

Valuation of the Impact of the Covid-19 Global Pandemic on the Sector of Professional, Technical, and Administrative Activities in Ecuador for the Year 2020

Nelson Guillermo Granja Cañizares¹, Pablo Ricardo San Andrés Reyes^{1,*} and Ivonne Elizabeth Paredes Chévez²

¹Universidad Ecotec, Samborondón, Ecuador

²Universidad Nacional del Rosario, Rosario, Argentina

Abstract

The Covid-19 pandemic has generated alert and dynamic changes in industries and companies worldwide, and in response to the adaptation process, new ways with technological innovation have achieved resilience, and new sectors have emerged without precedent, mainly in some Ecuadorian sectors to promote economic reactivation, increasing the demand for new services. The objective of the research is to assess the impact of the Covid-19 global pandemic on the sector of Professional, Technical and Administrative activities in Ecuador for the year 2020. The research is descriptive, explanatory, and bibliographic, with a mixed methodology and a non-experimental cross-sectional investigation, adapting a non-probabilistic sampling, analytical method, and statistical analysis of data series. Among the most relevant results is that the global Covid-19 pandemic produced growth in the sector mentioned before.

Keywords

Covid-19, Professional, Technical and Administrative Activities, Economic Reactivation

1. Introduction

Based on Figure 1, it is established that on September 2020, the most affected regions in the world were Latin America, the United States, and Europe, causing health damage per million inhabitants, and this responds to the fact that the more rapid tests are carried out, the number of detected cases tend to be greater, which serves as a basis for making decisions regarding confinement, citizen biosecurity, and others. Note that in the case of Ecuador, after the scourge of March, the number of infections has improved, although there are provinces with a rebound.

On the other hand, companies are an important part of economic activity and job creation, for the development and economic growth of a country [1]. Cepal [2] mentions that the crisis of the eighties impacted the Latin American and Caribbean region, and this increased the unemployment rate by 2 points, however, many households expanded employment in the

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*Corresponding author

✉ ggranja@ecotec.edu.ec (N. G. Granja Cañizares); psanandres@ecotec.edu.ec (P. R. San Andrés Reyes); ivonnelizabeth.paredes@gmail.com (I. E. Paredes Chévez)

🆔 0000-0002-7619-3350 (N. G. Granja Cañizares); 0000-0003-3322-0926 (P. R. San Andrés Reyes); 0000-0002-9541-9933 (I. E. Paredes Chévez)



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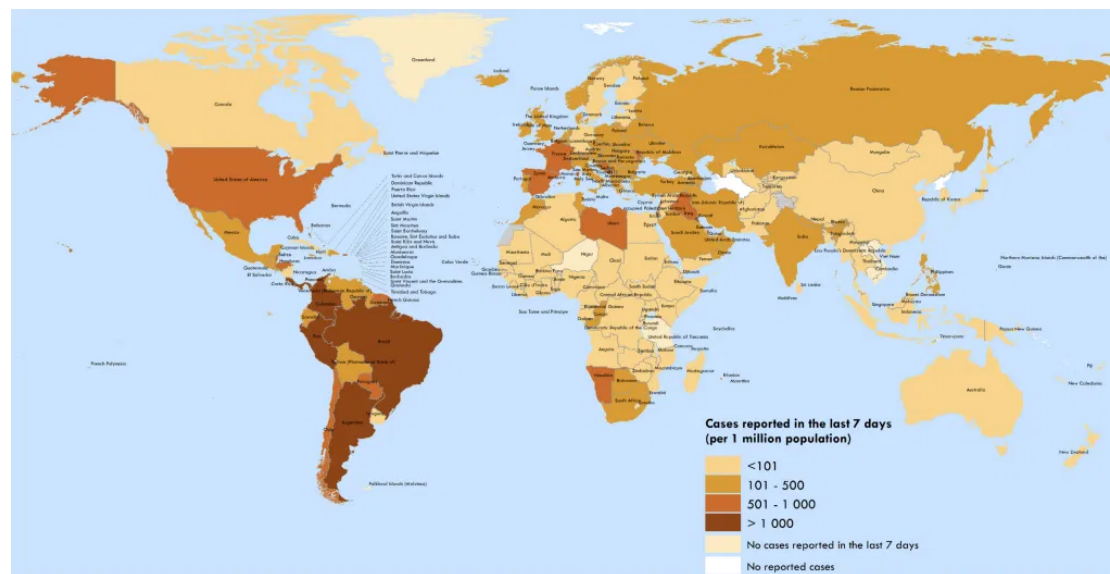


Figure 1: Covid-19 cases per million inhabitants reported in the last seven days by countries, territories and areas, from August 3rd to September 6th, 2020.

informal sector in micro-enterprises, this is why there are segments in the Latin American labor market driven by labor demand and correlated to economic growth.

In fact, SMEs are companies capable of adapting to changes due to technology and have the ability to generate employment, promote economic development, and comply with the income distribution policy, improving and driving the economy in times of crisis [3]. 95% of Ecuadorian companies and businesses consider strategic planning as a managerial factor; however, 61% do not use it [4].

Pandemics are recurring events. Countries have their borders closed, limiting society to confinement and stopping commercial activities, in fact, there are sectors that have increased unemployment such as tourism [5]. On the other hand, the increase in the use of the internet and digital technologies has developed online commerce, online study, social relations through platforms, changing consumption patterns, increasing new demands, and demonstrating that with Covid 19, the markets are dynamic and generate value [5].

In this sense, the global Covid-19 pandemic has raised an alert in the business area, forced to apply some type of plan in strategic management and corporate social responsibility for its continuity. Diaz Casero et al. [1] establishes that the Institutional Economic Theory is what generates the guideline for the study of environmental factors in the business function and creation.

Romero Luna [6] indicates that there is a need to improve conditions in the economic and institutional environment for SMEs and entrepreneurs so that new organizations can be born. The Institutional Economic Theory contains the formal institutional framework such as laws, regulations, policies, and programs to support and promote business activity, while the informal framework considers ideas, attitudes, and cultural heritage, among other aspects to carry out the creation analysis of companies [1].

In Ecuador, the economic impact is caused by a shock in demand, by the reduction of exports, mainly of primary products to the United States, China, and the European Union, and on the supply side, by the suspension of production activity and trade [7]. In fact, there is a study where the Cash Buffer of Ecuadorian companies was analyzed by sectors in 2018, to examine the businesses, and know how many days they could survive in times of quarantine confinement due to a pandemic.

The Cash Buffer is an index that allows companies to know the days that can be resisted without liquidity and is calculated by dividing the average monthly cash balance by the average monthly outflow. It allows finding out how many days can the companies stop producing without having incomes so that they can continue operating with the available cash balance [7].

According to Superintendencia de Compañías, Valores y Seguros, Banco Central del Ecuador, and Instituto Nacional de Estadísticas y Censos, in 2018 the total number of formal companies reached 27,764, emphasizing the Service sector with 11,832 formal firms, belonging to 43% of market share. Their incomes and profits represent 13.9% and 1.3% of GDP respectively, generating 3.8% of total employment [7].

The results of the study mentioned before indicated that SMEs have higher cash levels than large ones in most sectors, and through the Cash Buffer they showed that 50% operate with a median of 33 days. It means that they manage and resist without liquidity for more than one month, while the most vulnerable sectors to suspend their activities are manufacturing (32 days), services (31 days), electricity, and water (29 days). Additionally, companies that have an international commercial activity or access to credit have a higher level of resistance without cash [7].

The problem of the investigation is the affectation of professional, technical, and administrative activities of Ecuador, as a result of the effects of the global Covid-19 pandemic. That is why the objective of this research is to assess its impact on this sector for the year 2020. The importance of this research is based on the post-Covid-19 global pandemic economic reactivation, as a process of adaptation to new business reality, through the service sector in professional, technical, and administrative activities, demanded by Ecuadorian companies and businesses. It is relevant to complement the analysis with a quarterly variation of GDP, where according to estimates by the Ministry of Economy, Mauricio Pozo indicates that "at the end of 2020, the GDP will register a year-over-year decrease of 8.9%, it is a severe rate, but it is less bad -if we compare with the hardest moment of the pandemic"

2. Theoretical Framework

Bonaglia et al. [8] indicated that the socioeconomic impact of Covid-19 is serious for people, households, and companies if they do not have appropriate public policies. The public power promotes support for entrepreneurship and business development strategy, mainly for SMEs with an impact on economic growth, job creation and poverty reduction [6].

Pandemics usually occur at intervals of 10 to 50 years, due to new types of viruses. Society has already been affected by several ones in the past. It is difficult to estimate the economic consequences, and long-term social behavior, where investment is disinterested and saving capital is more important [5]. The covid-19 global pandemic has forced many companies to

close, trade has been interrupted, some firms have frozen their contracts indefinitely, markets such as tourism have fallen, and others face the permanent challenge of health, logistics chain, workforce, sales, and cash flow. However, other sectors have grown unprecedentedly in an extraordinary way [5].

The Covid-19 pandemic had repercussions on the economic impact of Latin America and the Caribbean, where governments implemented public policies and plans for its immediate reactivation [8]. In fact, labor markets were modified and adapted to the pandemic, using the internet as a fundamental pillar for business success [5].

In this sense, businesses and companies modified their processes, using innovation and technology tools, for the commercialization and demand of new products and services. Lana [9] indicates those information systems collaborate in the organization to support processes and operations, in the decision-making of officials and managers, being useful for the development of strategies to improve competitive advantage [9].

However, Diaz Casero et al. [1] criticize neoclassical theory for focusing only on technological development or investment in human capital, where institutions and time are not important. In fact, institutions form the structure of society and are the political and economic institutions, the ones that determine long-term economic performance.

The institutional theory produces employment generation, innovation, growth, and economic development. Companies change their institutional structure to meet their objectives, and adjustments are focused on the long-term as a result of decisions of businessmen, politicians, and economists, who work on improvement in the short term [1].

Diaz Casero et al. [1] establish that institutional planning involves: a) the agent of change (economic or political businessman), b) the source of change (opportunities for managers or entrepreneurs), c) the process of change (negotiations and commitment), d) the path of change (the path taken). Diaz Casero et al. [1] mention that despite the fact that economic change is a consequence of decisions by the businessmen of the organizations, there are usually contractual changes, within the regulatory framework, including new rules according to situations, causing institutional change.

In Ecuador, measures were taken to guarantee the permanent operation of the productive sector, such as: Food and medicines supplies, restrictive norms for vehicular movement and curfew, a family protection bonus for the poor population for the months of April and May, labor and tax management adjustment, financing and liquidity through Public Banking, National Finance Corporation and direct credit to support SMEs, and international financing.

2.1. Strategic Management and Professional, Technical and Administrative Activities

Strategic management is a tool that guides the manager with a clear vision of the business for the performance of activities and achievement of objectives [9]. Lana [9] identifies the strategic management process with a) analysis of the internal and external environment, b) organizational guidelines of goals and objectives, c) strategic formulation, d) implementation of strategies and e) strategic control.

To formulate the organizational strategy, it is important to develop a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), and examine critical points and growth matrix [9], but

it is necessary to coordinate actions and solve problems of different criteria within a company, which allows the continuous fulfillment of objectives, through an adequate strategic planning [10].

Systemic violence in capitalism is inherent to the system, because it imposes relations of domination and exploitation, as a result of the economic and political order [11]. In this sense, as a result of the economic and political order, the government should not only emphasize the production of goods, but also prioritize the service sector, because some of them don't have enough support from state programs, and there is also a lack of credit incentive to get an expansion to national and international level.

Araque et al. [12] indicate that business internationalization is carried out by export, foreign direct investment, agreements between companies, and contracts. However, the relationship between national and international forces is complicated by the intervention of each state, because they have different structures and also in their internal relations [13].

The organizational strategies by sectors must be aligned in favor of the construction of a cultural identity subject to the rules of hegemony, but with new guidelines for the post-covid economic reactivation, where power relations and the rights of entrepreneurs and professionals can be coordinated. The leaders of organizations must redesign the supply chain, rely on technology and the internet, in order that they can get sustainable supplies, and despite the alteration in the industries due to the crisis, adaptability to changes with innovation techniques is considered a useful key to overcoming barriers [5].

Romero [6] indicates that there is a need to improve conditions in the economic and institutional environment for SMEs and entrepreneurs so that new organizations can be born. Diaz Casero et al. [1] emphasize that the creation of companies is a solution for unemployment, economic development, innovation, and expansion of markets with business development programs.

3. Methodology

The research is exploratory-descriptive, with a quantitative investigation approach, which uses the analytical-synthetic method, supported by data series. Documentary and bibliographic reviews were used as research techniques.

4. Results

It is important to analyze the indicators of the independent variable (Deaths registered in the Civil Registry, and deaths during the pandemic). The first indicator shows that until September 27th, 2020, the curve had already flattened, but the interesting fact is the dispersion of the average, where 35,227 excess deaths were recorded since March. On the other hand, Ecuador registered 141,339 cases, of which 11,869 died from COVID on October 5th of the same year.

Comparing the number of deaths from the 2018-2019 period (Second Indicator), there was a difference of 35,227 deaths, which shows the social and economic impact that the pandemic brought because among those deaths were heads of households, informal merchants, professional

Table 1
Gross domestic product by industry

Period/ Industries	Professional, technical and administrative activities	Annual variation rate, percentage	GDP	Annual variation rate, percentage	Percentage of contribution sector/GDP
2009	3360,1	-3	54557,7	0,6	6,16%
2010	3491,8	3,9	56481,1	3,5	6,18%
2011	3764,4	7,8	60925,1	7,9	6,18%
2012	4024,2	6,9	64362,4	5,6	6,25%
2013	4255	5,7	67546,1	4,9	6,30%
2014	4445,1	4,5	70105,4	3,8	6,34%
2015	4388,3	-1,3	70174,7	0,1	6,25%
2016	4296,6	-2,1	69314,1	-1,2	6,20%
2017	4342,7	1,1	70955,7	2,4	6,12%
2018	4482,9	3,2	71870,5	1,3	6,24%
2019	4614,9	2,9	71909,1	0,1	6,42%

women, who cease to be part of the economically active population, and whose homes are destroyed due to lack of parents or psychological effects on family members.

The first variable indicator indicates that between 2009 and 2019, this sector contributes approximately 6.20% to the total of the Ecuadorian economy, and measured through the annual variation rate, in some cases, it exceeds the growth rate of the Gross Domestic Product. However, in the years of the crisis between 2015 and 2016 due to the strengthening of the dollar, the fall in the price of a barrel of oil, and the earthquake, caused a negative effect on the economy, and logically the demand for services such as these was influenced by those external factors.

After the recovery of the economic cycle, the sector raised in 2018 and 2019 by 3.2% and 2.9% respectively. If we consider that this reactivation goes hand in hand with the start-up of new businesses and the increase of sales in sectors, such as commerce and construction, the outlook becomes encouraging. The data is presented below in Table 1. All must be subjected to denser scrutiny, and that is why the Value Added by industries is used to know how much it contributes to the Gross Domestic Product, but on an interannual or quarterly basis, for which the data is taken from 2016. In that year, the sector only recovered for the last two quarters.

In 2017, except for the second semester, it registered positive contributions. This explains the dynamics of the economic cycle and how once macroeconomics starts to emerge, the effect on the micro is gradual.

In 2018, it is evidenced as the most positive quarter, even the best year, registering 3.3% growth and positive numbers in 3 of 4 quarters; but for the year 2019 the impact of the country's recovery for this sector has just been measured, but unfortunately with a pandemic, according to the statistical data, the first quarter of 2020 starts with contraction.

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growth and positive numbers in 3 of 4 quarters; but for the year 2019 the impact of the country's recovery for this sector has just been measured, but unfortunately with a pandemic, according to the statistical data, the first quarter of 2020 starts with contraction.

Going deeper into the analysis of the Professional, Technical, and Administrative Activities sector for 2019, between January and August architecture activity, represented 24.92%, below-consulting services at 37.65%, and finally in third place legal and accounting at 15.60%. For 2020, despite the pandemic, the results were 23.82%; 34.08%, and 17.03% respectively. Other scientific and technical activities represented 12.73% and advertising and market research 10.94%. In total, these activities supported the sector and are explained as follows:

People adapted to present and future constructions with biosafety standards, so they contact architects and consultancies to find strategies to face the crisis. There were legal issues for the liquidation of companies, and layoffs, and this relates to accounting. On the other hand, professional activities associated with craftsmanship, new products, innovations, and investment in advertising and marketing complete the reason why, despite the pandemic, the sector was not harmed, but rather was enhanced.

5. Conclusions

As a result of the Covid 19 global pandemic, many sectors of the Ecuadorian economy continued working constantly, such as the Agricultural sector, but some drastically decreased, as the Hotel sector, and others took on value, being the Professional, Technical, and Administrative Activities Sector of Ecuador an example, that responded to the urgent business needs to continue operating, with an administrative plan that encourages the reactivation of the economy

Technology and platforms with innovation allow the redesign of business strategies, within the strategic administration for globalization and economic reactivation after the global Covid-19 pandemic. The business sector demands the services of the professional, technical and administrative activities of Ecuador to improve decisions, identify problems and failures, redesign its strategies and implementations, and the fulfillment of objectives in times of the global Covid-19 pandemic.

The critical balance of the impacts of the Covid-19 global pandemic, in the sector of Professional, Technical and Administrative Activities of Ecuador for the year 2020 determines that this sector benefited greatly from the urgency of architects, lawyers, consultants, publicists, and accountants, among others.

Araque et al. [12] mention that according to the characteristics of the sector and government intervention, competition and investment can be promoted. Agriculture, Fishing, and Services sectors should be prioritized, as well as access to financial credit for micro and SMEs to improve liquidity levels because, in that way, they can survive exogenous variables, and on the monetary policy side, the decrease in active interest rates and extension in collection terms are essential for reactivation [7].

The factor and financial support are keys between multilateral, public, and private banks and international organizations for the promotion of economic reactivation worldwide [8]. It is expected that in future research, the calculation and analysis of the Cash Buffer will be developed in detail, focusing on a specific post-covid sector, so that the business field can be

prepared with resilience in pandemic events and/or natural disasters.

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References

- [1] J. Díaz Casero, D. Urbano Pulido, R. Hernández Mogollón, Teoría económica institucional y creación de empresas, *Investigaciones europeas de dirección y economía de la empresa* 11 (2005) 209–230.
- [2] N. Cepal, Estudio Económico de América Latina y el Caribe 2019. El nuevo contexto financiero mundial: efectos y mecanismos de transmisión en la región, Cepal, 2019.
- [3] M. Di Ciano, Pymes–rol en la economía nacional y características particulares de funcionamiento, 2018.
- [4] B. Cho, Planificación estratégica en empresas familiares en ecuador, <http://brianchoc.weebly.com/crecimiento-empresarial/planificacion-estrategica-empresas-familia-ecuador>, 2017.
- [5] N. Donthu, A. Gustafsson, Effects of covid-19 on business and research, *Journal of business research* 117 (2020) 284–289.
- [6] I. Romero Luna, Las pyme en la economía global: Hacia una estrategia de fomento empresarial, *Problemas del desarrollo* 37 (2006) 31–50.
- [7] P. Carrillo Maldonado, M. C. Deza, S. Camino Mogro, Una radiografía a las empresas ecuatorianas antes del covid-19, *X-pedientes Económicos* 4 (2020) 83–117.
- [8] F. Bonaglia, S. N. Parra, J. J. V. Zamora, Una mirada al futuro post-covid-19: hacia un nuevo pacto social en américa latina y el caribe, *Análisis Carolina* (2020) 1.
- [9] R. A. Lana, La administración estratégica como herramienta de gestión, *Revista Científica "Visión de Futuro"* 9 (2008).
- [10] E. Ogliastri, Manual de planificación estratégica: siete modelos para hacer un plan estratégico, Technical Report, INCAE Business School, 2004.
- [11] S. Zizek, Ensayos sobre la violencia. seis reflexiones marginales, 2006.
- [12] W. E. Araque Jaramillo, A. J. Argüello Salazar, Caracterización del proceso de internacionalización de las pyme ecuatorianas, *FIR-FAEDPYME International Review* 7 (2015) 35–46.
- [13] A. Gramsci, Notas sobre maquiavelo, la política y el estado, 1975.