



ABSORPTIVE CAPACITIES IN HIGHER EDUCATION INSTITUTIONS: THE CASE OF THE ENROLLMENT PROCESSES

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ABSTRACT

Purpose – To investigate how higher education institutions (HEIs) develop absorptive capacities in their enrollment processes.

Theoretical Framework – The ability of organizations to recognize the value of new external information, assimilate and apply it commercially is the phenomenon known as absorptive capacity. To a large extent, absorptive capabilities explain why some companies thrive in the face of market complexities and others go bankrupt.

Design/Methodology/approach – We conducted an extended multi-case study with 12 Brazilian private HEIs.

Findings – The results show that most HEIs find it difficult to share new knowledge among employees.

Research, Practical, & Social Implications – To study the use of absorptive capacities as a response to the consequences of increased competition in the higher education market is relevant in at least three aspects: a) contributing to a greater understanding of absorptive capacity, in the context of higher education; b) identify the processes by which Brazilian HEIs acquire new knowledge and exploit them commercially; and c) point out the consequences, in terms of social impact, of the acquisition of new knowledge in Education - a fundamental area of any nation.

Originality/Value – This study contributes to the advancement of the study by comparing and contrasting the practice of absorptive capacity in the context of higher education with established theory. And for pointing out opportunities to probe the antecedents of the difficulties that HEIs face in the operationalization of their absorptive capacity.

Key word - Absorptive capacity; higher education institutions; enrollment; multi-case study; Brazil





1 INTRODUCTION

After the enactment of Decree 2.306, of August 19, 1997, the institutions that maintain the Brazilian Higher Education Institutions (HEIs) were able to assume a for-profit nature. This change in legislation caused the migration from a traditional, elitist education model to a mass education one, characterized by high competition and a focus on profit, efficiency, and productivity (Ribeiro, Gonçalves, Costa, & Storopoli, 2017). This transformation in the higher education market brought consequences not only for HEIs directly involved, but also for the Brazilian society in general (Ciotti & Favretto, 2017).

When competing in a dynamic and complex environment, organizations need to develop adaptive capabilities that bring appropriate responses to constantly evolving market demands. The ability of organizations to recognize the value of new external information, assimilate it and apply it commercially (Zahra & George, 2002), a phenomenon known as absorptive capacity, contributes to this adaptation. In large part, absorptive capacities explain why some companies thrive in the face of market complexities and change and others go bankrupt - thus being a determining factor for the performance of organizations (Cohen & Levinthal, 1990; Zahra & George, 2002).

In this context, studying the use of absorptive capacities as a possible answer to the consequences of the phenomenon of increased market-based competition in higher education is relevant in at least three aspects: a) it contributes to a greater understanding of the phenomenon of absorptive capacity, situated in the context of higher education; b) it allows the identification of the processes through which Brazilian HEIs acquire new knowledge and exploit it commercially; and c) points to the consequences, in terms of social impact, of the acquisition of new knowledge in Education - a fundamental area of any nation.

Using the model of Zahra and George (2002) for absorptive capacity as a reference, this study aims to characterize the acquisition, assimilation, transformation and application of the knowledge acquired by Brazilian HEIs in their student enrollment processes. In a scenario of increased competition, these processes gain special importance, as a “buyer’s market” where students are “courted customers”, and in which





the tools of marketing and sales prevalent in other markets became increasingly important (Calderón, 2000; Goodman & Yonezawa, 2007). Through this characterization, we identify the main aspects that motivate HEIs to innovate in student enrollment processes, the main difficulties and resistances they face, how knowledge is distributed and what are the main effects of the changes they introduce in their enrollment processes, as a consequence of the application of new knowledge.

This study contributes to the literature on absorptive capacity, first, by comparing and contrasting the practice of absorptive capacity in the context of higher education to the established theory. And second, the study points out opportunities for theoretical developments and future empirical research to probe the antecedents of the difficulties HEIs face in the operationalization of their absorptive capacity.

2 THEORETICAL FRAMEWORK

2.1 Absorptive Capacity

The term absorptive capacity was coined by Cohen and Levinthal (1990), who defined it as “*the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends*” (Cohen & Levinthal, 1990). Since the publication of this seminal work, a large body of literature, comprising both theoretical and empirical studies, has investigated how firms acquire external knowledge and apply it in order to obtain and sustain competitive advantage (Martinkenaite & Breunig, 2016). As proposed by Cohen and Levinthal, absorptive capacity has as antecedents the existence of sources of information and knowledge in the external environment of the organization and the prior knowledge base of the firm, is moderated by the ability of the firm to appropriate the results of its investments in the assimilation and application of knowledge, and has consequences to the innovative performance of the organization (Cohen and Levinthal, 1990; Todorova & Durisin, 2007).

In 2002, Zahra and George reconceptualized absorptive capacity as a dynamic capability (Zahra & George, 2002), proposing four dimensions or elements for this construct: acquisition, assimilation, transformation and exploration. They divided these





four elements into two subsets: a) potential absorptive capacity, contemplating acquisition and assimilation and b) realized absorptive capacity, encompassing transformation and exploration. Potential absorptive capacity concerns the reception of new external knowledge, including the acquisition, analysis, interpretation and understanding of that knowledge (Ciotti & Favretto, 2017). Realized absorptive capacity, in turn, is related to the ability of organizations to transform and explore this new knowledge (Zahra & George, 2002). Organizations that acquire and assimilate new knowledge but are unable to transform and exploit it do not benefit from the assimilated knowledge, despite having a potential for doing so. Conversely, organizations that focus only on the transformation and exploration, the dimensions of realized absorptive capacity, can obtain profits through the exploitation of the knowledge already acquired, but possibly will not be able to respond to future environmental changes (Jansen, Bosch & Volberda, 2005; Ciotti & Favretto, 2017). Besides these four dimensions and two subsets, Zahra and George proposed further changes to the original conceptualization of absorptive capacity, introducing the existence of complementary and valuable expertise outside the firm to its antecedents, and identifying contingent factors, such as the failure to meet technology advancement aspiration levels, a trigger that impel the firm to search for external environment, and the use of social integration mechanisms to facilitate knowledge sharing (Zahra & George, 2002).

In a critique to Zahra and George (2002) reconceptualization, Todorova and Durisin (2007) proposed a new model that amalgamated the ones proposed by Cohen and Levinthal (1990) and Zahra and George (2002) and incorporated some novel elements. Todorova and Durisin identify recognition of the value of external knowledge as the first component of absorptive capacity, reinstating the proposition originally contained in Cohen and Levinthal's model. Recognition is followed by acquisition. After acquisition, they proposed two alternative paths, namely assimilation and transformation of knowledge, both leading to exploitation. Extending both previous models, Todorova and Durisin (2007) identified power relationships that influence the valuing and exploitation of new knowledge as an additional contingency factor. Finally, Todorova and Durisin (2007)





dispense in their model with the separation between potential and realized absorptive capacity proposed by Zahra and George (2002).

The number of studies using the absorptive capacity as a theoretical foundation has experienced substantial growth since 1990, as several literature reviews and bibliographic studies have attested (Apriliyanti & Alon, 2017, Lane, Koka, & Pathak, 2006; Volberda, Foss & Lyles, 2010). Some authors argue that the fact that absorptive capacity has been integrated with several other organizational theories explain, at least in part, its rapid diffusion. In their bibliometric study, Apriliyanti and Alon (2017), revealed that absorptive capacity has been explored in and combined with the research streams of organizational learning, social cognition, resource dependence, networks, knowledge, and dynamic capabilities.

Additionally, the literature points to several benefits resulting from absorptive abilities. Kotler (2003) states that the absorptive capacity allows organizations to generate trust in their employees to deal with adverse situations. Absorptive capacities also help steer employees towards organizational change and development (Cohen and Levinthal, 1990; Moré, Vargas & Cembranel, 2012). In the field of innovation, absorptive capacities allow organizations to acquire knowledge that would be difficult to obtain through internal resources and, thus, develop new processes, services, and products (Cohen & Levinthal, 1990; Zahra & George, 2002). Mota (2013) highlights that the conversion of new knowledge in higher education institutions has a positive impact on technological innovation and on the performance of these organizations.

While absorptive capacity has been used in a large number of studies, some scholars consider that its conceptual and methodological basis have not expanded at a commensurate rate with the number of papers published since 1990, pointing to the reification of the core construct (Easterby-Smith, Graça, Antonacopoulou, & Ferdinand, 2008; Lane et al., 2006; Martinkenaite & Breuning, 2016). Martinkenaite and Breuning (2016), in particular, identified a dearth of multi-level studies investigating the interplay of individual and organizational factors in knowledge identification, assimilation, and commercial application. To address this gap, Martinkenaite and Breuning (2016)





proposed a micro-foundational model to explain how firm-level absorptive capacity emerges from the action and interactions of individual and organizational processes.

2.2 Higher education institutions in Brazil

The change in legislation regulating higher education in Brazil in 1997, coupled with a significant investment by the federal government in educational credit in the period up to 2014, led to a significant growth in the number of private institutions in the country and in the number of enrollments in these institutions. According to the Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (INEP), in 2015 there were 2,364 higher education institutions in Brazil, of which 2,069 (87.5%) were private (INEP, 2016). According to Sindicato das Mantenedoras de Ensino Superior do Estado de São Paulo (SEMESP), enrollment in private HEIs in Brazil grew 34%, in the period between 2009 and 2015, representing, in the last year, 75,7% of the total of 8,027,297 enrollments in traditional and distance learning in the country (SEMESP, 2018). According to Hoper Consultancy, Brazil is the country with the largest number of for-profit HEIs in the world (Presse, 2014).

This broadly favorable scenario for private HEIs began to change, however, starting in 2014. The federal government, facing a serious financial crisis, made changes to the Fundo de Financiamento Estudantil (FIES), which involved raising the interest charged and replacing the eligibility associated with gross family income to that of *per capita* family income. This new scenario has led to a lower demand for higher education in Brazil and to an intensification of competition between HEIs to attract new entrants.

Due to the latest developments, there was a change in the HEIs' attitude towards marketing. What was previously considered something mercantilist, viewed even with a certain disregard by HEIs, has come to be seen in recent decades as a means of salvation to guarantee survival (Souza, Arantes, & Dias, 2005). Coimbra (2004) explains that the change in posture on marketing occurs due to the increased competition in the sector and the expansion of the alternatives available for access to education, especially at the college level.





3 METHOD

Using interviews, observations and documents as data sources, we conducted a field study of 12 private Brazilian HEIs, varying in terms of age, size and level of diversification. In general, our research followed the method used in a paper by Dannells (2002), which examined the interplay of product innovation with firm competences in time at high-tech firms. In the work of Dannells (2002), the firms studied were at different levels of maturity and showed great differences in their sizes and product diversification - as well as in our research. The use of a diversified sample allows greater opportunities for comparisons and a richer development of the theory (Strauss & Corbin, 1990). In addition, according to Miles (1979), multi-case studies enable the researcher to see idiosyncratic aspects of each case from different perspectives.

The qualitative validity of the research occurred through the triangulation of different data sources, as recommended by Jick (1979). The reliability procedures followed the Gibbs (2007) protocol: the interview transcripts were checked several times; possible deviations of meanings from the interviews were verified through a process of going back and forth in the analysis of the interviews; there were weekly meetings and information sharing between authors throughout the analysis; and finally, the results were cross-checked by independent researchers.

We interviewed 28 people involved in the enrollment and retaining students in the 12 HEIs investigated. The interviews were conducted from April to July, 2019. Table 1 characterizes the organizations and the interviewees, safeguarding their names. The interviews were conducted in person, via Skype and, in some cases, by email. The absorptive capacity model developed by Zahra and George (2002) was used as a reference in the development of a questionnaire that was used to query the interviewees on their perception of the acquisition, assimilation, transformation and exploitation of external knowledge in the enrollment activities of their institutions. The questionnaire also investigated the knowledge sources, activation triggers, social integration mechanisms and outcomes of the absorptive process. Several documents were also analyzed, among





them: internal documents with the number of candidates and enrolled students and internal reports with the number of calls answered and the time to return calls to candidates by the call centers. We supplement our data with observations from the HEIs published on their websites and on their social media pages. Finally, we also participated in meetings with HEIs regarding the recruiting processes.

Table 1 - Characterization of HEIs and interviewees

HEI	Characteristics	Interviewee
HEI A	Operates primarily in the area of Medicine. At undergraduate level, offers 30 different courses in addition to medicine. They also offer courses for residency exams and other titles up to medical graduate degrees.	Marketing manager
HEI B	Operates primarily in the area of Medicine. Offers preparatory courses for specializations.	Marketing director
		Marketing manager
HEI C	The university center offers several undergraduate courses such as Administration, Veterinary Medicine, Physical Education, among others. It also offers 30 postgraduate courses.	Dean, Academy Affairs
		Marketing manager
HEI D	University located in the municipality of Curitiba, in the state of Paraná, in Brazil. Has about 13,500 students and offers 60 undergraduate courses in addition to sequential courses, masters, extensions, specializations and doctorates.	Customer satisfaction supervisor
		Marketing manager
		Social networks supervisor





HEI E	It is one of the largest university centers in the country. The institution offers more than 40 undergraduate courses and more than 30 options in MBA, Extension and Specialization courses recognized by MEC. It is the first higher education institution in Jundiaí and region.	Call center manager
		IT manager
		Marketing manager
HEI F	Higher education institution based in the city of Maringá, in the State of Paraná. In 2018, the institution reached the mark of 120 thousand students enrolled, 100 thousand of them from distance education (EAD) and 20 thousand from traditional, classroom-based education. Offers several undergraduate and graduate programs.	Marketing manager
		IT manager
HEI G	It is a private Brazilian university with campuses located in the municipality of Duque de Caxias and in the neighborhood of Barra da Tijuca in the municipality of Rio de Janeiro - RJ. Offers several undergraduate and graduate courses.	Marketing director
		IT manager
HEI H	Currently, in addition to the headquarters in Três Corações, in the south of Minas Gerais, this HEI has campuses the Pará de Minas, Belo Horizonte, Caxambú and Betim. Operates in classroom-based and distance learning, in addition to offering postgraduate courses.	Executive director
		Marketing manager
		Call center manager
HEI I	Non-profit HES located in the state of Minas Gerais. It currently comprises approximately one thousand employees, ten thousand students and more than 150	Marketing manager
		Assistant to the Dean
		Finance director





	options for on-site courses and distance learning for undergraduate, graduate and technical courses.	Marketing director
HEI J	HEI located in Rio de Janeiro, with undergraduate and postgraduate courses, on-site or distance learning. Has 4 educational centers, 7 distance learning centers and more than 22 thousand enrolled students.	Dean
		Marketing manager
HEI K	It is the first private higher education institution created in Sergipe, Northeastern Brazil, 56 years ago. It offers undergraduate and graduate courses, in person or distance learning.	Marketing director
		Social mídia coordinator
HEI L	It is a community, Catholic, private institution located in the city of Águas Claras, in the Federal District. Offers more than 58 on-site and distance learning (EAD) undergraduate courses, 9 master's, 6 doctoral and 11 graduate courses.	Distance education director
		Media supervisor

Source: Prepared by the authors

We used the extended case method (Burawoy *et al.*, 1991) as a guide for data analysis. This approach allows researchers to use empirical data collected through case studies to reconceptualize and extend theories. Burawoy *et al.* (1991), developers of the extended case study, mentions that "*the generation of theory from the ground up was perhaps imperative at the beginning of the sociological enterprise, but with the proliferation of theories reconstruction becomes more and more urgent. Rather than always start from scratch and developing new theories, we should try to consolidate and develop what we have already produced*" (Burawoy *et al.*, 1991, p. 26).

After carefully reading all the documents, we wrote down the main themes and patterns (Miles & Huberman, 1994) and the critical passages (Dannells, 2002). We did an iterative process of constantly comparing theory and emerging data, generating conceptual and contextual clusters, which served as a basis for the presentation of results.





4 ANALYSIS OF RESULTS

4.1 Motivations for changing student enrollment processes

Several interviewees pointed out a more competitive environment as a motivator for changes in student enrollment processes, citing the *“drop in enrollment and drop in revenue”* due to the *“exponential growth of competitors”* (IT Manager at HEI E). The change in the regulatory environment adds to the dynamism of the market in motivating changes: *“regulation has changed and the entire market will change as a result of it ... anyone who is not aware of changes in behavior, regulation and the details that involve the business, is doomed to die”* (Marketing Manager at HEI B). This comment finds support in the literature, which indicates that the greater the capacity of HEIs to adapt to new institutional and market contexts, the greater their chances of survival and success (Sampaio, 2013).

Motivations related to the need to modernize internal processes were also mentioned. *“Our institution is over 60 years old, but it needed to reinvent itself and modernize the ways of reaching out to interested parties and students”* (customer satisfaction supervisor at HEI D). For another HEI, the trigger for change was *“the need to improve the processes for attracting and sustaining relationships with the institution's students, in order to increase the number of students and reduce dropout”* (marketing director at HEI I).

The testimonies reveal that the external pressures combined with deficiencies in the internal processes acted as motivators for changes in the enrollment of students and, consequently, in marketing processes in general. The enrollment processes *“went through a change from passive recruiting to active recruiting, including all areas involved in the process”* (Call Center Manager at HEI E). This change in the enrollment model required profound changes in the ways in which the institutions identified, interpreted and acted upon the needs of customers, involving everything from call center sales reps training to the implementation of new software tools. Therefore, if in the past marketing was viewed





as a secondary theme by HEI, the adoption of its principles came to be seen as a means to guarantee survival in a competitive market (Souza, Arantes, & Dias, 2005).

4.2 New knowledge acquisition process and resistance to change

The recognition of the need for improvement led to the search for new external knowledge in the organizations participating in this research. This attitude is consistent with the conclusions of Ciotti & Favretto (2017), who argue that the higher education market increasingly demands professional business management and that the HEIs should be always attentive to new solutions available in the external environment.

The Call Center manager at HEI E explains how the organization noticed its shortcomings and sought new knowledge in the market:

There was market research to prove that our enrollment process was flawed and could be improved; given this conclusion, we went looking for partners in the educational market, in this case the chosen companies were Mkt4Edu, and Educa Insights. Both had differentials and were able to innovate, bring new concepts to meet the demand of this new consumer. In parallel with the consultancies we had internal changes in teams involved in the process, especially in terms of customer service and negotiation. (HEI E Call Center Manager)

The IT manager at HEI E explained that “*at the same time an internal change was also made to the teams involved, and in the process flows*”, making explicit the systemic character associated with the acquisition of new knowledge. It is also important to highlight that the existing internal knowledge is one of the conditions to enable the acquisition of new knowledge, the appropriation of which depends on the combination of previously existing knowledge and newly acquired one (Lichtenthaler & Lichtenthaler, 2009).

In most organizations surveyed there was resistance to change. The customer satisfaction supervisor at HEI D commented that in his organization “*there is resistance even today, both from more experienced professionals who do not want to change, and from the inexperienced one who do not understand how beneficial it can be for professional growth*”.





Resistance is indeed one of the main barriers to successful change (Kurtz & Duncan, 1998, Coghlan, 1993). Changes bring uncertainties and turbulence in the organizational environment (Elias, 2009) and, therefore, their implementation demand active intervention from the organizations' manager. The interviews revealed some strategies adopted by HEIs to overcome resistance to change. For example, the social media manager at HEI D stated that due to resistance to new knowledge, the whole process was done “*very slowly, precisely because of resistance to new things and the lack of time / planning to include this in the routine. work*”. The marketing manager at HEI C described how the process of acquiring new knowledge in his business took place, also explaining how it was possible to overcome resistance:

The acquisition of new knowledge, by default, ends up changing the status quo and this causes discomfort with some members of the teams. Something, by the way, already expected by the HEI. In this sense, some resistance was found, especially regarding the need for teams to carry out training, which are not immediately perceived as contributing to professional and personal improvement. Thus, the HEI stimulated training and the breaking of resistance, demonstrating the personal benefits that each employee would have in their day-to-day lives, through the use and training in these new technologies. To facilitate this improvement, the HEI set aside a period of the working day so that employees could carry out these training sessions during working hours and together with their peers, encouraging the sharing of experiences, without compromising overtime hours. (Marketing manager at HEI C)

In general, convincing employees to engage in the change process was not an easy task for the HEIs in our sample. These HEIs sought to highlight the benefits of change, aiming to create a positive perception of change in employees, thus generating greater commitment (Peccei, Giangreco & Sebastiano, 2011).

4.3 Sharing new knowledge

In the absorptive capacity model proposed by Zahra and George (2002), assimilation refers to routines and processes that allow the organization to analyze,





process and understand knowledge. It is not enough to acquire new solutions in the market; HEIs also need to share and disseminate this knowledge across the organization. We asked respondents how the information needed for change or innovation was shared within the organization and whether there were specific assimilation mechanisms. The Marketing Manager at HEI C detailed the process that his organization has adopted:

The HEI maintains a policy of training employees in any type of activity. As a rule, the established flow is: we start with the training of area leaders (who become knowledge multipliers) and, subsequently, of all other employees. After this process, leaders follow the performance of employees in their respective areas of activity, reporting back to the unit's Boards. If necessary, new training rounds or meetings of the groups involved are held to clarify doubts and new practices for using the proposed technology or innovation. (Marketing Manager at HEI C).

An aspect considered important for the assimilation of knowledge was legitimacy:

The main mechanism adopted was one of our values, the legitimacy and the creation of the feeling of ownership, in other words, almost daily brainstorming meetings with all the cards on the table, all the difficulties, all the pain, always mediated by an external consultancy, seeking to eliminate emotions not consistent with the business and to ease the bias of those who are living and depending on these resources. (Marketing Manager at HEI B).

For the marketing manager at HEI B, transparency was one of the tools adopted in the assimilation processes. Even so, he preferred to count on the help of an external organization to mediate emotions not “*consistent with the business*” at the meetings.

Concerns about legitimacy and transparency and their role as facilitators of the knowledge assimilation process seem to be directly related to the theme of resistance to change. Although resistance to change is a widely known phenomenon, few managers previously assessed who might be resistant to change and for what specific reasons (Hernandez & Caldas, 2001). In any case, the concern of HEIs in coordinating the assimilation of new knowledge was clear, which corroborates the proposition that organizations that have difficulties in assimilating new knowledge - especially in a highly





competitive and dynamic environment, as the Brazilian educational market - may not be able to respond and adapt to environmental changes (Jansen, Bosch & Volberda, 2005; Ciotti & Favretto, 2017).

4.4 The transformation of knowledge into practice

Transformation of knowledge means the organization's ability to develop and improve its routines combining acquired knowledge with existing knowledge (Zahra & George, 2002). We investigate how HEIs transformed the knowledge sourced from the marketplace into effective actions. The following statement details the HEI C transformation process:

The change process, in practice, starts from the definition of directions by the University Board, which considers, in addition to the innovation that will be implemented, the expected results and the person responsible for coordinating this process, which can involve more than one area, in most cases. As an example, we can consider the implementation of HubSpot in our HEI. After the validation of the acquisition of the software and the contracting of consultancy services, we defined a shared work schedule, which was executed and re-planned in some moments, according to the needs of HEI. The execution of this workplan, as it involved several areas, demanded a reorganization of other existing workflows, so that we could guarantee the proper connection [of the new software] with the [legacy] systems and other data. (Marketing manager at HEI C).

Our results demonstrate that the transformation process is complex and dynamic. Guedes, Ziviani, Paiva, Ferreira and Herzog (2017) explain that in the transformative process the new knowledge relates continuously with the previous knowledge of the organization, in a dynamic and ever evolving process that demands continuous re-planning when certain demands arise and there are interaction between different sectors, some of them unforeseen at the start of the transformation. This dynamic can be seen at HEI H:





As the recruiting processes occur every semester, the adaptation to the new methodology was carried out with ease and, as some unforeseen issues were identified, the team was constantly improving the new procedures. (Marketing manager at HEI H).

The testimonies highlighted the difficulties associated with the implementation of new processes:

Initially it was very difficult. The natural errors of the implantation process and the wrong choice of the first CRMs (we got the third one right) made the group that did not want to change be even more resistant. But we were successful after a while and part of the team [had to be] changed. (Marketing Director of HEI G).

The transformation was painful, a lot of initial work, changes in web portals, changes in the company's strategic and financial policies, changes in software, and especially changes in people, all of which generated great frictions that were resolved in weekly meetings. (IT Manager at HEI E).

The transformations associated with the application of acquired and assimilated external knowledge proved to be an especially important challenge for family HEIs:

There is no defined mechanism or scope for implementation or strategies to be put into practice. There is an institutional strategic plan to be followed, content of training actions and attitude changes are only charged and there is no control or reward for those who evolve. (Coordinator of digital media at IES K)

The biggest difficulty is the internalization of the changes, the company is familiar and there are personal bonds at work, this promotes accommodation / resistance that goes from management to execution. (Coordinator of digital media at IES K).

Comparing with the other interviews, we realized that the processes in family-owned HEIs lack clearly defined responsibilities and established flows for the training of leaders and other employees, and that several rounds of training or meetings are necessary.

In summary, the reported difficulties in the transformation of internal routines were manifold. In the case of HEI E, the IT manager even mentioned that the transformation was “painful” indicating not only the high demand for work but also the complexity of doing





it. Second, an organizational culture resistant to change forced some of the HEIs to replace their more recalcitrant staff, in order to facilitate the introduction of new practices and process. Third, interviewees also reported that turbulence due to changes in technologies, processes and people generated various frictions. In the end, managers are responsible for identifying and implementing was to overcome these resistances in the most appropriate way possible. They must also be fully aware of the set of skills and abilities available within the organization before starting a process of change or innovation, because as identified both by the absorptive capacity literature and by the interviewees of this research, the adequate assimilation of the new knowledge acquired into the knowledge base of the organization is fundamental to enable the achievement of the objectives envisioned when introducing innovation.

4.5 Results after the changes developed

According to the literature, the application of new knowledge assimilated and transformed opens several opportunities for organizations. For instance, Gebauer, Worch and Truffer (2011) mention that it is possible to redefine the company's position; register new patents; launch innovations and develop new dynamic capabilities. This set of possibilities found in the literature is consistent with that observed in most of the studied HEIs:

Statistics show that the numbers [of new students] have been increasing. And the changes implemented have been explored and perceived as an innovation for the institution. (HEI H Call Center Manager).

There was also a positive result for the brand, which reflected in the institution's strategic positioning. (Assistant to the Dean of HEI I).

Having overcome their initial challenges, most HEIs achieved better results and created conditions for additional improvements in the future: "... It has become something recurring; I understand that now it will not stop. In fact, it has become a process of continuous improvement" - said the Dean of HEI J. "After a moment of initial resistance, there was a profound restructuring of the organization chart, with readjustments of





functions and incorporation of functions, which generated some disconnections. After this restructuring, the sectors began to better assimilate the changes”- commented EEI director of HEI L.

Virtually all HEIs mentioned an increase in their enrollment numbers and an improvement in their enrollment metrics. Objectively, there was an increase in revenue and better control of the performance of the HEIs through key performance indicators. However, despite all the positive momentum generated from the acquisition, assimilation, transformation and exploration of knowledge, reaping the benefits of absorptive capacity does not seem to be simple, in face of difficulties that include from high investments to the interpretation of the new knowledge acquired.

As I said before, the institution is very conservative and this mentality is very difficult to change, innovation continues to be worked and improved, but with serious obstacles for financial reasons, the results are encouraging, but the investment is high. (Media Supervisor at HEI L).

I often say that a mistake today can be a success tomorrow. An innovation project, it has many “head butts”, debates, doubts in the middle of the path and this brings different results. It's the “Growth” mindset (Marketing Manager at HEI F).

We are improving processes and investing in human capital and infrastructure to be ready in the next recruiting process. (Executive Director of HEI H).

In addition to the need for high financial investment and transformation of processes, we also identified that absorptive capacities are not static, but are characterized by a constant evolution. In rare cases the HEIs would appear to have consolidated capabilities, and where a large part of activities and processes were part of a strategic design. In most cases, however, the HEIs reported that their capabilities were always developing, sometimes in an emerging way.

The improvements are being noticed and the results corroborate the success of the model. There is still a lot to do, so the process of change is continuous and improves over time. (Marketing Manager at HEI J).





Yes, we had improvements in recruiting and retention. We continue to use knowledge and systems to seek better results. (Marketing Director of HEI G).

This change continues to be explored and renewed, as consumer behavior changes every day. (Marketing Manager at HEI D).

The empirical results demonstrate that there is a constant process of development of absorptive capacities in an organization. First, because the development of absorptive capacity depends on the prior knowledge of each organization: the stock knowledge an organization accumulated throughout its trajectory will influence the way it can absorb the new knowledge it obtains from the external environment. Second, because the market itself is dynamic, causing new and unexpected new developments to occur, affecting both the supply of new knowledge and the need to adaptations required for survival in the immediate competitive space occupied by the organization.

5 FINAL CONSIDERATIONS

In this paper, we examined the development of HEIs' absorptive capacities related to student enrollment processes, using the model proposed by Zahra and George (2002) as a theoretical framework. After changes in the higher education market in Brazil since 2014, HEIs faced a very competitive environment, with many private institutions facing the risk of a drop in new admissions and revenues. In this scenario, obtaining new knowledge and reinventing itself were necessary conditions for survival. The process of acquiring new knowledge was not simple, with HEIs experiencing several obstacles such as resistance to changes and deficient competencies and resources required for the implementation of new processes.

When comparing the absorptive capacities of HEIs, we observe that older and larger HEIs usually have more mature absorptive capacities and this larger stock of absorptive capacities helps them in the challenge of introducing external innovations and overcoming resistance. Despite this, the vast majority of HEIs, young or mature, had difficulties in sharing the new knowledge. The main strategies to overcome these





difficulties were: clean information flows; training for leadership and staff, weekly meetings, transparency and new rounds of meetings or training when necessary.

Our results also confirmed that the appropriation of external knowledge requires the consideration of the extant knowledge base of the organization. As pointed out by Cohen and Levinthal (1990), the knowledge of some professionals from previous experiences with innovation is a major factor in the transformation of the new knowledge acquired. Some of our interviewees stated that they had tried many times to change their recruiting processes until, finally, they managed to achieve a satisfactory result. We also identified the high investment required for HEIs to redesign themselves, including training people, acquiring new technologies and enacting changes in processes.

Finally, many of the interviewees mentioned benefits from the changes and innovations implemented in their organizations, from increasing the number of enrolled students to innovation in their processes. The changes made the HEIs “*more agile and consistent, including monitoring and control information*” (IT Manager at HEI G). Despite the immediate effects, we found that the vast majority of Brazilian HEIs are in an initial stage in the development of their absorptive capacities, and that they continue to identify and implement adjustments and improvements. The dynamism of the market forces them to follow a process of continuous improvement, even as they consolidate their capabilities.

In this study we confirm the literature on absorptive capacity in the context of HEIs, extending the understanding on the conditions in which they take place, by detailing the difficulties in the transition of acquired new knowledge into practical applications. As a managerial contribution, we present several cases of HEI, exploring not only the difficulties they faced but also the solutions devised and implemented to overcome them in the processes of acquisition, assimilation, transformation and application of new knowledge (Zahra & George, 2002).

As with all research, this study is subject to certain limitations. We interviewed 28 professionals, mostly in middle and top management positions, from 12 different higher education institutions. We cannot consider that our findings from this sample could be generalized to all HEIs in Brazil, especially since we have not analyzed public institutions.





Although the organizations are characterized by variegated sizes, scope of activities and geographical footprint, we recognize that they were going through similar processes, which restricts the results of this work. New research can build upon on our results and seek measurements that relate absorptive capacity to organizational performance, considering aspects such as age, size and governance structure, among others.

REFERENCES

- Apriliyanti, I. D., & Alon, I. (2017). Bibliometric analysis of absorptive capacity. *International Business Review*, 26(5), 896-907.
- Burawoy M., Burton, A., Ferguson, A. A., Fox, K. J. Gamson, J., Gartrell, N. Hurst, L, Kurzman, C. Salzinger, L, Schiffman, J., & Ui, S. (1991). *Ethnography unbound: power and resistance in the modern metropolis*. Berkeley, CA: University of California Press.
- Calderón, A. I. (2000). Universidades mercantis: a institucionalização do mercado universitário em questão. *São Paulo em Perspectiva*, 14(1), 61-72.
- Ciotti, R., & Favretto, J. (2017). Capacidade absorptiva em instituições de ensino superior: uma sistematização da literatura. *Revista Contemporânea de Economia e Gestão*, 15(3), 203-229.
- Coimbra, A. (2004). **A diferença está nos detalhes**: marketing educacional. Brasília: New Date Agency.
- Coghlan, D. (1993). A person-centred approach to dealing with resistance to change. *Leadership and Organization Development Journal*, 14(4), 10-14.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152.
- Danneels, E. (2002). The dynamics of product innovation and firm competences. *Strategic Management Journal*, 23(12), 1095-1121.
- Easterby-Smith, M., Graça, M., Antonacopoulou, E., & Ferdinand, J. (2008). Absorptive capacity: a process perspective. *Management Learning*, 39(5), 483-501.
- Elias, S. (2009). Employees' commitment in times of change: assessing the importance of attitudes towards organizational change. *Journal of Management*, 35(1), 37-55.





Gebauer, H., Worch, H., & Truffer, B. (2012). Absorptive capacity, learning processes and combinative capabilities as determinants of strategic innovation. *European Management Journal*, 30(1), 57-73.

Gibbs, G. (2007). *Analyzing qualitative data*. In Flick (Ed.), Londres: Sage.

Guedes, H., Ziviani, F., Paiva, R., Ferreira, M., & Herzog, M. (2017). Assessment of absorptive capacity: a study in Brazilian manufactures of solar panels. *Gestão & Produção*, 24(1), 50-63.

Goodman, R., & Yonezawa, A. (2007). Market competition, demographic change, and educational reform: the problems confronting Japan's private universities in a period of contraction. Jürgen/Jongbloed Ben Enders (Hg.). *Public-Private Dynamics in Higher Education*. Bielefeld: transcript, 443-470.

Hernandez, J., & Caldas, M. (2001). Resistência a mudança: uma revisão crítica. *Revista de Administração de Empresas*, 41(2), 31-45.

Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. (2016). *Censo da Educação Superior 2015*. Brasília, DF, Brasil, Ministério da Educação.

Jansen, J. Van Den Bosch, F., & Volberda, H. (2005). Managing potential and realized absorptive capacity: How do organizational antecedents matter?. *Academy of Management Journal*, 48(6), 999-1015.

Jick, T. (1979). Mixing qualitative and quantitative methods: triangulation in action. *Administrative Science Quarterly*, 24(4), 602-611.

Kotler, P. (2003). *Marketing de A a Z: 80 conceitos que todo profissional precisa saber*. Rio de Janeiro: Elsevier.

Kurtz, P., & Duncan, A. (1998). Shared service centres: overcoming resistance to implementation of a shared service centre. *Management Accounting, Montvale*, 76(7), 7-48.

Lane, P. J., Koka, B. R., & Pathak, S. (2006). The reification of absorptive capacity: a critical review and rejuvenation of the construct. *Academy of Management Review*, 31(4), 833-863.

Lichtenthaler, U., & Lichtenthaler, E. (2009). A capability-based framework for open innovation: complementing absorptive capacity. *Journal of Management Studies*, 46(8), 1315-1338.





Martinkenaite, I., & Breunig, K. J. (2016). The emergence of absorptive capacity through micro–macro level interactions. *Journal of Business Research*, 69(2), 700-708.

Miles M., & Huberman A. (1994). *Qualitative Data Analysis*. California: Sage.

Moré, R. Vargas, S., & Cembranel, P. (2012). Capacidade absorptiva no contexto da inovação: um estudo bibliométrico. *Revista de Gestão do Unilasalle*, 3(1), 113-126.

Peccei, R., Giangreco, A., & Sebastiano, A. (2011). The role of organizational commitment in the analysis of resistance to change: co-predictor and moderator effects. *Personnel Review*, 40(2), 185-204.

Presse, P. (2014). *Análise setorial da educação superior privada*. Foz do Iguaçu, PR, Consultoria Hoper.

Ribeiro, T., Gonçalves, G., Costa, B., & Storopoli, J. (2017). Melhoria no processo de captação de alunos em uma instituição de ensino superior localizada no Nordeste. **Anais do VI SINGEP - Simpósio Internacional de Gestão de Projetos, Inovação e Sustentabilidade e V ELBE - Encontro Luso Brasileiro de Estratégia**, São Paulo, SP, Brasil.

Sampaio, H. (2013). **Setor privado de ensino superior no Brasil: crescimento, mercado e Estado entre dois séculos** (Relatório de pesquisa financiada pela FAPES na modalidade Projeto de Pesquisa Regular entre 01/04/2010 a 31/03/2012), São Paulo, SP, Brasil.

Sindicato das Mantenedoras de Ensino Superior - SEMESP. (2016). **Mapa do ensino superior no Brasil 2016**. São Paulo, SP, Brasil.

Souza, B., Arantes, J., & Dias, S. (2015). Captação de alunos. *Revista de Ciências Gerenciais*, 15(22), 87-105.

Strauss A., & Corbin J. (1990). *Basics of qualitative research: grounded theory procedures and techniques*. California: Sage.

Volberda, H. W., Foss, N. J., & Lyles, M. A. (2010). Absorbing the concept of absorptive capacity: how to realize its potential in the organization field. *Organization Science*, 21(4), 931-951.

Todorova, G., & Durisin, B. (2007). Absorptive capacity: Valuing a reconceptualization. *Academy of Management Review*, 32(3), 774-786.

Zahra, S., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of management review*, 27(2), 185-203.

