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MAIN ACADEMIC TRANSFORMATIONS ADOPTED IN UNIVERSITIES IN BRAZIL, DURING THE COVID'19 PERIOD

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Abstract: This research sought to understand the transformations that occurred in private higher education institutions in Brazil during the pandemic period and the impacts perceived after this and the same period, and was extracted from research carried out on the "Strategic transformations in private higher education institutions in Brazil during the COVID-19 pandemic", which is justified due to its social and current relevance, and it is necessary to investigate the changes that occurred in these organizations during this adversity. During the development of the research, a bibliographical research was carried out and an investigation instrument was applied to 114 educational managers from higher education institutions in all regions of Brazil. To analyze data, descriptive and inferential statistical methods were applied. Qualitative variables were presented by distribution of absolute and relative frequencies. Quantitative variables were presented by measures of central tendency and variation. The results indicated that there were transformations in areas of the organization such as academic, financial, planning and management, and that this transformation occurred in the institution as a whole. However, one sector that stood out during this period was technology, as the adjustments that would be brought about over several years naturally, had to occur abruptly and often without technical knowledge and labor. Another point to highlight was the restructuring of technological tools, in which the majority of those surveyed reported that they agreed that there had been a major change in this regard.
Keywords: Higher Education, Higher Education Institution, Strategic Management and COVID-19

INTRODUCTION

The history of higher education in Brazil was marked by several problems arising from the lack of investment by the federal government and problems caused by a lack of management. In 1964, for example, there was the Military Coup in Brazil, which caused a major setback in the expansion of education in the country. In 1970, the expansion of private institutions began and, from then on, there were several scenarios of "ups and downs", until in 1996 there was a significant increase in enrollment in higher education in the country, due to the expansion of the private sector. (Bottoni. et al., 2013).

Carvalho Júnior (2022) mentions in his thesis that the expansion of higher education in Brazil gained momentum after the University Reform of 1968, by military governments. From the 1990s onwards, this expansion accelerated, mainly with the publication of the Law of Guidelines and Bases of National Education - LDB of 1996, which points to a political change in Brazilian higher education that makes the rules for opening and closing courses and institutions more flexible. teaching that culminated in the growth of private higher education.

According to Bottoni (2013), in 1997 there was a change in Brazilian legislation that allowed the implementation of Higher Education Institutions - Universities for profit and with this, foreign institutions and institutions belonging to financial groups and publicly traded educational groups emerged. From 2001 to 2010, there was an increase from 3.036 million to 6.379 million enrollments in Brazilian higher education, which corresponds to a growth of 110%. Only in private Universities did the growth go from 2.091 million to 4.736 million, or 126%.

Scarano (2021) states that comparing the period from 2010 to 2018, it was in 2018 that there was a greater number of accredited

Universities in the country, when it reached 2,537, of which 2,238 (88.2%) were private.

Universities are inserted in an environment where there are continuous changes and, in this scenario, strategic management is fundamental, which requires global knowledge of the institution from its managers. And according to Monteiro (2005), educational institutions are in permanent exchange with their environment, in which a large number of different forces act, which are always renewed and interfere in the final state of the system. Therefore, Universities need to adapt by detecting changes in the environment.

During the pandemic, this became more evident, considering that the changes happened abruptly and many higher education institutions suffered difficulties and/or even closed their doors.

Since December 2019, the world was facing the biggest health crisis in human history, the COVID-19 pandemic. Since then, governments and companies were in a real battle against the adversities that arose during this pandemic.

The education sector in Brazil was one of the most affected after the publication of restrictive measures to combat the virus, especially in-person education.

Brazilian private higher education institutions underwent several transformations very quickly to adapt to the new reality, many of them were already predestined, regardless of the pandemic, but they had to be implemented quickly without prior planning, which greatly changed the strategic management process.

This article is extracted from research carried out on "Strategic transformations in private higher education institutions in Brazil during the COVID-19 pandemic", which is justified due to social and current relevance, and it is necessary to investigate the changes that have occurred in these organizations during this adversity.

Mintzberg (2006) focuses on several distinct definitions of strategies such as plan (and also pretext), pattern, position and perspective. Thus, the concept of emergent strategy is that a pattern can emerge and be recognized, so as to create a formal plan, perhaps within a general perspective.

Drucker (2016) mentions that in the same way that an enterprise requires entrepreneurial management, that is, practices and guidelines within the company, it also requires external practices and guidelines, in the market, that is, it requires entrepreneurial strategy.

Strategic management, according to Mintzberg (2006), follows a process composed of the planning, formulation, implementation/ implementation and control phases that can occur holistically or linearly. According to the way strategies are developed, they are classified as deliberate or emergent. The first refer to those strategies that were previously thought through the development of a formal plan and may or may not be carried out and the second relate to strategies that were developed based on perceived needs, but which formed a sequence of actions that were accepted as standard by the organization.

This research aims to answer the following question: how did academic strategic transformations occur in private higher education institutions in Brazil, during the COVID-19 pandemic until 2022?

The objective of this research is to analyze how the academic strategic transformations occurred in private higher education institutions in Brazil, during the COVID-19 pandemic, which began in March 2019. The aforementioned period, from 2019 to 2022, would be the period in which the pandemic occurred in a more critical way when it comes to restrictions.

In this article we analyze whether the arrival of the COVID-19 pandemic caused

institutions to reformulate their annual academic planning and whether there was a remodeling in their academic sector.

To achieve the proposed objective, bibliographical research carried out through consultations of books and scientific articles will be used as methodological resources, in addition to the results of the application of an electronic questionnaire for educational managers from all regions of the country, through a proportional stratified sampling.

THEORETICAL FRAMEWORK

Brazilian Higher Education Institutions can be public or private. Public educational institutions are those maintained by the Government and do not charge registration or monthly fees. Private Universities are managed by individuals or legal entities governed by private law, with or without profit purposes (De Oliveira et al., 2022).

Private higher education has assumed the role of the main driver of the growth of higher education in Brazil in the last two decades. This scenario was created in the search for achieving national objectives for higher education, especially those contained in the National Education Plan (PNE), However, there is immense support for the use of various public policies to encourage the expansion of private participation in the sector (Miro, 2021). According to Miro (2021):

> Higher education in Brazil is a constitutionally guaranteed social right; it is the State's obligation to offer higher education to its citizens. However, the State is not capable of offering higher education to all those who could, or even alone, achieve the goals established in the PNE. Despite being a social right, higher education in Brazil is an activity subject to free initiative, and it is possible for private agents to invest in the sector in order to contribute to public objectives when acting in their own private interests. However, public objectives condition the achievement of these private objectives on the quality that is demanded from education in the country, being made mandatory in our Federal Constitution.

According to Decree, number: 9.235 (2017) the higher education system in Brazil comprises: federal higher education institutions – IFEs; Higher Education Institutions - Universities created and maintained by the private sector, which are subject to the federal education system; and federal higher education bodies. This same decree provides that the operation of Universities and the provision of higher education courses depend on an authorization from the Ministry of Education - MEC.

Article 15 of the aforementioned decree provides that Universities, in accordance with their organization and academic prerogatives, will be accredited to offer higher education courses as: colleges, university centers, or universities, with private institutions being accredited originally as colleges and After periodic assessments and compliance with requirements, they may request transformation into a university center and university, respectively in that order.

Harnik (2011) explains the difference between the types of academic organizations as follows:

Universities must obligatorily offer teaching, research and extension activities (services or assistance to the community) in various areas of knowledge. They have autonomy and can create courses without asking permission from the MEC.

University centers, like universities, have degrees in various fields of knowledge and autonomy to create courses in higher education. In general, they are smaller than universities and have fewer post-graduation program requirements.

Colleges are higher education institutions that work in a small number of areas of knowledge. They are often specialized and only offer courses in the area of health or

economics and administration, for example.

Law number: 9,394 (1996) establishes that higher education will cover sequential courses by field of knowledge, undergraduate, extension, and post-graduation, including specialization and master's and doctoral programs.

COVID AND UNIVERSITY MANAGEMENT

In December 2019, a fact was reported by China to the World Health Organization (WHO), stating that a new pneumonia of unknown causes was detected in the city of Wuhan, resulting in a new illness called Covid-19, caused by the SARS-CoV virus. -2 (Cabrera, 2021:34).

According to the Brazilian Ministry of Education (2020), the World Health Organization - WHO declared, on March 11, 2020, that the community spread of COVID-19 on all Continents characterizes it as a pandemic. To contain it, the WHO recommends three basic actions: isolation and treatment of identified cases; massive tests; and social distancing.

To mitigate the effects related to the spread of the pandemic, governments were forced to act quickly, developing urgent measures to contain the virus, such as implementing restrictions on citizens' freedom of movement and closing borders (Management Solutions, 2020: 5).

States and Municipalities have been issuing decrees and other legal and normative instruments to face the public health emergency, including the suspension of school activities (Ministry of Education, 2020).

According to Backes (2020), in the business area, most companies had to put aside their 2020 strategic plans to adapt to the crisis with emerging strategies. Governments, following quite varied strategies, sought to provide answers to their population and their own economic problems. In the education sector, teaching and learning strategies also had to be adapted and schools and universities faced the challenge of implementing 100% virtual plans.

Gomes (2022) highlights that the pandemic reached peripheral countries more deeply, with South America being a global epicenter and therefore, it was necessary to adopt extreme control measures. Brazil specifically stood out in the accumulated number of deaths, with more than 600 thousand recorded. In this catastrophic scenario, the educational sector was put under pressure, which justified the emergence of a new dynamic in the functioning of school institutions, including universities, with the adoption of emergency remote teaching.

This dynamic forced some countries to quickly and forcefully adopt measures to offer this teaching format, which placed leaders, teachers, students and families in an accelerated and radical break with face-to-face teaching, while others, already having pre-existing conditions, were able to advance and innovate processes, as was the case in Uruguay, Mexico, Brazil and Chile (Gomes, 2022).

To face the global problem of COVID-19, many higher education institutions have reformulated their teaching processes and modus operandi. In some experiences, it was clear that the process was costly and onerous, as a drastic change like the one implemented was not planned (Moreira, 2020).

Vaz (2020) quotes:

> In the educational segment, alternatives were sought to continue the activities carried out in schools and universities. A country with continental dimensions, and among the largest in terms of social inequalities, Brazil records different scenarios in the fight against coronavirus when it comes to continuing education remotely. Across the country, community, private and state

> education systems, following the guidelines of the Ministry of Education, prepared their contingency plans so that, in a very short period of time, without time for major discussions, they could make a decision on total or partial interruption or continuity of educational activities via a remote system.

These changes did not occur homogeneously and linearly, varying significantly depending on the nature of the educational institutions, the types of education and the socioeconomic profile of the teaching and student bodies (Pires, 2021).

The advancement of the pandemic brought an uncertain scenario and many challenges for Universities, imposing a new management, communication and classroom model along the lines of remote education (Vaz, 2020).

METHODOLOGY

This research aims to understand the academic strategic transformations that occurred in private higher education institutions in Brazil following the advent of the COVID-19 pandemic, through research classified as descriptive, which, according to Sampieri (2013), seeks to specify the properties, characteristics and profiles of people, groups, communities, processes, objects or any other phenomenon that is subject to analysis, that is, measuring or collecting information independently or jointly about the concepts or variables they refer to.

This research will be carried out by applying a questionnaire to managers in the educational area and, once the research is completed, it will have a description of the reality in private higher education institutions in Brazil, in relation to strategic transformations due to the pandemic. The scenario, changes in management and the difficulties faced by these institutions will be described.

It is noteworthy that the research method used in this work is descriptive, as it seeks to expose characteristics of the Educational Management scenario in the country after the COVID-19 pandemic. When carrying out the research process, we use a mixed methodology, that is, quantitative and qualitative, in which the information collected will be quantified and the data reported will be interpreted to generate a greater understanding in relation to the topic addressed.

It is noteworthy that the quantitative investigation will use objective data relating to management collected in the research, while the qualitative will be the analysis of subjective data from the investigation.

The literature review for the construction of the theoretical framework was the result of a bibliographical search of other scholars related to the subject of this scientific work.

To construct this article, research was carried out in physical and virtual libraries, books, scientific articles, technical magazines, government newsletters related to the topic, doctoral theses and master's dissertations, to understand the main concepts, educational scenario and data on Brazilian higher education before and during the COVID-19 pandemic.

The research used a structured online questionnaire as a data collection instrument, created from the agglutination of constructs related to strategic management, changes and performance of higher education institutions during the pandemic. This questionnaire was applied to managers of Private Higher Education Institutions, from June 5, 2023 to August 16, 2023, in a sample of 114 respondents, distributed proportionally across the five regions of Brazil, exceeding the number of 4 respondents from that which was planned as a research sample. CEOs (Chief Executive Officer) / presidents, deans, directors, managers, coordinators, supervisors and other management positions responded to the survey.

Data collection for quantitative research

was carried out after applying a questionnaire, using the GOOGLE FORMS platform from June 5, 2023 to August 16, 2023. Qualitative research included an evaluation of the questionnaire responses and the analysis taking into consideration, much more than the numerical data achieved and understanding the events that occurred during the COVID-19 pandemic.

Gil (2019) defines a questionnaire "as questions that are submitted to people with the purpose of obtaining information about knowledge, beliefs, feelings, values, interests, expectations, aspirations, fears, present or past behavior, etc."

According to Fachin (2017), the information collected in the questionnaire is limited only to the answers filled out by the person being surveyed. This data collection method consists of a list of questions that are submitted to a certain number of people to collect information about the research.

With the data collected in this questionnaire, a quantitative interpretation will be presented, as we will use statistics and hypotheses will be tested. Qualitative analysis will also be presented, considering the analysis of multiple subjective realities and a deep exploration of reality. Given this, it is inferred that this research will have a mixed approach that will address both the quantitative and qualitative approaches.

The questionnaire applied was prepared with closed questions which, according to Fachin (2017), are those in which the respondent chooses their answer from a set of categories prepared with the question.

The questionnaire was divided into two parts, the first is to collect general data to understand the profile of the person being researched, with nine questions. The second part collects specific data on the topic relevant to this research, this one with 26 questions.

The questionnaire was designed with direct and indirect multiple-choice questions. According to Fachin (2017), "direct questions are those in which the information that the researcher proposes to collect focuses on the person being researched", so it is important to highlight that the first part of the questionnaire consists of direct questions, which define the profile of those surveyed. This same author mentions that indirect questions "appear when alluding to a group of people or a community. They are addressed to an individual in the group, but in a disguised way, in order to obtain specific information about the whole". Thus, the 26 questions that make up the second part of the survey are closed questions with multiple indirect choices, as respondents will have to answer from a list of answers, namely: (a) I partially agree; (b) I totally agree; (c) I don't agree and I don't disagree; (d) I partially disagree; (e) I totally disagree, as shown in Figure 4.

To understand the factors behind strategic transformations in private higher education institutions during the pandemic, a total of 35 questions were asked, 9 of which refer to defining the respondent's profile and 26 are about identifying the factors that led to the strategic transformations in the period in question.

The questions relating to the topic investigated in this article were extracted from the 26 questions asked in a larger study and would be as follows:

To analyze data from n=114 managers, descriptive and inferential statistical methods were applied. Qualitative variables were presented by distribution of absolute and relative frequencies. Quantitative variables were presented using measures of central tendency and variation and had normality assessed using the D'Agostino-Pearson test.[1]. In the inferential part, the following methods

1 The D'Agostino Pearson test was a test developed by Ralph B. D'Agostino in 1970 and later adapted by him and Egon Pearson in 1973. It is a hypothesis test that verifies whether a set of data is normally distributed. It is based on skewness and kurtosis

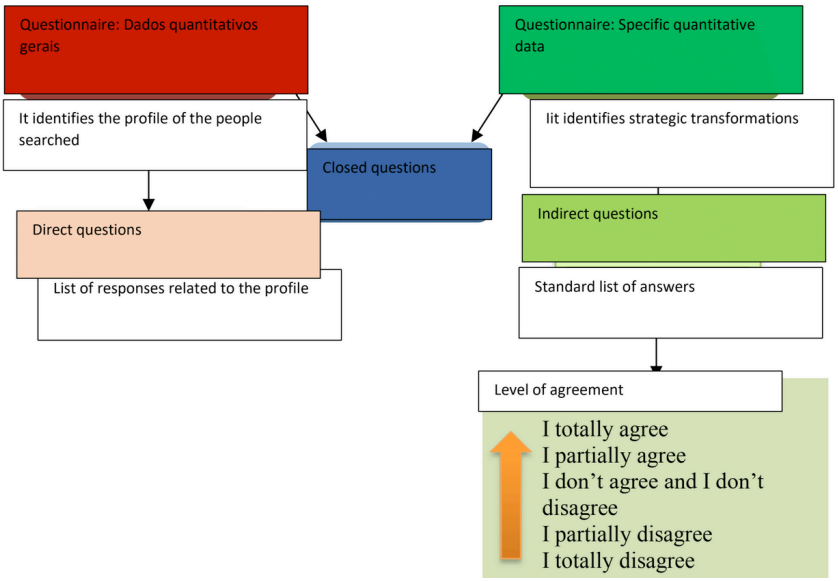


Figure 4: Structure of the questionnaire applied in the research

Source: Prepared by the author

GENERAL QUANTITATIVE DATA
1. Gender
2. Age
3. Education
4. The type of organization I work in
5. Position
6. Experience in management in private higher education institutions
7. Time spent at this institution
8. Region of Brazil where the institution is located
9. The institution I am part of has a student base of approximately

SPECIFIC QUANTITATIVE DATA
1. In his perception, the advent of the COVID-19 pandemic caused institutions to reformulate strategic planning.
2. In his perception, the area of the private higher education institution most affected, with significant transformations, was academic.
3. In his perception, the area of the private higher education institution most affected, with significant transformations, was technology.
4. In his perception, the area of the private higher education institution most affected, with significant transformations, was human resources.
5. In his perception, the area of the private higher education institution most affected, with significant transformations, was the institution as a whole.
6. Following the advent of the pandemic, it became necessary to restructure the technological tools used in the private higher education institution.
7. Considering the organizational changes that occur in institutions in the face of challenges over time, during the pandemic period, there was a significant change in strategies related to the management of the institution's Academic area.
8. Following the pandemic, managers at private higher education institutions noticed the need to modify the tools that were previously used in management.

Table 1: Research instrument questions

Source: Prepared by the author

were applied: (a) To evaluate the distribution of qualitative variables, the Chi-square Adherence test was applied [2]; (b) To evaluate the difference between quantitative variables, ANOVA (Analysis of Variance with Tukey post-test) was applied.)[3].

Lakatos (2021) conceptualizes the universe or population as the set of animate or inanimate beings that have at least one characteristic in common.

The universe for applying this research will be considered the number of private higher education institutions in Brazil, which have an in-person academic modality, characterized in Table 2.

Brazilian region	*Private Institution Number in person*
South	358
Southeast	933
North	174
Northeast	534
Midwest	262
TOTAL	**2.261**

Table 2: Number of private higher education institutions in Brazil, in person, distributed by region

Source: 2022 Higher Education Census, National Institute of Educational Studies and Research Anísio Teixeira, Ministry of Education.

According to Lakatos (2021), a sample constitutes a portion or parcel, conveniently selected from the universe. This author mentions that:

> There are two major divisions in the sampling process: non-probabilistic and probabilistic. The first, by not using a random form of selection, cannot be subject to certain types of statistical treatment, which reduces the possibility of inferring the results obtained for the sample as a whole. The second is based on the random choice of those surveyed, meaning that the selection is random so that each member of the population has the same probability of being chosen. This procedure allows the use of statistical treatment, which makes it possible to compensate for sampling errors and other aspects relevant to the representativeness and significance of the sample. It is divided into: simple random, systematic, multi-stage random, by area, by conglomerates or groups, of several steps or multiple stages, of multiple phases (multiphase or in several stages), stratified and type sample (main sample, a priori sample or standard sample).

Given this large population, stratified proportional sampling will be used as a type of sampling, which according to Gil (2019), selects a random sample from each group, that is, proportional to the extension of each subgroup determined by some property considered relevant.

The research will be restricted to a population of 100 institutions, which will be distributed proportionally by region of the country, as shown in Table 3.

Strata	**Population**	**%**	**Sample**
South	358	15,83%	16
Southeast	933	41,26%	41
North	174	7,70%	8
Northeast	534	23,62%	24
Midwest	262	11,59%	11
TOTAL	**2.261**	**100%**	**100**

Table 3: Survey sample

Source: Prepared by the author

It is hoped that this research will help us to understand the difficulties faced by Brazilian higher education institutions and this way, we can draw an overview of how these institutions

statistics, which measure the symmetry and shape of the data distribution in relation to the normal distribution.

2 The Chi-square test of adherence tests the suitability of a probabilistic model to a set of observed data, that is, the test statistic is based on the comparison between the observed number and the expected number of elements in each category.

3 Analysis of variance (ANOVA) is a standard statistical analysis technique that can be used to analyze measurement error and other sources of variability in data from a measurement system study.

reacted during a period of great changes and how they can face these difficulties.

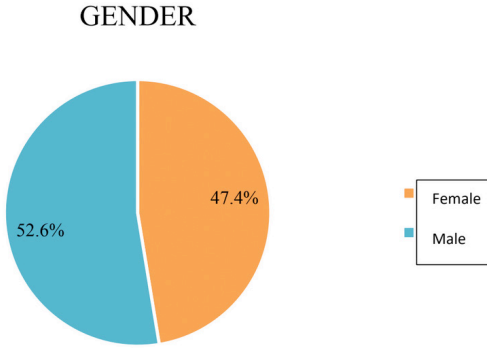
Another perspective is that it can encourage reflection on the new paradigms that are emerging for private higher education and the need to professionalize administrative processes in the face of new demands.

RESULTS

To summarize the results obtained, in this first moment, when analyzing the profile of managers and research participants, Table 4 was prepared, which comprises the general characteristics of the research participants and the respective frequencies of responses.

It is possible to understand that the profile of managers of private institutions in Brazil is diverse, as detailed below.

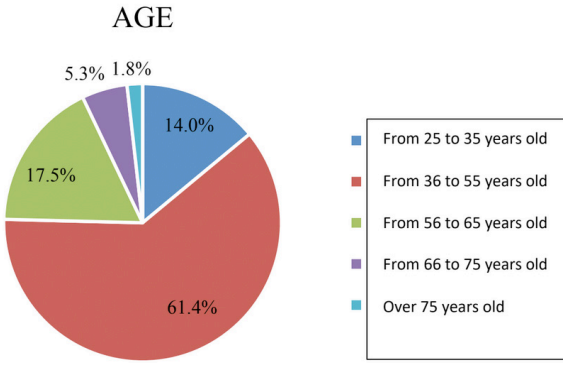
The comparison of the responses to the Gender variable resulted in there being no real trend in the responses, that is, the difference between male respondents (n=54) was small in relation to female respondents (n=60). So, it is clear that among the managers responding to this research there was a greater number of female respondents, but that the difference was irrelevant and that management positions in private Universities in Brazil are assumed by people of both genders in almost the same proportion, as shown in Graphic 2.



Graphic 2: Gender of managers surveyed

Source: Prepared by the author

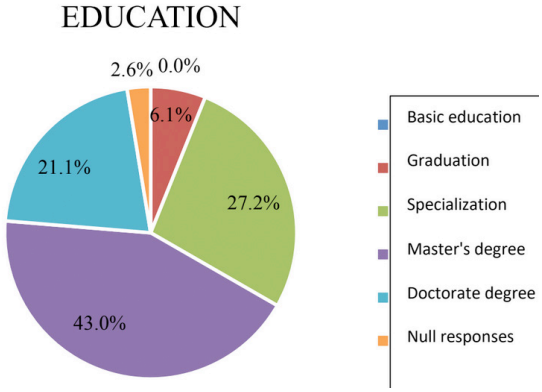
Analyzing the data obtained in relation to the age of the participants, the comparison of the responses to the Age variable resulted in a p-value <0.0001 (statistically significant), showing that there was a real trend towards the age group of 36 to 55 years (61.4%), as demonstrated in Graphic 3.



Graphic 3: Age of managers surveyed

Source: Prepared by the author

Regarding the group's education, it was noted that three respondents marked more than one answer, which differentiated the table from the calculations of the research instrument. These responses were canceled and this detail did not affect the results of the analysis, which demonstrated that the majority have a master's degree as their maximum degree, 43% of the sample, according to Graphic 4.



Graphic 4: Education of the managers surveyed

Source: Prepared by the author

Comparison of the responses to the

General features	Frequency (n=114)	%	p-value
I. Gender			**0.6369**
Male	54	47.4	
Female	60	52.6	
II. Age			***<0.0001****
from 25 to 35 years old	16	14.0	
from 36 to 55 years old	70	61.4	
from 56 to 65 years old	20	17.5	
from 66 to 75 years old	6	5.3	
over 75 years old	2	1.8	
III. Education			***<0.0001****
Basic education, Bachelor's degree, Specialization, Master's degree	1	0.9	
Specialization	31	27.2	
Specialization, Master's	2	1.8	
Phd	24	21.1	
Graduation	7	6.1	
Master	49	43.0	
IV. The type of organization I work in is:			***<0.0001****
University center	23	20.2	
Faculty	53	46.5	
Institute or Foundation	2	1.8	
Supporter of higher education institution	18	15.8	
University	13	11.4	
Others	5	4.4	
V. Position			***<0.0001****
CEO (Chief Executive Officer) / President	3	2.6	
Coordinator	28	24.6	
Manager	10	8.8	
Dean/Director	33	28.9	
Supervisor	9	7.9	
Others	31	27.2	
VI. Experience in management in private higher education institutions:			***0.0002****
from 0 to 5 years	11	9.6	
from 13 to 18 years old	33	28.9	
from 19 to 25 years old	31	27.2	
from 6 to 12 years old	29	25.4	
over 25 years old	10	8.8	
VII. Time spent at this institution:			***<0.0001****
from 0 to 5 years	58	50.9	
from 13 to 18 years old	13	11.4	
from 19 to 25 years old	13	11.4	
from 6 to 12 years old	26	22.8	
over 25 years old	4	3.5	
VII. Region of Brazil where the institution is located:			***<0.0001****

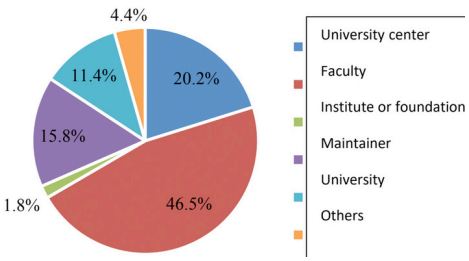
Northeast	20	17.5	
North	5	4.4	
Midwest	31	27.2	
Southeast	41	36.0	
South	17	14.9	
IX. The institution I am part of has a student base of approximately:			*<0.0001**
up to 199 students	14	12.3	
from 1000 to 4999 students	46	40.4	
from 200 to 499 students	11	9.6	
from 500 to 999 students	15	13.2	
more than 5000 students	28	24.6	

Table 4: General characteristics of the participants

*teste de Qui-Quadrado de Aderência.

Source: Prepared by the author

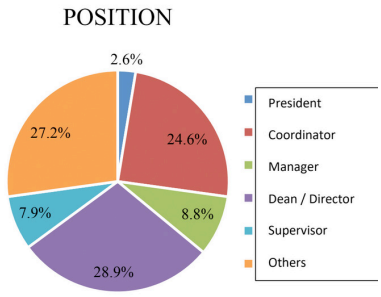
variable, the type of organization I work in resulted in a p-value <0.0001 (statistically significant), showing that there was a real tendency towards College (46.5%), more frequent, as shown in Graphic 5.



Graphic 5: Type of organization

Source: Prepared by the author

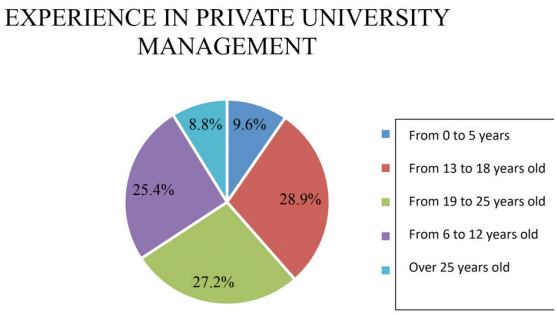
The comparison of the responses to the Position variable resulted in a p-value <0.0001* (statistically significant), showing that there was a real tendency for the position of Rector / Director (28.9%), more frequent, as described in Graphic 6.



Graphic 6: Type of position

Source: Prepared by the author

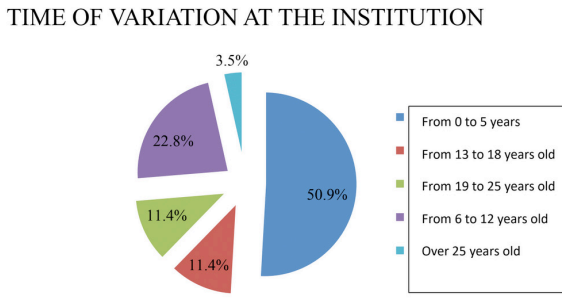
The comparison of the responses to the variable Management experience in private higher education institutions resulted in p-value = 0.0002 (statistically significant), showing that there was a real trend for the period from 13 to 18 years (28.9%), more frequent, as shown in Graphic 7.



Graphic 7: Length of management experience in private higher education institutions

Source: Prepared by the author

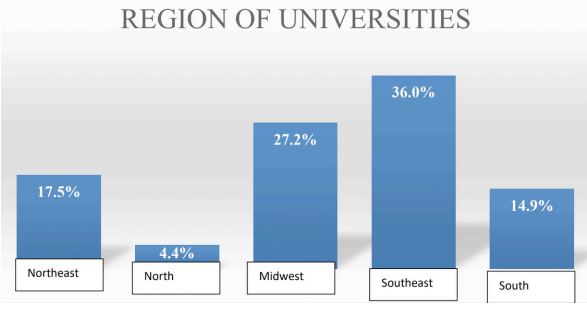
As for the comparison of the responses to the variable Length of employment at this institution, it resulted in a p-value <0.0001 (statistically significant), showing that there was a real tendency for the period from 0 to 5 years (50.9%), more frequent, that is, the Managers have held the position in current institutions for a short period of time, according to Graphic 8.



Graphic 8: Time spent at the institution

Source: Prepared by the author

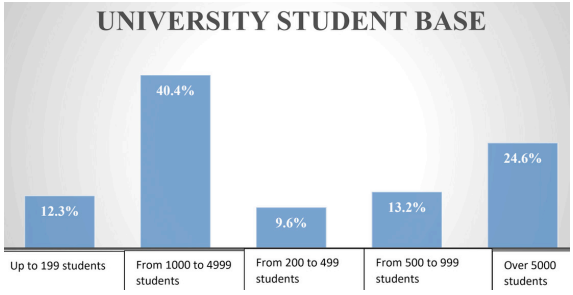
The analysis of the region of Brazil in which the institutions of those surveyed are located showed that the comparison of the responses to the variable Region of Brazil in which the institution is located resulted in a p-value <0.0001 (statistically significant), showing that there was a real tendency for the region of Southeast (36%), more frequent, as can be seen in the Graphic 9.



Graphic 9: Region of Brazil where the institution is located

Source: Prepared by the author

Finally, the last item analyzed that makes up the profile of the researched person refers to the student base of the institution where the managers work and the comparison of the responses to the variable The institution I am part of has a student base of approximately resulted in p-value <0.0001 (statistically significant), showing that there was a real tendency for a student base of 1000 to 4999 students (40.4%), more frequent, as demonstrated in Graphic 10.



Graphic 10: Student base of the institution where it operates

Source: Prepared by the author

According to the data presented so far in this first topic of the research, the profile of the managers surveyed shows that in terms of gender there was not much polarization, with a small majority being female at 52.6%. Regarding age, it can be said that the majority of managers are between 36 and 55 years old (61.4%). It must be noted that the majority have a master's degree, with 43%. Evaluating the data in relation to the institution they work in, it can be seen that the majority of those surveyed work in colleges (46.5%), work in management or rectory positions (28.9%), have experience in managing an institution of higher education in a period of 13 to 18 years (28.9%) and are linked to the current institution in a period of 0 to 5 years (50.9%). The majority of institutions where participants work is located in the Southeast region (36%) and have approximately 1000 to 4999 students enrolled (40.4%).

To summarize the results obtained when analyzing the strategic transformations

	Frequency (n=114)	%	p-value
P1. In his perception, the advent of the COVID-19 pandemic caused institutions to reformulate strategic planning.			*<0.0001**
I totally agree	69	60.5	
I partially agree	37	32.5	
I don't agree and I don't disagree	1	0.9	
I partially disagree	6	5.3	
I totally disagree	1	0.9	
P2. In his perception, the area of the private higher education institution most affected, with significant transformations, was academic.			*<0.0001**
I totally agree	33	28.9	
I partially agree	71	62.3	
I don't agree and I don't disagree	3	2.6	
I partially disagree	6	5.3	
I totally disagree	1	0.9	
P3. In his perception, the area of the private higher education institution most affected, with significant transformations, was technology.			*<0.0001**
I totally agree	42	36.8	
I partially agree	52	45.6	
I don't agree and I don't disagree	4	3.5	
I partially disagree	13	11.4	
I totally disagree	3	2.6	
P4. In his perception, the area of the private higher education institution most affected, with significant transformations, was human resources.			*<0.0001**
I totally agree	18	15.8	
I partially agree	52	45.6	
I don't agree and I don't disagree	22	19.3	
I partially disagree	19	16.7	
I totally disagree	3	2.6	
P5. In his perception, the area of the private higher education institution most affected, with significant transformations, was the institution as a whole.			*<0.0001**
I totally agree	69	60.5	
I partially agree	41	36.0	
I don't agree and I don't disagree	3	2.6	
I partially disagree	1	0.9	
I totally disagree	0	0.0	

Table 5: Participant research and collaboration questionnaire – questions 1 to 6

* Chi-Square Adhesion Test.

Source: Prepared by the author

that occurred in private higher education institutions in Brazil during the COVID-19 pandemic, tables and graphics listed below were created, which comprise the specific factors of strategic transformations and the respective frequencies of responses.

In Table 5 to be presented in this chapter, the answers to the first six questions of the research and the respective analyzes will be presented.

The first question, in the second part of the research that collected the specific data, was regarding the possible change in strategic planning at the institution during COVID-19. Comparison of the answers to the question "In your perception, the advent of the COVID-19 pandemic caused institutions to reformulate strategic planning" resulted in a p-value <0.0001 (statistically significant), with a real tendency for the answer I totally agree (60.5%), more frequent, as Graphic 11 shows below.

In the next four questions, we were asked about the possible areas of the institution that had the most impact during the pandemic. The first to be questioned was whether, in the respondents' perception, the area most affected was academic. Thus, the comparison of the answers to the question "In your perception, the area of the private higher education institution most affected, with significant transformations, was academic." resulted in a p-value <0.0001 (statistically significant), with a real tendency for the answer I partially agree (62.3%), more frequent, demonstrated in Graphic 12.

Comparison of answers to the question "In your perception, the area of the private higher education institution most affected, with significant transformations, was technology." resulted in a p-value <0.0001 (statistically significant), with a real tendency for the answer I partially agree (45.6%), more frequent, as shown in Graphic 13.

Comparison of answers to the question "In your perception, the area of the private higher education institution most affected, with significant transformations, was human resources." resulted in a p-value <0.0001 (statistically significant), with a real tendency for the answer I partially agree (45.6%), more frequent, as shown in Graphic 14.

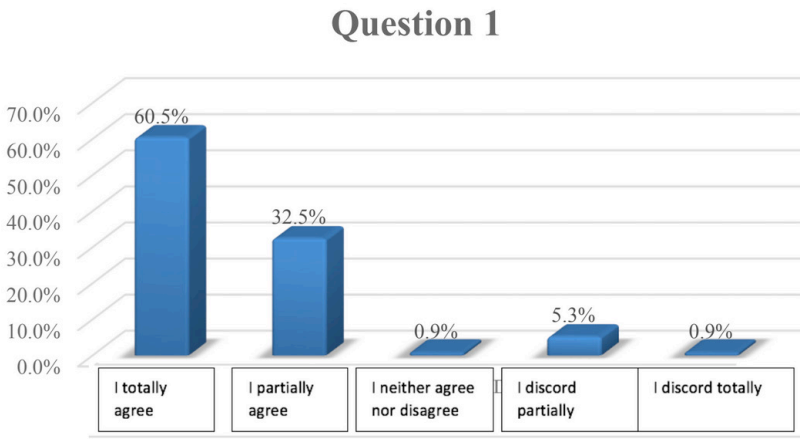
Comparison of answers to the question "In your perception, the area of the private higher education institution most affected, with significant transformations, was the institution as a whole." resulted in a p-value <0.0001 (statistically significant), with a real tendency for the answer I totally agree (60.5%), more frequent, as shown in Graphic 15 below.

In this first block of questions, the majority of those surveyed responded that they completely agree (60.5%) that there was a need to reformulate the institution's strategic planning due to the advent of the pandemic. In the same vein, when asked which of the areas listed (academic, technology, human resources, the entire institution) were most affected by significant transformations, 60.5% of respondents reported that they completely agree that the institution was affected as a whole, followed by the technology area where the response rate was 36.8%.

Next, in Table 6, three other questions will be presented related to the transformations that occurred in institutions during COVID-19, related to technological and management ferments and strategies.

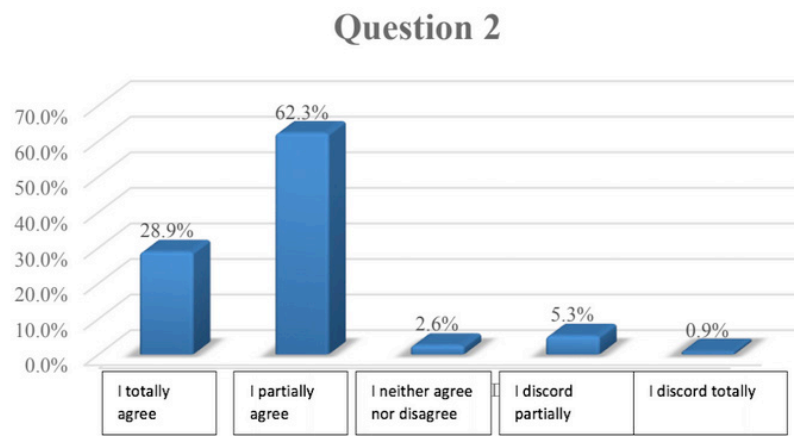
Comparison of answers to the question "After the advent of the pandemic, it became necessary to restructure the technological tools used in the private higher education institution." resulted in a p-value <0.0001 (statistically significant), with a real tendency for the answer Totally agree (71.9%), more frequent (Graphic 16).

Comparison of answers to the question



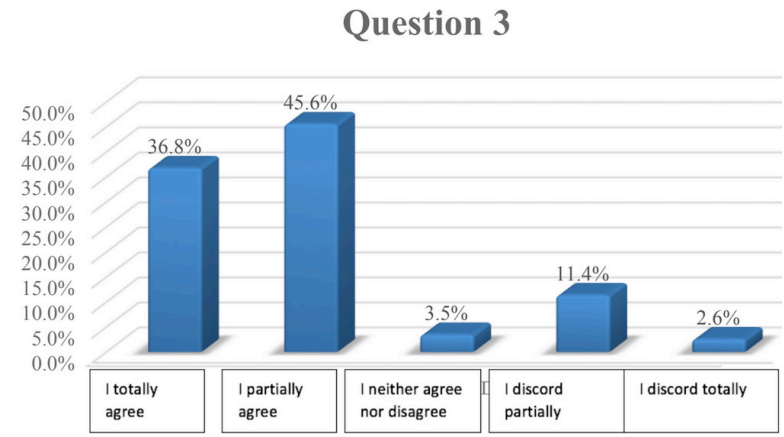
Graphic 11: P1 - In his perception, the advent of the COVID-19 pandemic caused institutions to reformulate strategic planning.

Source: Prepared by the author



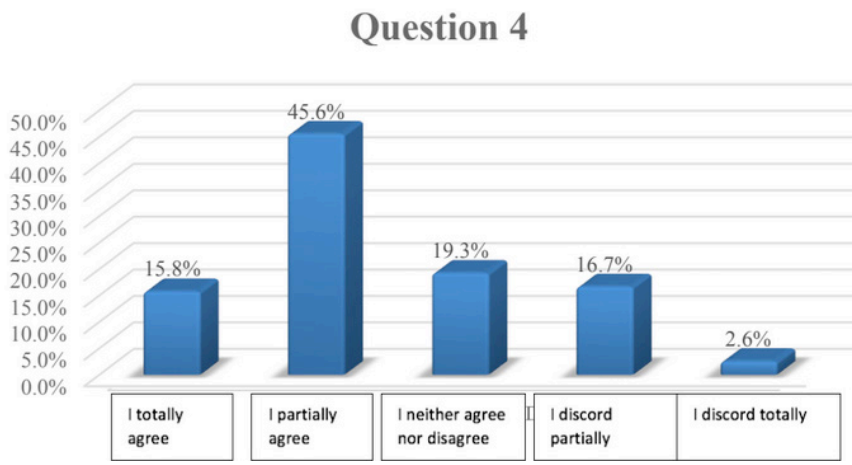
Graphic 12: P2 - In his perception, the area of the private higher education institution most affected, with significant transformations, was academic.

Source: Prepared by the author



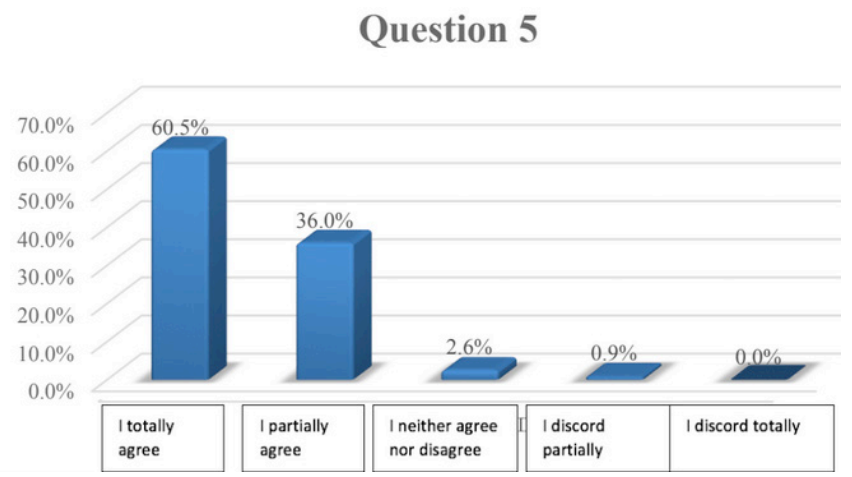
Graphic 13: P3 - In his perception, the area of the private higher education institution most affected, with significant transformations, was technology.

Source: Prepared by the author



Graphic 14: P4- In his perception, the area of the private higher education institution most affected, with significant transformations, was human resources.

Source: Prepared by the author



Graphic 15: P5 - In his perception, the area of the private higher education institution most affected, with significant transformations, was the institution as a whole.

Source: Prepared by the author

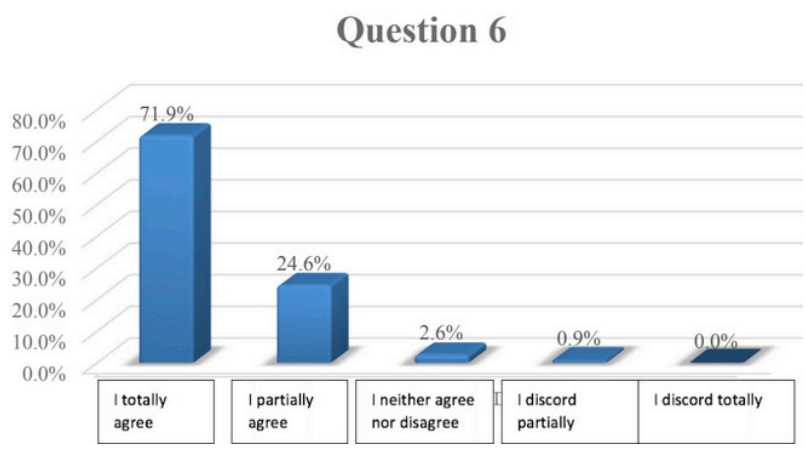
	Frequency (n=114)	%	p-value
P6. Following the advent of the pandemic, it became necessary to restructure the technological tools used in the private higher education institution.			*<0.0001**
I totally agree	82	71.9	
I partially agree	28	24.6	
I don't agree and I don't disagree	3	2.6	
I partially disagree	1	0.9	
I totally disagree	0	0.0	
P7. Considering the organizational changes that occur in institutions in the face of challenges over time, during the pandemic period, there was a significant change in strategies related to the management of the institution's Academic area.			*<0.0001**
I totally agree	51	44.7	
I partially agree	58	50.9	

I don't agree and I don't disagree	4	3.5	
I partially disagree	1	0.9	
I totally disagree	0	0.0	
P8. Following the pandemic, managers at private higher education institutions noticed the need to modify the tools that were previously used in management.			***<0.0001****
I totally agree	56	49.1	
I partially agree	52	45.6	
I don't agree and I don't disagree	0	0.0	
I partially disagree	6	5.3	
I Totally disagree	0	0.0	

Table 6: Participant Research and Collaboration Questionnaire – Questions 6 to 9

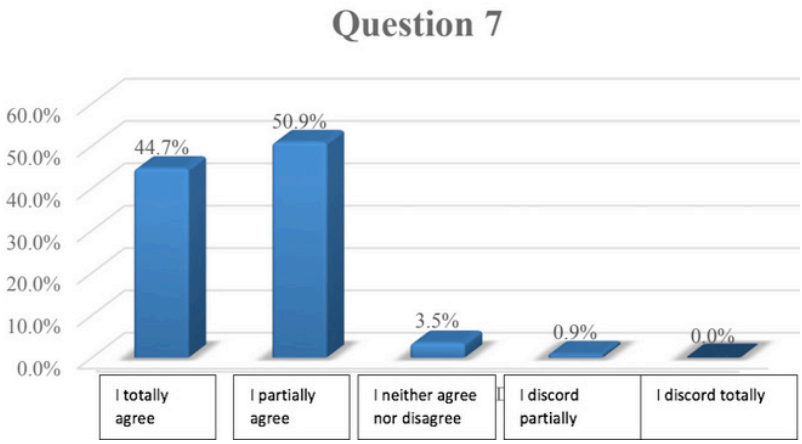
* Chi-Square Adhesion Test.

Source: Prepared by the author



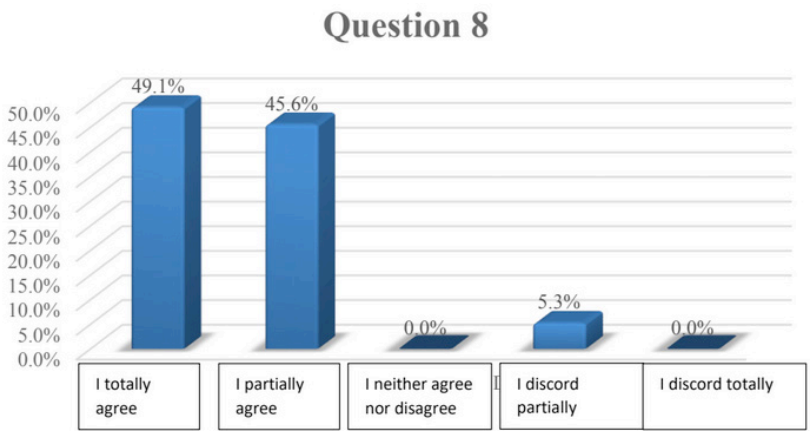
Graphic 16: P6 - Following the advent of the pandemic, it became necessary to restructure the technological tools used in the private higher education institution.

Source: Prepared by the author



Graphic 17: P7 - Considering the organizational changes that occur in institutions in the face of challenges over time, during the pandemic period, there was a significant change in strategies related to the management of the institution's Academic area.

Source: Prepared by the author



Graphic 18: P8 - Following the pandemic, managers at private higher education institutions noticed the need to modify the tools that were previously used in management.

Source: Prepared by the author

"Considering the organizational changes that occur in institutions in the face of challenges over time, during the pandemic period, there was a significant change in strategies related to the management of the institution's Academic area." resulted in a p-value <0.0001 (statistically significant), with a real tendency for the answer Partially agree (50.9%), more frequent, as shown in Graphic 17.

Comparison of answers to the question "After the pandemic, managers at private higher education institutions noticed the need to modify the tools that were previously used in management." resulted in a p-value <0.0001 (statistically significant), with a real tendency for the answer Totally agree (49.1%), more frequent, as shown in Graphic 18.

In the three questions mentioned above, it was evident that the managers surveyed believe that due to the pandemic, it was necessary to restructure the technological tools used in the institution, with 71.9% reporting that they completely agree with this change. In the management of the Academic area, 44.7% completely agreed that it was only in the academic area. In question 8, those surveyed were asked whether they noticed the need to modify the tools that were previously used in management and 49.1% believe that there was a need for modification.

CONCLUSION

With the advancement of the COVID-19 pandemic, starting in 2019, the Brazilian educational scenario experienced many uncertainties and challenges. The impacts of this period made educational managers rethink the model applied in organizations.

Brazilian private higher education institutions underwent several transformations in a very accelerated manner and to adapt to the new reality, many of them had to be implemented quickly without prior planning, which greatly changed the strategic management process.

In this sense, this research has as its theme the "Strategic transformations in private higher education institutions in Brazil during the COVID-19 pandemic", which aimed to analyze how the strategic transformations occurred in private higher education institutions in Brazil, during the pandemic.

In the same sense, several hypotheses were raised, two of which were analyzed in this research. The advent of the COVID-19 pandemic caused institutions to reformulate their annual planning and, with the advent of the COVID-19 pandemic, institutions reformulated most sectors such as: academic, technology.

Turning to the data collected specific to

strategic management, it is clear that managers had to reformulate the previously planned strategic planning, as 60.5% responded that they completely agree that there was a need to reformulate the institution's strategic planning due to the advent of pandemic. When asked which of the areas listed (academic, financial, technology, human resources, the entire institution) were most affected by significant transformations, 60.5% of respondents reported that they completely agree that the institution was affected as a whole, followed by area of technology, where the response rate was 36.8%. This is due to the sudden changes that Universities underwent to adapt to that pandemic reality, such as new academic structuring for the transmission of classes taught, the work models that had to be adapted, the financial and personnel adequacy that had to be modified so that the organization could achieve sustainability to face the adversities they were experiencing, such as cost adjustments, readjustment of staff, dropout of students who did not adapt to the model imposed at that time, among others. However, one sector that stood out during this period was technology, as the adjustments that would be brought about over several years naturally, had to occur abruptly and often without technical knowledge and labor.

Another evident point was that the managers surveyed believe that due to the pandemic, it was necessary to restructure the technological tools used in the institution, with 71.9% reporting that they completely agree with this change.

The motivation of this work is to contribute to new discussions, analyzes and studies regarding higher education in Brazil, mainly on the management of these organizations, through data analysis and current research, to add and add more knowledge to everyone involved in this sector, which needs in-depth studies to improve the proposition of higher education throughout the national territory, improve the quality and form of access for the population throughout the national territory.

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