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Becoming an entrepreneurial university: learning from Stanford's case

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ABSTRACT

Considering the emblematic role of Stanford University in the creation of one of the most innovative regions in the world, alongside the challenges faced by many universities that try to develop entrepreneurially, we aimed at comprehending the development of Stanford's entrepreneurial turn. Given the historical characteristic of the phenomena, we conducted a qualitative case study based on secondary data from 40 sources, analyzed through content analysis. As a result, we summarized five lessons from the case. Our main theoretical contribution consists on comprehending the universities' entrepreneurial turn as contingent on institutional work and as a result of regulative, normative and cultural-cognitive pressures emerging from the state, the industry and the universities themselves. University managers and policy makers, interested in comprehending the processes concerning the development of universities and regions entrepreneurially, can benefit from the study.

KEYWORDS: Entrepreneurial Universities. Institutional Theory. Triple Helix of Innovation. Institutional Entrepreneurs. Silicon Valley.

INTRODUCTION

Several studies have demonstrated the challenges that universities face in order to engage in an entrepreneurial agenda, which is particularly relevant for developing countries, considering their potential to foster socioeconomic development (Dalmarco; Hulsink; Blois, 2018; Guerrero; Urbano; Herrera, 2019; Moraes; Fischer; Campos; Schaeffer, 2020).

Stanford University stands out as one of the most entrepreneurial universities and, therefore, it is considered a reference to universities around the globe. Thus, we have decided to have Stanford as the empirical context for our research, because understanding its trajectory towards entrepreneurship may contribute to other universities' trajectories.

The ways Stanford is related to its successful innovative surroundings reflects its strong commitment to its third mission. It can include the offering of extension courses or services to benefit the local community, as well as informal and formal relationships with industry, aiming at the advancement of society through the practical application of knowledge that is created within the university's walls (Mollas-Gallart et al., 2002).

It is important to emphasize, however, that universities 'role is not to literally produce and commercialize goods, as such is the case for companies. Therefore, many of the results arising from academic research need the involvement of industry to achieve and benefit society. At this point, the universities 'third mission gains entrepreneurial contours, which can be seen through the capitalization of knowledge through its commercial use.

Nevertheless, this practice is just a small visible part of what it takes to be an entrepreneurial university. In other words, it demands a whole supportive structure that comes before the active commercialization of knowledge. This way, some universities, such as Stanford, have taken an "entrepreneurial turn", which, according to Goldstein (2010), includes the development and commercialization of research, but mostly the transformation of internal configurations leading to the commercialization of this kind of knowledge.

Some signs that universities have been taking this entrepreneurial turn can be observed through the increasing number of technology transfer offices, as well as the enlargement of the existing ones; the increasing number of patents, licenses and inventions disclosures within the academic context; and even broader transformations such as changes in mission statements and in faculty careers criteria (Goldstein, 2010).

When universities take an entrepreneurial turn, translating it into a societal norm, they are acting entrepreneurially in an institutional way (Clark, 1998). Aiming at increasing their entrepreneurial capacity, some universities adopt an entrepreneurial architecture which comprises the development of five mutually supportive elements: structures, systems, strategies, leadership and culture (Nelles; Vorley, 2010). And finally, according to Goldstein (2010) the so called entrepreneurial turn has to do with an active institutional commitment of universities in order to develop and commercialize technology derived from their research groups, which involves all sorts of necessary changes in regulations, practices, norms and governance structures aiming at overcoming obstacles that

may negatively influence the "[…] behavior that leads to the commercialization of university-generated knowledge" (Goldstein, 2010, p.84).

This way, to better understand the processes involved in the contextual configuration that led to the development of Stanford's entrepreneurial turn, we based our analysis on the complex set of institutional pressures, which can be synthesized as regulative, normative and cultural-cognitive (Scott, 2014), conjointly derived from each one of the elements of the triple helix of innovation (Etzkowitz, 2008), that is, the state, the industry (society, in a broader sense), and the university itself. In our study, these institutional pressures were addressed not as a priori given determinants, but rather, as the result of active institutional work (Battilana; Leca; Boxenbaum, 2009; Lawrence; Suddaby, 2006) performed by institutional entrepreneurs from the three spheres of the helix.

This way, our practical contribution with this study is to show the functioning of the institutional mechanisms which, together, made the development of Stanford's entrepreneurial turn possible. We believe that a better understanding of these dynamics can provide useful insights for universities from developing countries on how to build their own entrepreneurial paths.

Concerning the theoretical contribution, this research is in line with what Scott points out "…the whole weight of institutional theory is about trying to look at the importance of the process, the surrounding context within which events unfold" (Scott; Amarante, 2016, p. 4). Our theoretical proposition is that universities 'entrepreneurial turn is contingent on institutional work and may be understood as a result of a confluence of inward and outward forces that are shaped through a historical and recursive interplay between regulative, normative and cultural-cognitive pressures, derived from each actor of the triple helix, that is, the state, the industry - or society in a broader sense - and the university.

The article's exploration of Stanford University's entrepreneurial turn directly contributes to the editorial scope of Revista Tecnologia e Sociedade by critically examining the complex interplay between universities, industry, and government within the framework of the triple helix of innovation. By analyzing how institutional work and pressures—regulative, normative, and cultural-cognitive—shaped Stanford's trajectory, the study illustrates how technology is not merely a neutral artifact but a socially constructed and historically contingent process. This perspective aligns with the journal's mission to foster interdisciplinary dialogue on the multifaceted relations between technology and society, particularly in highlighting how educational institutions can both influence and be influenced by broader socio-economic and political contexts. Furthermore, the lessons drawn from Stanford's case extend the debate to developing countries, underscoring the role of universities as key actors in shaping sustainable technological and social development, thus reinforcing the journal's commitment to addressing the cultural, political, and economic dimensions of technology in society.

In this regard, this study directly dialogues with research already published in this journal, which analyze the interaction between universities, companies, and government in different contexts. Graef, Schneider, and Santoyo (2022) highlight the importance of technology transfer contracts for the formalization and intensification of the university–industry relationship in Brazil. Andrade, Rocha and Nascimento (2023) underscore the contributions of Brazilian universities within the triple helix framework, noting that their potential remains still underexplored. These studies reinforce the importance of understanding the institutional role of universities in innovation processes, a central concern of the Stanford case, which provides a comparative international perspective capable of enriching this debate.

In addition, the journal presents other researches wich shed light on specific dimensions of innovation ecosystems and technological entrepreneurship. Machado, Oro, Gimenez and Ignácio Junior (2023) analyze the structural elements of entrepreneurial ecosystems and their assessment mechanisms. Similarly, Sirtulli and Zanella (2024) explore the intensity of interactions within an innovation ecosystem as innovation projects are caried out at a Brazilian community university. While Andrade, Rocha and Nascimento (2024) employ exploratory factor analysis to characterize the role of Brazilian public universities in technological innovation under the triple helix model. And Koch, Machado, and Lazzarotti (2024), map the evolution of scientific production on technological entrepreneurship, identifying gaps and outlining opportunities for future research, one of them being "Analyzing the role of the university as a contextual determinant of technological entrepreneurship".

By examining Stanford's trajectory, the present paper contributes an international and historically grounded perspective that complements these national studies, offering practical insights into how different institutional arrangements can foster the entrepreneurial transformation of universities and, in turn, enhance their contribution to technological and social development.

ENTREPRENEURIAL UNIVERSITIES

Universities contribute to society through multiple ways that can be aggregated under their three main missions. The third mission is has to do with "[...] the generation, use, application and exploitation of knowledge and other university capabilities outside academic environments. In other words, the Third Stream is about the interactions between universities and the rest of society" (Mollas-Gallart et al., 2002, p.3-4). Although the third mission contributes to the universities themselves, its impacts are mostly important to society as a whole (Dal Soto; Souza; Benner, 2021).

Many times, universities 'research needs outside efforts to be taken to the wider public and, thus, achieve their full potential for the benefit of society. Based on this assumption, some universities have taken an entrepreneurial turn that consists, according to Goldstein (2010, p. 84), on:

> (1) the active involvement of universities—as institutions—in the development and commercialization of technology stemming from university-based research; and (2) changing the internal regulations, rewards and incentives, norms of behavior, and governance of universities to remove barriers to individual faculty, other researchers, and research centers/institutes engaging in behavior that leads to the commercialization of university-generated knowledge.

As a result, some universities develop what can be called an entrepreneurial architecture. Based on the work of Burns (2005), who coined this term applied to the corporate context, Nelles and Vorley (2010) developed the concept of the entrepreneurial architecture applied to the academic sphere. According to these authors, the entrepreneurial architecture consists of five mutually supportive institutional elements that, together, shape the entrepreneurial capacity of the university, thus allowing the realization of the third mission. The five elements are: structures (e.g. technology transfer offices, incubators and technology parks); systems (that allow connections between the administration and the structure);

leadership (key people within the university who have power of influence over others. They can be 'star scientists 'or the heads of the departments or programs); culture (i.e. norms and attitudes towards entrepreneurship in three levels, that is, institutionally, departmentally and individually); and strategies (i.e. institutional goals and policies related to the university's third mission). They all have the same importance in helping the university follow an entrepreneurial agenda, and thus are expected to interact with one another (Nelles; Vorley, 2010).

Although the universities 'commitment is crucial to the development of innovation, state and industry play irreplaceable roles in what is called by Etzkowitz (2008) the triple helix of innovation. The main function of the triple helix is the generation, diffusion and use of knowledge and innovation. But why does it make sense to mention the triple helix of innovation while aiming at comprehending the development of Stanford University's entrepreneurial turn? The answer is quite simple: if we are assuming that the institutional environment is what shapes the development of the university's entrepreneurial turn, we need to take into consideration the institutional pressures that stand the most when it comes to the realm of innovation creation, because this is the reason universities take this turn in the first place.

Therefore, with that in mind, our analysis was based on the regulative, normative and cultural cognitive pressures that emerged from the three spheres of the triple helix, that is, the state, the industry and the university itself. However, as we already mentioned, we are most interested not in the pressures themselves, but in the processes involved in the emergence of these pressures, in particular, the dynamics between one another, by means of the institutional work performed by institutional entrepreneurs. The next section brings this theoretical discussion.

INSTITUTIONAL PRESSURES AND INSTITUTIONAL ENTREPRENEURS

" Institutions comprise regulative, normative and cultural-cognitive elements that, together with associated activities and resources, provides stability and meaning to social life" (Scott, 2014, p. 56). Our lives, therefore, are, at the same time, constrained and enabled by the institutional pressures that exist prior to our own existence, but also as a result of our own existence. Basically, the regulative pressures tell us what the regulations we are subject to are. The normative pressures, on the other hand, shows what the desirable goals are and how we should pursue these goals. And finally, the cultural-cognitive pressures shape the way we perceive all the institutional stimuli (Scott, 2014).

The relation between institutional pressures and individual and collective agency has motivated several studies over time (DiMaggio, 1988; Greenwood; Suddaby, 2006; Lawrence; Suddaby, 2006; Leca; Battilana; Boxenbaum, 2006; Pache; Santos, 2010; Scott, 2014).

DiMaggio (1988) introduced the concept of institutional entrepreneurship, expressing institutional entrepreneurs 'agency while they arrange the resources in order to create and empower institutions, according to their interests. The idea of institutional work is understood as "the sets of practices through which individual and collective actors create, maintain and disrupt the institutions of organizational fields" (Lawrence; Suddaby, 2006, p. 220).

Thus, to understand the dynamics that explain Stanford's entrepreneurial turn development, we focused on the recursive interplay between the university and its institutional environment, mediated by individual and collective agents,

because this historical dynamics is what shapes both individual and collective pressures and responses (Padgett; Powell, 2012; Scott, 2014).

As stated by Amarante and Crubellate (2020), when bringing the idea of the recursive interplay existent between pressures and agency, it is emphasized the blurred boundaries between the institutional pressures and the three spheres of the triple helix of innovation. In fact, the pressures are not essentially "pure", but rather, a product of their mutual interaction mediated by hybrid actors who are embedded in multiple institutional contexts simultaneously. Therefore, it is useful to access an individual's biography, such as diverse personal and educational experiences to better understand his or her propensity to be institutional entrepreneurs and their actions as well (Mutch, 2007).

To sum up, our research is based on the assumption that the wider institutional environment, in which agents are embedded, simultaneously constrains and enables them. Some of these agents will become active institutional workers within the triple helix spheres, and their work is what generates the recursive interplay between regulative, normative and cultural-cognitive pressures. The university's entrepreneurial turn emerges embedded in that context.

METHODOLOGICAL PROCEDURES

Considering the nature of the studied phenomena, this research was conducted through a qualitative approach (Vieira, 2006), the strategy was the case study (Stake, 2005) and given the historical character of the research objective, only secondary data was used.

We understand that the main limitation of our study consisted of not having the opportunity to interview the actors directly involved in the phenomena which took place more than fifty years ago. However, we were able to overcome this limitation due to the fact that Stanford University, as well as the whole region of Silicon Valley, have been studied for decades by a multitude of researchers and there are plenty of scientific publications providing sufficient information for this research.

The secondary data we used was gathered from 40 different sources in total, which are not all listed in the references of this paper, except those cited throughout the text, given the limited space. These sources included 10 books, 9 scientific papers, 8 non-scientific articles or documents, and 13 Stanford documents. This material was selected through a technique known as snowball sampling, in which the references of each work consulted and selected serve as basis for searching for other works related to the subject.

Having such an abundance of publications allowed this story to be told from different perspectives, which made our case study richer. All data was later analyzed qualitatively in a process inspired by Bardin (1977) content analysis, which comprises of three stages: pre-analysis, exploration, and treatment and interpretation.

CURRENT STANFORD FACTS

As it was mentioned before, the development of Stanford's entrepreneurial turn is, actually, a fact that is better comprehended if we look to the past.

However, we are going to start from a contemporary perspective presenting some information that helps to draw a picture of the university in the present.

Entrepreneurial universities have great quality in common (Garcia et al., 2014) and one way to assure that is by strong investments in a high quality faculty plenty of star scientists able to influence others into a more entrepreneurial direction (Vorley; Nelles, 2008). Having 21 Nobel Laureates among its faculty, as well as the 5:1 student to faculty ratio, demonstrate qualitative and quantitative investments on faculty (Stanford, 2023).

Its focus on research, which can be demonstrated by having the majority of students from graduate instead of undergraduate programs, being 9.565 and 7.761 respectively (Stanford, 2023) also deserves attention. Cutting edge science is more likely to emerge from graduate teams and this favors the university's image (Brew, 2009), contributing to its legitimation among the general public and more importantly, among the industry and the state, its main investors.

About investments in research, calls our attention the fact that 78% of the 7,500 externally sponsored projects are sponsored by the U.S Federal Government. Although it is a private entrepreneurial university, the State still plays the major role when it comes to research funding (Stanford, 2023).

Talking specifically about the technology licensing results, we need to highlight the role of the Office of Technology Licensing - OTL. It was created in 1970 and "is responsible for the formal transfer of patents, copyrights and other technology through license agreements [having as its mission] to promote the transfer of Stanford technology for society's use and benefit while generating unrestricted income to support research and education" (Office of Technology Licensing, 2017).

However, although OTL generated US$89 million in 2022 as royalties' revenue, this sum represents a small part of the total invested in research at Stanford, just nearly 8% (Stanford, 2023). In other words, the university does not depend financially on the OTL outcomes.

And finally, but not less important, more than 39.900 companies were created since the 30's by Stanford alumni and faculty (Stanford, 2023). Although the university opened in 1891, it was only years later that it started to build its entrepreneurial agenda.

LESSONS LEARNED FROM THE DEVELOPMENT OF STANFORD UNIVERSITY´S ENTREPRENEURIAL TURN

The relationship between Stanford, the state and the industry dates back to its crib. Before the creation of the university, its founder Leland Stanford, was a former California Governor and then Senator and also a successful entrepreneur as a railroad magnate that had helped to connect U.S. west and east coasts (Gillmor, 2004; Stanford, 2016; Stanford, 2017).

The first thing we need to take into consideration is that Stanford's entrepreneurial turn was a process that took at least 60 years to become institutionalized. It started in the 1920's and it was not consolidated before the late 1980's. According to Colyvas and Powell (2006) "The institutionalization process was fraught with disputes, misunderstandings, and some effort at distancing. Legitimacy and taken-for-grantedness increased over time in this particular case, but this trend was neither inevitable nor without debate" (p.342). Therefore, it was resultant from the work of different actors in different periods of

time, with different institutional backgrounds, and with different interests (Gillmor, 2004; Stanford, 2016; Stanford, 2017; Stevens, 2004).

Prior to its entrepreneurial development itself, several steps had been taken that were fundamental for the improvement of the university quality as a whole, as this is a specific trait of entrepreneurial universities (Garcia et al., 2014), preparing it to be able to develop its entrepreneurial agenda years later. This steps included: a) attraction and retention of talented faculty; b) attraction of talented students and encouragement for the best of them to enroll in Stanford graduate programs; c) financial development mainly through contracts with public bodies, specially the Military Forces; d) the institution of undergraduate tuition fees in 1919; e) a series of fund raising efforts from 1922 on and new ways to invest the money received as endowment; and f) the construction and maintenance of a strong reputation nationally, which was a consequence of the previous steps, but also a condition to keep attracting those talents and keep the private and public investments level high (Gillmor, 2004; O'Mara, 2005; Saxenian, 1994).

All these steps were resultant from active institutional work (DiMaggio, 1988; Lawrence; Suddaby, 2006) led by Stanford leaders, but that also depended on external will to happen. In fact, the case evidenced triple helix strong connections (Etzkowitz, 2008). If neither the state sphere nor the industry sphere were interested in what Stanford had to offer for their own benefit, probably this story would follow a different course.

The state sphere was interested in academic research that could help U.S. defense during World War I, World War II and the Cold War, and was willing to pay whatever would be necessary to guarantee its supremacy over the enemies. Later on, the state's interests on science were related to helping the U.S. economy. By encouraging innovation to emerge within universities, as for example through the Bayh-Dole Act, the industry would benefit from being more competitive to face other countries' competition, in particular the threats posed by Japanese industry's ascension (Berman, 2012). In fact, the federal government has helped the American computer industry, and as a consequence, Stanford University, in mainly three ways: through legislation that benefited this industry, especially the Bayh-Dole Act; as a buyer for its products; and as a financier of research in this area (Rowen, 2000).

The passage of the Bayh-Dole Act bill was resultant from lobbying by U.S. powerful research universities, such as Stanford, University of California and Harvard (Berman, 2008; Stevens, 2004) and it "gave institutions the unambiguous right to claim title to inventions made with federal funding" (Loise; Stevens, 2010, p. 1). Additionally, it also standardized the patent process. Therefore, universities became more independent and able to choose the terms of license contracts with industry, in a way that was better for the technology development and for themselves. The right to have ownership over the inventions created by their own scientists, and also allowing that the scientists themselves could have a piece of this cake that they baked, undeniably boosted the level of technology transfer promoted by research universities. This demonstrates that even regulative pressures are not simply given, but rather a result of a construction that involves both government and groups of interests that exert pressure over the policy making process.

The industry sphere, in turn, needed its workforce to be highly trained and qualified and thus, it recognized Stanford as a fundamental partner in this process. This explains the success of the Honors Co-operative Program in Engineering that dates back to 1945 and the success of the Stanford Industrial Park from the

beginning of the 50's. After the establishment of the Park and its first tenants' arrival, the region started reinforcing itself, attracting more scientists, industries and students interested in the innovative culture that was being raised there (Gillmor, 2004).

Stanford University's earlier interests were basically increasing its financial returns in order to expand and to be recognized as a large and renowned research university, and to contribute to the employability of the skilled workforce it generated. Stanford needed its strong industrial surroundings and worked hard to build that (Gillmor, 2004).

We discovered that hybrid actors already existed prior to the formation of this triple helix system studied. Therefore, they cannot be understood as a result of the triple helix sphere's overlapping, but as it seems to be the case, they are a condition that made this connection possible. Their multiple embeddedness makes the boundaries between the institutional pressures and the three spheres of the triple helix blurred (Amarante; Crubellate, 2020).

Frederick Terman (1900-1982) is the most notable of these hybrid actors and is considered the father of Silicon Valley, due to his one-of-a kind work in order to build not only an entrepreneurial university, but an entrepreneurial region. Considering what Mutch (2007) stated about the importance of looking at an individual's biography to comprehend his or her actions as an institutional entrepreneur, we dove into his trajectory to learn more about his role within Stanford's entrepreneurial turn. Terman was a Stanford alumni, professor, researcher, dean and provost and mentor of Hewllet and Packerd - HP. In his PhD, he was advised at MIT by Vannevar Bush, who is considered the Patron Saint of American Science, for being responsible for the creation of the National Science Foundation - NSF (Bush, 1945).

Terman's actions represented his beliefs on what was best for the university, based on his personal and professional embeddedness within the three spheres. His biography demonstrates that he defended industry and state interests as well. In fact, he was part of these spheres, for example, the period when he was an active member of the American Institute of Electrical Engineers (AIEE) and later of the Institute of Radio Engineers (IRE), where he eventually became president in 1941, and also the time when he worked for the U.S Military Forces as the director of the Radio Research Laboratory (RRL) at Harvard University for four years during the World War II (Gillmor, 2004).

On the one hand, as he was embedded in multiple institutional contexts, Terman's perception of the institutional pressures made him notice very early that the government was not only the source of regulations but it could be a fundamental investor and a trustworthy client. On the other hand, his internal work as a Professor, teaching undergraduate and graduate students, allowed him to see the huge commercial potential of what was being created inside campus. Probably, had he been a mere administrative staff member at the university, he would not have seen the potential of students and alumni and so, neither HP nor Silicon Valley as we know it, could exist.

His active role in multiple spheres, having as a consequence his powerful personal and professional connections - which he valued the most and kept nourishing during his whole life - in addition to his background, including the strong influence his previous advisor, Vannevar Bush, had on him, made Terman the most important actor involved in the development of Stanford's entrepreneurial turn. Although his plans for Stanford towards an entrepreneurial direction were not easily accepted at the university, he knew how to use his assets to change previous

predominant cultural-cognitive frames and influence the decision of those in charge.

Another important consideration relates to the nature of the university's responses to the institutional pressures. Some of them were all-in-one kind. For example, if we think about Stanford's lobby within the Federal Government, at the same time it had direct results in increasing the number of contracts with the public sphere, it also boosted Stanford's reputation around the Country, which had as a result more contracts with industry, more endowments and the like.

Finally, based on the case study, it is possible to summarize five lessons that may be useful for university managers, researchers and policy makers, regarding the development of universities' entrepreneurial turn:

a) becoming an entrepreneurial university is a process that takes time and is not free from debate.

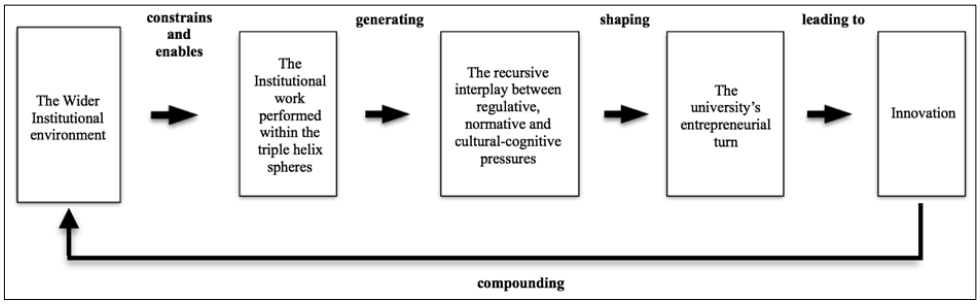
b) the foundation of the entrepreneurial turn rests on improving the university's quality as a whole, which includes: attraction and retention of talented people, both faculty and students; strengthening graduate programs; developing financially through external sources and building a strong reputation nationally.

c) it is necessary to have committed people actively working both internally and externally to develop the entrepreneurial architecture and to bring the triple helix actors closer. The more these people are embedded in multiple institutional contexts within the three helices, the better.

d) government and industry must acknowledge the potential contributions of universities to their own needs. Therefore, actors in both helices must also actively work towards a closer relation with universities, whether through policy making, funding, sponsoring or direct project partnerships.

e) figure 1 provides a graphical representation of the relationship between the contextual variables leading to the development of the university's entrepreneurial turn and, therefore, innovation.

Figure 1: graphical representation of the results



Source: The authors.

CONCLUSIONS

Our research suggests that the way through which universities develop entrepreneurially does not depend solely on their will. Actually, universities' entrepreneurial turn is a result of a complex set of institutional processes that is unique to each context over the globe. The three spheres of the helix must work together to promote innovation, through a combination of different interests, resources and efforts from each one of them to make it happen.

Based on the case narrative, we could comprehend that the connection of the three spheres was the result of the perception and action of innumerable institutional entrepreneurs, especially Terman, whose performance was decisive for Stanford's entrepreneurial development. His work can be summarized in four main categories: a) a keen eyesight for the identification of environmental institutional forces; b) strategic vision on how these forces could contribute to the goals of the university; c) the creation, maintenance and expansion of a network of relationships within the three spheres; and d) a strong power of persuasion, both internally and externally.

A practical implication of our research is especially relevant to developing countries, such as Brazil, which seek for more competitiveness on technological markets along with a more prominent role of universities in developing the regions where they are embedded.

We hope this research can inspire others to investigate different institutional contexts. These researches can then bring insights to university managers, as well as policy makers, on how to encourage entrepreneurial initiatives connecting university, industry and the government, in order to promote innovation.

Tornando-se uma universidade empreendedora: aprendendo com o caso de Stanford

RESUMO

Considerando o papel emblemático da Universidade de Stanford na criação de uma das regiões mais inovadoras do mundo, juntamente com os desafios enfrentados por muitas universidades que tentam desenvolver-se de modo empreendedor, pretendemos compreender o desenvolvimento do direcionamento empreendedor de Stanford. Dada a característica histórica dos fenômenos, realizamos um estudo de caso qualitativo baseado em dados secundários de 40 fontes, analisados por meio de análise de conteúdo. Como resultado, resumimos cinco lições do caso. Nossa principal contribuição teórica consiste em compreender o direcionamento empreendedor de universidades como contingente ao trabalho institucional e como resultado de pressões regulatórias, normativas e cultural-cognitivas emergentes do Estado, da indústria e das próprias universidades. Gestores universitários e formuladores de políticas, interessados em compreender os processos relativos ao desenvolvimento empreendedor de universidades e regiões, podem se beneficiar do estudo.

PALAVRAS-CHAVE: Universidades Empreendedoras. Teoria Institucional. Tripla Hélice da Inovação. Empreendedores Institucionais. Vale do Silício.

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