A BIBLIOMETRIC REVIEW OF INSTITUTIONAL THEORY ON HIGHER EDUCATION INSTITUTIONS

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Abstract

In this study, we explore how institutional theory and its many subareas contributes, are utilized and applied to the area of higher education management's research by their scholars. For this purpose, we performed a bibliometric analysis on 659 papers extracted from Web of Science database. As results we indicate five main clusters as foundation to the field: institutional theory; economic impact of entrepreneurship and universities; competitiveness of universities as businesses; service quality and; measurement and development of models for higher education. And 7 main clusters as subfields of research: Institutional Multiplicity; Institutional pressures on Higher Education; Higher Education Efficiency; Leadership in Higher Education; Entrepreneurial Higher Education; Academy & Professional relations and; Quality and Satisfaction in Higher Education.

Keywords: Higher education. Institution. Bibliometric Coupling. Management. Business.

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Introduction

Higher education is a field that is very heterogeneous and diverse (Zafiropoulos & Vrana, 2008), have many levels and objects of analysis, e.g. their ranking systems (Saisana, D'Hombres, & Saltelli, 2011), their faculty (Bana e Costa & Oliveira, 2012; Goodall, 2009), their students (Heitor, Horta, & Mendonça, 2014) or their especific research units (N. Lockett, Kerr, & Robinson, 2008; Paradeise & Thoenig, 2013; Schubert, 2009) only to cite a few.

We argue that the diversity of research on Higher Education Institutions using aspects of institutional theory is due to the fact of the theoretical background of the theories and fields. This is due to the fact that the research object, in this type of organization, is quite interdisciplinary. Given this, it raises our research question: What are the antecedents of institutional theory that support research on management of higher education institutions?

To answer the research question, we systematically reviewed the literature using bibliometric analysis. Using the Web of Science journals database, justified by the relevance of its publications, we extracted 659 papers on this topic in December of 2017. We analyzed the fields co-citations and bibliographic couplings.

In our review, we found five main clusters as foundation to the field: institutional theory; economic impact of entrepreneurship and universities; competitiveness of universities as businesses; service quality and; measurement and development of models for higher education. We also found 7 main clusters as subfields of research that are being studied more in depth nowadays: Institutional Multiplicity; Institutional pressures on Higher Education; Higher Education Efficiency; Leadership in Higher Education; Entrepreneurial Higher Education; Academy & Professional relations and; Quality and Satisfaction in Higher Education. Our study is organized in chapters, this first as an introduction, followed by a succinct explanation of the theories used on chapter 2.2. After that we show how the bibliometric analysis was done in chapter 2.3 with methodologies. After that we demonstrate the analysis on chapter 2.4 and we finish in chapter 2.5 showing our discussion and final remarks.

Institutional Theory

The core of institutional theory lies in the Institutional fields, that are locations that guide the behavior of institutions found within them as they are the sources of institutional conformity and embeddedness pressures (Zietsma, Groenewgen, Logue, & Hinings, 2017). The same actors argue that they also enable the institutional infrastructure in which the embedded actors interact with each other predictably.

We can find in the work of (DiMaggio & Powell, 1983) one of the most used definition of institutional field, which they defined as "recognized area of institutional

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life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or product" and only exists "to the extent that they are institutionally defined". This way, they argue that it highlights the totality of actors that is relevant in those fields (DiMaggio & Powell, 1983).

(Scott, 1995) indicates that institutional fields have sets of institutional forces within its context and the organizations inside those fields do respond in different manners to those pressures, in other words, different organizations have different responses facing the same environment based on their characteristics or their location in these fields (Scott, 1995).

Institutional fields and forms are itself shaped by their societal context, both as agent and environment (Scott, 1995). This construction process can be explained as bottom-up and top-down. In one hand, the transmission or diffusion of institutions can be explained as an environmental process of copying already existing forms, be it coercive, normative or mimetic (DiMaggio & Powell, 1983; Scott, 1995).

Fields or environments in which organizations are inserted determine their responses and influence their behavior and structure. In response, organizations or actors make rational efforts to deal with such uncertainties, threats and constraints (Dacin, 1997; DiMaggio & Powell, 1983).

This way, Formal and informal institutional constraints can also affect organizational performance as organizations do not make decisions only by conscious and deliberate efforts to increase their performance or efficiency, since institutional pressures may be contrary to efficiency, in which interactions between them and the context in which they are present are only ceremonial (Greenwood, Oliver, Sahlin, & Suddaby, 2008; Peng, Sun, Pinkham, & Chen, 2009; Yiu & Makino, 2002).

Institutions such as the capitalist market, bureaucratic state, democracy, nuclear family and Christian religion can make potentially contradictory logics available to the individuals and organizations, because they shape individual preferences and organizational interests and their behaviors (Friedland & Alford, 1991).

From that, institutional logics can defined as "historical pattern of material practices, assumptions, values, beliefs, and rules" that are socially constructed by which "individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality" (Thornton & Ocasio, 1999).

For example, as (Friedland & Alford, 1991) shown, the institutional logic of capitalism is accumulation and commodification of human activity, that of the family is community and unconditional loyalty of its members that motivates human activity and so on. This make institutional logics as "symbolically grounded, organizationally structured, politically defended, and technically and materially constrained, and hence have specific historical limits" (Friedland & Alford, 1991).

In this environment, individuals and organizations seek to achieve their on ends through these social relations, while they also reproduce these symbolic systems and make life meaningful. That is important because individuals don't participate in the various social relations just because of material interests but also in terms of symbolic meaningfulness of that participation, so that their analysis need to consider as such (Friedland & Alford, 1991).

The authors say that institutional logics can operate in multiple levels of analysis: on the macrolevel they are supra-organizational symbolic and material patterns that controls the reality, give meaning to actions and structure conflicts. On the sector level, logics are the common identity of the players based on social and status comparison. On the organizational level, more specifically their actions and decisions, the focus is on attention and decision making (Thornton & Ocasio, 1999).

Legitimacy is another facet of institutional theory and can be defined as collective orientation to binding rules (Stryker, 2000), or as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995).

(Suchman, 1995) arguments that legitimacy is generalized because it is resilient to particular events, specific acts or occurrences; it is a perception or assumption because it depends on the observer of the organization as they see it; Legitimacy is socially constructed as it is a reflection of behavior between the "legitimate entity" and the shared beliefs of social groups, therefore "is dependent on a collective audience, yet independent of particular observers" (Suchman, 1995). Legitimacy can be divided and looked at with two perspectives in mind: a) strategic legitimacy and b) institutional legitimacy.

At the strategic tradition, a managerial perspective is utilized and focus on manipulation from organizations to deploy symbols in order to gather societal support. In the institutional tradition, the legitimacy is somewhat more detached, focusing on how structuration dynamics generates cultural pressures that go beyond any organization's control (Suchman, 1995).

Methodology

For this bibliometry analysis, we first sought to collect a database of papers about the subject of institutional theory applied on the higher education sector. Extracted from Web of Science database, one of the most prominent scientific papers databases around the world with more than 22.000 journals registered within, our research is of quantitative nature, all of which are summarized in Table 1 below.

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Methodology summary	
Research's nature	Quantitative method
Methodological approach	Exploratory
Paradigm	Positivist
Method	Content analysis and Bibliometry
Analysis unity	Papers about the subject
Data collection procedures	TS= ("higher education" OR "HEI" OR "tertiary educat*" OR "graduate progr*" OR "graduate degr*" OR "graduate school*" OR "postgraduate progr*" OR "postgraduate school*" OR "postgraduate degr*" OR "post graduat*") AND TS= ("Institut* theory" OR "institut*" OR "institute* logic*" OR "institut* environment*")
Data collection instruments	Scientific papers database: Web of Science
Data analysis	Bibliometry

Table 1 – Methodological matrix of the research
Source: Elaborated by the authors (2018).

As for the data collection procedures, we tried to use most of the variants that define the higher education sector, such as those shown in Table 2 and we used truncations to widen the range of our research. By using TS we specify the topic of interest and Boolean expressions to account for all keyword selected, completing our search expression in its entirety, all shown in Table 1.

The keywords used are those utilized in researches about the institutional environments and contexts in the higher education, which have diverse denominations, such as Higher education; HEI; Tertiary education; Graduate programs; Graduate degree; Graduate school; Postgraduate program; Postgraduate school; Postgraduate degree; Post graduation.

The same effect is present when we look at institutional theory, as it could be expressed in any sort of ways, such as Institutional theory; Institutions; Institutional logics; Institutional environment, all of which is illustrated in Table 2.

Keywords	Higher education; HEI; Tertiary education; Graduate programs; Graduate degree; Graduate school; Postgraduate program; Postgraduate school; Postgraduate degree; Post graduation; Institutional theory; Institutions; Institutional logics; Institutional environment;
Time period	10 years (2008 to 2017)
Language	English
Research fields	Management, Business
Type of manuscript	Articles
Date of research	31/12/2017
Research results	659 papers

Table 2 – Criteria of selection of the papers used for the systematic review
Source: Elaborated by the authors (2018).

The time period selected are the last 10 years, ranging from 2008 to 2017. This timeframe was selected to have an insight of how the area developed, as much as view the most recent manuscripts about the subject. We choice only papers in English language as it's the most prolific language used in all sciences. For Research fields, we limited on only management and business areas as this is the main interest in

our bibliometry analysis, in a perspective of an organizational theory applied in the higher education sector.

Using these criteria cited above, we yielded a total of 659 papers in the Web of Science database by 31/12/2017. After these papers were extracted from Web od Science to a text file, we treated them using *Bibexel* and *VOSViewer* softwares.

The bibliometry analysis that we performed were divided in two main ways, represented in Figure 1. The first one is that of co-citation, looking at the knowledge base of cited documents, as it "connects documents, authors, or journals on the basis of joint appearances in reference lists". In other words, with co-citation analysis we can discover the most important works in a selected field (Zupic & Čater, 2015).
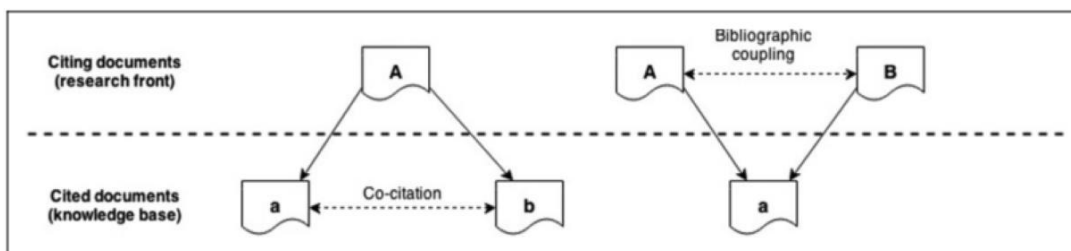

Figure 1 – Co-citation and Bibliographic coupling
Source: (Zupic & Čater, 2015).

The second way is that of bibliographic coupling, which we explore the research front. It "connects documents, authors, or journals on the basis of the number of shared references". It can discover where the field of study is heading, visualizing emerging fields and smaller subfields (Zupic & Čater, 2015).

Analysis

First, we look at the quantity of papers published per year in Figure 2. We can clearly observe that there's constant increase of papers published each year about institutional theory on higher education institutions, coming from only 14 papers at the beginning of our database in 2008 to 171 papers published on this theme in 2017. This indicates an increasing interest and relevance demonstrated by the scholars on this theory applied to this field.
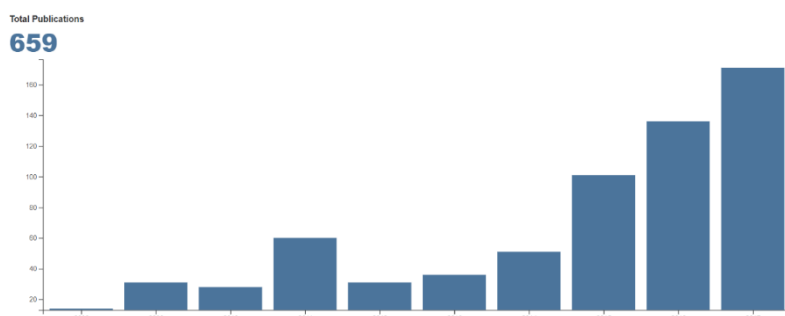

Figure 2 – Papers published per year
Source: Web of Science (2018).

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Other statistic that we can show is the h-index from the extracted database, which comes to h-index of 25. This means that there are 25 papers that have a been cited at least 25 times with a total nominal average citation count of 4,88 per paper.

Analyzing top articles cited from the Web of Science database, illustrated in Table 3, we can look at it as a proxy of how the area is organized, for example, what are the objects or elements that's the focus of their study, the choices of methodologies used, underlying theories that support their empirical enquires, as well as the hypothesis elaborated by them and the main findings based on all these items.

	Article title	Authors	Journal	Timed cited
1	The Multiplicity of Institutional Logics and the Heterogeneity of Organizational Responses	(Greenwood, Diaz, Li, & Lorente, 2010)	Organization Science	223
2	Can governance and regulatory control ensure private higher education as business or public goods in Bangladesh?	(Alam, 2009)	African Journal of Business Management	105
3	Rickety numbers: Volatility of university rankings and policy implications	(Saisana et al., 2011)	Research Policy	74
4	The development of an entrepreneurial university	(Guerrero & Urbano, 2012)	Journal of Technology Transfer	66
5	Costs and efficiency of higher education institutions in England: A DEA analysis	(Thanassoulis, Kortelainen, Johnes, & Johnes, 2011)	Journal of the Operational Research Society	41
6	Highly cited leaders and the performance of research universities	(Goodall, 2009)	Research Policy	40
7	Tourism education and curriculum design: A time for consolidation and review?	(Fidgeon, 2010)	Tourism Management	39
8	Building global-class universities: Assessing the impact of the 985 Project	(Zhang, Patton, & Kenney, 2013)	Research Policy	36
9	A multicriteria decision analysis model for faculty evaluation	(Bana e Costa & Oliveira, 2012)	Omega	36
10	Offsetting illegitimacy? How pressures from securities analysts influence incumbents in the face of new technologies	(Benner & Ranganathan, 2012)	Academy of Management Journal	35
11	Institutional Multiplicity in Practice: A Tale of Two High-Tech Conferences in Israel	(Zilber, 2011)	Organization Science	35
12	Distributed leadership in higher education: What does it accomplish?	(Gosling, Bolden, & Petrov, 2009)	Leadership	35
13	Economic impact of entrepreneurial universities' activities: An exploratory study of the United Kingdom	(Guerrero, Cunningham, & Urbano, 2015)	Research Policy	33
14	Academic Institutions in Search of Quality: Local Orders and Global Standards	(Paradeise & Thoenig, 2013)	Organization Studies	31
15	Empirical observations on New Public Management to increase efficiency in public research-Boon or bane?	(Schubert, 2009)	Research Policy	31
16	An instrument for measuring the critical factors of TQM in Turkish higher education	(Bayraktar, Tatoglu, & Zaim, 2008)	Total Quality Management and Business Excellence	31
17	Making universities more entrepreneurial: Development of a model	(Kirby, Guerrero, & Urbano, 2011)	Canadian Journal of Administrative Sciences	30

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18	Prospects and possibilities of critical management education: Critical beings and a pedagogy of critical action	(Dehler, 2009)	Management Learning	27
19	Multiple perspectives on the challenges for knowledge transfer between higher education institutions and industry	(N. Lockett et al., 2008)	International Journal of Small Business	27
20	Lean Service: A literature analysis and classification	(Suárez-Barraza, Smith, & Dahlgaard-Park, 2012)	Total Quality Management & Business Excellence	26
21	The UK and Italian research assessment exercises face to face	(Rebora & Turri, 2013)	Research Policy	25
22	The relative efficiency of education and R&D expenditures in the new EU member states	(Aristovnik, 2012)	Journal of Business Economics and Management	25
23	Business elites, universities and knowledge transfer in tourism	(Thomas, 2012)	Tourism Management	25
24	The role of entrepreneurship clubs and societies in entrepreneurial learning	(Pittaway, Rodriguez-Falcon, Aiyegbayo, & King, 2011)	International Small Business Journal	25
25	The measurement of the construct satisfaction in higher education	(Alves & Raposo, 2009)	Service Industries Journal	25

Table 3 – Top articles selected for review
Source: Elaborated by the authors (2018).

Looking at the top 25 papers from our database, we can see a variety of empirical works within diverse journals. The most common journal found in them was Research Policy, indicating that in this field there are many external pressures and stakeholders to consider, as the journal is set "to analyzing, understanding and effectively responding to the economic, policy, management, organizational, environmental and other challenges posed by innovation, technology, R&D and science" ("Research policy," 2018). From the perspective of the objects explored in these papers, we found, as expected, higher education's institutions as the most common one, showing on 19 of these 25 papers. Apart from that, there are two papers that focused in research institutes (N. Lockett et al., 2008; Schubert, 2009); three manuscripts that explored firms (Benner & Ranganathan, 2012; Greenwood et al., 2010; Thomas, 2012); and one that explored conference (Zilber, 2011).

Looking at the keywords used in all those papers, shown in Figure 3, we can see five clusters. We can point that the green cluster is the main cluster, with higher education as the most cited keyword. It is the cluster that contains keywords such as higher education, leadership, work, identity, power, culture systems, behavior, indicating that this cluster is focused on the responses to institutional pressures and stakeholders from HEI actors. The black cluster shows keywords related to performance of HEI, exploring issues of efficiency and productivity of universities. Related close to the it is the yellow cluster, representing papers that points to the exploration and application of models within the higher education sector, which targets ways to measure quality and satisfaction as its core intent.

Figure 3 – Web of keywords
Source: Elaborated by the authors (2018).

The blue cluster is the one that get a hold to management and strategy in HEI in a more traditional sense, looking at the higher education as a business and their sector as a market, and the challenges that the players in the sector faces. The last but not the least is the red cluster, which centers in innovation, knowledge transfer and entrepreneurship within higher education institutions. The focus here is that universities have the production of knowledge as their main role, developing science and technologies that can be used and transferred elsewhere. From our co-citation analysis, we extracted the web of most co-cited authors illustrated in Figure 4 below. As shown, there are five theoretical clusters.

Figure 4 – Web of co-cited authors
Source: Elaborated by the authors (2018).

Analyzing the clusters, firstly we can say that the red cluster is the cluster of institutional theory. For example, it is present in this cluster the seminal work of (DiMaggio & Powell, 1983) in which they explored and explained the concepts of institutional fields that can exert pressures on organizations, they, in turn, can respond to these pressures by institutional isomorphic actions. Also present here is

(Lounsbury, 2008), that revised the theory of isomorphism, shifting attention to organizational heterogeneity. Still in this cluster, we can also cite the work of (Thornton & Ocasio, 1999), that explored the institutional logics, as they defined as "the rules of the game" and (Meyer & Rowan, 1977) that focused on legitimacy obtained by performing within institutional rules. In this sense, the focus of this cluster is the concepts and definitions of institutional theory and its sub theories.

The yellow cluster we defined as the cluster of economic impact of entrepreneurship and universities. For example, (Audretsch & Fritsch, 1994, 2002) explored the economic development on regions of Germany and found that the economic growth that higher in regions that had higher convexities, such as high skilled workers (from universities) or technology (also coming from universities).

Related to this is (Etzkowitz, 1998; Guerrero et al., 2015; Shane & Stuart, 2002; Siegel, Waldman, & Link, 2003), that studied how universities have another function other than teaching, that of economic development through entrepreneurship fostering. They argued that universities had a new revolution of its role, integrating the "capitalization of knowledge" in their missions, transferring this knowledge to the society. Teaching, research, and entrepreneurial activities have a positive impact on economic development, meaning that universities have an important role in the development of their surroundings.

The blue cluster provided an insight on the competitiveness of universities as businesses, for example (Altbach & Knight, 2007; Horta, 2013; Mazzarol & Soutar, 2002) explored internationalization of universities, citing issues regarding factors that influenced students of choose their host institutions, the motivations that made universities to internationalize and how mobility, or the lack thereof, hinders a more international academic research.

Another issue explored here are the governance and distinctions of higher education institutions as public or private. (Marginson, 2007) argued that we cannot understand universities only in their public or private legal ownership, but to look at them as goods, this way, there are space for both of them are accessible to policy. (Alam, 2009) indicated similar results when exploring Bangladesh private higher education, arguing that education there are considered business goods rather than public goods, even though knowledge is the later.

In the green cluster from Figure 4, lies the papers that tends to service quality, meaning that there are a group of research in higher education that views it as service. In this cluster we can cite de most seminal work of (Parasuraman, Zeithaml, & Berry, 1985), culminating on the SERVQUAL model. Other than this paper, we found also the paper from (Grönroos, 1984) defining the concept of service quality, (Zeithaml, Berry, & Parasuraman, 1996) that explored the behavioral signals

impacted by service quality, (Cronin & Taylor, 1992) exploring the relation between service quality with consumer satisfaction and purchase intension.

Lastly, in the black cluster, we found papers that explored measurement and development of models for higher education, such as (Johnes & Johnes, 1993) that assessed the research performance of the departments of economics in UK using data envelopment analysis; (Agasisti & Catalano, 2006) that studied possible Market models for higher education, showing tendency "to organize these systems according to managed competition mechanisms in which the state plays a role in financing the system and regulating the quality of the study courses offered by the universities (quasi markets)" and; (Bonaccorsi & Daraio, 2005) assessing scale and agglomeration effects on science policy making.
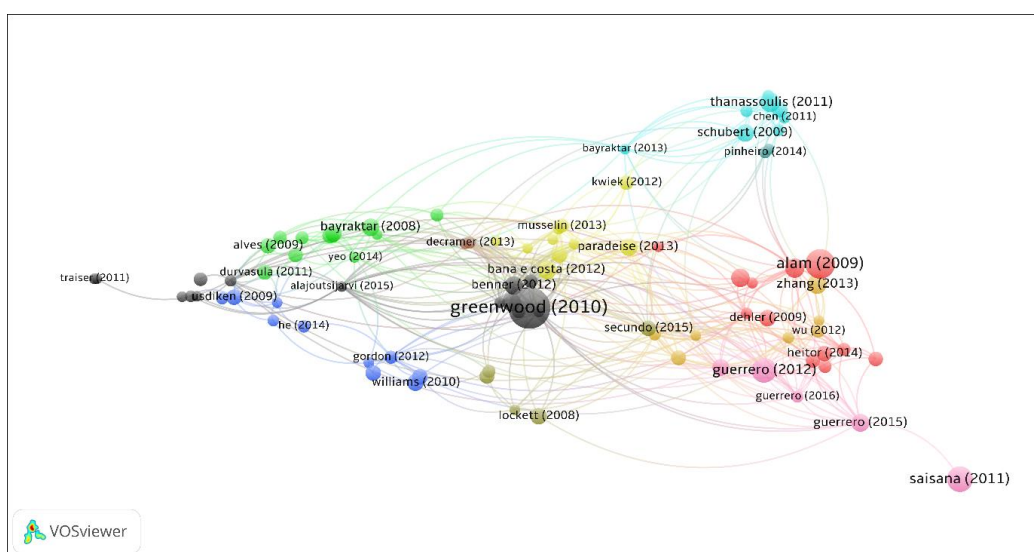

Figure 5 – Web of the bibliographic coupling
Source: Elaborated by the authors (2018).

From the bibliographic coupling perspective, as shown in Figure 5, we can see that there are quite a lot of clusters (10 in total). We'll concentrate our analysis on the seven most prominent to summarize the most noticeable ones and not stray away from our objective.

In this case, we'll explore the clusters in the following colors: black at the center, yellow atop of the center black, cyan on the top left corner, red on the left, pink on the left down corner, blue on the right down corner and green on the right top corner.

We named this cluster as the Institutional Multiplicity cluster, as shown mainly in the work of (Greenwood et al., 2010), pointing to nonmarket institutions (region state and family logics) exerting influence on market behavior in different but patterned ways.

(Benner & Ranganathan, 2012) in turn, explored institutional environment pressures' influence on technological change, showing actions that seeks legitimacy

facing multiple pressures, even though these actions are not always from a technical point of view. (A. Lockett, Wright, & Wild, 2015) demonstrated how logics of discourse and metrics in UK higher education was, over time, started to change to pure economic criteria and how the actors worked to institutionalize new practices in order on align to these new values.

The second cluster, represented in yellow right on top from the center one, we named Institutional pressures on Higher Education, as shown, for example, in the work of (Bana e Costa & Oliveira, 2012) showcasing how faculty evaluation were done in Portugal and how a multicriteria decision analysis was necessary in order to compare performance between academic staff and to make the evaluation system legitimate to external institutions. (Paradeise & Thoenig, 2013), in turn, shows the existence of a logic of quality controlled by exogenous parties and processes that decouples the attention given to content or relevance but to signals (like number of articles, number of citations), with political authorities having effect on some of their behaviors and processes. This way, local orders still matter as standardization don't imply in homogeneity as they appropriate external criterion and references for their own positioning and with reference to their internal instrumentation.

The cluster in color cyan we named Higher Education Efficiency as this cluster focused on what universities can do to be more efficient. For example, (Thanassoulis et al., 2011) found that the higher education sector in England cannot be analyzed as a unitary set, and the data envelopment analysis provides estimates costs that are in general similar to parametric estimates of those same unit costs provided the institutions have a truly multi-product profile, with results showing that for a majority of institutions, productivity has actually decreased during the study period.

In the work of (Schubert, 2009), he indicated that most New Public Management variables have impact on research efficiency, except accounting models, which affects it negatively. Publication related activities are made more efficient by regular evaluations of the research units, universities may indeed increase efficiency of their research groups by choosing their governance model wisely.

The fourth cluster in red we classified it as Leadership in Higher Education, focusing on how leaders on HEI can help shape their environment and help improve higher education. Here we can cite (Alam, 2009), showing how leaders should solve shortcomings of private HE in Bangladesh and proposes strategic suggestions for improvement: an appropriate campus should be obtained with adequate land area and built-in-paces and; private universities should abide by international standards for quality education;

Or (Gosling et al., 2009) concluding that "the term 'distributed leader ship' draws attention to the large number of actors involved in leadership" and with four

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functions: Descriptive (limited evidence, only vaguely and generally which way the leadership is or should be); Corrective (analytical framework, examining power relations, structural arrangements, and influencing factors beyond organizational boundaries); Empowering (enhance sense of agency and their motivation to get involved in the work of leadership); Rhetorical (part of vocabulary employed to make sense of authority relations. Distributed leadership are constructed and help to construct our understandings and enactment of leadership.

The fifth cluster, in pink, are the Entrepreneurial Higher Education. For this we can see (Guerrero et al., 2015; Guerrero & Urbano, 2012) that shows economic impact of university activities, which need to have the following critical factors in order to be entrepreneurial universities: attitudes towards entrepreneurship from academics and students; Strategies need to be adapted to each type of university because the technological has the knowledge production and the strong relationship with the industry as its main competitive advantages, while the general has the multidisciplinary approach that helps to exploit several areas; identification of several stages of Entrepreneurial Universities.

The sixth cluster in blue we named Academy & Professional relations, demonstrating how universities and their professional surroundings can work together to improve them both. Here we can highlight (Williams, 2010) and (Gordon, Hamilton, & Jack, 2012). (Williams, 2010) reviewed the literature to look for evidence from higher education institutions that suggests that work-based learning can improve practice, finding that "Work-based learning has the potential to develop both the individual practitioner and their practice, in a way that classroom learning has been unable to". (Gordon et al., 2012) found in their study that "entrepreneurship education delivered a range of benefits to SMEs and the region. Through engaging, owner/managers interacted with others. This extension of their network supported business growth and development".

The seventh cluster in green, was denominated Quality and Satisfaction in Higher Education. Here we cite the works of (Bayraktar et al., 2008), revealing 11 critical factors of total quality management in higher education institutions: 1. Leadership 2. Vision 3. Measurement and evaluation 4. Process control and improvement 5. Program design 6. Quality system improvement 7. Employee involvement 8. Recognition and reward 9. Education and training 10. Stakeholder focus 11. Other stakeholders' focus. We can indicate the paper from (Alves & Raposo, 2009) proposing a way to measure the construct satisfaction in higher education through the use of structural equations, concluding that disconfirmation process is by far the one that has the highest explicative capacity.

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Discussion and Conclusion

With this bibliometric analysis, we tried to see how the field of institutional theory applied to higher education was organized. Using co-citation analysis and bibliographic coupling we tried to illustrate in a more organized way the studies of higher education institutions based on institutional theory. By our results, we can see clearly that this field is very heterogeneous either in its base of important works from the past or in its research front of the present.

Analyzing the keywords used by the authors in this field we found that the most common themes were the responses to institutional pressures and stakeholders from HEI actors; performance of HEI; exploration and application of models within the higher education sector; management and strategy in HEI and; Innovation and knowledge transfer and entrepreneurship within higher education institutions**.**

In our co-citations results showed that the most important works and papers in this area, which serves as the foundation of this field, can be divided in five main clusters: institutional theory; economic impact of entrepreneurship and universities; competitiveness of universities as businesses; service quality and; measurement and development of models for higher education.

In the bibliographic coupling analysis, focusing on the main themes that researchers are exploring in the present days, we classified them in 7 main clusters, each representing a subfield of research that are being studied: Institutional Multiplicity; Institutional pressures on Higher Education; Higher Education Efficiency; Leadership in Higher Education; Entrepreneurial Higher Education; Academy & Professional relations and; Quality and Satisfaction in Higher Education.

With this study, we tried to help systematize better the area and show from which directions researches in this field came from, and to where it is going. We hope to further expand what we know about this area of interest and help other scholars with a summary of subfields that can be explored.

As limitation, we used only one database (Web of Science), without using more open bases like Google Scholar, which in turn, may tend the papers to some more Americanized papers, considering that the Web of Science have this effect.

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