

ECONOMIC PERFORMANCE OF PRIVATE HIGHER EDUCATION INSTITUTIONS IN DISTANCE EDUCATION THROUGH MERGERS AND ACQUISITIONS

O DESEMPENHO ECONÔMICO DE INSTITUIÇÕES DE ENSINO SUPERIOR PRIVADAS EM EDUCAÇÃO A DISTÂNCIA ATRAVÉS DE FUSÕES E AQUISIÇÕES

EL DESEMPEÑO ECONÓMICO DE INSTITUCIONES DE ENSEÑANZA SUPERIOR PRIVADAS EN EDUCACIÓN A DISTANCIA A TRAVÉS DE FUSIONES Y ADQUISICIONES

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ABSTRACT

This article measures the economic performance of private Higher Education Institutions (HEIs) in distance education with distinct growth strategies. The analysis uses case studies and compares the economic performance of two private HEIs in distance education during the 2012-2014 period: one growing through mergers and acquisitions (M&A) and another that grew through enrollment increases alone. The study analyzed the economic indicators of the two HEIs. Results of the two HEIs were compiled and then the differences in the results were shown. The research supports the theoretical framework that there are economic benefits of the M&A growth strategy in distance education.

Keywords: Higher Education Institution; Distance Education; Mergers and Acquisitions; Enrollment; Economic Performance.

RESUMO

Este artigo mede o desempenho econômico das Instituições de Ensino Superior (IES) privadas em educação a distância com estratégias de crescimento distintas. A análise usa estudos de casos e compara o desempenho econômico de duas IES privadas em educação a distância durante o período de 2012-2014: uma com crescimento através de fusões e aquisições (F&A) e outra que cresceu, sozinha, através do aumento de matrículas. O estudo analisou os indicadores econômicos das duas IES. Os resultados das duas IES foram compilados e, então, as diferenças nos resultados foram mostradas. A pesquisa suporta o arcabouço teórico de que há benefícios econômicos da estratégia de crescimento de F&A na educação a distância.

Palavras-chave: Instituição de Ensino Superior; Educação a Distância; Fusões e Aquisições; Matrícula; Desempenho Econômico.

RESUMEN

Este artículo mide el rendimiento económico de instituciones de enseñanza superior (IES) privadas en educación a distancia con estrategias de crecimiento distintas. El análisis utiliza estudios de casos y compara el desempeño económico de dos IES privadas en educación a distancia durante el período 2012-2014: una con crecimiento a través de fusiones y adquisiciones (F&A) y otra que creció, sola, a través del aumento de matrículas. El estudio analizó los indicadores económicos de las dos IES. Los resultados de las dos IES fueron compilados y, entonces, se mostraron las diferencias en los resultados. La investigación apoya el marco teórico de que hay beneficios económicos de la estrategia de crecimiento de F&A en la educación a distancia.

Palabras-clave: Institución de Enseñanza Superior; Educación a distancia; Fusiones y Adquisiciones; Matrícula; Desempeño Económico.

1 INTRODUCTION

Higher education is a branch of the educational sector that has evolved a lot in Brazil. This evolution has been happening with greater intensity in private institutions, representing the possibility of exploration of this sector as a business (SARFATI; SHWARTZBAUM, 2013).

Another structural change that took place in private higher education relates to the emergence of the distance mode and online education, with a view to popularization of Information and Communication Technologies (ICT), which provided the expansive growth (SARFATI, SHWARTZBAUM, 2013).

Distance Education or Online Education has presented a major alternative for Higher Education Institutions. Ribeiro, Timm and Zaro (2007) point out that the economies of scale in distance education goes beyond the technological infrastructure. Effective planning and dynamic and appropriate models meet the demands for service of external customers and internal students alike.

Institutions in distance education have adopted various strategies in order to gain competitive advantages for growth. Two ways to achieve this growth are through mergers and acquisitions (M&A) and also by growth through enrollment increases (SARFATI; SHWARTZBAUM, 2013).

Private HEIs publicly traded for-profit serve as an example of the Mergers and Acquisitions growth strategy. The institutions of the ACADE System (Santa Catarina Association of Educational Foundations), characterized as community and non-profit, are presented as an example of the organic or enrollment growth strategy.

Therefore, this article poses the following research question: What is the economic performance of private HEIs in distance education with growth strategies through mergers, acquisitions, and through enrollment increases (organically)? To answer this question, the overall objective of the study is to measure the economic performance of private HEIs in distance education with growth strategies through mergers, acquisitions, and organically via enrollment increases alone from 2012 to 2014. The specific objectives of the study are to highlight the economic performance of a publicly traded, private institution that is growing
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through mergers and acquisitions; to highlight the economic performance of an enrollment-driven institution growing organically; and to show the differences in the economic performance of these institutions.

Next, this article presents a summary of the literature review and the methodology employed in the execution of the case study. After that, it moves into the presentation and analysis of secondary data collected and, finally, discusses our final considerations, work limitations, and ideas for future academic studies on the subject.

2 LITERATURE REVIEW

2.1 PRIVATE HIGHER EDUCATION INSTITUTIONS

Until the 90s, private higher education institutions presented an accelerated growth due to public policies which favored them. However, according to Chaves (2010), this expansion was corrupted when Law Number 9394 (BRASIL, 1996), LDB (Law of Directives and Bases in Portuguese acronym), was adopted on 20 December 1996. With the implementation of the LDB some changes occurred, among them the reduction of the guaranteed significant profitability of most private HEIs, failing to take advantage of public funds and tax breaks as provided in Article 213 of the CF (CARVALHO, 2006).

The division of the private sector's private institutions (business for profit), community, and denominational and charitable (non-profit) organizations was another change which occurred with the implementation of the LDB of 1996. In summary, the private sector was divided into establishments and non-profits (CHAVES, 2010). According to the author, the for-profit institutions are companies seeking to derive profit, unlike the non-profit institutions, which stand out for their approach to the public sector in order to claim access to public funds.

The University Program for All (PROUNI in Portuguese acronym) and Student Financing (FIES also in Portuguese acronym) programs are incentives from the federal government provided to private higher education which helped to accelerate the growth of private higher education in Brazil (SARFATI; SHWARTZBAUM, 2013). The two programs mentioned contributed to the private higher education growth (SÉCCA; LEAL, 2009).

The growth of the educational private sector generated rivalries among private HEIs. There are generic growth strategies implemented to analyze the competitive advantages and the strategic positioning of these companies: leadership in total cost, differentiation, and focus (BRAGA; CONCEIÇÃO, 2013). Regarding to the cost and the continuation of change in Brazilian private higher education, its structure has been boosted with the rise of online delivery of courses (CHAVES, 2010; SARFATI; SHWARTZBAUM, 2013); and Decree Number 5.622 / 2005 (BRASIL, 2005), which regulates distance education in Brazil.

However, it is important to expose the non-profit institutions that make up the ACADEMIA (Santa Catarina Association Educational Foundations in Portuguese acronym) system, since the institutions that are part of this system also adopt distance education as a strategy to expand the educational market to reach a new market niche. Therefore, it is a competitive strategy to attract and capture more students (SAVARIS; SILVA; DOMINGUES, 2013).

The expansion of private higher education institutions has taken place in a consolidation process due to the strengthening of some companies in the educational sector through the large number of merger and acquisition transactions that occurred since 2008 (SARFATI; SHWARTZBAUM, 2013). These educational companies that have adopted the strategy of growth through mergers and acquisitions are classified as publicly-traded, for-profit companies.

Therefore, the expansion of private higher education in Brazil may be the result of explosive growth in the for-profit sector and the idea the market is a good place to grow these academic institutions. The LDB also drove the growth of private Brazilian HEIs. Lastly, intense processes of denationalization to education have contributed to the rise of private HEIs. The inflow of foreign capital in the education sector has been the hallmark of this process (CHAVES, 2010).

2.1.1 Higher education institutions publicly traded

The capital opening process of some institutions began in 2007. These institutions opened their capital to list their stock on the stock market for capitalization. Three major

educational groups applied this technique: Kroton, Anhanguera and Estacio (CHAVES, 2010). However, on July 3rd, 2013, two groups merged: Kroton and Anhanguera.

Once capitalized and in possession of a large market share, Kroton sought to expand even further, actively working on the purchase of smaller players as shown in Table 1.

Table 1 – Acquisitions made by Kroton from 2007 to 2012

Acquired institution	State	Date of acquisition	*EV (millions R\$)	Students (thousand)	**EV/student
Divinópolis	MG	09/17/2007	13.2	3.1	4.2
União Metropolitana	PR	12/12/2007	18.0	3.1	5.8
Terra da Uva	SP	12/14/2007	4.3	0.9	4.5
FIPAG	ES	01/18/2008	4.6	1.2	3.8
UniMinas	MG	03/28/2008	22.0	3.6	6.1
SUESC	RJ	04/07/2008	31.5	3.5	9.0
Unilinhares	ES	04/14/2008	15.0	2.5	5.9
Faculdades CBTA	SP	04/29/2008	3.6	0.8	4.5
FACTEF	BA	08/26/2008	8.2	1.6	5.1
IUNI	BA, MS e PA	03/12/2010	419.0	42.2	9.9
FAIS	MT	11/04/2011	7.0	1.3	5.4
FAMA	MA	07/14/2011	24.0	5.0	4.8
UNOPAR	PR	12/15/2011	1,300.0	161.9	8.0
Unirondon	MT	04/27/2012	28.3	5.5	5.1
Uniassevi	SC	05/29/2012	510.0	86.2	5.9

Source: Adapted from Deutsche Bank (2012, p. 56); Banco J. Safra (2012, p. 26); Kroton (2012 *apud* SARFATI; SWARTZBAUM, 2013).

* EV corresponds to the company's value, consisting of the amount disbursed to the selling shareholders for their equity and net corporate debt.

** Metric EV / student is a multiple of specific assessment of the sector, which indicates the average value of the company by registered student.

After viewing Table 1, an interesting aspect to be considered is Kroton did not make any acquisitions in 2009. Kroton acquired no HEIs during this period for two reasons: first, the institution reported in the document Transition in Conference Call 4Q09 results (2010) that 2009 was the period of crisis, but that HEI did not suffer the impact because it showed an increase of 8% in the number of students who are not related to any institution acquired; and second, the institution was preparing for the acquisition of IUNI, which was strategic, with even the jump that IES had with this acquisition and its position would move to the 4th place as the largest educational group in higher education. This report was given in a document published by Kroton (2010).

2.1.2 Institutions ACADE System (Santa Catarina Association of Educational Foundations)

The institutions of the ACADE system, characterized as social organizations, belong to the third sector (consisting of persons deprived of public purposes; non-profit; established voluntarily by individuals; state aids in pursuit of relevant collective interest activities) since they have the same material substratum of traditional private legal entities of public utility. Therefore, these HEIs do not fall into a new type of private legal entities or institutions created by law and inserted in the public administration structure. The ACADE and the HEIs system are characterized as legal entities structured as private foundations (MODESTO, 1997).

The creation of the foundations took place in the 1960's in the state of Santa Catarina. The reason the educational foundations were created was in response to the requests and demands of community movements and the municipality which were the maintainers of these HEIs. But with the failure of municipalities due to a centralized tax policy, there was a privatization of educational foundations (PEGORARO, 2013).

The ACADE is an institution of the state of Santa Catarina representing universities and associated higher education institutions. The ACADE system's function is to streamline the approval process and preserve the resources of federal and state authorities, as well as to organize the unified entrance exam. The creation of ACADE also has the objective of strengthening its members so that it highlights the mission to promote integration, cooperation, and development of affiliated institutions, aiming at strengthening community higher education in the state of Santa Catarina (CATARINENSE ASSOCIATION OF EDUCATIONAL FOUNDATIONS, 2004).

The evolution of institutions, not only in the ACADE system, but in all categories of IES, has occurred in other issues as well. HEIs have introduced a new teaching format: Distance Learning. This type of education has also been adopted by the HEIs ACADE system as seeking greater competitiveness in this market niche.

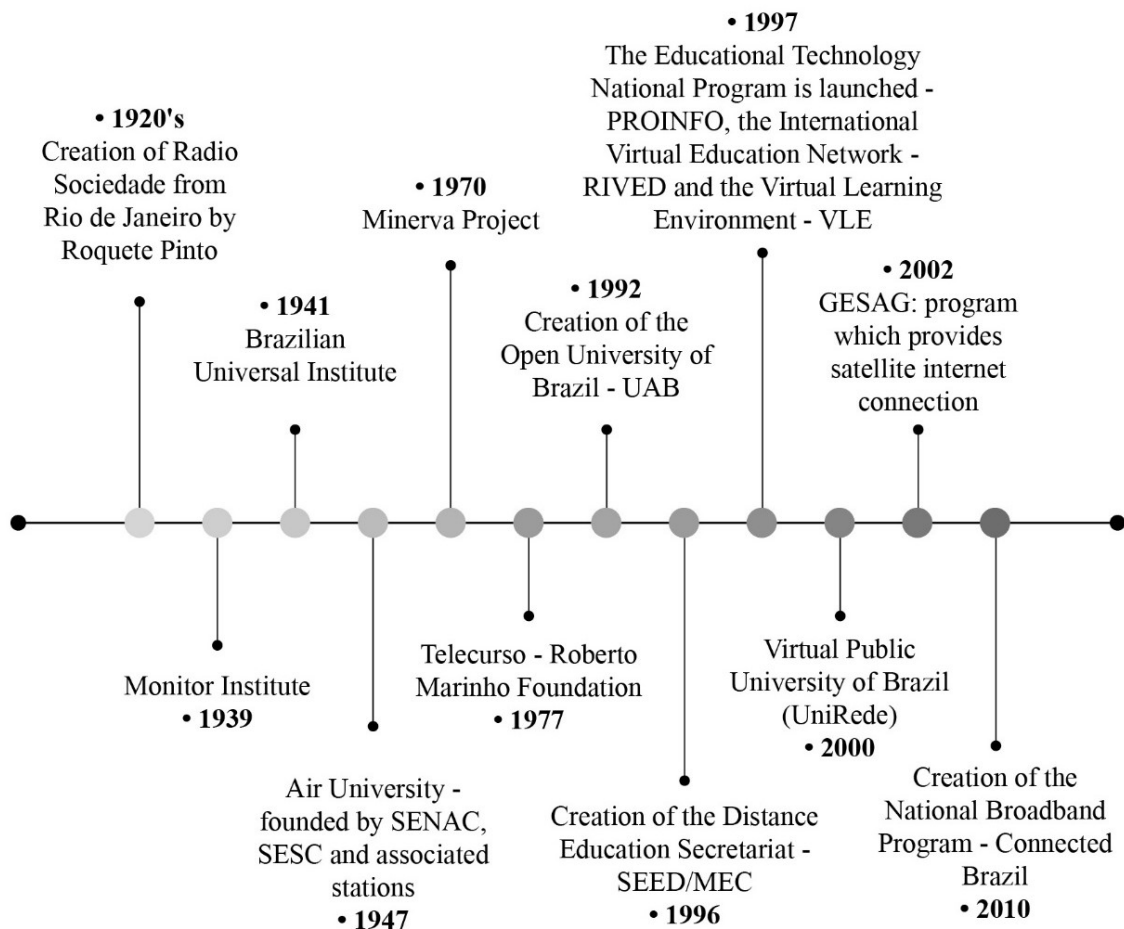
2.2 DISTANCE EDUCATION

Distance education has been seen by educational institutions as an innovation strategy, including as a business model in the educational market. Educational institutions

were willing to offer courses in this modality to reformulate its strategic management, as well as their technical and administrative processes (ARAÚJO et al., 2013; MALIK, 2015).

To best represent the advancement of distance education in history, Figure 1 presents a historical line of distance education highlights in Brazil during the twentieth and twenty-first centuries.

Figure 1 – Some highlights of distance learning in Brazil in the twentieth and twenty-first century



Source: Elaborated by the authors (2015).

In the historic line of emergence of distance education, one sees a jump in this type of education because of the advancement of technology and the internet. The emergence of distance education principally targets people who did not have conditions to study in the classroom mode, either for financial reasons, geographical reasons, and/or difficulty of access to higher education (NASCIMENTO; FERREIRA, 2012). This picture has passed, but the distance *Revista Eletrônica de Estratégia & Negócios*, Florianópolis, v.10, n. 1, jan./abr. 2017.

mode continues to popularize and expand. Those who are joining this educational format are people who already have some degree and have the time and financial conditions to route the classroom format (PALLOFF; PRATT, 2004).

2.3 GROWTH OF HEIs

The strategy of growth through mergers and acquisitions has been one of the ways that companies expand their market share in the market in which they operate. The strategy of organic growth does not allow access to certain factors that the process of mergers and acquisitions enables. Given this approach, two private HEIs growth-strategies in distance education will be emphasized: growth via M&A and organically.

The growing wave of mergers and acquisitions has been a result of the business globalization, which has increased both the opportunities and pressures for companies to develop. It is possible that these companies have access to new and lucrative markets through these processes as they may also have access to new knowledge and skills, as well as valuable and complementary resources through acquisitions (HITT; PISANO, 2003).

Acquisitions have been seen by companies seeking to adopt this strategy to expand their market share, causing a positive impact on its financial performance (IBORRA; DOLZ, 2006), enabling the achievement of economies of scale, and allowing for the sharing of gain market or geographic expansion (VALENTINI; DI GUARDO, 2004).

When considering these economically, mergers and acquisitions are classified per Table 2.

Table 2 – Classification of Mergers and Acquisitions Processes

Rating	Definition
Horizontal	Involves firms from the same industry, usually rivals.
Vertical	When results from the union between firms that are part of the same production chain, and can be up (amount), towards suppliers or down (downstream) towards the distributors.
Conglomerate	When involves firms in unrelated lines of business whose main objective is the diversification of investments, to reduce risks and take advantage of investment opportunities.
Congener	Involves classes in the same industry, but do not act in the same line of business, are neither supplier nor customer.

Source: Ross, Westerfield and Jaffe (2002, p. 655); Weston and Brigham (2000, p. 885-886).

Regarding the types of mergers and acquisitions in the educational sector, Sarfati and Schwartzbaum (2013) state that the companies Anhanguera, Estácio and Kroton, leveraged by the capital market, shared a growth strategy through mergers and horizontal acquisitions.

However, it should be noted that HEIs in distance education which adopt the teaching distance mode are already operating in economies of scale (RIBEIRO; TIMM; ZARO, 2007), as distance education supports itself via its performance capability with many students through technological tools. This type of education also reduces the need for an administrative staff working in their infrastructure, since it is used very little. Therefore, we seek to understand why the IES in distance education still grow via M&A, which are the integrations. Horizontal integration in distance education is feasible because the vertical could join a company from which it outsources its services, eventually concentrating more on a kind of know-how.

Mergers and acquisitions are processes that help in achieving either improvements or synergy in the performance of the administration to increase the economic performance of companies. It is believed that these factors are transmitted from one company to another (MATIAS; PASIN, 2001). Camargos and Barbosa (2005) and Matias and Pasin (2001) present the following stemmed synergies of M&A processes. They are: savings in operational scale; financial savings; improvements in management efficiency; increased market power; and tax savings.

The theme of organic growth in private HEIs in distance education is in its infancy, with few studies that specifically address the subject. The relevance of this theme is centered on the idea that a private institution in distance education growing organically already operates within developing economies of scale.

2.4 ECONOMIC AND FINANCIAL PERFORMANCE OF HEIs

In this work, only the economic situation of the samples is analyzed, given the unavailability of data access and the only economic indicators being profitability and synergy. Table 3 presents the indicators to be treated for this research.

Table 3 – Economic Indicators

Profitability (economic situation)		
Indicators	Calculation	Indicates
Profitability per Student (PS)	$PS = \frac{\text{Contribution margin}}{\text{Number of students}}$	Measures the profitability per student

Gross Margin (GM)	$GM = \frac{\text{Gross revenue} - \text{total expenditure}}{\text{Gross revenue}}$	Identifies the residual percentage of gross revenue after discounting all expenses
Productivity (synergy)		
Indicators	Calculation	Indicates
Personnel Expenses Ratio	$PER = \frac{\text{Personnel Expenses}}{\text{Gross revenue}}$	Identifies the percentage of gross revenue for the expenses of the Institution staff
Administrative Costs Ratio (ACR)	$ACR = \frac{\text{Administrative Costs}}{\text{Gross revenue}}$	Identifies the percentage of gross revenue for the Institution administrative costs
Material Expenses Ratio	$MER = \text{Material Expenses}$	Identifies the percentage of gross revenue for the material expenses
Total Expenditure Ratio	$TER = \frac{\text{Total expenditure}}{\text{Gross revenue}}$	Identifies the percentage of gross revenue to cover all the expenses of the institution
Expenditure per Student	$ES = \frac{\left(\frac{\text{Total expenditure}}{\text{Number of students}} \right)}{12}$	Identifies the monthly amount spent per student

Source: Elaborated by the authors (2015).

The goal of the selected indicators is to capture the synergies arising from M&A, as the theoretical framework points out that there will be gains from these operations. In this work, some financial indicators such as ROA and ROE could not be used, given the limited access to the data by the study objects and their segregation in distance.

3 METHODOLOGY

The objective of this research is to measure the economic performance of private Higher Education Institutions in distance education with two different growth strategies: mergers and acquisitions or through organic growth strategies. The paper uses both qualitative and quantitative analysis to compare and contrast the financial outcomes of the two growth strategies. The paper uses a comparative case study methodology to compare and contrast the two HEIs growth models. It is a relevant methodology that, to the authors' knowledge, has not yet been explored in the organizational context.

Industry data were collected from 2012 (see Table 1) because Kroton, one of the two HEIs in the study, started its distance education activities in 2011 and financial statements were only available from 2012.

The study population is private HEIs offering distance education. The study used a nonprobabilistic method. Due to the limitation of data availability, two institutions were selected that meet the case study criteria. The first institution, Kroton Educacional, was selected because it is a publicly-traded HEI with publically-available financial data. It also recently merged with another university. The second institution, of Southern Santa Catarina Distance Education University (UNISUL), was selected because it has been growing organically. These institutions were selected because they are the few that segregate classroom learning and distance education data.

By definition, the sample selected for this research is the distance mode that these HEIs work with, thus representing the population universe for application of this research because, as in Richardson (2008), this sample is adequate for the research purpose.

Kroton Educacional Services is a publicly-traded private educational organization. It was created in 1971 to provide basic education services. Ten years later, it started offering higher education courses. The company's headquarters is in Belo Horizonte (MG) – state the province in Brazil – and has over 1,071,000 students in graduate and undergraduate programs. Kroton offers both in-class courses at 124 *campi* spread across the country and distance education courses at 667 poles of distance education. It also serves 41,000 students in the National Program for Access to Technical education and Employment (PRONATEC), 53,000 students in unregulated courses, 290,000 students in basic education, and is associated with 876 schools in Brazil and six in Japan and Canada.

In 2011, Kroton merged with Anhanguera to expand its distance education programs. With this merger-acquisition, the institution now has 125 higher education units and 726 undergraduate distance education centers. The organization also has a Basic Education network that includes more than 870 member schools across the country. Finally, this merger added more than 400 centers of free and preparatory courses to Kroton's portfolio.

UNISUL, the other institution analyzed in this study, is a private, not-for-profit higher education institution. Located in the southern state of Santa Catarina in Florianópolis, UNISUL – expands social, cultural and educational perspectives –, is one of the top higher education institutions in the country. It has three campuses: Tubarão (South), Florianópolis (North), and
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Virtual Unisul. UNISUL has 25,000 students, of which 13,000 are in distance education. It offers 25 courses in 73 centers spread across various regions of Brazil.

Secondary data were collected from the two institutions analyzed in this study. Kroton collected data from the pilot distance education classes started when it acquired Anhanguera in 2011; the financial results were made publically available in 2012. The HEI first started with graduate courses in distance education and then gradually started to grow organically before acquiring and merging with Anhanguera. The data collected to perform this study comprises quarterly reports from 2012 to 2014.

With these collected documents and the release of quarterly results, the use of the HEIs balance sheet was important because this document contains the consolidated information, justified with explanatory notes in retrospect of the amounts presented in the Quarterly Release.

After collecting Kroton's secondary data, UNISUL's financial data were then collected from its website for years 2012 to 2014.

Additional financial and management reports about UNISUL dating back to 2007 were obtained from a third party. Such reports were not available for Kroton, however.

The economic and financial indicators that were collected from HEIs and will be used to analyze the two institutions' performances are listed in Table 3.

4 DATA ANALYSIS AND INTERPRETATION

To analyze the impact of growth using the two strategies described above, changes in operational and administrative efficiency indicators will be analyzed as described by Matias and Pasin (2001).

Economic indicators selected for this research were profitability and synergy. The formulas used for calculating and interpreting these indicators are presented in Table 3.

The profitability indicators will help better understand how organic growth on one hand and mergers on the other hand impact each institution's financial outcome. Changes in

organizational and operational indicators will help shed light on the structural impact of organic growth and mergers within each institution, as well as their effects on net income.

After collecting the data, the companies' reports were aggregated for consistency purposes. Kroton's costs per class, for example, were adjustments, as noted. The charges Information Service with Advertising and disclosure found in the Balance Sheet Kroton.

The purpose of joining these classes is to contemplate equal accounts between HEIs in analysis and to be able to relate the synergies described by Sarfati and Shwartzbaum (2013). However, these synergies needed to be united as the existing cost elements. Table 4 below shows this in aggregation.

Table 4 – Synergy aggregation

Types of synergy identified	Sum
Increased collusive nature of income at the national level	1
Increased collusive nature of revenues at the regional or local level	
Increase in operating revenues nature	
Reduce faculty costs and teaching support	2
Reduction of utility costs	3
Reduction of didactic material costs	4
Reduction in general and administrative expenses	
Reduction in rental costs, condominium, property tax	5
Reduction of outsourced services costs (maintenance, security, cleaning, etc.)	6
Lower expenses on provision for bad debts	7
Reduction of commercial and advertising expenses	8
tax reduction (tax benefits)	9
Reducing the capital cost	10

Source: Elaborated by the authors (2015).

Thus, the classes cost seen in financial statements of the HEIs were related to the synergies that each class matches. It is noteworthy that not all the synergies could be related to the classes.

Table 5 – Cost of class Relationship with Synergy

Cost Categories	Synergies
Gross revenue	1
Delinquency	7
Staff Costs and Charges	2
Philanthropic charges (taxes)	9
Charges Disclosure	8
Charges Pu and Disclosure Service	
Costs of materials	4
Capital charges (rent)	5
Conservation costs (maintenance)	6

Source: Elaborated by the authors (2015).

The economic indicators were analyzed in Excel using a t-test comparing two independent samples and assuming unequal variances at the 5% significance level. The critical t and P-tailed value were used for the interpretation of results. As Barbetta (2011) suggests, the t-test is used to assess whether the observed differences between the two HEI can be justified merely by casual factors (H0) or if such differences are real (H1).

It is also worth pointing out that a 95% confidence interval was calculated in economic indicators (cost element) of the analyzed HEI. The level of significance was 5%. The complete table with the resulting values is in Appendix A.

5 RESULTS

With the data analysis from the HEI study, the economic performance of the HEI was evidenced. The results showed that Kroton, in this case, had a better result than the UNISUL. This can be observed in the contribution margin seen in Table 6 below.

Table 6 – Economic performance of HEI

Cost Elements Institution	2012		2013		2014	
	Unisul % R.B.	Kroton % R.B.	Unisul % R.B.	Kroton % R.B.	Unisul % R.B.	Kroton % R.B.
Delinquency	2,2%	5,2%	1,6%	5,4%	1,4%	5,8%
Staff Costs and Charges	46,9%	19,4%	46,1%	10,4%	44,1%	13,4%
Philanthropic charges (taxes)	12,6%	9,7%	14,6%	11,4%	15,0%	15,3%
Charges Disclosure	1,5%	3,6%	1,6%	3,3%	0,1%	6,3%
Charges Disclosure and Advertising	6,8%		6,2%		3,4%	
Costs of materials	3,3%	0,0%	3,4%	0,0%	2,6%	2,2%
Capital charges	1,3%	0,8%	1,5%	0,9%	1,3%	1,4%
Conservation charges (Maintenance)	0,1%	0,0%	0,1%	0,0%	0,2%	0,2%
Total Expenses	72,7%	50,4%	73,5%	45,0%	67,9%	50,2%
Contribution margin (considered taxes)	29,5%	49,2%	28,2%	55,0%	30,7%	49,8%

Source: Survey data.

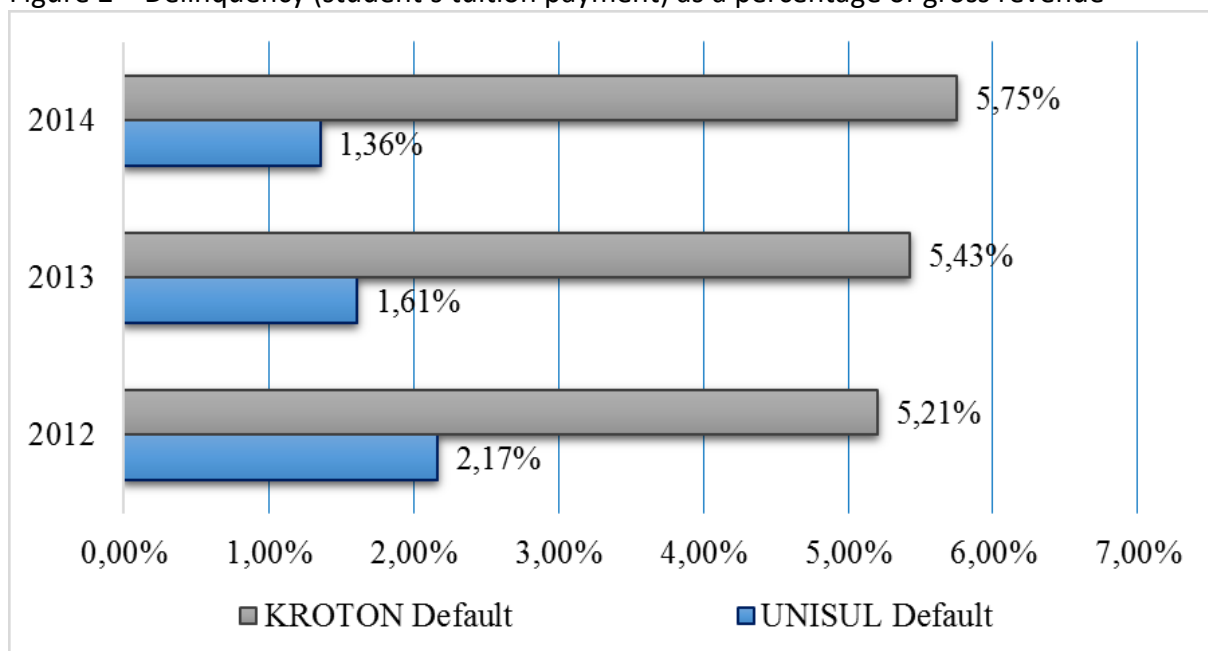
% R.B: percentage in relation to gross revenue.

In Appendix B, this work contains the table presented above in a more complete form with absolute numbers. After this disclosure, the next step shows the differences in the economic performance of HEI and analyzes the data to identify factors that impact and explain the economic performance of HEI.

5.1 DIFFERENCES IN ECONOMIC PERFORMANCE OF HEIs EXAMINED

The first item to be analyzed from the accounting report and containing economic information from the HEI study is the students' default of payment. While UNISUL students' payment delinquency rate has been decreasing, the Kroton ones has been increasing. From 2012 to 2014, UNISUL decreased the delinquency rate from 2.17% in 2012 to 1.61% in 2013 and 1.36% in 2014. Meanwhile, Kroton's rate increased from 5.21% in 2013 to almost 5.75% in 2014. As shown in its 2012 Balance Sheet, Kroton's default payment is in part due to the acquisitions it made that year. By acquiring Anhanguera in 2014, Kroton also inherited its large portfolio of bad debts. There is no evidence, however, that Kroton has a plan in place to reduce these numbers. Figure 2 below shows the percentage of default for the two HEIs.

Figure 2 – Delinquency (student's tuition payment) as a percentage of gross revenue

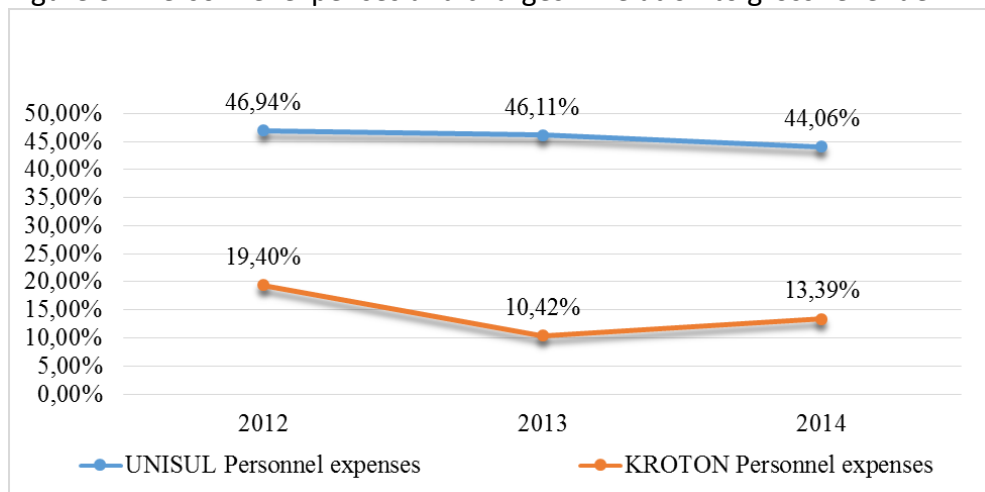


Source: Survey data (2017).

The t-test was used to assess the difference in cost of delinquency between Kroton and UNISUL, as described in the methodology. The result ($P = 0.00096$), as shown in Appendix C, shows that H_0 should be rejected, confirming that students' default of payment for Kroton is significantly higher than UNISUL ones. However, it should be noted that the default of payment is not as representative of Kroton because variable costs are very low.

Another item worth mentioning is personnel expenses and charges. While both institutions reduced their share of personnel expenses from 2012 to 2014, there remains a substantial difference between the two. While Kroton's personnel expenses and charges account for 13.4% of its gross revenue in 2014, that of UNISUL represented 50% of its gross revenue (Figure 3).

Figure 3 – Personnel expenses and charges in relation to gross revenue



Source: Survey data (2017).

The analysis of this cost element is very important because it is associated with the cost reduction synergy of teaching and teaching support arising from a M&A proposal by Sarfati and Shwartzbaum (2013). Additionally, Camargos and Barbosa (2005) and Matias and Pasin (2001) indicated that the merger and/or acquisition resulted in cost savings for organizations that conducted these mergers.

The inclusion of the distance education module through mergers and acquisitions was shown to be cost reducing. This fact is corroborated by analyzing the percentage in the class cost personnel expenses and charges.

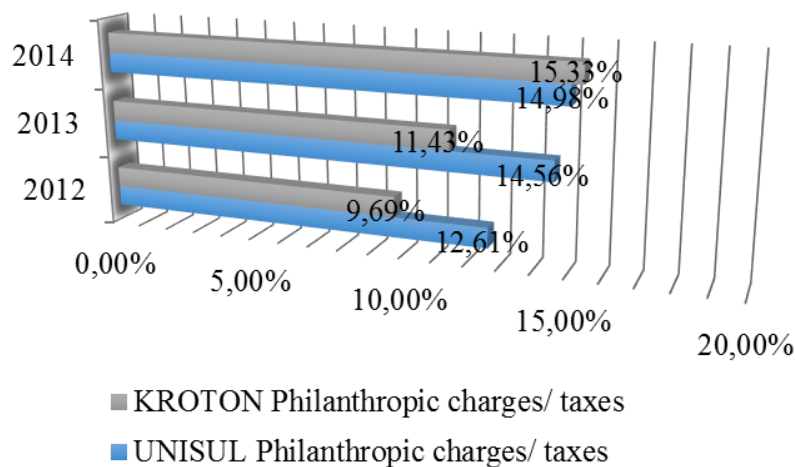
In 2012, Kroton personnel expenses represented 19.40% of its revenues. Although this percentage increased to 13.4% in 2014 after dropping to 10.4% in 2013, it still remained well below its 2012 level. This increase in cost is mainly Kroton's 2014 aggregated balance sheet that now includes Anhanguera numbers, which has a higher cost structure. In addition to faculty, Anhanguera also hires tutors who are paid by the Company and not by the Polo, as in the case of Unopar. In this context, it should be noted the initiatives taken to improve the

performance of Anhanguera highlight the migration of teaching model for a weekly meeting in person (instead of two) and the restructuring of the LFG operations. The increase in the cost of rent is explained basically by allocating the use of classes to regular classes of distance education courses that are offered on the Anhanguera's *campi*.

Although there are differences in the way the two institutions handle for personnel expenses, a t-test was conducted to assess the statistical difference in personnel costs. The results indicated the rejection of H_0 , i.e., there is significant difference between the personnel expenses of UNISUL and Kroton ($P = 0.00777$) at the 5% significance level.

Concerning the costs for class philanthropic charges (taxes), it was observed that in Kroton the percentage has been increasing, becoming higher than UNISUL in 2014, as shown in Figure 4 below.

Figure 4 – Philanthropic charges (taxes) as a percentage of gross revenue



Source: Survey data (2017).

It is important to note that this cost element *philanthropic charges (taxes)* takes this nomenclature due to the fact that UNISUL has inherent tax benefits due to its characteristics of being a community institution and non-profit. However, Kroton, being a private, for-profit institution, is taxed at the normal enterprise tax rate. Although different, the philanthropic charges and taxes are two obligations with the government involved in the exploitation of economic activity.

The increase in Kroton's taxes compared to UNISUL's is due to the fact that it includes both its own taxes and those back taxes of Anhanguera, which it is now liable for. It must be noted that the benefits and tax incentives, such as the installment of taxes or debt swaps for grants to non-profit HEIs, also helped reduce UNISUL's taxes. The t-test for tax liabilities indicates that we accept H₀, so there is no difference between the taxes of the analyzed HEIs. The result of P is 0.37229.

As a private, for-profit organization, Kroton allocates a larger share of its revenues to advertising. It spends 3.65% of its revenue on advertising in 2012 and 6.26% in 2014. On the other hand, UNISUL, a non-profit organization, only spent 1.47% of its revenue on advertising in 2012 and 0.12% in 2014. The t-test shows a significant difference in advertising expenses between UNISUL and Kroton with a P-value of 0.49803.

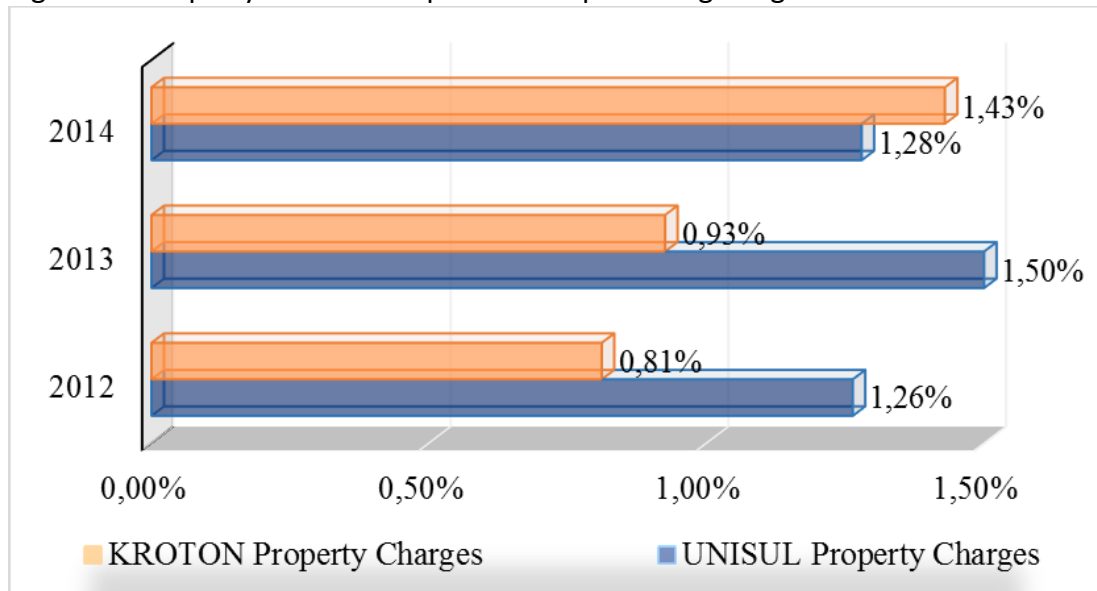
The material cost element has no values in Kroton during 2012 and 2013. This account was not available in the release of their Quarterly Results or the HEI's balance sheet. In spite of the missing data, this analysis could be performed because UNISUL has more expenses than Kroton. Kroton's gain scale is realized in this item since its consumption is higher and may be purchased at a lower value.

Per Kroton's Balance Sheet, the cost of goods sold and services represented 45.8% of net revenue in 2013. This number was 8.5% down from 2012. This reduction in cost-reflecting savings was made possible by merger and acquisition. In 2014, the total costs of Kroton represented \$1,643 million, or 43.5% of net revenue in 2014, and an additional 2.2 percentage points reduction compared to 2013. These results confirm Valentini and Di Guardo (2004). The authors report the fact that HEIs in distance education growing via M&A result in market share gains, geographic expansion, and economic gains. Ribeiro, Timm and Zaro (2007) report that distant learning is only financially advantageous in economies of scale because the total cost is small.

Regarding the equity charges cost element, in the years 2012 and 2013 UNISUL presented a higher expenditure than Kroton; however, in 2014, Kroton jumped from 0.81% to 1.43%. This increase in cost is associated with the merger of Anhanguera: the release of

Quarterly Results pointed to this relationship as well as indicating that Anhanguera's cost structure will be redrafted to correct this increment. Figure 5 shows this growth.

Figure 5 – Property taxes and expenses as a percentage of gross revenue

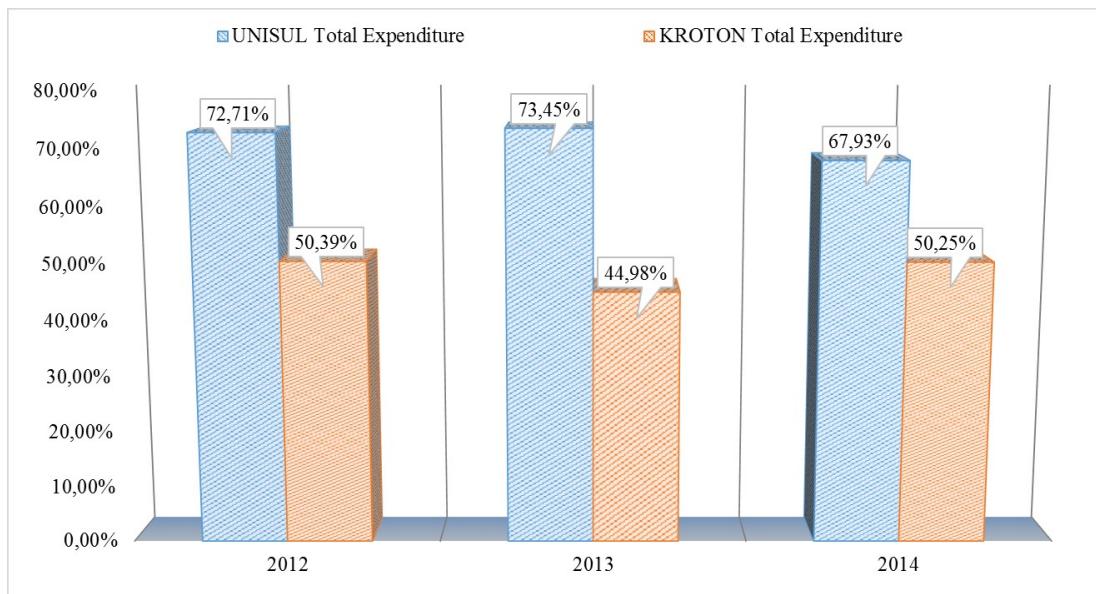


Source: Survey data (2017).

By applying the t-test in this class of cost, it was observed that H_0 is also accepted. In another cost element, there is no difference between the studied HEI. The result of P is 0.24859.

The next class is the analyzed cost burden of conservation/maintenance. This account also has limitations on the analysis; it lacks such values for Kroton during the years 2012 and 2013, existing only in the year 2014. What is noticed is an increase in that amount in 0.22% by UNISUL. Therefore, it could not be inferred about Kroton or compared to UNISUL. Given these identifications was noticeable the total spending of the top UNISUL to Kroton, as shown in Figure 6.

Figure 6 – Total expenditure in relation to gross revenue



Source: Survey data (2017).

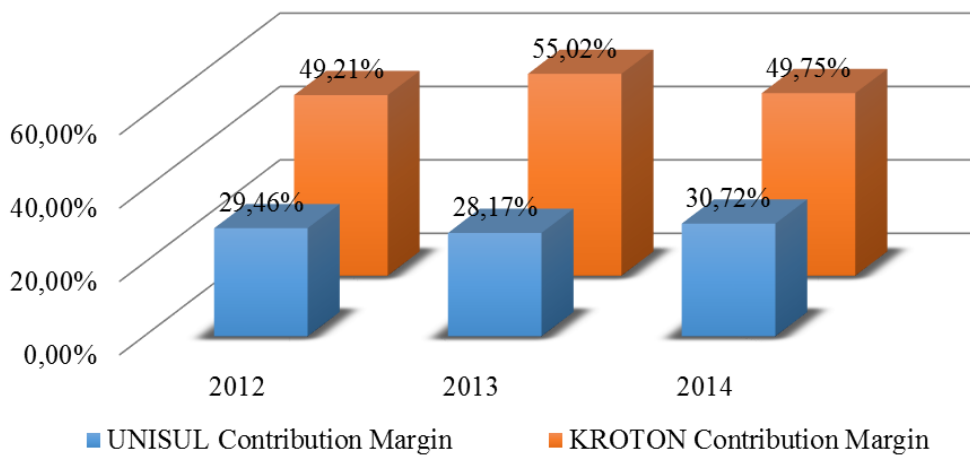
It should be noted that in the balance sheet notes Kroton explicites its economies of scale gains with M&A. In 2012, the total costs of Kroton were \$ 762.8 million, or 54.3% of net revenue in 2012, lower than 2011 by 12.9 percentage points and reflecting the economies of scale benefits, the efficiency of the acquired institutions' integration, and the strict control exercised by management. The cost of services represented 96.6% of total costs due to the greater participation of higher education operations. Moreover, these costs continued to be reduced in 2013 and 2014. In 2014, Kroton spending increased by 5.2%, compared to the 2013 level due to the acquisition of Anhanguera. However, its balance sheet indicates that these measures were being taken to reduce expenses. This relationship confirms the theoretical framework assumptions (or hypotheses) of this research.

The t-test conducted for total costs shows that H0 should be rejected because there is a difference between UNISUL's and Kroton's total expenses. The result of P is 0.00077.

Comparing the two institutions, Kroton has the greater contribution margin (or profit margin). It had a margin of 49.21% in 2012, which increased to 55.02% in 2013, and then decreased to 49.75% in 2014. However, its contribution margin was still higher than UNISUL ones. As stated in Kroton's balance sheet in 2013, in the 4Q13, gross profit reached \$113.6 million, with a gross margin of 74.1%: a 5.2 percentage gain of in gross margin over the same, previous period. This improvement in gross margin is a result of efficiency gains resulting from the operations of Unopar and Uniasselvi. For the year 2013, gross profit stood at \$469 million, *Revista Eletrônica de Estratégia & Negócios*, Florianópolis, v.10, n. 1, jan./abr. 2017.

with a gross margin of 75.8%; this was stable compared to 2012, despite the impact of the operation Uniasselvi consolidation, which has lower margins to Unopar explained by the different content delivery models and transferal to the distance education centers between the two operations.

Figure 7 – Contribution margin in relation to gross revenue

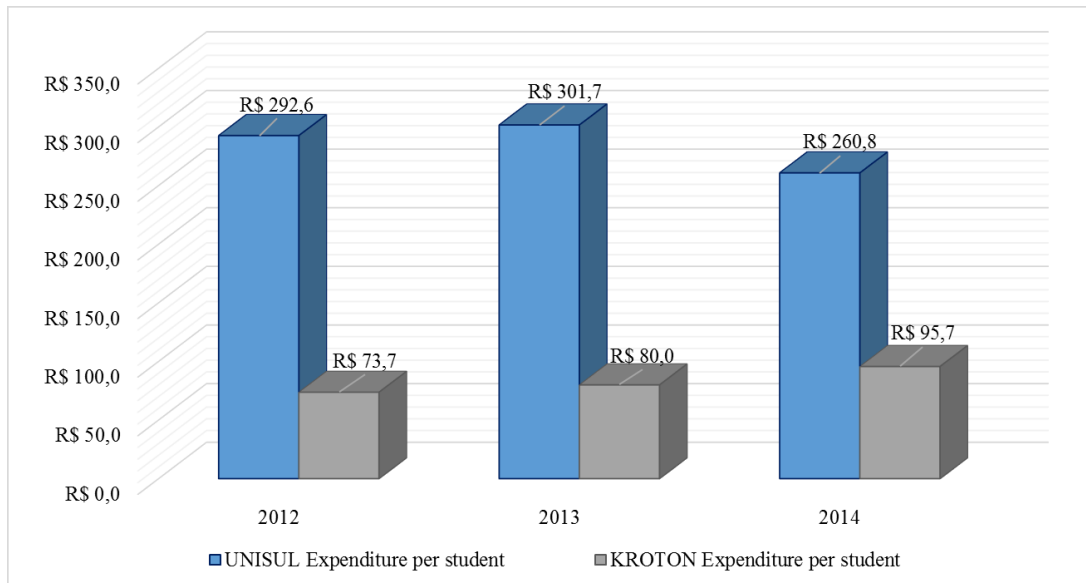


Source: Survey data (2017).

The t-test for the contribution margin rejected H0; there is a difference in this cost element among the analyzed HEIs. The P-value is 0.00161.

Expenditure per student of HEI study is another factor that deserves mention. The data showed that UNISUL showed higher expenses per student compared to Kroton. UNISUL, however, reduced these costs from \$293.00 to \$261.00 between 2012 and 2014. On the other end, Kroton has seen its spending per student growing over the years. This cost increase is due to the merger with Anhanguera, which had a much higher cost structure.

Figure 8 – Expenditure per student

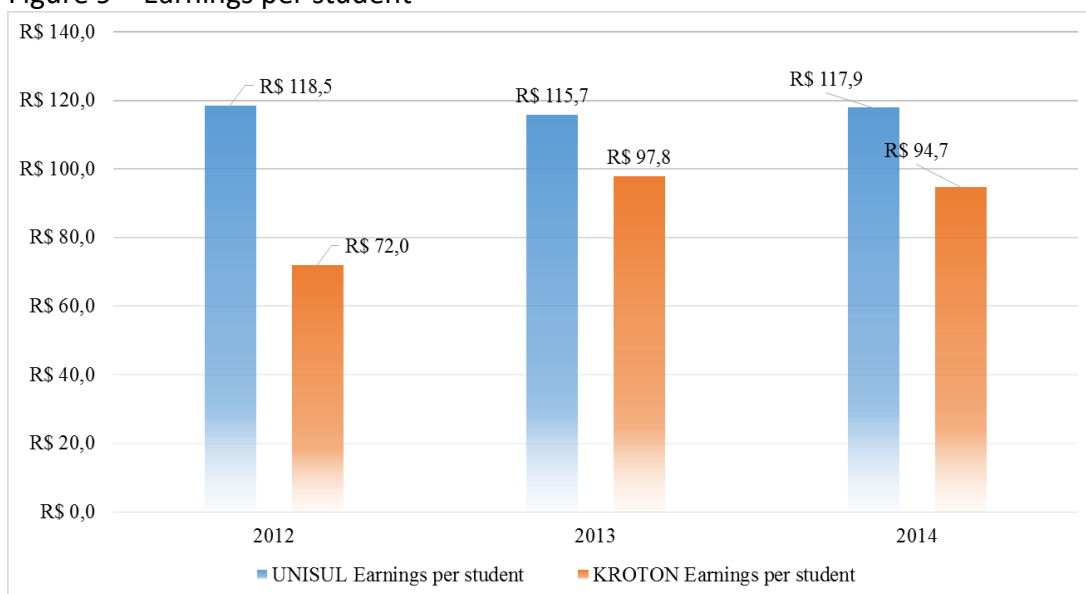


Source: Survey data (2017).

For the cost element expenditure per student, the t-test rejected H_0 , confirming that there is a significant difference between the cost per students from one HEI to another. The P-value is 0.00072.

Finally, the HEIs' profit per student was also analyzed. Although UNISUL displays higher earnings per student than Kroton, the t-test (P-value of 0.07046) shows that the difference was not statistically significant at the 5% significance level.

Figure 9 – Earnings per student



Source: Survey data (2017).

The aim of this study was to determine the reliability of the estimates presented in this work. The confidence interval results are shown in Table 7.

Table 7 – Confidence interval

Cost Elements	Higher Education Institution	2012	2013	2014	95% Confidence interval	
					Lower Limit	Upper Limit
Default	UNISUL	2%	2%	1%	1,24%	2,18%
	KROTON	5%	5%	6%	5,15%	5,77%
Personnel expenses	UNISUL	47%	46%	44%	44,03%	47,38%
	KROTON	19%	10%	13%	9,22%	19,58%
Philanthropic charges/ taxes	UNISUL	13%	15%	15%	12,62%	15,48%
	KROTON	10%	11%	15%	8,88%	15,42%
Disclosure Charges	UNISUL	7%	6%	3%	3,41%	7,48%
	KROTON	4%	3%	6%	2,58%	6,23%
Material Costs	UNISUL	3%	3%	3%	2,60%	3,59%
	KROTON	0%	0%	2%	-0,72%	2,22%
Property Charges	UNISUL	1%	1%	1%	1,20%	1,50%
	KROTON	1%	1%	1%	0,68%	1,43%
Conservation charges (Maintenance)	UNISUL	0%	0%	0%	0,07%	0,22%
	KROTON	0%	0%	0%	-0,05%	0,16%
Total Expenditure	UNISUL	73%	73%	68%	67,97%	74,76%
	KROTON	50%	45%	50%	45,05%	52,03%
Contribution Margin	UNISUL	29%	28%	31%	28,01%	30,89%
	KROTON	49%	55%	50%	47,70%	54,95%
Expenditure per student	UNISUL	R\$ 292	R\$ 301	R\$ 260	R\$ 309	R\$ 260
	KROTON	R\$ 73	R\$ 79	R\$ 95	R\$ 95	R\$ 70
Earnings per student	UNISUL	R\$ 1.422	R\$ 1.388	R\$ 1.415	R\$ 1.388	R\$ 1.428
	KROTON	R\$ 863	R\$ 1.173	R\$ 1.136	R\$ 866	R\$ 1.249

Source: Survey data (2017).

6 CONCLUSION

Higher Education Institutes in distance education have sought growth strategies to expand in niche markets. Two of these strategies include internal growth and/or mergers and acquisition. The key focus of this paper was to analyze the economic performance of these institutions as they operate in a competitive market.

The research question was: what is the economic performance of private HEIs in distance education with growth strategies through mergers, acquisitions and organically? To
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answer the question, we compared the economic performances of private HEIs in distance education with growth strategies through mergers and acquisitions, as well as organic growth, from 2012 to 2014. To achieve this goal, we highlighted the economic performance of two private institutions in distance education with different growth strategies and have shown the differences in the economic performances using t-tests.

To achieve the first objective, the economic performance of the selected distance education institutions (one growing through mergers and acquisitions and the other growing organically) were collected. The financial data were then aggregated for consistency and analysis purposes. Overall results demonstrated that Kroton, the institution that chose to grow through merger and acquisition, had a better result than UNISUL, which chose to grow organically. The results confirmed the study hypothesis. A few limitations, however, need to be mentioned.

To achieve the second objective, the financial data were compared. Statistical analyses were also performed using the t-tests to assess the differences between the institutions.

Overall results show that Kroton succeeded in reducing its cost structure and overhead through merger and acquisition. The company maintained a healthy cash balance and continued improving its financial results. While attempting to reduce spending, UNISUL still maintained a high cost structure. Personnel expenses accounted for 44.1% of gross sales and 64.9% of total spending in 2014 for Kroton, compared to 13.4% and 26.6% for UNISUL in the same year.

With these results, it can be concluded that the gains arising from M&A cases were confirmed; however, it is recognized that limitations found in this work do not allow for further conclusions about the items analyzed in this research. For a better understanding of the values, it would be interesting to conduct interviews with area managers and controllers.

REFERENCES

CATARINENSE ASSOCIATION OF EDUCATIONAL FOUNDATIONS. **Perfil ACADE 30 anos**. ACADE–Florianópolis: ACADE, 2004.

ARAÚJO, E. M. D.; OLIVEIRA NETO, J. D. D.; CAZARINI, E. W.; OLIVEIRA, S. R. M. Innovation management in distance education. **Gestão & Produção**, v. 20 n. 3, p. 639-651, 2013.

BANCO, J. S. Prospects are positive and prices attractive: we favor KROT11 and ABRE11.

Sector Note: Education, São Paulo, 2012.

BARBETTA, P. **Estatística aplicada às ciências sociais**. 7. ed. Florianópolis: UFSC, 2011.

BRAGA, L. F. H. V.; CONCEIÇÃO, H. J. Gestão estratégica e indicadores de eficiência nas instituições de ensino superior. **Multiciência**, Campinas, v. 12, p. 150-168, 2013.

BRASIL. Lei nº 9.394, de 20 de dezembro de 1996. Estabelece as Diretrizes e Bases da Educação Nacional. **Diário Oficial [da] República Federativa do Brasil**, Brasília, DF, 23 dez. 1996. Disponível em: <http://www.planalto.gov.br/CCIVIL_03/leis/L9394.htm>. Acesso em: 22 jul. 2014.

BRASIL. Decreto nº 5.622, de 19 de dezembro de 2005. Regulamenta o art. 80 da Lei nº 9.394, de dezembro de 1996. **Diário Oficial [da] República Federativa do Brasil**, Brasília, DF, 20 dez. 2005. Disponível em: <http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2005/decreto/d5622.htm>. Acesso em: 22 jul. 2014.

CAMARGOS, M. A.; BARBOSA, F. V. Análise do desempenho econômico-financeiro e da criação de sinergias em processos de fusões e aquisições do mercado brasileiro ocorridos entre 1995 e 1999. **REGE Revista de Gestão**, v. 12, n. 2, p. 99-115, 2005.

CARVALHO, C. H. A. O PROUNI no governo Lula e o jogo político em torno do acesso ao ensino superior. **Educação & Sociedade**, Campinas, v. 27, n. 96, p. 979-1000, 2006.

CHAVES, V. L. J. Expansão da privatização/mercantilização do ensino superior brasileiro: a formação dos oligopólios. **Educação & Sociedade**, v. 31, n. 111, p. 481-500, 2010.

DEUTSCHE, B. Homework assignment: buy ESTC3, AEDU3 and KROT11. **Markets Research:** Education, São Paulo, 2012.

HITT, M. A.; PISANO, V. The cross-border merger and acquisition strategy: a research perspective. **Management Research: Journal of the Iberoamerican Academy of Management**, v. 1, n. 2, p. 133-144, 2003.

IBORRA, M.; DOLZ, C. Consequences of integration heterogeneity in mergers and acquisitions. **Management Research: Journal of the Iberoamerican Academy of Management**, v. 4, n. 2, p. 127-138, 2006.

KROTON. **Documento de Transição em Teleconferência dos Resultados do 4T09**. 2010.

Disponível em:

<http://www.mzweb.com.br/kroton2010/web/arquivos/AEDU11_Transcript_4T09_PORT.pdf>. Acesso em 01 dez. 2015.

Revista Eletrônica de Estratégia & Negócios, Florianópolis, v.10, n. 1, jan./abr. 2017.

KROTON EDUCACIONAL S.A. E CONTROLADAS. **Demonstrações Financeiras Referentes ao Exercício Findo em 31 de Dezembro de 2012**. 2012. Disponível em:

<file:///C:/Users/User/Downloads/Kroton_DFP_2012%20(4).pdf>. Acesso em 01 dez. 2015.

MALIK, S. K. Strategies for Maintaining Quality in Distance Higher Education. **Turkish Online Journal of Distance Education**, v. 16, n. 1, p. 238-248, 2015.

MATIAS, A. B.; PASIN, R. M. A geração de sinergias e seus impactos na rentabilidade das empresas nos casos de fusões e aquisições. **Revista de Administração da Universidade de São Paulo**, v. 36, n. 1, p. 5-13, 2001.

MODESTO, P. E. G. Reforma administrativa e marco legal das organizações sociais no Brasil: as dúvidas dos juristas sobre o modelo das organizações sociais. **Revista do Serviço Público**, v. 48, n. 2, p. 28-87, 1997.

NASCIMENTO, D. S.; FERREIRA, S. L. EAD no ensino superior público: uma política pública para democratizar o acesso ao ensino superior. In: SIMPÓSIO EDUCAÇÃO E COMUNICAÇÃO, 3., Aracaju. **Anais...**, Aracaju: UNIT, 202-213, 2012.

PALLOFF, R. M.; PRATT, K. **O aluno virtual-um guia para trabalhar com estudantes on-line**. São Paulo: Penso Editora, 2004.

PEGORARO, L. **Terceiro setor na educação superior brasileira**. São Paulo: Leitura Crítica, 2013.

RIBEIRO, L. O. M.; TIMM, M. I.; ZARO, M. A. Gestão de EAD: a importância da visão sistêmica e da estruturação dos CEADS para a escolha de modelos adequados. **Renote**, v. 5, n. 1, p. 1-13, 2007.

RICHARDSON, R. J.; PERES, J. A. **Pesquisa social: métodos e técnicas**. São Paulo: Atlas, 2008.

ROSS, S. A.; WESTERFIELD, R. W.; JAFFE, J. F. **Administração financeira: corporate finance**. São Paulo: Atlas, 2002.

SARFATI, G.; SHWARTZBAUM, A. Sinergias nas fusões e aquisições do setor de educação superior no Brasil. **Revista Pensamento Contemporâneo em Administração**, v. 7, n. 4, p. 1-23, 2013.

SAVARIS, I. C.; SILVA, T. R. D.; DOMINGUES, M. J. C. D. S. Ensino a Distância como Estratégia Competitiva em Instituições de Ensino Superior. In: COLÓQUIO INTERNACIONAL SOBRE GESTÃO UNIVERSITÁRIA NA AMÉRICA DO SUL, 9., Florianópolis. **Anais...** Florianópolis: UFSC, nov. 2013.

SÉCCA, R. X.; LEAL, R. M. Análise do setor de ensino superior privado no Brasil. **BNDES Setorial**, n. 30, p. 103-156, 2009.

VALENTINI, G.; DI GUARDO, M. C. Design combination potential and get it done: an analysis of the drivers of technological performance in mergers and acquisitions. **Management Research: Journal of the Iberoamerican Academy of Management**, v. 2, n. 3, p. 271-281, 2004.

WESTON, J. F.; BRIGHAM, E. F. **Fundamentos da administração financeira**. 10. ed. São Paulo: Makron Books, 2000.

APPENDIX A – CONFIDENCE INTERVALS

Cost Element	2012	2013	2014	Standard deviation	Average	Margin	Confidence interval of 95%	
							Lower limit	Upper limit
UNISUL Default	2,17%	1,61%	1,36%	0,0041	1,71%	0,00468231	1,24%	2,18%
KROTON Default	5,21%	5,43%	5,75%	0,0027	5,46%	0,00310218	5,15%	5,77%
UNISUL Personnel expenses	46,94%	46,11%	44,06%	0,0148	45,70%	0,01677786	44,03%	47,38%
KROTON Personnel expenses	19,40%	10,42%	13,39%	0,0458	14,40%	0,05177795	9,22%	19,58%
UNISUL Philanthropic charges/ taxes	12,61%	14,56%	14,98%	0,0126	14,05%	0,01428899	12,62%	15,48%
KROTON Philanthropic charges/ taxes	9,69%	11,43%	15,33%	0,0289	12,15%	0,03265383	8,88%	15,42%
UNISUL Disclosure Charges	6,77%	6,17%	3,40%	0,0180	5,45%	0,02035377	3,41%	7,48%
KROTON Disclosure Charges	3,65%	3,31%	6,26%	0,0161	4,41%	0,01826632	2,58%	6,23%
UNISUL Material Charges	3,32%	3,38%	2,59%	0,0044	3,10%	0,00493885	2,60%	3,59%
KROTON Material Charges	0,00%	0,00%	2,25%	0,0130	0,75%	0,01469374	-0,72%	2,22%
UNISUL Property Charges	1,26%	1,50%	1,28%	0,0013	1,35%	0,00149624	1,20%	1,50%
KROTON Property Charges	0,81%	0,93%	1,43%	0,0033	1,06%	0,0037215	0,68%	1,43%
UNISUL Conservation charges (Maintenance)	0,09%	0,13%	0,22%	0,0007	0,15%	0,00075144	0,07%	0,22%
KROTON Conservation charges (Maintenance)	0,00%	0,00%	0,16%	0,0009	0,05%	0,00107469	-0,05%	0,16%
UNISUL Total Expenditure	72,71%	73,45%	67,93%	0,0300	71,36%	0,03392917	67,97%	74,76%
KROTON Total Expenditure	50,39%	44,98%	50,25%	0,0308	48,54%	0,03487274	45,05%	52,03%
UNISUL Contribution Margin	29,46%	28,17%	30,72%	0,0127	29,45%	0,01441349	28,01%	30,89%
KROTON Contribution Margin	49,21%	55,02%	49,75%	0,0321	51,33%	0,03627512	47,70%	54,95%
UNISUL Expenditure per student	-293	-302	-261	21,4725	-R\$ 285,01	R\$ 24,30	-R\$ 309,30	-R\$ 260,71
KROTON Expenditure per student	-74	-80	-96	11,3086	-R\$ 83,12	R\$ 12,80	-R\$ 95,92	-R\$ 70,32
UNISUL Earnings per student	R\$ 1.422,45	R\$ 1.388,18	R\$ 1.415,00	18,0250	R\$ 1.408,55	R\$ 20,40	R\$ 1.388,15	R\$ 1.428,94
KROTON Earnings per student	R\$ 863,80	R\$ 1.173,81	R\$ 1.136,71	169,2965	R\$ 1.058,11	R\$ 191,57	R\$ 866,53	R\$ 1.249,68

APPENDIX B – DISCLOSURE OF THE ECONOMIC PERFORMANCE OF THE HIGHER EDUCATION INSTITUTIONS UNDER ANALISYS

Cost Elements	2012 values in BRL (´000)				2013 values in BRL (´000)				2014 values in BRL (´000)				Synergy
	Institution	UNISUL	GR %	KROTON	GR %	UNISUL	GR %	KROTON	GR %	UNISUL	GR %	KROTON	
GROSS REVENUE*	R\$ 53.120		R\$ 468.643		R\$ 54.210		R\$ 748.891		R\$ 59.888		R\$ 1.247.442		1
Default	-R\$ 1.151	2,17%	-R\$ 24.405	5,21%	-R\$ 874	1,61%	-R\$ 40.645	5,43%	-R\$ 813	1,36%	-R\$ 71.759	5,75%	7
Personnel expenses and charges	-R\$ 24.935	46,94%	-R\$ 90.901	19,40%	-R\$ 24.997	46,11%	-R\$ 77.998	10,42%	-R\$ 26.387	44,06%	-R\$ 166.981	13,39%	2
Philanthropic charges (taxes)	-R\$ 6.701	12,61%	-R\$ 45.415	9,69%	-R\$ 7.894	14,56%	-R\$ 85.615	11,43%	-R\$ 8.972	14,98%	-R\$ 191.191	15,33%	9
Disclosure Charges	-R\$ 782	1,47%			-R\$ 863	1,59%			-R\$ 71	0,12%			
Disclosure and Advertising Charges	-R\$ 3.597	6,77%	-R\$ 17.099	3,65%	-R\$ 3.343	6,17%	-R\$ 24.798	3,31%	-R\$ 2.035	3,40%	-R\$ 78.097	6,26%	8
Material Charges	-R\$ 1.762	3,32%		0,00%	-R\$ 1.831	3,38%		0,00%	-R\$ 1.553	2,59%	-R\$ 28.056	2,25%	4
Property Charges	-R\$ 671	1,26%	-R\$ 3.801	0,81%	-R\$ 813	1,50%	-R\$ 6.928	0,93%	-R\$ 766	1,28%	-R\$ 17.827	1,43%	5
Conservation charges (Maintenance)	-R\$ 50	0,09%		0,00%	-R\$ 69	0,13%		0,00%	-R\$ 133	0,22%	-R\$ 2.052	0,16%	6
Total expenditure	-R\$ 38.623	72,71%	-R\$ 236.169	50,39%	-R\$ 39.818	73,45%	-R\$ 336.883	44,98%	-R\$ 40.680	67,93%	-R\$ 626.799	50,25%	
Contribution Margin	R\$ 15.647	29,46%	R\$ 230.634	49,21%	R\$ 15.270	28,17%	R\$ 412.009	55,02%	R\$ 18.395	30,72%	R\$ 620.643	49,75%	
Number of students	11		267		11		351		13		546		
Expenditure per student (monthly)	293		74		302		80		261		96		
Earnings per student (monthly)	R\$ 1.422,45		R\$ 863,80		R\$ 1.388,18		R\$ 1.173,81		R\$ 1.415,00		R\$ 1.136,71		

* Without default

APPENDIX C – T-TESTS: TWO SAMPLES ASSUMING DIFFERENT VARIANCES

	UNISUL Default	KROTON Default
Mean	0,017121916	0,054624797
Variance	1,71216E-05	7,5155E-06
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	3	
df	-13,08670676	
t Stat	0,000481831	
P(T<=t) one-tail	2,353363435	
t Critical one-tail	0,000963663	
P(T<=t) two-tail	3,182446305	

	UNISUL Personnel expenses	KROTON Personnel expenses
Mean	0,457042956	0,143992159
Variance	0,000219836	0,002093702
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	2	
df	11,27294007	
t Stat	0,003888714	
P(T<=t) one-tail	2,91998558	
t Critical one-tail	0,007777427	
P(T<=t) two-tail	4,30265273	

	UNISUL Philanthropic charges/ taxes	KROTON Philanthropic charges/ taxes
Mean	0,140526739	0,121498759
Variance	0,000159451	0,000832709
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	3	
df	1,046314715	
t Stat	0,186145593	
P(T<=t) one-tail	2,353363435	
t Critical one-tail	0,372291187	
P(T<=t) two-tail	3,182446305	

**ECONOMIC PERFORMANCE OF PRIVATE HIGHER EDUCATION INSTITUTIONS IN DISTANCE EDUCATION THROUGH
MERGERS AND ACQUISITIONS**

Cinara Gambiraga - Wlamir Gonçalves Xavier - Jaison Caetano da Silva - Frederick Greene - Jean Marc Gandonou

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	UNISUL Disclosure Charges	KROTON Disclosure Charges
Mean	0,054454098	0,044068292
Variance	0,00032353	0,000260572
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	4	
df	0,744314579	
t Stat	0,249017694	
P(T<=t) one-tail	2,131846786	
t Critical one-tail	0,498035387	
P(T<=t) two-tail	2,776445105	

	UNISUL Property Charges	KROTON Property Charges
Mean	0,013473184	0,010550836
Variance	1,74835E-06	1,08159E-05
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	3	
df	1,42798992	
t Stat	0,124299017	
P(T<=t) one-tail	2,353363435	
t Critical one-tail	0,248598033	não há dif.
P(T<=t) two-tail	3,182446305	

	UNISUL Total Expenditure	KROTON Total Expenditure
Mean	0,713623834	0,485417394
Variance	0,000899024	0,000949724
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	4	
df	9,192839477	
t Stat	0,00038888	
P(T<=t) one-tail	2,131846786	
t Critical one-tail	0,00077776	
P(T<=t) two-tail	2,776445105	

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	UNISUL Contribution Margin	KROTON Contribution Margin
Mean	0,294466176	0,513274308
Variance	0,000162242	0,001027644
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	3	
df	-10,98680429	
t Stat	0,000807279	
P(T<=t) one-tail	2,353363435	
t Critical one-tail	0,001614558	
P(T<=t) two-tail	3,182446305	

	UNISUL Expenditure per student	KROTON Expenditure per student
Mean	-285,0064103	-83,1192287
Variance	461,0699915	127,8842984
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	3	
df	-14,40882536	
t Stat	0,000362306	
P(T<=t) one-tail	2,353363435	
t Critical one-tail	0,000724612	
P(T<=t) two-tail	3,182446305	

	UNISUL Earnings per student	KROTON Earnings per student
Mean	1408,545455	1058,10712
Variance	324,9008264	28661,31177
Observations	3	3
Pearson Correlation	0	
Hypothesized Mean Difference	2	
df	3,565139262	
t Stat	0,035231218	
P(T<=t) one-tail	2,91998558	
t Critical one-tail	0,070462435	
P(T<=t) two-tail	4,30265273	