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Unraveling the attitudes on entrepreneurial universities: The case of Croatian and Spanish universities

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ABSTRACT

The objective of this paper is to present evidence that there are different types of supportive faculty members. We conducted a case study on a sample of Croatian and Spanish universities by using an already tested ENTRE-U scale for measuring the faculty members' attitudes. These two scenarios are quite different in terms of their innovation systems, economic context and university system. We tested and found no evidence of any statistically significant difference due to the country. These two facts suggest the possible existence of an isomorphic trajectory when implementing entrepreneurial universities regardless the context. University managers should be aware of the existence of three different types of supportive individuals. Each of these groups requires a certain program of human resource development. This shifts the debate to how entrepreneurial universities should manage the tensions arising from the need of some degree of specialization in any of the three roles of the faculty members, namely teaching, researching and transfer of the knowledge stemming from research results.

> 'Given that they are situated at the cross roads of research, education and innovation, universities in many respects hold the key to the Knowledge Economy and Society'
>
> EC, 'The Role of Universities in the Europe of Knowledge'

1. Introduction

The world today is more closely knit, using different means of education, organisation, communication and production, and is more exposed to rapid change than ever before. Universities play a vital role for the development of European regions [24]. They are instrumental to increasing the global competitiveness of the European Union [23]. Higher education institutes and universities create jobs, firms and social cohesion [60]. Moreover, they are the focal point of knowledge creation, innovation and entrepreneurship, all of which are the areas in which the EU has set ambitious objectives [66]. All over the world and throughout Europe, higher education institutions represent a nexus between needs and opportunities.

Entrepreneurialism in higher education has a history: itself the subject of prolific research going back beyond Burton Clark's [7] classic. However, it has gained increasing impetus recently because of: the growing importance of the 'knowledge economy' sectors; promotion by national governments and the EC in Europe [25]. This transformation has given significant pressure on interaction between government, university, society and private sector [1]. With traditional role of education: research and transfer of knowledge become more essential [67]. As universities become more entrepreneurial [20,21,26], several

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challenges have been identified. Not only do we still lack a clear definition of what an entrepreneurial university is, but also there is no shared culture among the key actors who must face the challenge of the required shift: the faculty members. Perhaps we do not need a robust theoretical definition; instead, what might serve best is a deeper understanding of what this really entails, according to the key role that universities have come to (must, we should say) play in the current economy [17]. The lack of entrepreneurial role models, the absence of an entrepreneurial culture across the institution, and the reward system are some of the main barriers, as described by Philpott et al. [30]. They seem to lead universities to hybrid practices, as Etzkowitz and Leydesdorff [21] and Tuunainen [59] labeled them. The entrepreneurial activities at universities are affected by changes in two important factors: the funding structure and expectations, which affect the interest of starting new firms and the understanding of new commercialization techniques [50]. However; acquiring an entrepreneurial character in academic institutions faces challenges associated with the "entrepreneurial culture.". These situations make academic activities negatively influence the entrepreneurial activity [30].

Entrepreneurial orientation has been usually measured by some kind of "entre-scales" throughout the literature on entrepreneurship applied to the private sector. Khandwalla [37] and the subsequent work of Miller and Friesen [47]; as well as that of Miller [46]; are reputed to be the origins of one of the most used scales: the entre-scale. Other similar scales have been used in several studies [9–11] for measuring the entrepreneurial orientation in the context of business organizations.

However, we lacked a useful scale for measuring entrepreneurial orientation in universities until Todorovic et al. [57,58] developed and tested the existence of some dimensions in the entrepreneurial orientation latent construct. The building process of their scale (Entre-U) is fully explained in Todorovic et al. [57,58]. Those authors concluded that four main constructs explain the latent construct of the entrepreneurial orientation of a university department and predicted the results on spinouts and patents. Accordingly, the four key dimensions are as follows:

- Unconventionality, a similar although different idea to "risk-taking," deals with how researchers or department or university staff try to explore new (sometimes unconventional) ways to get their objectives.
- Industry collaboration refers to how the department, faculty, and university engage with the business system.
- University policies deal with the culture of the university as well as organizational and strategic issues.
- Research mobilization deals with how the university, as a whole, shares its research with external agents. It implies a shift in knowledge management from researchers towards communities, thus a diffusion of knowledge from the group.

Such dimensions are different but related. Todorovic et al. [58] suggested that facilitating one dimension while discouraging others would lead to an unsuccessful implementation of the entrepreneurial university philosophy. Moreover, they considered the "entrepreneurial orientation of the department" as a second-level construct and hence they needed proxy variables for measuring it, in order to predict spinout and patent results.

Nevertheless, we argue that the entrepreneurial orientation of the department can be measured directly when trying to measure the individual's attitudes (i.e., his or her entrepreneurial orientation) from the 47 variables the authors initially developed, instead of measuring indirectly the orientation of the department.

In fact, Martinelli et al. [43] had put the focus on the faculty side. They analyzed attitudes towards the engagement of university with industry by mapping the network of linkages from the faculty perspective. They found a considerable number of researchers engaged in knowledge exchange processes with industry and other non-academic partners. They also found relevant differences regarding the faculty attitudes towards technology transfer and awareness of the university's policies. We may infer from their work that several attitudinal groups exist within the same faculty and even within the same department.

In order to provide some responses to these issues, our study aims at presenting evidence of whether there are different types of supportive faculty members and, in the event of a positive response, what their characteristics are. For this aim we surveyed a sample of Croatian and Spanish universities by using the ENTRE-U scale for measuring the faculty members' attitudes, which has been developed by Todorovic et al. [57]. These two scenarios are quite different in terms of their innovation systems, economic context and university system. Therefore, we are seeking for obtaining the shared characteristics between these two scenarios so we can reach a conclusion regarding the existence of a certain type of faculty members supporting the entrepreneurial university. This will enable conducting future research on whether there is an isomorphic trajectory for universities to become more entrepreneurial based on the existence of these groups in other contexts. Since we use an already tested scale, this study can be reproduced in other countries to obtain a comparison of results.

Our findings will also be beneficial for university managers. Knowing what type of groups there are and their characteristics will ease the implementation of more adequate programmes in the quest for regional growth based on the triple-helix paradigm. This may imply decisions relative to the university portfolio in terms of teaching, researching and transfer or contracts with external agents. It also suggests the need for shifting the debate towards the extent to what a faculty member should specialize in any of the three core duties or even whether he/she should undertake a certain combination of those duties in order to obtain a superior performance. This is an issue that can be better addressed in combination with scholars in the field of high performance teams.

2. Literature review

Intellectual property disclosed to and registered by transfer technology office from that time became principal way to systematic exaggeration of commercialization and innovation inventing from university research [56]. Hence,