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# Employability, innovation and competitive intelligence as strategies in private higher education institutions in Brazil

Empregabilidade, inovação e inteligência competitiva como estratégias nas instituições de ensino superior privadas do Brasil

Empleabilidad, innovación e inteligencia competitiva como estrategias en instituciones privadas de educación superior en Brasil

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**KEYWORDS**Employability.
Innovation. Competitive Intelligence.

**Abstract**: The objective of this study is to analyze the employability criteria when choosing a higher education institution, for the use of competitive strategies, using competitive intelligence and innovation as tools. The research is a quantitative approach, with a descriptive character, operationalized through a Survey. Data collection was carried out through an electronic questionnaire sent by email and by WhatsApp to 980 pre-university students from public schools in Brazil. A response was obtained from 221 respondents, with 216 valid responses. The results revealed that employability, innovation and competitive intelligence significantly influence the competitive strategies of private higher education institutions in Brazil and provide a competitive advantage in attracting and retaining students.



#### PALAVRAS-CHAVE

Empregabilidade. Inovação. Inteligência Competitiva.

PALABRAS CLAVE

Empleabilidad. Innovación. Inteligencia competitiva. Resumo: O objetivo deste estudo é analisar o critério da empregabilidade na escolha da instituição de ensino superior, para a utilização de estratégias competitivas, utilizando como ferramentas a inteligência competitiva e a inovação. A pesquisa é uma abordagem quantitativa, de caráter descritivo, operacionalizada através de uma Survey. A coleta dos dados foi realizada por meio de questionário eletrônico enviado por e-mail e por WhatsApp para 980 alunos pré-vestibulandos oriundos de escolas públicas do Brasil. Foi obtido retorno de 221 respondentes, com 216 respostas válidas. Os resultados revelaram que a empregabilidade, a inovação e a inteligência competitiva influenciam significativamente nas estratégias competitivas das instituições de ensino superior privadas no Brasil e proporcionam vantagem competitiva na atração e retenção de alunos.

Resumen: El objetivo de este estudio es analizar los criterios de empleabilidad al momento de elegir una institución de educación superior, para el uso de estrategias competitivas, utilizando como herramientas la inteligencia competitiva y la innovación. La investigación es de enfoque cuantitativo, con carácter descriptivo, operacionalizada a través de una Encuesta. La recolección de datos se realizó a través de un cuestionario electrónico enviado por correo electrónico y por WhatsApp a 980 estudiantes preuniversitarios de escuelas públicas de Brasil. Se obtuvo respuesta de 221 encuestados, con 216 respuestas válidas. Los resultados revelaron que la empleabilidad, la innovación y la inteligencia competitiva influyen significativamente en las estrategias competitivas de las instituciones privadas de educación superior en Brasil y brindan una ventaja competitiva para atraer y retener estudiantes.



### Introduction

Brazil experienced a moment of economic, social and political growth, but with a drop in the unemployment rate, according to the Continuous National Household Sample Survey (continuous PNAD) carried out by the Brazilian Institute of Geography and Statistics (IBGE). The country ended 2020 with an average unemployment rate of 11.1%, falling 1.5% compared to the 3rd quarter of 2021 (12.6%), 3.0% compared to the same quarter of 2020 (14.2%), and, still according to IBGE (2022), this rate continues to fall and reached 8.9% in the quarter ended in August, representing a drop of 0.9 percentage points compared to the previous quarter, ended in May. Even with all this favorable scenario, thousands of young people dream of an even more promising future in which they are guaranteed a life without fluctuations, therefore, stable.

In view of the above, this study relates young people's desires for employability, through the actions of competitive intelligence, with innovation in competitiveness strategies based on information relating to their past, their present, and their future evaluations (Mohammed & Saadaoui, 2023), offered by higher education institutions (IES) to guarantee full employment conditions. The objective of these institutions is to offer a differentiation in growth and opportunities, that is, a competitive plus in order to attract new students, as well as to retain existing ones.

In analyzing the historical context, it was observed that, at the end of the 20th century and beginning of the 21st century, there was a revolution in higher education, providing a large increase in educational institutions, especially private institutions. This increase caused, among other things, an intensification in competitiveness between these institutions, forcing them to innovate and elaborate strategies to attract more students, now treated as customers (Avolio & Benzaquem, 2024; Altbach, Reisberg & Rumbley, 2009).

Attracting students is the main competitive factor among private higher education institutions. These institutions need means of collecting and analyzing data and information from their

competitors with the aim of understanding their strengths and weaknesses in order to anticipate their actions. In this context, it develops strategic actions based on competitiveness.

Private higher education institutions (IES), which exercised and still exercise a very small relationship with information from the external environment, in particular the job market, responsible for absorbing the vast majority of their graduates, are admitting strategies in the search for a greater competitive advantage.

The current scenario of private higher education, in-person modality, faces difficulties in the process of implementing and executing competitive strategies to maximize employability with a focus on attracting new clients to IESs in Brazil, therefore, the following hypotheses arise: Hypothesis 1 – Employability is an important competitive strategy for attracting and retaining students for higher education institutions. Hypothesis 2 – Innovation is an important tool for competitive employability strategy in higher education institutions. Hypothesis 3 – Competitive intelligence influences the competitive strategy to maximize employability actions in higher education institutions.

Consequently, the objective of this study is to analyze whether the perspective of employability, through competitive intelligence and innovation, is important in the development of competitive strategies with the aim of attracting new students and retaining existing ones in private higher education institutions in Brazil.

Therefore, it was used a quantitative approach with a descriptive nature, through a Survey, carried out from February 11 to 26, 2021, with an initial sample of 980 contacts, of which only 221 responded. 5 questionnaires were eliminated due to inconsistencies in the provided answers (duplicity of answers), leaving 216 valid for processing and analysis.

This article is structured into six parts: introduction; theoretical framework, which will address topics such as higher education in Brazil, employability in higher education, innovation in higher education institutions, competitive intelligence in employability and competitive strategies in higher education institutions, which will theoretically support the discussions inherent



to the research problem; methodological procedures; analysis and interpretation of results; final considerations and references.

#### Theoretical elements of the research

Brazilian higher education maintained the growth trend in the numbers of enrolled, freshmen and graduates. According to data from the 2020 Higher Education Census, the existence of 2,457 IESs was found, of which 304 were public IESs (12.4%) and 2,153 were private IESs (87.6%). The following distribution was also verified regarding the general total of existing public IESs: 129 state IESs (42.4%); 118 federal (38.8%) and 57 municipal (18.8%). Another relevant fact is that in relation to the number of places offered in undergraduate courses, it was identified that private IESs offered 95.6% and public IESs 4.4%.

According to research carried out by the National Institute of Educational Studies and Research Anísio Teixeira/INEP (2020), it was found that in Brazil there were 2,457 higher education institutions (IESs). 2,153 (87.6%) of these institutions are private and 304 (12.4%) are public. The research revealed that among private IESs, 758 are located in the capital, and 1,395 in the countryside; as for the public ones, 856 of them are located in the capital and 1,601 in the countryside.

This same way, INEP identified enrollments carried out in the same period, of which 6,724 were in private IESs and 1,956 in public ones, with private institutions registering 3.2 million entrants, which corresponds to 86% of the total. In total, 3.7 million students enrolled in an undergraduate course in the research reference year. As for graduates, 1,074 come from private IESs, and 204,174 from public ones. The survey also found that 323,376 teachers worked at the educational level.

Based on the results of the Higher Census (IBGE, 2020, 2021) it is possible to state that there is a significant demand for graduation from public universities, which is out of step compared to the difference in the number of private institutions in relation to public institutions. Another fact to be considered is that the analysis carried out reveals a

distortion between the number of freshman incoming and graduate outgoing students.

In the researches one can find several definitions for the concept of employability. A concept that has been changing over time, and even so, there are several definitions that are not accepted, but among them there is a consensus: there is a big difference between employability and employment (Decker-Lange, Lange, & Walmsley, 2024; Philippaers, De Cuyper, & Forrier, 2019); where employment can be seen as a state related to the labor market and employability as the individual's ability to obtain employment through skills and knowledge (Alkhalaf *et al.*, 2022).

The possibility for higher education students to get their first jobs when they complete their degree is one goal, but not the only one. The most important thing is to ensure the development of skills and competencies that generate your employability.

Faced with this reality and with the aim of maximizing the possibility of transforming their students into professionals with employability skills, IESs need to guarantee their graduates not much more than curricular academic knowledge. In fact, it is important that there is a permanent policy of practices that guarantee to the new graduates skills that will maximize their employability. Among these skills, the following stand out: retrieving and manipulating information; communication and presentation; planning and problem solving and social development and interaction (Chen et al., 2022).

The issue of employability has become a concept of relevance to the academic and commercial world in several countries, being the subject of research in academies and among employers who will absorb these graduates (Saito & Pham, 2018).

In fact, IESs play a fundamental role in the insertion of their graduates into the job market, creating an association between the good quality of the course offered by the institution and the ease of employability of its graduates (Jayawardena & Gregar, 2013; Okolie *et al.*, 2020).

Furthermore, it can be pointed out that, in addition to explicit knowledge, there is a need to develop social, cultural and personal skills to decomplex the relationship with employability



(Decker-Lange, Lange, & Walmsley, 2024; Crossman & Clarke, 2010). Based on this theory, differences can be created in the training of graduates with a focus on employability, adding value to the higher education institution.

Among the various skills that can be developed, training students for entrepreneurship is an action that leads them to conquer their work space in a more independent way, and that can contribute to the economic development of their surroundings (Sofoluwe *et al.*, 2013; Clarke, Cornes, & Ferry, 2020).

In this sense, one can find several different perceptions of the responsibility of higher education institutions to provide their students with skills that maximize their employability.

Innovation is essential and comprehensive, especially as a competitive differentiator, but, although it is an essential personal skill, IESs are still unable to meet this need. This gap can be addressed through development strategies and pedagogical practices as tools that can assess and stimulate an individual's ability to develop such skill (Keinänen, Ursin & Nissinen, 2018).

In line with this are higher education institutions and the job market that value the practice and dissemination of innovation and its leading role in the performance of service activities, raising the standard of innovation in this sector (Alauddin & Yamada, 2022).

The service provision and methodology, offered by educational institutions, are decisive for the development of innovation and contribute efficiently to the learning process of their students.

Given the need of these schools to seek a competitive differential, this service can be used as a strategic differentiator, since innovation generates quality and commits students, which increases the credibility of the educational institution, maximizes the retention of its students and may enable the increase on the capture of new ones (Guimarães, *et al.*, 2019).

Therefore, education needs to design innovation processes so that it can help in the development of people and consequently the country, since innovation is a skill that maximizes entrepreneurship, and that leads graduates to have a more proactive attitude, contributing to the development of the local economy (Severo *et al.*,

2019), organizations highly value innovative ability and invest heavily in this area, as economic returns become possible, due to the innovation factor being directly linked to maximizing companies' competitiveness and performance. Higher education institutions play a fundamental role in this context, when they offer students the opportunity to develop innovation skills in their curriculum, meeting a need not only of undergraduates, but especially market demands (Guimarães *et al.*, 2013), with the direct participation of graduates in their innovation projects.

Reinforcing this context, in a research related to IC in a university environment, the use of competitive intelligence processes meets the requirements that students use to decide in which educational institution they should enroll (Kromidha *et al.*, 2022).

Competitive intelligence can and should be used by higher education institutions to maximize data collection and processing, with the aim of generating knowledge that assists strategic planning and enhances positive results in decision-making (Miranda & Vasconcelos, 2020). Furthermore, the job market highlights IC as an indispensable resource for the hiring process, which a university degree does not guarantee (Finch *et al.*, 2015).

Furthermore, the practice of IC in higher education institutions helps in identifying labor market demand and assists their development strategies (Shafiee, 2022). Additionally, there are some characteristics, at a personal level, that maximize the development of competitive intelligence. The main ones are: persistence, creativity, curiosity and ability in oral and written expression.

Based on ideas related to Porter's competitive strategy (1980), competitive advantage is achieved through strategies that anticipate new needs in the external market, managing to align actions to meet this demand (Marcazzan, Campagnolo, & Gianecchini, 2022).

To identify and investigate competitive strategies, it is necessary to look at the company as two, first observing the sector in which this company operates and, subsequently, its positioning within that sector. Without this



information, firms are unable to develop their competitiveness (Cordeiro de Souza, 2024; Porter, 1980).

Reinforcing this idea, strategies are composed of intentions and actions (Fumasoli & Lepori, 2011; Lewicka & Bollampally, 2022). In the case of IESs, they position themselves to serve the national education system, adapting to regulations and then using strategies to position themselves within their niche of activity, in order to serve their students and the job market with a focus on competitiveness. And, in the case of private IESs, the attraction and retention of students are considered the most important area for formulating competitive strategies (Lewicka & Bollampally, 2022), that is, student attraction is the main objective of private IESs.

In fact, private IESs need strategies aimed at the desires of the job market and the needs of students. Based on this information, IC is practiced as a way of thinking and acting in private higher education institutions.

# Methodological elements of the research

The study was carried out using a quantitative approach with a descriptive nature, made possible through a Survey that proposes to analyze whether the perspective of employability, competitive intelligence and innovation are important as a competitive strategy, with the main objective of attracting and retaining students from institutions of higher education.

To operationalize the research, a database with 980 students was used, in the in-person modality, but they were completing high school/pre-university students from the public school education network.

The sample is non-probabilistic and carried out for convenience; an electronic questionnaire was created and sent via email and WhatsApp to respondents. The survey was carried out from February 11 to 26, 2021, with an initial sample of 980 contacts, of which only 221 responded. Five questionnaires were eliminated due to inconsistencies, leaving 216 valid for processing and analysis.

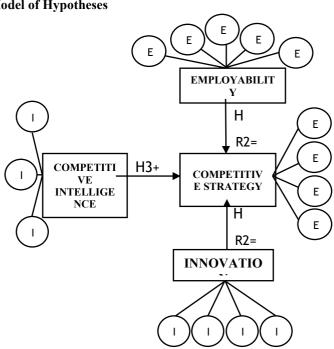
The questionnaire consisted of multiple choices, using a degree of agreement or

disagreement on the 5-point Likert scale, allowing responses to vary as follows: 1 I completely disagree, 2 I partially disagree, 3 I neither agree nor disagree, 4 I partially agree and 5 I agree completely.

To prepare the questions and their constructs, the following were used as methodological references: for the employability construct (Chen et al., 2022); to prepare questions about innovation (Guimarães et al., 2013); in the formulation of the variables that make up the competitive intelligence construct (Vasconcelos, et al., 2018, 2021); to elaborate questions related to competitive strategy (Porter, 1980).

A descriptive statistical data analysis was used, using exploratory factor and multiple linear regression. The tests were carried out using Microsoft Excel spreadsheets and IBM SPSS version 20.

Figure 1 Model of Hypotheses



**Source:** Elaborated by the authors (2021).

In the data processing process, an Exploratory Factor Analysis (EFA) was initially carried out. With this, each variable and its constructs were verified. Through Factor Analysis, Cronbach's Alpha, the Kaiser, Meyer and Olkin (KMO) Test, Commonality and Load Factor were identified. Subsequently, an analysis of variance (ANOVA)



was carried out in which the mean and standard deviation were detected; through ANOVA it becomes possible to check whether there are differences between the respondents. The data are presented in Table 1.

Table 1
Load factors of observed variables and Varimax
Rotation

LOAD

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OBSERVED VARIABLES	LOAD FACTOR	COMMONALITY			
EMPLOYABILITY					
EP1- Guaranteeing employment as the main factor for students when choosing which HEI they will study.	,755	,587			
EP-2- The IES that guarantees student employability can attract students who are already studying in other institutions.	,647	,440			
EP3- The strategies to ensure student employability developed by IESs facilitate their insertion into the job market.	,407	,408			
EP4- Guaranteeing employability is an important factor when choosing which higher education institution to attend.	,731	,659			
EP5- About the importance of the IES guaranteeing its employability.	,570	,523			
Mean: 3,9685; Standard Devia KMO: 0,770	tion: 0,63636; C	ronbach Alpha: 0,710;			
INN	NOVATION				
IN1- About the importance of the IES developing innovative services that are different from others and its influence on the student's insertion in the job market.	,755	,651			
IN2- About the importance of the teaching techniques used in the classroom being innovative and their influence on the student's insertion into the job market.	,797	,730			
IN3- About the importance of the IES developing innovative teaching methods and their influence on the student's insertion into the job market.	,797	,733			
IN4- Creativity influences the development of employability.	,706	,602			
Mean: 4,4965; Standard Deviation: 0,58592; Cronbach Alpha: 0,783; KMO: 0,751					

COMPETITIVE INTELLIGENCE

,736

employability.			
CI2- Curiosity influences the development of skills that help in the employability process.	,637	,554	
CI-3- Opinion on the statement: the ability to express yourself, written and oral, influences employability.	,473	,337	
Mean: 4.5340: Standard Deviation: 0.49585: Cronbach Alpha:			

Mean: 4,5340; Standard Deviation: 0,49585; Cronbach Alpha: 0,505; KMO: 0,587

COMPETITIVE STRATEGY				
CS1- Strategies to guarantee student employment, carried out by an IES, influence the student when choosing an institution.	,511	,592		
CS2- The strategies used by an IES to train its students with a focus on the needs of the job market help to guarantee employment.	,452	,443		
CS3- An IES that develops actions aimed at meeting the specific needs of students in relation to their professional objective comes out ahead of its competitors.	,726	,623		
CS4- An IES' concern with meeting all MEC standards influences its image and that of its graduates in the job market.  Mean: 4.2072: Standard De	,686	,511		

Fonte: Elaborated by the authors (2021).

0,643; KMO: ,676

#### Presentation and discussion of results

The study was carried out with pre-university students from public schools. Of the 216 valid cases, 51% are female and 49% male. It was also evident that 12% were born after the 2000s, that is, they are young people called "generation Z"; the vast majority, 87%, belong to "generation Y", who were born between 1980 and 2000, and only 1% are from "generation X", born between 1960 and 1979.

A question was asked about students' preferences regarding the choice between a public or private higher education institution: 91% responded that they would choose a public institution, 7% said that it doesn't matter, and only 2% preferred a private institution. Still asked about higher education institutions, they were asked about what had the most influence on their choice. 51.1% stated that it is the institution's reputation and 20.4% that it is the guarantee of employability



influences the development of

persistent

Being

,560

after training, understanding that the importance of choosing the institution's reputation is directly linked to the acceptance of the diploma in the job market. 71.5% of respondents chose the institution based on maximizing their employability.

Furthermore, clustering was carried out using the means observed in the constructs employability (EP), innovation (IN), competitive intelligence (CI) and competitive strategy (CS). Respondents were segmented into cluster 1 with the lowest means and cluster 2 with the highest factor means. Cluster 1 grouped 60 respondents (27.77%) and cluster 2 grouped 156 institutions (72.23%).

To carry out the validation of the research, the SPSS 20.0 software was used, where the following precepts were followed: i) 16 variables (table 1) and descriptive statistics; ii) extraction through Principal Component Analysis, based on eigenvalues in EFA and iii) Multiple Linear Regression Analysis.

The mean tests position the responses of each variable in relation to the scale that was used in the research and the standard deviation test measures the dispersion of responses around the mean, as shown in Table 2.

Table 2

Mean and standard deviation of variables

Descriptive statistics			
	Mean	Standard deviation	N
PO1	3,58	0,918	462
PO2	3,55	1,175	462
PO3	3,97	0,943	462
PO4	3,81	0,977	462
GC1	3,92	1,103	462
GC2	3,71	1,123	462
GC3	3,24	1,163	462
GC4	3,85	1,044	462
OE1	3,98	1,106	462
OE2	4,11	0,932	462
OE3	4,14	0,796	462
OE4	4,19	0,945	462

Source: Elaborated by the authors (2021).

Table 3 shows the mean and the standard deviation of the mean of the constructs EP, IN, CI

and CS.

Table 3

Mean and standard deviation of the constructs

Item statistics			
	Mean	Standard N	
		deviation	
MEDEP	3,9685	,63636	216
MEDIN	4,4965	,58592	216
MEDIC	4,5340	,49585	216
MEDEC	4,2072	,60681	216

**Fonte**: Elaborated by the authors (2021).

In EFA, the process and behavior of observable variables were examined, the scale of Cronbach's Alpha tests, the Kaiser-Meyer-Olkin KMO sampling adequacy measure, Bartlett's Test of Sphericity, commonality analysis, load factor with VARIMAX rotation and the study of data normality.

The analysis of observable variables grouped, through EFA, the variables into four constructs: employability (EP), innovation (IN), competitive intelligence (CI) and competitive strategy (CS). In Table 1, the variables and their means, standard deviation and respective load factors were presented. Thus, considering these four constructs, 55.96% of the data variance is explained.

The Cronbach Alpha test measures the simple reliability of the data sample. The result to be significant needs to be greater than 0.70 (Hair *et al.*, 2007). The test result was greater than 0.7 in all four constructs; according to table 1 and the data as a whole; the result was also greater than 0.70 (0.842), which indicates that the data sample is reliable.

Subsequently, the KMO was carried out, which estimates the sampling adequacy measure. Bartlett's Test of Sphericity analyzes the hypothesis that the correlation matrix is an identity matrix, thus demonstrating the correlation between the variables. The results, to be significant, need to be greater than 0.5 and less than 0.05 respectively (Hair *et al.*, 2007). The KMO Test for each construct was greater than 0.5 (table 1) and in the data set as well (0.815). Bartlett's Test of Sphericity appeared significant at p<0.01 for the four constructs and for the data group.

The research verified the variance of each original variable with the factors, that is,



commonality. The Commonality Analysis, to be significant, must present a result above 0.5 (Hair et al., 2007). Four variables had a value lower than 0.5, as shown in table 1. All the remaining variables had a commonality higher than 0.5. Load factor analysis with VARIMAX rotation seeks to study and determine the influence of independent variables (cause) on the dependent variable (effect), validating the positioning of the variables in the components in which they were grouped. The load factor to be significant needs to be above 0.4 (Hair et al., 2007). According to table 1, all variables have load factor above 0.4 and therefore it was not necessary to exclude any variable. Regarding the grouping of the research instrument and its constructs, it is noted that the variables clearly belong to the components (constructs) in which they were grouped.

Multiple regression is a statistical, descriptive and inferential analysis between a dependent variable (Y) as an effect of multiple independent variables (X) of cause. The research verified the relationships between the constructs Employability (EP), Innovation (IN), Competitive Intelligence (CI) and Competitive Strategy (CS).

The study begins with an explanation in model 1 for the variance in CS (CS1, CS2, CS3 and CS4) as a dependent variable (effect) and EP (EP1, EP2, EP3, EP4 and EP5) as an independent variable. Model 2 explains the variance in the CS construct as a dependent variable and IN (IN1, IN2, IN3 and IN4) as an independent variable. Model 3 explains the variance in the CS construct as a dependent variable and CI (CI1, CI2 and IN3) as an independent variable.

The analysis indicates the cumulative effects of a group of independent variables (X1, X2, Xn) on a dependent variable (Y). According to data in Table 4.

Analyzing the regression by construct, it can be observed that, for the EP construct, the independent variables have regression a correlation R<sup>2</sup> of 24.6% in the average dependent variable of CS. The regression result has a low explanatory power, but the tests carried out in the study are significant and indicate that the regression test is adequate and has an influence on the dependent variable. According to the R<sup>2</sup> result (24.60%),hypothesis 1 is confirmed (employability is an important competitive strategy for attracting and retaining students for higher education institutions).

Table 4
Construct regression summary

Model summary <sup>b</sup>				
Mode 1	R	R squared	Adjusted R squared	Standard error of the estimate
1	,496ª	,246	,228	,53310

a. Predictors: (Constant), EP5, EP3, EP2, EP1, EP4

b. Dependent variable: MEDEC

Model summary <sup>b</sup>				
Mode	R	R	Adjusted	Standard error of the estimate
1		squared	R squared	of the estimate
1	,508ª	,258	,244	,52775

a. Predictors: (Constant), IN4, IN3, IN1, IN2

b. Dependent variable: MEDEC

Model summary <sup>b</sup>				
Mode 1	R	R squared	Adjusted R squared	Standard error of the estimate
1	,490ª	,240	,230	,53259

a. Predictors: (Constant), CI3, CI1, CI2

b. Dependent variable: MEDEC

**Source**: Elaborated by the authors (2021).

The IN construct as independent variables has an R<sup>2</sup> of 25.8% in the dependent variable MEDEC. As with the GC construct, the regression result has a low explanatory power, but is validated by the tests carried out in the study. According to the R<sup>2</sup> result (25.8%), hypothesis 2 is confirmed (innovation is an important tool for competitive employability strategy in higher education institutions).

The CI construct as independent variables has an R<sup>2</sup> of 24% in the dependent variable MEDEC. It is the construct with the lowest R2, that is, of the three it is the one with the least relationship with the dependent variable, but it is also validated by the tests carried out in the study. According to the R<sup>2</sup> result (24%), hypothesis 3 is confirmed (competitive intelligence influences the competitive strategy to maximize employability actions in higher education institutions).

According to the analyses, it is possible to state that Innovation (IN) has greater explanatory



power over the competitive strategy with an R<sup>2</sup> regression of 25.80%, but the other two constructs, Employability and Competitive Intelligence, also show an explanatory power reasonable with 24.6% and 24% respectively. The result shows that respondents point out a small difference in the explanatory power for a competitive strategy in relation to innovation, but that employability and competitive intelligence positively influence competitive strategies.

#### Final considerations

Through this study, it was possible to demonstrate that employability, together with innovation and competitive intelligence, influences competitive strategies. Based on the achieved results, the hypotheses raised by the work were answered affirmatively and the importance of developing methodologies to maximize employability was shown, using innovation and competitive intelligence as competitive strategies focused on training students. In this way, private higher education institutions can use these parameters to outline strategies for training and retaining students.

It was identified that, although the vast majority of students, coming from public schools, prefer a public higher education institution, the perspective of maximizing their employability is an important condition for choosing a private educational institution. It was also clear that, for this reason, students are willing to change institutions.

The study brought managerial contributions, highlighting to managers the results that point to a trend, in which the use of competitive strategy, using the maximization of employability, innovation and competitive intelligence, can exert an influence on attracting students/clients to their institutions.

As an academic contribution, the research validated the framework, which was confirmed after carrying out all statistical analysis. Thus, this model corroborates the literature presented by the authors cited during the theoretical framework of this study, who address the concept comprehensively.

The study suffered some limitations, with a

low number of respondents in relation to the initial sample, due to the short time to carry out the research and the atypical period, as it was carried out during the carnival holiday and there was afterwards difficulty in generalizing the responses, since it is a Survey.

A suggestion for future studies is a broader survey in relation to the sample size of respondents and a qualitative survey with managers of some private higher education institutions to deepen the study.

#### References

Alauddin, N. & Yamada, S. (2022). TQM model based on Deming prize for schools. *International Journal of Quality and Service Sciences*, *14*(4), 635-651. https://doi.org/10.1108/IJOSS-09-2021-0131

Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2009). *Trends in Global Higher Education: Tracking an academic revolution*. Paris: UNESCO.

Alkhalaf, T., Durrah, O., Almohammad, D., & Ahmed, F. (2022). Can entrepreneurial knowledge boost the entrepreneurial intent of French students? The mediation role of behavioral antecedents. *Management Research Review*, 45(12), 1545-1571. <a href="https://doi.org/10.1108/MRR-06-2021-0432">https://doi.org/10.1108/MRR-06-2021-0432</a>

Avolio, B., & Benzaquen, J. (2024). Internationalization strategies for non-Western higher educational insitutions: a systematic literature review and conceptual framework, *International Journal of Educational Mangement*, vol. ahead-of-print no. ahead-of-print. <a href="https://doi.org/10.1108/IJEM-05-2023-0243">https://doi.org/10.1108/IJEM-05-2023-0243</a>

Brasil. Inep. *Censo da Educação Superior 2020*. Notas Estatísticas, Brasília/DF, 2022. Retrieved from <a href="https://download.inep.gov.br/publicacoes/institucionais/estatisticas">https://download.inep.gov.br/publicacoes/institucionais/estatisticas</a> e indicadores/notas estatisticas censo da educação superior 2020.pdf

Chen, Y., Qiu, Y., Lin, H., & Zhao, Y. (2022). The effects of topic familiarity on college students' learning search process. *Aslib Journal of Information Management*, 74(6), 1151-1173. https://doi.org/10.1108/AJIM-09-2021-0252

Clarke, A.P., Cornes, C., & Ferry, N. (2020). The use of self-reflection for enhanced enterprise education: a



case study. *Education* + *Training*, 62(5) 581-598. https://doi.org/10.1108/ET-03-2019-0050

Cordeiro de Souza, G. (2024). Understanding the relationship between competitive strategy and product-service innovation: the role of the paradox of openness". *Information Education*, ahead-of-print no. ahead-of-print. <a href="https://doi.org/10.1108/JEIM-062023-0340">https://doi.org/10.1108/JEIM-062023-0340</a>

Crossman, J. E., & Clarke, M. (2010). International experience and graduate employability: Stakeholder perceptions on the connection. *Higher Education*, *59*(5), 599-613. <a href="https://doi.org/10.1007/s10734-009-9268-z">https://doi.org/10.1007/s10734-009-9268-z</a>

Decker-Lange, C., Lange, K., & Walmsley, A. (2024). How does entrepreneurship education affect employability? Insights from UK higher education. International Journal of Entrepreneurial Behavior & Research, 30(5), 1249-1269. https://doi.org/10.1108/IJEBR-08-2023-0856

Finch, D. J., Peacock, M., Levallet, N., & Foster, W. (2015). A dynamic capability view of employability. *Education and Training*, 58, 61-81. <a href="https://doi.org/10.1108/ET-02-2015-0013">https://doi.org/10.1108/ET-02-2015-0013</a>

Fumasoli, T., & Lepori, B. (2011). Patterns of Strategies in Swiss Higher Education Institutions. *Higher Education*, *61*(2), 157-178.

Guimarães, J. C. F., Coutinho, C. V. S., Lain, G. C., Milan, G. S., & Severo, E. A. (2013). Marketing innovation in higher education institutions of Serra Gaúcha', *Revista GUAL*, 6(2), 79-105. <a href="https://doi.org/10.5007/1983-4535.2013v6n2p79">https://doi.org/10.5007/1983-4535.2013v6n2p79</a>

Guimarães, J. C. F., Severo, E. A., Nóbrega, K.C., & Tondolo, V.A.G. (2019). Antecedents of student retention: the influence of innovation and quality of teaching in Brazilian universities. *International Journal Innovation and Learning*, 26(3), 235-255.

Hair, J. F. H., Money, A. H., Samouel, P., & Page, M. (2007). *Research methods for business*. West Sussex: John Wiley & Sons Ltd.

IBGE (2020, dezembro). Pesquisa Nacional — Desemprego recua na maioria dos estados na média anual para 2021. Retrieved from <a href="https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/33034-">https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/33034-</a>

<u>desemprego-recua-na-maioria-dos-estados-na-media-anual-para-2021</u>

IBGE (2021, agosto). Desemprego cai para 8,9% no trimestre encerrado em agosto. Retrieved from https://agenciadenoticias.ibge.gov.br/agencianoticias/2012-agencia-de-noticias/noticias/35066-desemprego-cai-para-8-9-no-trimestre-encerrado-emagosto

Instituto Nacional de Estudo e Pesquisas Educacionais Anísio Teixeira [INEP]. Sinopse Estatística da Educação Superior 2020. Retrieved from <a href="https://www.gov.br/inep/pt-br/acesso-a-informacao/dados-abertos/sinopses-estatisticas/educacao-superior-graduacao">https://www.gov.br/inep/pt-br/acesso-a-informacao/dados-abertos/sinopses-estatisticas/educacao-superior-graduacao</a>

Jayawardena, L. N. A. C., & Gregar, A. (2013). Enhancing the Employability of High School Graduates: Impact of Emotional Intelligence. *Wseas Transactions on Business and Economics*, 10(2), 89-96.

Keinänen, M., Ursin, J., & Nissinen, K. (2018). How to measure students' innovation competences in higher education: Evaluation of an assessment tool in authentic learning environments. *Studies in Educational Evaluation*, 58, 30-36.

Kromidha, E., Altinay, L., Kinali Madanoglu, G., Nurmagambetova, A., & Madanoglu, M. (2022). intelligence, Cultural entrepreneurial intentions and the moderating role of the institutional environment. International Journal of Entrepreneurial **Behavior** & Research, 28(6), 1581-1608. https://doi.org/10.1108/IJEBR-02-2022-0109

Lewicka, D., & Bollampally, N. (2022). Trust in lecturer–student relationships as a factor supporting entrepreneurship. *Asia Pacific Journal of Innovation and Entrepreneurship*, ahead-of-print No. ahead-of-print. <a href="https://doi.org/10.1108/APJIE-03-2022-0017">https://doi.org/10.1108/APJIE-03-2022-0017</a>

Marcazzan, E., Campagnolo, D., & Gianecchini, M. (2022), Reaction or anticipation? Resilience in small-and medium-sized enterprises, *Journal of Small Business and Enterprise Development*, 29(5), 764-788. <a href="https://doi.org/10.1108/JSBED-07-2021-0271">https://doi.org/10.1108/JSBED-07-2021-0271</a>

Miranda, A.L.B.B. & Vasconcelos, C.R.M.V. (2020). A "Teoria da Equipe" de Meredith Belbin na percepção dos gestores decisores. *Revista Pretexto*, 21(3), 31-48. http://dx.doi.org/10.21714/pretexto.v31i2.5968



Mohammed, S.M. & Saadaoui, S. (2023). "The role strategic intelligence for leardership in developing proactive work behaviours amongst universities employees", *Journal of Applied Research Higher Education*, ahead-of-print no. ahead-of-print. https://doi.org/10.1108/JARHE-07-2023-0294

Okolie, U.C., Nwajiuba, C.A., Binuomote, M.O., Ehiobuche, C., Igu, N.C.N., & Ajoke, O.S. (2020). Career training with mentoring programs in higher education: Facilitating career development and employability of graduates. *Education + Training*, 62(3), 214-234. <a href="https://doi.org/10.1108/ET-04-2019-0071">https://doi.org/10.1108/ET-04-2019-0071</a>

Philippaers, K., De Cuyper, N., & Forrier, A. (2019). Employability and performance: The role of perceived control and affective organizational commitment. *Personnel Review*, 48(5), 1299-1317. . https://doi.org/10.1108/PR-04-2017-0098

Porter, M. E. (1980). Competitive strategy: Techniques for analyzing industries and competitors. New York: The Free Press. Retrieved from <a href="https://www.hbs.edu/faculty/Pages/item.aspx?num=19">https://www.hbs.edu/faculty/Pages/item.aspx?num=19</a>

Saito, E., & Pham, T. (2018). A Comparative Institutional Analysis on Strategies That Graduates use to Show They are Employable: A Critical Discussion on the Cases of Australia, Japan and Vietnam. *Higher Education Research and Development*. https://doi.org/10.1080/07294360.2018.1529024

Shafiee, M. M. (2022). Competitive advantage via intellectual capital: a moderated mediation analysis. *Journal of Intellectual Capital*, *23*(5), 957-997. https://doi.org/10.1108/JIC-05-2020-0152

Severo, E. A., Becker, A., Guimaraes, J. C. F., & Rotta, C. (2019). The teaching of innovation and environmental sustainability and its relationship with entrepreneurship in Southern Brazil. *International Journal of Innovation and Learning*, 25(1), 78-105. https://doi.org/10.1504/IJIL.2019.10016652

Sofoluwe, A. O., Shokunbi, M. O., Raimi, L., & Ajewole, T. (2013). Entrepreneurship education as a strategy for boosting human capital development and employability in Nigeria: Issues, prospects, challenges and solutions. *Journal of Business Administration and Education*, 3(1), 25-50.

