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THE ENTREPRENEURIAL UNIVERSITY: A SELECTION OF GOOD PRACTICES

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ABSTRACT

This article analyses entrepreneurial good practices from a selection of Spanish universities in different knowledge areas and regions of Spain. The methodology, based on a previous quantitative research on the factors that form an entrepreneurial university, includes a qualitative research with semi-structured interviews to the most outstanding entrepreneurial Spanish universities so as to detect their best practices. For the quantitative study, a questionnaire was designed with items grouped into 14 factors that defined the entrepreneurial university according to a model previously developed. The questionnaire was answered by 84 deans/directors from different faculties from six Spanish regions. The findings showed, among others, that Spanish universities are significant in internalization, use of active methodologies, mission and strategy and management team support. The good practices were analysed bearing in mind the above mentioned factors in which the universities were outstanding and the criteria to consider good practices. The results provide innovative and creative good practices replicable at any university and guidelines for universities to move forward on being entrepreneurial, as well as showing positive social and economic impacts in society by giving the university community the tools and possibilities required for them to be entrepreneurial and therefore, train students using active methodologies.

Keywords: Entrepreneurial University, Good Entrepreneurial Practices, Key Factors in Entrepreneurship Education, Social and Economic Impact, Triple-Helix.

INTRODUCTION

The entrepreneurial university has been a research topic during the past years (Audretsch, 2014; Bronstein & Reihlen, 2014; Gibb, 2012; Guerrero et al., 2006 & 2012; Kirby et al., 2011; Wong et al., 2007). Some studies have emphasized on theoretical models (Clark, 1998; Guerrero & Urbano, 2012a; O'Shea et al., 2007; Rothaermel et al., 2007; Salamzadeh et al., 2011; Sporn, 2001), while others have tried to identify the factors that form the entrepreneurial university (EC & OECD, 2012; Guerrero et al., 2011; Markuerkiaga et al., 2014; Rothaermel et al., 2007). The main objective of this study is to focus on a selection of best practices at two Spanish entrepreneurial universities that have been distinguished for having obtained a high level of academic entrepreneurship measured by the maturity model developed previously by Markuerkiaga et al. (2014).

The entrepreneurial university has had a tendency to apply managerial models, focusing on teaching and research. However, the third mission of the university has changed this picture. Nowadays, the mission of the university is to be actively linked to the business sector and stakeholders, in such a way that the business sector profits socially and economically from university research, while the university benefits from the knowledge acquired by its closeness to the entrepreneurial environment (Etzkowitz, 2003; 2008; 2011; 2012; & 2013). This contact helps to create a link with the business world, to share knowledge and for students to learn in an experiential way.

The methodology applied to this project has been two folded: First, a previous quantitative study in order to see the level of academic entrepreneurship of the different universities in Spain. The questionnaire analysed for the quantitative study was based on the model from Markuerkiaga et al. (2014). Second, a qualitative study to identify good practices. Representatives from the universities with the highest scores in the different factors were interviewed, using the criteria of good practices.

This study is important for two reasons as it includes the theory to transfer good practice beyond organizations (Bergek & Norrman, 2008; Klofsten et al., 2010) and a framework of the importance and factors that compose an entrepreneurial university and the criteria to assess good practices (Brannan et al., 2008; Coffield & Edward, 2009; Corpas, 2014; Escudero, 2009; Gradaille & Carballo, 2016; Zabala, 2012). Moreover, it also includes a deep analysis of the good practices from two selected Spanish universities, which may be transferable to any university. The aim is to enhance their entrepreneurship essence and adopt the third mission of an entrepreneurial university as stated by Etzkowitz (2003; 2008; 2011; 2012; & 2013).

THE ENTREPRENEURIAL UNIVERSITY

The university, as the labour market, has become global, technological, innovative and competitive, which has meant its transformation: From an institution traditionally focused on its two main objectives, teaching and research, to the so-called third mission or the collaboration between the university and external stakeholders as part of the training of university students; the so-called entrepreneurial university. The university needs to give a response to the needs of a knowledge-based economy to prepare students with the necessary skills to be competitive, not only locally but globally (Sam & Van der Sijde, 2014). For this reason, entrepreneurship is being taught to students from different areas of education, from science to humanities and not only in business schools, as may be thought at first sight (Sam & Van der Sijde, 2014).

Sam & Van der Sijde (2014) summarizes the three revolutions undertaken by universities. First, the incorporation of research to prepare students to work in other areas that were not academic (Etzkowitz, 2001; 2008; & 2011). Second, university teaching and research aimed at a socio-economic development to create new local knowledge-based companies and sell technology (Etzkowitz, 2001). Third, technology transfer or university-business cooperation in which the university is in the socio-economic development or "service to the community" (Sam & Van der Sijde, 2014, p. 900). In this third mission, which is controversial and highly debated, there is a change in the relationship between the university, the government and businesses. Universities may, according to Etzkowitz (2012), step back from the proactive entrepreneurial role" as "innovative regions attain maturity" so that the university may provide "new models for social interaction" (p. 774) in which the permeability to the environment is increased and resources are used strategically. This means a shift from university management from a bottom-

up to a top-down approach and thus, a challenge to the traditional university only focused on teaching and research (Sam & Van der Sijde, 2014).

The entrepreneurial university is involved in partnerships, networks and business activities with public and private firms and governments to find collaboration and interactions with the aim of linking education, research and activities with technological, social and economic development (Guerrero & Urbano, 2012b). Guerrero & Urbano (2012b) propose a model of entrepreneurial university with the following features:

1. Formal factors: Entrepreneurial organizational and governance structure, support measures for entrepreneurship, entrepreneurship education.
2. Informal factors: University community's attitudes towards entrepreneurship, entrepreneurial teaching methodologies, role models and reward system.
3. Resources: Human capital, financial, physical and commercial.
4. Capabilities: Status and prestige, networks and alliances, localization. (p. 46)

Other authors (Bronstein & Reihlen, 2014; Kalenyuk & Dyachenko, 2016; Kirby et al., 2011) consider the definition usually given of an entrepreneurial university limited: The creation of new businesses by the university staff and students, as it does not include other activities and functions. This fact contributes to a lack of agreement about its core factors and components (Guerrero & Urbano, 2012a; Rothaermel et al., 2007). It is, however, a starting point to understand the role of an entrepreneurial university and the importance of detecting "good practices", which may help to enhance the collaboration between stakeholders and universities. The entrepreneurial university may be defined as a higher education establishment that safeguards knowledge, transfer and commercialization of innovative business initiatives between universities, stakeholders, the government and enterprises with financial and organizational economic criteria (Kalenyuk & Dyachenko, 2016).

Most universities perform "entrepreneurial activities", but not all of them can be defined as entrepreneurial universities. For Sam & Van der Sijde (2014), the entrepreneurial university can undertake different roles in society, within innovation and in the ecosystem. Entrepreneurship may also take different functions: Commercial, social, cultural and civic (Etzkowitz, 2013). It is a fact that universities are "increasing its functions and expanding its roles", what Etzkowitz (2001, p. 24) calls a "bi-evolution". In fact, the university is more in contact with stakeholders and is shifting from individual to organizational training, to research aimed at industrial use, social and economic need; this includes the formation of business incubators, networked incubators and incubator networks (Etzkowitz, 2001). Thus, the university is becoming economically more independent and increasing their role in the local and international economies. The mission of universities is not only that of training, but to commercialize knowledge and to make an active contribution to the development of local and regional economies (Wong et al., 2007). Moreover, the goal of an entrepreneurial university is not only to generate technology transfer in terms of start-ups or other businesses, but to lead the creation of "entrepreneurial thinking, actions, institutions" (Audretsch, 2014, p. 319). Furthermore, it seems that there is a need for changes in the traditional university to overcome real barriers within modern university structures and strategies (Brennan et al., 2005; Etzkowitz, 2003); thereby, the dilemma facing university managers is how to engage within this phenomenon.

The university is a favourable site for innovation and a natural incubator; providing a support structure for teachers and students to initiate new ventures: Intellectual, commercial and conjoint. In the last years, the domain entrepreneurial university has received increased attention

from scholars. In particular, there are some theoretical models which are focused on the explanation of the entrepreneurial university phenomenon (Clark, 1998; Gibb, 2012; Markuerkiaga et al., 2014; O'Shea et al., 2007; Salamzadeh et al., 2011). However, little is known about the factors that form the emergence of this entrepreneurial university (Guerrero & Urbano, 2012a; Rothaermel et al., 2007) since there is a lack of empirical studies which analyse the influence of these factors, offering a great opportunity to make important contributions in this field.

RESEARCH FRAMEWORK DESCRIPTION

Based on the literature on the entrepreneurial university, Markuerkiaga et al. (2014) have developed an integrative framework to measure academic entrepreneurship. The research framework has three main parts: External entrepreneurship support factors, internal entrepreneurship support factors and entrepreneurial university results.

The external environment is identified as a component of the proposed framework due to its seminal role in entrepreneurship theory and research (Covin & Slevin, 1991). The concept of external environment is intended to include those forces and elements external to universities boundaries that affect the organization. These dimensions include the institutional, legal and administrative context.

The internal environment of the organization is an important factor to measure academic entrepreneurship. Many authors (Clark, 1998; Gibb, 2012; Guerrero et al., 2006; Kirby, 2006; Salamzadeh et al., 2011; Sporn, 2001; Teh & Yong, 2008; Wong et al., 2007) tried to define an entrepreneurial university framework through different factors. Thereby, the literature review shows that the most cited ones which are mission and strategy, organizational design, support from management team, policies and procedures, internationalization, extracurricular training, inclusion of professionals from business and organizations in the development and delivery of the curriculum, entrepreneurship funds, training and research in entrepreneurship, training in entrepreneurship for faculty staff and active methodologies.

After analysing the previous studies, a discrepancy is detected regarding the measurement method of the newest mission of the entrepreneurial university. Certainly, the literature review shows that the third mission is related to the economic and social development (Benneworth, 2007; Cargill, 2007; Chrisman et al., 1995; Dill, 1995; Etzkowitz & Leydesdorff, 2000; Guenther & Wagner, 2008; Guerrero et al., 2006; Jacob et al., 2003; Philpott et al., 2011; Meyer, 2011; Mohar & Kamal, 2010; Röpke, 1998; Yokoyama, 2006), which in turn is based on academic entrepreneurship activities (Etzkowitz & Leydesdorff, 2000; Klofsten & Jones-Evans, 2000; Philpott et al., 2011).

According to Markuerkiaga et al. (2014), nine academic entrepreneurship activities have been selected in order to measure the entrepreneurial university: Academic spin-off firm formation, student spin-off firm formation, patenting and licensing, collaborative/contract research, consulting, industry training courses, industry mobility, information dissemination and networking.

GOOD PRACTICES: DEFINITION AND CRITERIA

Good practices, as well as entrepreneurship, are usually associated with business schools, especially in the university community. However, according to Brannan et al. (2008), good or best practices have started in the private sector as a tool to perform "against competitors" to

improve the organization's performance. In 1999, the notion of good practices was implemented in the area of education with the aim of displaying good examples of learning and teaching as well as good government policies (Corpas, 2014).

Escudero (2009) affirms that it is very difficult to determine what a good practice is and to identify the necessary criteria due to the complexity of the terms "good" and "practice", which convey a system of values and biased judgements. Coffield & Edward (2009) consider that although a "good practice" can vary from institution to institution, there needs to be a firm basis for that judgement. Zabala (2012) states that there are no universal practices and all good practices are considered to be so in certain contexts and under certain conditions and no good practices are "good" in all their components or elements. Therefore, he includes three key processes: First, justify the reasons why it is necessary to speak about good practices; second, identify and analyse those actions that may be categorized as "good practices" and third, show and make these practices known and transferred to other situations that may improve processes of Higher Education, among other realities.

The criteria for good practices are variable, but there are some factors connected with entrepreneurship which seem to be common and thus, they have been selected for this study: Innovation, transferability, transversality, sustainability, usefulness, efficiency, impact and evaluation, bearing in mind that not all of them take place when analysing good practices.

First, innovation or creativity. Innovation can be connected with creativity (UNESCO & UNEVOC, 2017). It could be described as a practice that has been applied for the first time or that has introduced a new approach or has been adapted to the context or to the area or region in which it takes place (UNESCO & UNEVOC, 2017). For innovation to take place there must be an improvement of a past action, in such a way that it may solve problems or introduce new ways of doing an activity or service (Palmero et al., 2016). The practice could be an initiative, policy or successful model of acting that improves not only the educational processes, but the learning of students (Corpas, 2014).

Second, transferability or replicability. A good practice may be repeated and implemented successfully in other contexts different to the one in which it has been created (Corpas, 2014; Palmero et al., 2016). It does not need to be an exact copy of the initial good practice, but for a transfer to take place, Klofsten et al. (2010) believe that there are some elements that must be considered: The capacity of satisfying both the recipient and the sender; the sufficient quality for the recipient to find it valuable; a good relationship between sender and recipient for there to be a positive evaluation and feedback; and both the recipient and sender must share a common view on the success of the activity, practice or service. Gradaille & Carballo (2016) include the following aspects for a good practice to be transferred or replicated: Economic viability, that is, the economic resources needed must be supplied and these resources must be used in a useful way; internal viability, for example, the organization and the member of the team responsible for the practice must share the same views; technical viability, which means that there must be the necessary technical means for the project to be viable; environmental viability, which is connected with environmental sustainability and social viability. In short, a good practice should give a solution to the demands and needs of an area, region or country.

Third, transversality. This dimension means that a good practice should be of a globalizing and interdisciplinary nature, so that different areas of knowledge may be integrated and therefore, be more holistic. This may lead to a review of the methodologies used in the area of education (Gradaille & Carballo, 2016; Palmero et al., 2016) and of the policies applied.

Fourth, sustainability. A good practice should have the capacity to continue, maintaining its quality, through a period of time. According to Palmero et al. (2016), the minimum period is from three to five years. Gradaille & Carballo (2016) add the factors that are needed for a practice to be sustainable, which are an organizational, technical, economic and social structure. According to the International Labour Organization's (IPEC) guidelines (2001), this could involve the continuation of a project when the funding has expired or the creation of new attitudes or ways of working has been implemented. For a project to be sustainable there is a need for stakeholder engagement and support, that is, giving funds as well as having stakeholders in the consultation or even decision making.

Fifth, effectiveness or usefulness. A practice should have a positive and tangible impact on the student or society. Corpas (2014) links this factor with that of innovation. According to her, a good practice must be both innovative and effective, if not it would simply be a new trend.

Sixth, efficiency. Palmero et al. (2016) and Gradaille & Carballo (2016) analyse this factor together with that of effectiveness. Efficiency may be seen as the relation between the resources (human, physical and financial) used in the project, the money spent and the achievements attained. That is, to find a way to obtain the same objective with fewer resources and less money (Palmero et al., 2016) or for resources to be used to maximize the impact of the practice.

Seventh, impact. A good practice should have an impact on the university community and/or on society. Its outcomes are threefold: Educational, economic and social (UNESCO & UNEVOC, 2017): Firstly, educational, bearing in mind that the internships, training and future jobs of students should increase in number and quality. From an educational view, students should be more competent and better prepared. Secondly, economic as there should be an increase in employability and funds and finally, social due to the fact that a practice should provide a positive and sustainable development in the surrounding environment as well as an inclusive attitude and commitment to social inclusion, equality and justice. Good practices are not individual performances but need the implication of many agents, that is, the collaboration between professionals, organizations and citizens. A network that, according to Gradaille & Carballo (2016), may create renewed hope, support and compromise to generate small changes, which can improve individual and community life and welfare.

Eight, evaluation and monitoring. There must be a system of control to assess a good practice as to redefine the necessary objectives to ensure the relevance and the success of a good practice. Monitoring may help to identify the failure and success and enable to transfer a practice to other contexts. Moreover, self-assessment reinforces a practice by analysing all the factors, both positive and negative (UNESCO & UNEVOC, 2017). Evaluation and monitoring are essential factors in order to improve as well as being a way to judge the significance, flaws and/or benefits of a practice.

Practices could be divided into different levels, bearing in mind their sustainability and impact over time. Those practices which are starting, those that have demonstrated their success over time and those that have been replicated in different communities or in different places (International Labour Organization, 2001). Furthermore, good practices must be original, worth the money and inversion made, of both human and physical resources, as well as having a positive impact on students and on the social environment to connect academic life with a professional reality in order to create jobs and firms for the future graduates.

METHODOLOGY

The objective of this research has been to analyse, in depth, outstanding good practices in a selected number of Spanish universities, bearing in mind the relevant factors to identify good practices and according to the model of academic entrepreneurship at university faculties. The main aim is for universities to have examples of selected good practices so as to take them as benchmarks in order to progress as an entrepreneurial university.

Participants

For the first part of the project, the deans/directors of 567 faculties, schools and affiliated centres from 44 Spanish universities were invited to take part in this research. 76.19% were from public universities and 23.81% private ones. The criterion was that they were considered benchmarks in academic entrepreneurship in Spain (Observatorio IUNE, 2016).

According to their distribution in autonomous communities: 11.9% of the participants were from Galicia (N=10); 19.05% from Catalonia (N=16); 19.05% from Madrid (N=16); 13.09% from the Basque Country (N=11); 13.09% from Andalusia (N=11); and 13.09% from the community of Valencia (N=11). In reference to their areas of knowledge: 41.67 (N=35) belonged to Social Sciences and Law; 26.19% (N=22) to Engineering and Architecture; 7.14% (N=6) to Arts and Humanities; 15.48% (N=13) to Health Sciences; 7.14% (N=6) to Science and finally, 2.38% (N=2) to doctoral schools.

Table 1
FACULTIES AND/OR SELECTED CENTRES AND THE FACTORS IN WHICH THEY OUTSTAND

University	Faculty or Centre	Outstanding factor/s
University of Cordoba	Superior Technical School of Agronomy and Forestry Engineering	4 Training in entrepreneurship for faculty staff
University of the Basque Country	Faculty of Economics and Business Sciences	1 Legal and administrative context 2 Business context 3 Entrepreneurship funds 5 Inclusion of professionals from business and organizations in the development and delivery of the curriculum 9 Organizational design 11 Extra-curricular training 13 Internationalization
University of Deusto	Faculty of Economics and Business Sciences	5 Inclusion of professionals from business and organizations in the development and delivery of the curriculum 10 Training and research in entrepreneurship
Mondragon University	Faculty of Humanities and Education Sciences	5 Inclusion of professionals from business and organizations in the development and delivery of the curriculum 12 Active methodologies

University of Abad Oliva (CEU)	Faculty of Economics and Business Sciences	8 Support from the management team 10 Training and research in entrepreneurship 12 Active methodologies
University of Alicante	Faculty of Philosophy and Arts	10 Training and research in entrepreneurship
University of Pompeu Fabra	Faculty of Health and Life Sciences	12 Active methodologies

For the second part of the project, from the 84 participants that took part in the study, 7 were chosen for the qualitative analysis of good practices (Table 1).

Table 2 shows the punctuations of those universities chosen for this case study. The reason for this choice was that they had the highest scores (≥ 8.5/10) on the factors analysed in the study about the entrepreneurial university (Table 3). In bold the universities with the highest score can be seen.

Table 2
PUNCTUATIONS OF THE SEVEN SUBJECTS CHOSEN

University	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	Total
Basque Country	**9.67**	**8.8**	**10**	8.33	**10**	9.43	9.67	8.67	9	9.67	**10**	9.67	**10**	**9.45**
Deusto	7.67	6.6	6.67	5	**10**	9.29	9	9	8.25	**10**	9	8	8	8.19
Pompeu Fabra	6.33	4.2	7.67	7.67	9.33	9.43	**10**	9.33	5.75	6.67	6.25	**10**	8.5	7.78
Abad Oliva	6.67	6	6.67	6.33	8.67	9.71	8.33	**10**	7.25	**10**	**9**	**10**	7.25	8.14
Alicante	0.67	0.8	6.67	8.33	6	**10**	7.67	9.67	9	**10**	4.75	9.33	8.5	7.03
Cordoba	5	6.2	5.33	**9**	8	9	8.33	8.33	7	9.67	9.25	8.67	**10**	7.98
Mondragon	6.33	4.6	6	8	**10**	8	3.67	**10**	8.75	9.67	6.75	**10**	9.5	7.79

Table 3 shows the factors that form an entrepreneurial university and the levels measured using Cronbach's alpha.

Table 3
QUESTIONNAIRE ON THE FACTORS THAT FORM ENTREPRENEURIAL UNIVERSITIES AND LEVEL OF INTERNAL CONSISTENCY OF EACH BLOCK

1. Legal and administrative context: 1.1. Legislation 1.2. Financing 1.3. Public infrastructures	0.896
2. Business Context: 2.1. Financing 2.2. Technological level 2.3. Innovation level 2.4. Technological maturity 2.5. R&D budget	0.893
3. Entrepreneurship funds: 3.1. Funds for entrepreneurship teaching 3.2. Funds for research into entrepreneurship 3.3. Seed Capital	0.880
4. Training in entrepreneurship for faculty staff: 4.1. Training in entrepreneurship 4.2. Transfer of knowledge 4.3. Creation of spin-offs.	0.878
5. Inclusion of professionals from businesses and organizations in the development and delivery of the curriculum: 5.1. Participation in the main governing body of the faculty 5.2. Participation in development and delivery 5.3. Lecturers and guest professionals	0.889

6. Mission and strategy: 6.1. Presence in the mission 6.2. Objectives 6.3. Strategy on knowledge transfer 6.4. Strategy for university-business/organization partnership 6.5. Strategy for entrepreneurship 6.6. Strategies related to social responsibility 6.7. Monitoring and evaluation of results	0.876
7. Policies and procedures: 7.1. Policies and procedures on knowledge transfer 7.2. Policies and procedures for university-business/organization partnership 7.3. Policies and procedures for the creation of spin-offs	0.879
8. Support from the management team: 8.1. Support for entrepreneurship 8.2. Revenue for entrepreneurship 8.3. Presence on the agenda	0.887
9. Organizational design: 9.1. Connection between teaching and research 9.2. Decentralized decision-making 9.3. Bottom-up structure 9.4. Financial autonomy	0.890
10. Training and research in entrepreneurship: 10.1. Entrepreneurial skills in the curriculum 10.2. Specific programmers on entrepreneurship 10.3. Research	0.876
11. Extra-curricular training: 11.1. Raising awareness about entrepreneurship 11.2. Identification of opportunities 11.3. Business plan development 11.4. Launch of spin-offs	0.878
12. Active methodologies: 12.1. Use of active methodologies 12.2. Placements with entrepreneurs 12.3. Design and development of innovative educational resources	0.885
13. Internationalization: 13.1. Joint degrees 13.2. Research 13.3. Revenues 13.4. Mobility	0.892
14. Data relating to the faculty and university: In this last block, respondents were asked to provide data concerning the faculty/university, including: Issues related to activities and the frequency of participation in them; existence of and participation in centres for entrepreneurship; existence of and participation in entrepreneurship activities organized by the university; existence of faculty training projects.	N/A

All these factors are the basis of the questionnaire is the literature and validated in this study.

Methodological approach

In order to meet the research objective, first, a questionnaire was designed to measure the maturity of academic entrepreneurship in the faculties from a quantitative approach (Table 3). Second, a qualitative approach was adopted. Semi-structured interviews were conducted as the most appropriate technique to be able to gather information on the perceptions and opinions of the interviewees. For this study, seven good practices were analysed by interviewing the deans or the directors of the selected universities to have a better knowledge of the factors that form an entrepreneurial university. As the interviews were carried out to universities from different areas in Spain and from different areas of knowledge, this meant that the conclusions could be extended to other diverse situations and contexts. The contrastive use of both approaches (qualitative and quantitative) allows having a complete holistic view as the qualitative approach adds depth and understanding to the analysis (Hernández-Sampieri et al., 2006).

This quantitative study is based on the original instrument by Markuerkiaga et al. (2014), which consists of 14 factors containing mostly closed questions, with some open questions to allow participants to provide evidence and/or add comments and clarifications. The first thirteen factors required an answer, while block 14 was optional. The questionnaire was preceded by a section with the general and descriptive data of the faculty.

The questionnaire was validated in the first phase of the study by a total of 9 experts: University professors with experience in the area of entrepreneurship, who revised the questionnaire factors and items. This resulted in the final version. In addition, each of the factors (except the last one, because it was optional) was tested for internal consistency using Cronbach's alpha to show the accuracy of the factors measured (values higher than .875; Table 2). The questionnaire measured the self-perception of the respondents, who were not asked to provide evidence to support the objectivity of their responses.

The qualitative analysis was based on semi-structured interviews with questions taken from the qualitative questionnaire and the theory of good practices. In this part of the analysis, the deans and/or directors of the centres were required to give evidence to support their reply. These interviews allow to request clarification or to deepen in some aspects not possible in the quantitative approach. The answers were recorded on fact sheets that were elaborated ad hoc for this research. The data collected from each practice were the following: Priority area, type of action, history, objectives, description, results, lessons learned, sustainability, replicability and other factors that determine a good practice.

Procedure for data collection

The quantitative analysis was conducted online. The questionnaire was sent from the internal messaging system of the Qualtrics program (www.qualtrics.com) on 7 April, 2016. The first reminder was sent on 19 April, 2016 and the last one on 11 May, 2016. For the qualitative analysis, the interviews took place in the selected universities. First, during the first week of March, 2017 all the data was collected to decide on the structure of the interview. Second, during the month of April, 2017 the interviews took place. The aim was for the participants to share impressions, experiences, ideas, opinions and so on with the interviewers so as to gather as much information as possible that could help other institutions, trying to avoid preconceived perceptions during the interview so as to reach an impartial holistic view (Miles & Huberman, 1994). For both analyses, quantitative and qualitative, all the necessary steps were taken to respect the individual freedom to participate as well as to inform the participants of the objectives and characteristics of the research as how the results would be used (Bisquerra, 2009). Before starting each interview and following an ethical protocol, the participants gave permission to record their answers.

The criteria of validity of this study was supported by the triangulation of the researchers (different researchers conducted the interviews and contrasted the data obtained) and the triangulation of the methods (quantitative analysis based on the participant's perception of the factors that make up an entrepreneurial university and a qualitative analysis to give evidence to the former study).

RESULTS

In this section, the selected good practices are presented, bearing in mind the following criteria: The highest total average obtained in the quantitative analysis and geographic diversity. This is the reason why the universities selected are from two different autonomous communities.

University of the Basque Country (UPV/EHU)

The Faculty of Economics and Business Sciences from the Basque Country (UPV/EHU) started in 1955. According to the most recent data from the observatory of Research Activity from the Spanish University (Observatorio IUNE, 2016), it is one the most outstanding universities in terms of spin-offs, infrastructure, finance and incubators. It has to be highlighted that this university has had the highest average in all the factors analysed in the quantitative study of the entrepreneurial university (Table 2). Moreover, the Vice-dean of Quality is also of Entrepreneurship.

The University of the Basque Country, together with the Provincial Council of Biscay and BEAZ (https://beaz.bizkaia.eus), participates in a collaborative project called Zitek (http://emprendedoreszitek.com), to promote entrepreneurial activity among the university community (students, graduates, professors, researchers and administrative staff) of the UPV/EHU Biscay Campus in the process of starting up a new innovative business and/or technological base.

The strategic objectives of the program include the following: Increase cooperation between the university and the field of business; support innovative businesses and technology which may be generated from scientific research in the university; promote entrepreneurial activity in Biscay; support innovative business initiatives; offer a physical structure, infrastructure and services to start-up a business; and contribute to the economic development in the region and create employment. MassChallenge-Biscay, in collaboration with MassChallenge-USA and the Provincial Council of Biscay, is one of the outcomes of this program.

The University of the Basque Country leads in research and training in entrepreneurship for undergraduate, graduates and master students as well as in extra-curricular training. One of its main objectives is to foster entrepreneurship and the values of an entrepreneur within the university community. In order to respond to the demands of society, the university has the following objectives: Generate an entrepreneurial culture; spread an entrepreneurial culture; support the generation of ideas which may give rise to the creation of business initiatives; create a business fabric; accompany and advise people with a business idea; reward good entrepreneurial or business ideas and provide students with spaces for new companies (incubators).

In relation to the undergraduate, the University of the Basque Country collaborates since 2012 in the program StartInnova for the development and promotion of entrepreneurship, aimed at young people aged 16-17 enrolled in studies of secondary education or vocational training. The participants, in groups of 4-5 students and tutored by a teacher from their school, work in the development of a business or social entrepreneurial project. The objectives of the program include the promotion of the skills of the entrepreneur. The University of the Basque Country gives advice and is part of the Evaluation Committee of the projects and assists in the design of the application.

In relation to graduate students, the University currently offers two subjects related to entrepreneurship aimed at designing a technology-based or innovative business plan through the canvas business model or lean canvas. Lectures who impart these subjects use active methodologies, techniques and resources for the generation of ideas, case studies, videos and visits to incubators, contests, serious games and talks given by young entrepreneurs. Furthermore, students from different degrees can participate in the seminars such as “Hasten ikasten/Learning to be an entrepreneur”, in which during four days they can discover how to create a company, know experiences and lose their fear to make their dreams come true.

As extra-curricular training, since 2010 the University organizes the competition "Think" in each of its 3 campuses. This competition aims to promote an entrepreneurial culture for all the members of the university community interested in starting new business initiatives. The contest seeks to encourage students to apply their knowledge and professional experience, with the aim of developing products and services which are commercially possible. In addition, the Faculty organizes, since 2015, the Entrepreneur day and throughout each academic year, it offers four or five workshops for the creation of business plans.

Concerning post-graduate programs, entrepreneurship is fostered in the Master in Business Administration (MBA executive), Innovation and Internationalization Business Management, Corporate Communication, Entrepreneurship and Business Management and the Master in Biomedical Research. The latter was born in response to the creation of patents on procedures and treatments. Moreover, the subject "The creation of technology-based companies" has been implemented. Its competences are those associated to the acquisition of skills regarding the creation and the development of attitudes related to new technology-based companies as well as the knowledge of the methodologies employed in research into innovation management.

In addition, the University of the Basque Country (UPV/EHU) is immersed in research in entrepreneurship collaborating, since 2004, with the international project Global Entrepreneurship Monitor in European projects related to entrepreneurial education and in doctoral theses.

University of Abad Oliva CEU

The University of Abad Oliva started in 1973. In 1993, it moved to the Campus of Bellesguard, in Barcelona. It currently teaches in the areas of Law and Political Science, Business and Economy, Communication, Education and Humanities and Psychology. In this study, this University has had the third global higher average (Table 2), behind the University of the Basque Country (UPV/EHU) and the University of Deusto, but since both are located in the same region, the Abad Oliva was chosen.

The good practices of this university started around 2012 at the Faculty of Economics and Business Sciences, encouraged by students who were concerned with "entrepreneurial learning". In recent years, some professors organize and support activities in areas of entrepreneurship. Some of the objectives are to raise awareness and promote entrepreneurial culture; identify and train potential entrepreneurs among students; provide solid training in areas of economy and business; improve the preparation for entering the labour market; and develop skills and competencies related to the entrepreneur inside and outside the classroom.

These good practices outstand, among other factors, in support from the management team, the use of active methodologies as well as curricular and extracurricular training in entrepreneurship offered to all students, regardless of their studies. In regards to the extra-curricular training, the "Entrepreneurial UNIT" ("AULA emprende") coordinates the offer of the following program of activities with the aim of promoting entrepreneurship: Workshops for Entrepreneur Women; Family business meetings offered within the framework of the Chair in family business, entrepreneurship and creation of companies; Days of experiential entrepreneurship; CEU Entrepreneurial Summer Camp: It is an internal activity for students of the campuses in Madrid, Valencia and Barcelona. The Summer Camp lasts one week. In the morning, there are courses of entrepreneurial training where students, in groups, create their own entrepreneurial project and present it in front of a jury. There are visits to accelerators, incubators and companies in the afternoon; The Entrepreneur Club activities. It is a club founded by

students. The club, under the guidance of professors, carries out different activities during the academic year, such as workshops to develop entrepreneurial skills, talks with entrepreneurs, visits to companies, discussions and so on. It is a transversal activity open to all students of different degrees. It is noteworthy to mention that the entrepreneurship club promotes the activity Barcelona Thinking Challenge, a marathon of entrepreneurship with the participation of students from different universities and specialities and professionals from different sectors that must solve an "entrepreneurship case" with a social objective. In the latest edition, students had to answer how to reduce inequalities for people with disability and social exclusion. In addition to this activity, the entrepreneur club leads each year an after-work activity and a tripartite discussion about economy.

Referring to curricular training, entrepreneurship is offered in several degrees and post-graduate programs using active methodologies and resources such as case studies, experiential learning, simulations and the inclusion of professionals from the world of business and gamification. The university also offers internship with start-ups companies. It is important to emphasize the support of the management team, a factor in which this university is outstanding.

DISCUSSION

Considering the factors of good practices, the universities are significant in innovation and creativity. In the case of the University of the Basque Country, a special mention should be made to the program MassChallenge Biscay and the seminars "Hasten ikasten/Learning to be an entrepreneur" and the University of Abad Oliva promotes Barcelona Thinking Challenge, a reference forum for the sector of entrepreneurship.

They may be replicable in other areas or universities according to the demands and needs in relation to training for entrepreneurship. In particular, the University of Abad Oliva underlines the need to meet the following conditions in order to be able to replicate their practice in other contexts: Institutional proactivity, funding, support from the management team, network of contacts with business professionals and having a Foundation committed to the teaching of entrepreneurship at all levels of education.

As for transversality, attention must be drawn to collaborative work between professionals, professors and students of different degrees in the practices analysed, as well as the use of different methodologies. In the University of the Basque Country there is an emphasis on the use of active methodologies, techniques and resources, such as the generation of ideas, case studies, visits to incubators, videos, competitions, the use of serious games and talks given by young entrepreneurs. The University of Abad Oliva is also notable for the use of active methodologies, such as experiential learning, simulations or gamification. In addition, the Entrepreneur club is outstanding due to its multidisciplinary and transversal character managed by students of different degrees.

The practices are sustainable in time as the University of the Basque Country have been developed these practices for the past 10 years. In fact, there have also been previous degrees with subjects related to entrepreneurship. Similarly, the teaching staffs have been conducting important research in the area of entrepreneurship for many years. University professionals emphasize the importance of relying on the Dean's Board and management team support to perform actions for the promotion of entrepreneurial culture from an early age. Notwithstanding, the last steps and actions from the University of the Basque Country are an example of the sustainability of this practice, which is supported by the Provincial Council of Biscay. The University of Abad Oliva deserves a special mention as it has started funding to support the

contributions of students; acting as business angels. This fact enables the continuity of entrepreneurial practices.

There is no doubt that the analysed practices boost entrepreneurship education, allowing students to be familiar with entrepreneurship. All the activities presented can be considered as very positive both for society and for students and thus, useful for society. The University of Abad Oliva pays special attention to the social aspect of entrepreneurship.

The University of the Basque Country has been in the past years at the top in the rankings of observatories such as IUNE (Research activity at the Spanish University) and GEM (Global Entrepreneurship Monitor). Its offers in entrepreneurship have enabled the university to contribute to the generation of an entrepreneurship culture in Basque society by the creation of spin-offs and start-ups.

Regarding socio-economic impact, the University of the Basque Country has had since 2015 an incubator of junior companies, non-profit associations created by students in order to support the growth of innovative and technology-based companies. This enables to exploit research results produced at the university. In 2017, within the program MassChallenge Biscay, 12 start-ups have been generated, 3 of which belonged to Zitek. They were awarded with a trip to Massachusetts (MIT) to follow an intensive program on acceleration. Along with this milestone, in 2015 and by request of Zitek, the Master in Entrepreneurship and Management was implemented in order to contribute to the training for entrepreneurship. This has undoubtedly impacted the educational level.

The different activities of the University of Abad Oliva that are carried out have contributed to the acquisition of transversal competences, such as teamwork, planning, leadership and communication. The initiative Barcelona Thinking Challenge is especially significant as two of the initiatives, presented in the year 2016 by students, caught the attention of several managers, who have made their implementation possible. It is important to mention that this university has a very high employability rate, around 98%.

CONCLUSION

The entrepreneurial university plays a fundamental role in economic and social development. Given its importance, in recent years, its study has focused mainly on theoretical models. However, there is a need to identify the factors that contribute to the creation of the entrepreneurial university and moreover, to select good practices that serve as a reference for its implementation in other universities. This study offers a model that includes the factors that constitute an entrepreneurial university as well as the criteria that determine good practices. It also highlights a selection of two good practices, which could be replicable in other faculties and/or universities.

It is important to underline that the changes facing society today claim a continuous and thoughtful adaptation of the traditional education system. Therefore, universities are part of an entrepreneurial society in collaboration with companies, associations and institutions; making them participants of the entrepreneurial process. Universities have undergone different stages within entrepreneurship. That is, universities have shifted from doing research and education about entrepreneurship to the so-called “triple-helix”, that is, a university-industry-government network and thus, based on a knowledge-based economy and social engagement. Therefore, there is a higher implication for higher educational institutions to adapt to this new role.

After a review of the literature regarding the entrepreneurial university and based on the model by Markuerkiaga et al. (2014), the deans and directors of the different faculties of Spanish

universities have been interviewed about the factors that compose an entrepreneurial university, classified into three large blocks. First of all, the external factors that take into account both the institutional and industrial context. Secondly, the internal factors, such as the mission and strategy, organizational design, management support, policies, internationalization, extracurricular education and industry presence in curriculum development and delivery, funds for entrepreneurship, entrepreneurship education, staff development in entrepreneurship and active teaching methodologies. Finally, the third block includes the results of an entrepreneurial university, such as spin-off firm formation, student and academic spin-off firm formation, patenting and licensing, collaborative/contract research, consulting, training courses, industry mobility, information dissemination and networking.

With the aim of linking the university and the entrepreneurial world, this article includes different training activities, programs and methodologies that have impacted positively in society, stakeholder, students and the university community. To reach this objective the following criteria of good practices have been defined and selected for this project: Innovation, transferability, transversality, sustainability, usefulness, efficiency and impact.

Therefore, according to the academic model of entrepreneurial university and taking into account the criteria of good practices, two good practices in different Spanish universities have been selected and analysed: The University of the Basque Country and the Abad Oliva University. This analysis offers innovative, creative and replicable best practices and emphasizes transversal work between different professionals, teachers and students; the importance of the use of active methodologies; and the positive impact of these practices on an educational, economic and social level. They may contribute and encourage the generation and consolidation of an entrepreneurial culture.

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