intention is to use equity associated with bank credit as the main source of funds, in addition to funds coming from more recent IPOs.

New reality

The crisis brought by Covid-19 strongly impacted the education sector in different ways and also forced entities to rethink their business models and also accelerate their investment plans in innovation. In the education sector, different trends can be observed between basic education and higher education, however, in both cases there was significant pressure from parents, students, government and regulatory bodies for tuition discounts and a significant increase in default rates.

Basic education

Specifically in basic education, overnight it had to adapt all its content, classes and teacher preparation to a distance learning model, with the help of large technology companies and the investment that had been made by schools in platforms online content were essential. On the other hand, this scenario made even more clear the existing inequality between public and private basic education in Brazil, mainly due to the lack of access to technology and even the internet by the poorest strata of the population.

In basic education, during the pandemic, two important movements took place that increased the dropout rate of students from private schools that were, a migration of students to the public system because parents were financially affected by Covid-19, and/or by a decision of taking their children out of school temporarily to preserve their health and also for being at home in social isolation.

College Education

College education, on the other hand, was severely affected in relation to on-site education, **since distance education in Brazil was already quite consolidated and with relevant growth rates in the number of students in recent years.** The pandemic and the economic crisis impacted mainly on the significant increase in the rates of enrollment and retention of students, but with much more relevance in face-to-face teaching, which practically did not exist at this time of pandemic.

The changes in higher education brought about by the pandemic were structural rather than circumstantial, with a strong tendency towards a migration from face-to-face to distance education, as it costs less to students and allows for greater flexibility. This will force institutions to rethink their on-site business models, seeking greater efficiency in their physical structures, using these structures as distance learning centers and a preference for premium and more profitable courses, such as medicine.

Opportunities and Challenges

| Opportunities and Initiatives for Education

Faced with the challenges of COVID-19, Governments and private companies in the Education Sector are mobilizing to promote quality education and reduce the impact of the pandemic on education.

Among the main measures being implemented are:

- **Distance Education.** With schools closed, several countries have intensified their efforts to mitigate the discontinuity of classes by introducing distance learning. This strategy depends on the infrastructure and familiarity of teachers with previously existing distance learning technological tools.
- **Programs for accessing digital learning tools,** providing computers, cell phones and broadband connections for families and students.
- **Teacher training and training in digital learning tools.**
- **Adoption of tools and channels for sharing information and experiences among** teachers, families and students.
- **Fostering Public-Private Partnerships** in which governments, education professionals, entrepreneurs and entrepreneurs are mobilized to develop educational solutions on digital platforms.

Source: Banco Mundial

| Perspectives for the Private Education Market

- **Distance learning and hybrid teaching grow.** The year 2020 will be a response to changes in the ordinance of the legislation that encourages distance learning. Therefore, the estimate is that distance modalities will continue to grow. On the other hand, face-to-face teaching must remain stagnant or show a drop in student enrollment.
- **Hardening of the market and high competitiveness.** In summary, the Brazilian economic scenario will not show a recovery yet. Therefore, the challenge for the year must be to maintain the focus, mainly on cost management and competitive advantages.
- **Labor market and economic scenario guide the offers of HEIs.** Parallel to the challenge of implementing EaD and hybrid education within the parameters of the new legislation is the demand for offers related to the labor market. In summary, with the slow recovery of the economy, it is necessary to offer attractive courses that respond to employability demands.

Therefore, experts recommend that educational institutions strengthen analytical management in 2020. Managers need to monitor performance indicators, know the competition and seek creativity and innovation to balance the challenges of cost management.

Opportunities and Challenges

| The challenges and impacts of COVID-19 on Education

The Education Sector in Brazil has historically demonstrated great resilience to economic crises and market shocks, as during the period between 2013 and 2017, in which the sector grew 37.5%, based on research studies by the Brazilian Institute of Geography and Statistics (IBGE). During this period, the number of companies operating in the private education market grew from 1.3 million companies to 1.8 in 2017.

However, the impacts of COVID-19 are very different from previous crises and pose new challenges for public managers, companies, students and families. According to a study published by the World Bank, approximately 1.4 billion students have been out of school in more than 150 countries as a way to contain the spread of the virus.

Source: Banco Mundial

| COVID-19 Impacts

For Brazil, the impacts of COVID-19 on education are significant, as closing the school can mean an interruption in the learning process and increase the dropout rate, especially for highly vulnerable children. Among the most relevant impacts for education are:

- **The lack of interaction between students and teachers** disrupts the learning process and if the pandemic lasts for many weeks, it will not be possible to make up for lost time when schools reopen.
- **Significant increase in dropout rates**, especially among students in highly vulnerable families.
- Among the many **long-term consequences**, a significant drop in the level of **future human capital** is likely.
- The interruption of classes also affects the **social safety** net. There are many cases of children who have their only regular and healthy meal in school lunches; or women who, as they are often primarily responsible for child care, end up being overwhelmed by accumulating childcare work in times of pandemic.
- **Increased digital gap** between high- and low-income students due to lack of access to digital tools and socio-economic means.

Private Enterprise

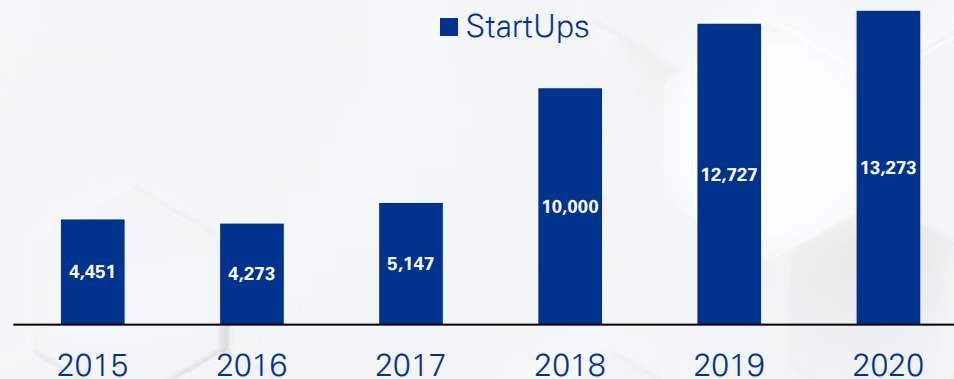


Overview Private Enterprise

Companies listed as Private Enterprise play a fundamental economic role in most countries in the world, especially Brazil, where investments in Brazilian startups have accumulated, until November, US\$ 2.87 billion according to the survey **“Inside Venture Capital Brasil”**.

According to data from the Brazilian Institute of Geography and Statistics (IBGE) and Sebrae, family businesses represent 90% of companies in the country, which leads to a representativeness of 65% in the Gross Domestic Product (GDP) and the employability of about 75 % of the workers. However, the survival rates of these companies are much lower: only 5% survive the third generation, also according to the IBGE, after the opening of the CNPJ to success in the business world, there is a path of great effort and dedication. However, for family businesses, no challenge is as great as planning and executing the succession process, ensuring the longevity of operations.

Evolution of StartUp quantity (quantity)



Source: IBGE, Sebrae, Pequenas Empresas Grandes Negócios. Elaborado por Pezco Economics.

PMEs and Emerging giants in Brasil

I COVID 19 and Startups

Amid a pandemic scenario, startups are proving that the industry as a whole is resilient in times of crisis. These companies show an effective solution and this is very attractive as new investment models, according to Tiago Ávila, leader of the market intelligence center in the District.

Therefore, there were some identified Challenges faced such as:

- Initially, startups were very concerned about cash flow,
- Expense containment and focus on the most important business lines from the point of view of generating value for the company;
- Some startups laid off and/or froze new contractions during the pandemic;
- Impact varying according to each sector and business model of the startup. Businesses such as edtechs and healthtechs gained prominence, while tourism startups, for example, were negatively affected;
- Reviews of investment/allocation plans, considering the uncertainty scenario;
- Focus on customer retention and churn control.



PMEs and Emerging giants in Brasil

I COVID 19 and Startups

In addition to **Trends** identified as:

- Venture capital raised at the time of the pandemic contributed to the funding and volume of investments in the sector;
- Acquisition opportunities with attractive valuations and good liquidity in the Venture Capital market;
- The scenario converges to a greater need for digitization of processes and products, which certainly favors the startup market, given the focus on technology and innovation of their business models;
- Unprecedented movement of several startups IPOs at B3, signaling the maturation of the ecosystem in Brazil;
- Strong Corporate Venture and Open Innovation trend of large corporations contributing not only to funding the startup market, but also to development and greater connection with the market;
- Legal Framework for Startups approved by the Senate: measures to encourage the creation of startups and increase legal certainty for investors.;
- Need to include ESG management in the leadership agenda to maintain business competitiveness and resilience



PMEs and Emerging giants in Brasil

I Family businesses

Brazilian family businesses continue to rapidly develop their corporate governance structures and practices; feel a little less optimistic about the future than they did a year ago; and are increasingly open to the idea of seeking executives in the market to ensure the quality of management, within the professionalization process, according to the 4th edition of the survey Family Portraits - **An Overview of Corporate Governance Practices and Perspectives of Brazilian Family Businesses, conducted by the ACI Institute and the Board Leadership Center of KPMG in Brazil.**

Challenges, sources of funds and optimism

Strong brand, speed to make decisions, personalized service: these were the differentials that, according to the respondents, most helped their respective organizations to face and overcome the challenges of 2020. After all, as with any other business model, so did the companies Family members faced an atypical year, which forced them to review investment plans and priorities, including accelerating the technology and business model aspects. For example: in the current survey, 38% of respondents said that any investments would be destined to innovation in the current business. In 2018, this percentage was 28%. In addition, 27% were willing to direct resources to new businesses or products, against 20% in 2018



Source: 4ª edição da pesquisa Retratos de Família - Um Panorama das Práticas de Governança Corporativa e Perspectivas das Empresas Familiares Brasileiras.

PMEs and Emerging giants in Brasil

I Family businesses

Expanding business beyond current locations is also on the horizon for these companies, but at a lower percentage than in 2018: 57% of respondents said they had expansion plans outlined for the next three years. In 2018, it was 75%. Another aspect in which the difficulties imposed by covid-19 were reflected is access to financing. Concern with this item jumped from 1% in previous surveys to 19% in the current survey. And the main form of fundraising continues to be bank loans and financing (54%), followed by investment by owners (36%). Making an initial public offering of shares (IPO), as well as seeking a partner/minority shareholder to raise funds, are alternatives that are growing in the list of possibilities for raising funds in family businesses.

Long-lasting and profitable

Most of the survey respondents work in the agribusiness sector; then, they emerge as associations of services and wholesale and retail. As for annual sales, 33% of companies have sales of R\$100 million to R\$499 million or above R\$1 billion (23%). The longevity of family businesses is noteworthy: 33% of them are between 21 and 40 years old; 30%, from 41 to 70 years old; and 21% over 70 years old. 22% of them already have members of the third generation of the controlling family working in them (41% of the second generation). Regarding the willingness of family members of the next generations to participate in the reduction of companies, 55% of respondents agree with this profile in their associations. Business knowledge is the most important factor in forming a successor in the view of most respondents.

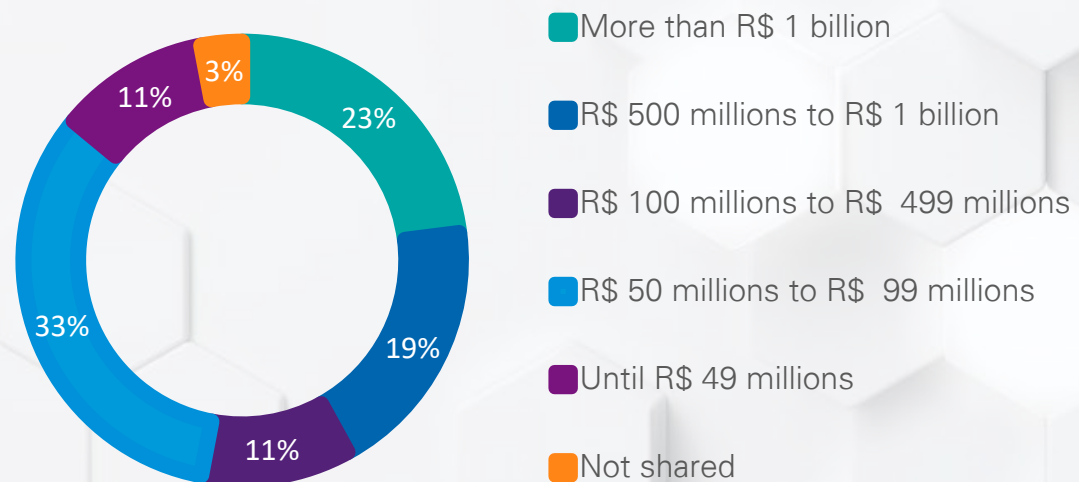


Source: 4ª edição da pesquisa Retratos de Família - Um Panorama das Práticas de Governança Corporativa e Perspectivas das Empresas Familiares Brasileiras.

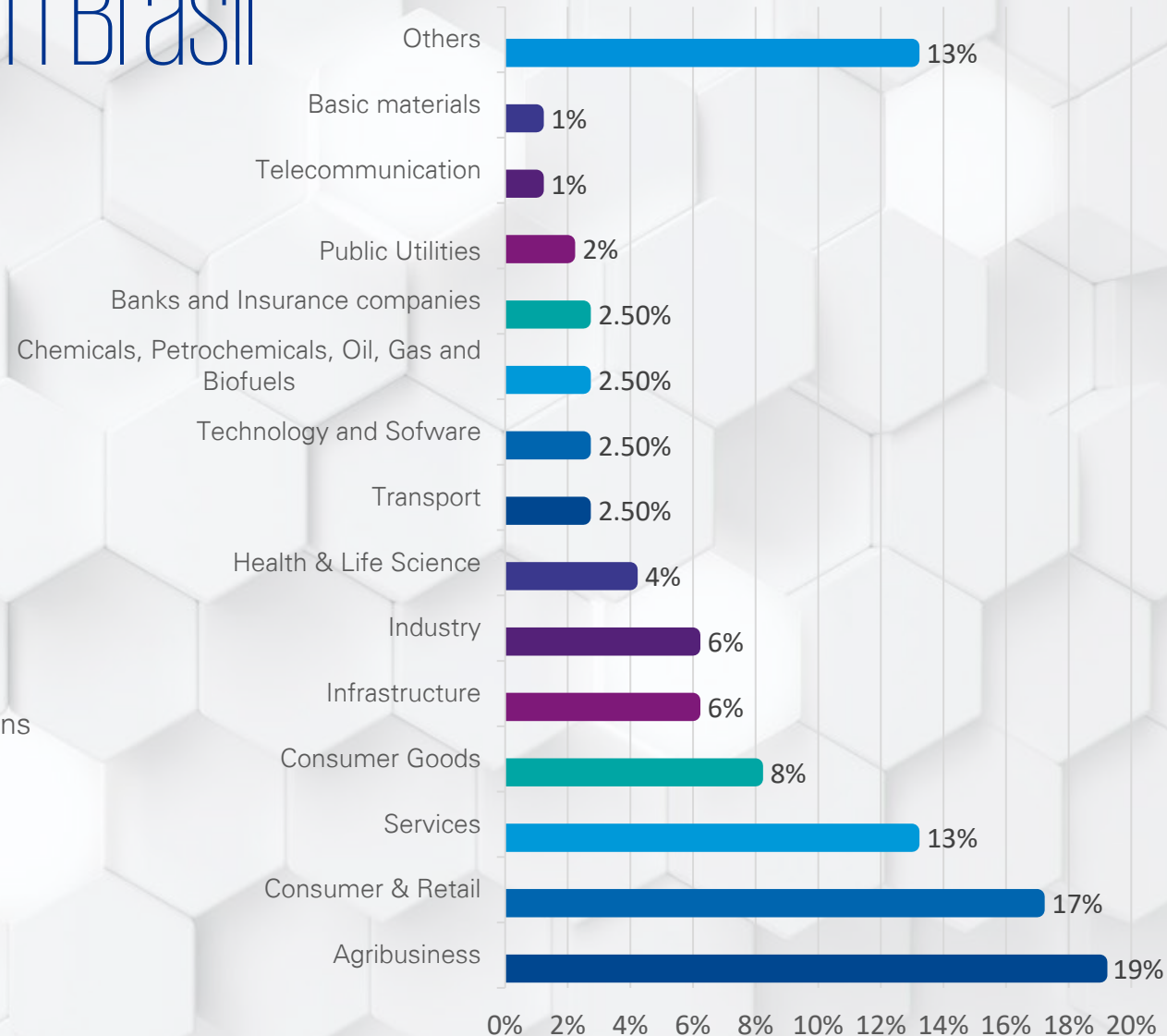
PMEs and Emerging giants in Brasil

I Family businesses

More than half of respondents do not believe that their companies will undergo significant management changes in the next three years, while 24% believe that management of the company will be transferred to the next generation of the family. For a fifth of respondents, appointing an external professional will be the best choice for the future.



Source: 4ª edição da pesquisa Retratos de Família - Um Panorama das Práticas de Governança Corporativa e Perspectivas das Empresas Familiares Brasileiras.



PMEs and Emerging giants in Brasil

I Family businesses - Conclusion

Family businesses are aware of the factors that will ensure their permanence in the market, such as investment in technology and transformation of the business model, expansion and conquest of new markets, increasing attention to their corporate governance practices and the growing qualification of leaders, regardless of whether they choose to prepare the new generations or seek, in the market, executives who have the desired profile.

All these factors require good investment capacity and these companies are also aware of the need to raise funds. In this sense, maintaining or expanding funding sources, or even holding an IPO, or bringing in a minority partner are options that are always sought after.

In this fourth year of the Family Portraits survey, we found that these companies effectively stand out for their remarkable ability to overcome crises, to follow the market and to listen and be close to the consumer - not by chance, 31% of the respondents mentioned customer service as a of their strengths, almost the same percentage (30%) of respondents who mentioned entrepreneurial ability and sharing culture and values (cited by 25%).

Their strength and differentials are the pillars to ensure that they will remain in the market, increasingly prosperous, long-lived, innovative and well-positioned. For many, the concept of "the family business will always be a family business" is a reality to be followed



Source: 4ª edição da pesquisa Retratos de Família - Um Panorama das Práticas de Governança Corporativa e Perspectivas das Empresas Familiares Brasileiras.

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