

# Organizational development from a new reality derived from the impact of Covid-19 aconscious look at a Higher Education Institution in Medellin-Colombia: case study

Luis Fernando Quintero Arango<sup>1</sup>, Mauricio Alejandro Bedoya Jiménez<sup>2</sup>, Magali Mafud Toledo<sup>3</sup>, Marco Antonio Romero Gutiérrez<sup>4</sup>

<sup>1</sup>*Doctor en Proyectos de la Universidad Internacional Iberoamericana, Mexico. Docente Investigador. Facultad de Ciencias Eómicas, Administrativas y Contables. Universidad Católica Luis Amigó. Medellín, Colombia.*

Orcid: <https://orcid.org/0000-0002-6268-065X> E-mail: [luis.quinterora@amigo.edu.co](mailto:luis.quinterora@amigo.edu.co)

<sup>2</sup>*Magister en Administración Económica y Financiera de la Universidad Tecnológica de Pereira, Colombia. Docente Investigador. Facultad de Ciencias Eómicas, Administrativas y Contables. Universidad Católica Luis Amigó. Medellín, Colombia. Orcid: <https://orcid.org/0000-0001-5958-2197> E-mail:*

[mauricio.bedoyaji@amigo.edu.co](mailto:mauricio.bedoyaji@amigo.edu.co)

<sup>3</sup>*Doctora en Administración, Universidad del Sur, México. Docente, tiempo completo titular "C", Universidad Autónoma de Chiapas, Tuxla Gutierrez, México. [magali.mafudo@unach.mx](mailto:magali.mafudo@unach.mx)*

<sup>4</sup>*Doctor en Administración, Universidad del Sur, México. Docente, tiempo completo titular "C", Universidad Autónoma de Chiapas, Tuxla Gutierrez, México. [marco.romero@unach.mx](mailto:marco.romero@unach.mx)*

## Abstract

In this study, we analyze the transformation that a Higher Education Institution HEI is generated from the effects linked to the Covid-19 pandemic. Thirty interviews and a focus group were conducted with managers of the university where this study was conducted. By means of the interviews, the categorical analysis and the different aspects that were determined to consider the transformational aspects that were adopted in the university were carried out. Significant changes are observed in the morphology of the organizational culture, adaptive response of the collaborators, technology as a facilitator of the processes and administrative management, as well as the effects of the pandemic in the collaborators of each area analyzed. The reality of the university is of a transformation in the organizational culture and in each one of the collaborators in all the organizational hierarchical levels.

**Keywords:** organizational transformation, educational development, technology, educational flexibility, employee adaptation, Covid-19.

## Introduction

There is no doubt that the COVID-19 generated a change not only in individuals but also in the collaborators who are part of an organization, thus causing transformations in the way of carrying out activities, many of these transformations were mediated by technologies. In this context, authors such as Cueva Gaibor (2020) propose the need to incorporate these transformations in order to take advantage of organizational capabilities, thus allowing the development of new ways of working that

finally end up affecting the interactions of employees within the organization. This is how the so-called Digital Transformation (DT) appears within Higher Education Institutions (HEI). Thus implying the emergence of the University 4.0. Barnett (2017) and Cueva Gaibor (2020) define this as the disruptive adaptation of the organization using technology; this process will bring about a change in the organizational model. A change that must be accompanied as Azanza et al. (2013) points out, of an organizational culture oriented to flexibility where authentic leadership is the

intermediary between flexibility and job satisfaction.

Flexibility is understood as one of the two dimensions of organizational culture and refers to decentralization and differentiation in juxtaposition to control. This type of culture is characterized by the emergence of new ideas, trust towards their work teams and support for development (Van Muijen et al., 1999). In turn, when talking about flexibility Krishnamurthy (2020) refers to agility and how Higher Education Institutions - HEIs, should be involved with existing knowledge systems. Barnett (2017) defines universities that create these systems, as the ecological university, one that is able to connect with various ecosystems. These ecosystems are used by Laloux (2018) when referring to teal organizations, which defines them as those that adapt to the new social and economic contexts, making use of living ecosystems, in which the work teams become part of the center of the organization. Characterized by self-management, allowing in this way to achieve more efficient organizations, in which human capital becomes the center of the organization, simplifying hierarchies and giving less importance to control.

In these organizations, the responsibility of the collaborators is preponderant in their work. When talking about ecosystems in this paper we refer to the so-called morphologies of organizations, i.e. understanding how an organization is shaped and constituted to respond to the demands of the environment (Acuña and Arzola, 2011).

In addition to this, this type of organizations by introducing an innovation factor provides a determining factor, a competitive advantage, an element that becomes essential when facing great challenges such as those experienced with the COVID-19, however, this becomes a challenge for those traditional organizations that maintain rigid and control structures (Laloux, 2018).

However, one of the groups of collaborators who were pressured to carry out these transformations was related to teachers, who in some cases were forced in different ways to generate strategies that would allow them to continue their educational work in the best way possible (Cortés, 2021). Authors such as Krishnamurthy (2020) describe that the process

of adaptation of teachers to the new realities was not an easy task. These were in the need to adapt their courses in a very short time to the new conditions posed by situations of social distancing added to aspects related in some cases with the lack of investment in technological resources by institutions and in other cases due to the absence of technological skills of teachers. In this regard, Mendoza Castillo (2020) states that it is necessary to develop new skills to adapt to the new needs of the environment, for this it is necessary to narrow the digital divide; the Organization for Economic Cooperation and Development - OECD (2001) defines it as the opportunities for access to ICT and their use in different areas or activities.

For Lizarazo and Paniagua (2013) point out that, the DT is not only about the technical aspects of technology (computers, devices, software, etc.). It is also necessary to take into account how knowledge allows its proper appropriation, an appropriation that occurs not only between companies, but between HEIs that can present better infrastructure and staff prepared around information technology (IT) (Govindarajan & Srivastava, 2020). In the same sense authors such as Winocur (2006), Crovi and Lopez (2011), Van Dijk (2017) and Toudert (2019) argue that appropriation not only refers to the access that can be given to technologies but also to having the necessary skills to use these as well as, to make its use into a daily routine. It here where the concept of digital cleavage appears, understand by this, the differences that may exist between students, teachers and educational systems, recognizing at this point the generational differences (Mendoza Castillo, 2020). This is how Van Dijk (2017) develops the so-called theory of acceptance of technology in which the motivations and attitudes of individuals regarding the appropriation of technology are permeated by factors such as its usefulness and ease of use.

In this sense, it is necessary to take into account the aspects that may arise in relation to the use of technologies and the appropriation of users to their use, so that different types of appropriation may occur in the same HEI (Govindarajan & Srivastava, 2020).

On the other hand, from the labor point of view, the pandemic has also caused great effects. As a product of social distancing, work at home (Work From Home - FMH) has been one of the

solutions that organizations have applied. In this sense, Tønnessen et al. (2021) raise the importance of creative performance (Creative performance - CP) in the assumption of tasks from home and how technological platforms enhance the CP; CP refers to the individual's ability to generate novel ideas (Zhou & Oldham, 2011).

Now, authors such as Allen et al. (2015) and Garrett & Danziger (2007) define work

at home as a work practice through which work-related activities are performed, thus replacing the physical being at the place of the employer, being essential for this the insertion of digital technologies (De Rahul et al. 2020). In this regard, Chandra et al. (2020) argues that these stimulate the development of CP and knowledge exchange (knowledge exchange - KE); the latter according to Kremer et al. (2019) is the precedent of CP.

There is no doubt then that the pandemic forced the emergence of DT in organizations. That technology allowed in a certain way to give a "quickly" answer to the needs of the environment and that working at home ended up being the most efficient option for organizations to continue providing their service. However, these positive situations gave rise to other negative ones; Kumar et al. (2021) raise this by raising the extreme situations and workloads that were part of these situations, thus generating work stress. Colligan & Higgins (2006) define this as the pressure to which an employee is subject product of aspects that are part of their employment, when the expectations do not respond to the results and available resources such as knowledge and skills. In this regard, Shareena & Shahid (2020) recall that in the matter of organizations such as the case of HEIs that implemented FMH their collaborators were affected by stress, the responsibilities of work and its management. Moreover, the activities performed at home in the development of FMH further enhance the aspects of stress given the inability that exists to manage resources as these are not infinite, the so-called flexibility generates misinterpretations regarding time, being at home, working hours end up increasing (Kumar et al. 2021).

The flexibility of FMH generally gives the impression that the employee has saved on commutation time; therefore, he/she can spend

the saved time to work more. Even it is also of the opinion that since the employee is at home, the working hours can be easily extended.

Hence, it leads to increase in daily working hours (Kumar et al. 2021). In the same vein Kalia (2020) points out that those who work from home using technologies as communication platforms are under intense control and their interactions are hyper- focused. These aspects have combined to form another COVID-19 work stressor i.e. role overload. Thus, it is defined as the perception of having too many work role tasks and not enough time to perform them.

The aspects previously discussed as flexibility, adaptation, DT, FMH and stress have a close relationship with the so-called organizational psychology. When linking the construct of organizational psychology in the business context, aspects are established that relate it to work, occupational, behavioral and social psychology. This oriented to organizations, focused on determining the management of human talent in companies that aim to consider that employees are valuable, that consolidate and build with their contributions welfare for all stakeholders of the company (Salanova et al. 2016).

In companies, whatever their corporate purpose and size, should be constantly self- manage what is related to employees, in order to create a cultural identity, loyalty and organizational culture, allowing a link between the company and each of its employees. This is achieved with different strategies, from behavioral theories, having particular analysis and in a general way, as well as working in team activities, achieving a favorable construction within the company, which allows achieving the objectives and goals that are defined within the business context. This is how from the empirical evidence, according to Molina Sabando et al. (2016), Ferrer Dávalos (2018) and Aira (2016) the processes of organizational psychology, must be built from the relationship with the collaborators.

Identifying the rules, principles, norms and policies that the company define and Contribute so that a favorable organizational identity and behavior is achieved for each of those who make up the company. While it is sought that the relationship between managers and employees is favorable, for Chernyak-Hai & Aharon (2014)

the interests of each individual, determined by their actions, behaviors, interests, objectives and personal aspirations; make each of the members of a company divert the collective interests by seeking to work in a favorable, positive and constructive environment. Where it is possible to harmonize all the needs in order to achieve organizational efficiency and productivity that for Fontalvo et al. (2017) are determined by internal and external factors. As well as the human resource that is available, so that the company seeks positive results from the financial and productivity analysis that has determined, according to its policies and management decisions.

### Methodology

To address the entire methodological process of the research a documentary analysis was initially conducted, in order to identify the strategic planning, organizational structure and the functions that each of the collaborators fulfills within the university where the research was conducted. Then the fieldwork was done using the technological platforms to apply the interview and the focus group.

The paradigm used for the development of the research was the comprehensive, according to Ramos (2015) comprehending means understanding the realities that are lived in a given context, by one or a group of people, where the interpretation of their experiences about a phenomenon enriches the research process. Where the fundamental interest is to know the experiences lived by the people who are immersed within the context studied.

The strategy used for the development of the research was the case study. According to Yin (2018) this strategy focuses on the study of a phenomenon that asks about the how and why of the situation being investigated, emphasizing a topic of interest on the realities of a particular problem, in this case the impacts generated by Covid-19 in an institute on of higher education in the city of Medellin.

Continuing with the case study as a study strategy from qualitative research Kazez (2009) contemplates that this type of cases should be understood from the way in which they are intended to build and are raised, since they are cases that can be developed, i.e., from a base information and other cases that are already built. According to Ragin and Becker (1992), the following ways of understanding and conceiving cases are found, and Table 1 explains each of these elements.

Explaining Table 1, each of the conceptions of cases is addressed: (a) the cases are found, they are evident and real, it is necessary to carry out a delimitation of them; (b) the cases are objects, that is, the cases are general open and conventional; (c) the cases are made; theoretical, empirical and interaction aspects of the researchers are linked; important to discuss that the identification of the theory that will accompany the case can be achieved; and (d) the cases are conventional, they are theoretical concepts that manage to become concrete through the experience and knowledge that the researchers have about the subject under study.

**Table 1. Understanding and conception of cases according to Ragin y Becker**

Case conception		
Understanding the cases	Specific	General
As empirical units	a. Cases are found.	b. Cases are objects.
As theoretical constructs	c. Cases are made	d. The cases are conventions.

Source: Ragin y Becker (1992:9)

## Participants

For the selection of the participants in the research, we proceeded as follows. First order managers up to the third level of management, such as Vice-chancellors, Directors, Deans and Area Coordinators. In total, there were 30 people, who were selected according to the criteria defined above and intentionally. These people have within their general functions; the strategic decision-making, personnel in charge, technological resources and budgets assigned for their annual operation.

## Instruments

According to Galeano (2009) in qualitative research, there are defined techniques for collecting information, which allow access to collect the necessary input in an open, expressive and comprehensive manner. Among these techniques are the interview, the field diary, interactive techniques, observation and focus groups or discussion groups. For this case, two instruments were selected, the first one was the semi-structured interview, where four central categories were worked, such as; the organizational morphology, followed by the

adaptive response of the collaborators, the technology as facilitator of the processes and the administrative management; finally, the effects of the pandemic in the collaborators of each area.

Likewise, a discussion group was held with some of the participants, in order to delve deeper and further the interview conducted, considering that it is important to listen and observe the group participation of each of the actors who were part of the selection made according to the criteria explained above.

From these two instruments, semi-structured interview and discussion groups, it was possible to have a wide information that allowed a relevant analysis in the findings. Likewise, it is possible to make a triangulation from the techniques used, from the proposed frame of reference and from the perspective of the researchers, thus achieving a holistic and complete view of the object of study proposed in the research.

To conclude this section, Table 2 shows the categories of the study that were considered for the development of the interview and that were used as guidelines for the discussion group.

**Table 2. Categories of the study**

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1. Morphology of Organizational Culture.

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  2. Adaptive response of collaborators.

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  3. Technology as an enabler of processes and administrative management.

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  4. The effects of the pandemic on partners in each area.
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Source: Own elaboration

## Results

In this section, we present the findings found in the research from the two instruments used, the interview and the discussion group. Next, the results are presented for each of the five categories defined and the analysis that was made to each of the textual units provided by the

participants.

Table 3 details the findings on the category of morphology of organizational culture, in this analysis we found a change and organizational adjustments from the top management derived from the effects of Covid-19.

**Table 3. Morphology of Organizational Culture**

Category 1	Analysis
Morphology of organizational culture	<p>From the organizational morphological analysis, that is, the woven created as a network among all the collaborators where: the effects of Covid-19 have directly permeated their organizational structures and the way they were operating a restructuring of priorities was presented, focusing on what was urgent in order to provide a quick solution to the events that occurred at the time of starting with the confinement.</p>
	<p>Academic, outreach and research events had to be postponed due to budget constraints and limited mobility. Not being able to participate in person meant that the income that had been contemplated would be directly reduced and no economic benefit could be generated.</p>
	<p>Likewise, another factor that had an impact was the reprogramming of teachers in other academic and administrative functions. This occurred because teachers who were assigned to extension and research programs had to have their hours reassigned to direct teaching because of the situation.</p>
	<p>The University, from the pandemic situation of Covid-19, managed to make a needs analysis, which allowed them to identify what strengths they had and what</p>
	<p>aspects should be worked on to respond to current and future needs, which made them think about expanding the capacity for open access internet connectivity, modify the spaces for teaching staff at the time that authorizes the return in person and change desktop computers for laptops.</p>
	<p>On the other hand, the effect that represented the biggest change was in the organizational budget the income comparatively fell by 35% or 40% compared to 2019, in view of this, cost reduction strategies and internal and external hiring that can wait and are not necessary in the short term are sought.</p>
	<p>The University had to modify its organizational chart and adjust it to current realities. In the area where there was a modification, it was in the academic part, the teachers who had contracts for teaching and part-time, were not taken into account in order to reduce costs.</p>

Source: Own elaboration

Continuing with the analysis, Table 4 presents the findings with respect to the adaptation process that the University collaborators

presented in the face of the organizational changes that were necessary in order to respond to the new realities presented.

**Table 4. Adaptive response of collaborators**

Category 2	Analysis
Response adaptability of the collaborators	<p>Two aspects were found from the adaptation of the collaborators. The first is that, at the moment of starting with remote activities from home, the collaborators, perceived a strange sensation and began to comply with activities at home and not with those of work, which prevented them from achieving an efficient performance in work activities. The second is that work stress began to increase, due to so many meetings through the synchronous meeting platforms and the excess of reports that were being requested.</p> <p>All the activities of consultancy and follow up to the educational programs, with the objective of accrediting the programs or certifying the processes, are carried out in zoom or meet meetings, influencing the amount of hours that were dedicated to the meetings, in average from 2 to 3 hours.</p> <p>The methodology used to conduct the educational credit fairs had to be changed; this virtual methodology has not been so well received by the students.</p>

Source: Own elaboration

Table 5 shows the results regarding the contribution and implementation of technological processes for the development and management of all the processes that had to be adapted based on technology.

**Table 5. Technological processes as management enablers**

Category 3	Analysis
Technology as an enabler of processes and administrative management.	<p>Given the situation presented, technology is a strategic ally. All activities that had a physical component or paperwork, moved to cloud services or to be able to share through platforms that have these facilities, such as google drive.</p> <p>The academic, administrative and management achieved a positive performance, through the use of new platforms and strengthen some applications that were being used. Without technology, the effects on the development of work activities would have been affected in its entirety, decreasing the efficiency and</p>

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competitiveness of the University.

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Source: Own elaboration

Finally, Table 6 presents the findings regarding the effects generated by the pandemic in the collaborators' group.

**Table 6. Pandemic Impacts on Human Talent**

Category 4	Analysis
Pandemic Impacts on Human Talent	Disability, stress, demotivation, anxiety, uncertainty regarding job stability, all of which influenced the whole process of adaptation and current uncertainty regarding the pandemic.
	Effects on family and work relationships, due to the intense use of connections mediated by the platforms, at times, there were problems with some family members, especially the children who were studying at home. In addition, because of being in so many meetings, there were differences with coworkers.
	Due to the high stress, demotivation and anxiety, medical incapacities increased and in some cases, there were episodes of people hospitalized due to high levels of stress and lack of sleep.
	Some employees were infected by Covid- 19, as well as their families, and in extreme cases, some of the people close to them died. This generated and is generating in the collaborators, a high impact demotivation, worry and anxiety.

Source: Own elaboration

## Discussion

With the development of the research and the writing of this article, an empirical contribution has been made, with respect to organizational psychology from a research process that allowed finding different situations that the University under study evidenced by the pandemic situation of Covid-19 since 2020.

It was observed, that according to Mera-Lemp et al. (2019) and Shkoler et al. (2021) adaptability

to a new environment requires time and to know the new environment that is being explored. It is essential that companies provide facilities for employees to have appropriate spaces and give time so that their adaptation can be achieved positively, not doing so can generate dissatisfaction and behavioral problems.

Likewise, it can be interpreted that, from the organizational morphology, relevant changes were presented; one is from the same structure of the university, which had to adapt its organizational chart and jobs. The other change that occurred is with respect to the reduction of



collaborators, especially in the academic area, with the decision not to have teachers with assignment of teaching hours and part-time contract, which affects the direct effects to teachers who no longer have a job opportunity (Soriano-Tarin et al, 2017).

In the same way, according to Reneclé et al. (2020) the leaders of each team, taking into account that negative factors may be occurring, should analyze the changes presented in the work teams, as in this case, the impact of the Covid-19 pandemic. For this, some strategies can be proposed that find to maintain team cohesion and can seek solutions to the difficulties that all employees may present. Within these probable alternatives can be considered, the definition of a psychological care program to assist those who require it, hold individual meetings and listen to the experiences of each of the participants, this helps to lower levels of stress and anxiety, in order to maintain a balance throughout the organization.

Another of the organizational aspects that are established in companies, in this case a University, is that it is never prepared to give answers to the external uncertainties that appear in the environment. That is what Cruz et al. (2020) refers to with respect to the conflict that may arise between the members of a team, at the time of decision making, influenced or permeated by an external element, that no one has under control, as is the pandemic, but we can all suffer directly and indirectly the problems arising from this factor. Which at the time of writing this article still has the world in different crossroads and puzzles, unresolved.

Finally, in the face of the adversities presented, there is an element that supported all the companies, and that is the case of technology. For the University where the research was conducted, the change generated by the pandemic, led to an immediate transformation of the processes and with a slow but sure adaptation based on technology and software that had to become more flexible. Thus, Camacho Marín et al. (2020) consider that the administrative and academic processes changed and it was necessary to turn 360 degrees, make users more flexible and authorize them so that, from their homes and personal computers, they could work remotely, in order to achieve an apparently normal operation of the

organization. There are still limitations such as access to the internet and the speed of the same, but the universities had the ability to adapt to the unexpected changes that the world had to accept. Although it had the technology, they also encountered difficulties that

even in the XXI century still exist, and despite being advanced not all people and organizations are part of this 4.0 revolution.

It is necessary then, that companies have clarity about the risks and situations that may arise in the future. This pandemic is teaching us lessons, experiences that we all should learn from, in our business and personal lives. We are weak as people and likewise companies suffer from weaknesses, so the task is to be attentive to situations as complex as the one currently experienced, as expressed by Noah Harari (2020).

We live in a technical age. Many are convinced that science and technology have the answers to all our problems. Just let the scientists and technicians get on with their work, and they will create heaven here on earth. However, science is not an enterprise that takes place on some higher moral or spiritual plane above the rest of human activity. Like all other fields of our culture, economic, political, and religious interests shape it. (p. 300)

It is necessary then, to look for alternatives in the business context and try to have plans for complex contingencies, such as those we are living today, science can provide support, but does not have the solution to everything and for everything, this is also fallible.

## Conclusions

The effects generated by external aspects, in this case a global pandemic derived from SARS-CoV-2 (Covid-19), impact every human system, society itself and companies as a productive unit and constituted by people. It is evident that one of the sectors that suffered the greatest impact was education at all levels. In this case study, in which a university in the city of Medellin and 30 managers were analyzed, about the organizational situation derived from Covid-19, it is evident that they were not prepared to face adversities like these; where the collaborators are the ones who have carried the

most weight by the development of work activities remotely. The management, development, and support of technology was vital, but it generated in some of the collaborators medical situations that were not considered normal in their personal and work life before.

Similarly, companies must make decisions before the unforeseen events presented, that is why, to restructure the company as a whole, modify and adapt the company, is necessary to respond to the current needs that the environment requests. Therefore, being willing to change and open, is synonymous with transformation and resilience, so it must prevail the permanence of the university and make the necessary adjustments to continue in the higher education sector.

### Limitations

The results of the research were based on a purposive sample, from a case study, with 30 managers of a university in the city of Medellín. One limitation was that the participants, due to time constraints, did not have the opportunity or interest to respond to the interview sent by email and did not participate in the focus group.

It is proposed, for further research on this topic, to conduct research with other universities in the region and the country or to have an extension to cover international universities, since it was an event that affected the world, all institutions of higher education, underwent changes and modifications because of the pandemic.

### Conflict of interest

We, the respective authors of this article, declare that we have no conflict of interest at the time of submitting the text to the journal.

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