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*ENTREPRENEURIAL ATTITUDES AMONG
ROMANIAN DOCTORAL STUDENTS.
AN EMPIRICAL STUDY*

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Entrepreneurial attitudes among Romanian doctoral students. An empirical study

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Abstract

The subject of entrepreneurial attitudes, orientation and potential of young students is one of great interest in approaching the way public policies can be designed in order to support and foster entrepreneurship among students. In addressing this need - with focus on doctoral students, and in the framework of other similar approaches in literature, we have conducted a survey in January 2012 and developed a sample-based study.

The papers aims to present and defend the results of this study, by emphasizing Romanian doctoral students' attitudes and facts concerning issues such as: entrepreneurial background, interest in entering entrepreneurship, ongoing steps if any, factors and motivations driving the choice of an entrepreneurial career. There are also investigated some personal characteristics (age, gender, family status) in relation with entrepreneurial approaches and there are also presented concluding remarks and policy recommendations.

Il tema delle attitudini imprenditoriali, dell'orientamento e del potenziale dei giovani studenti è di grande interesse nell'esaminare come le politiche pubbliche possano essere progettate al fine di sostenere e promuovere l'imprenditorialità tra gli studenti. Nell'affrontare questa esigenza – con focus su studenti di dottorato e nel quadro di altri approcci simili nella letteratura – nel gennaio 2012 è stato condotto un sondaggio e sviluppato uno studio basato su un campione.

Gli obiettivi del paper sono quelli di presentare e discutere i risultati di questo studio, sottolineando le attitudini dei dottorandi rumeni e risultati relativi a: background imprenditoriale, interesse a entrare nel mondo imprenditoriale, percorsi in atto e altri fattori e motivazioni che guidano la scelta di una carriera imprenditoriale. Si sono studiate alcune caratteristiche personali (età, sesso, stato di famiglia) in relazione con approcci imprenditoriali e si sono anche presentate osservazioni conclusive e le raccomandazioni politiche.

Keywords: Higher Education Institutions, entrepreneurial attitudes, public policies for entrepreneurship, entrepreneurial career

1 – Introduction

Interest in an effective approach on integrating university education and entrepreneurship has been

growing rapidly in the last decades, given that entrepreneurship acts as a main factor for national prosperity and competitiveness. In the same time, High Education Institutes (HEI) has comprehensive plans to adapt in time their educational offer to the economic

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challenges and to provide graduates with skills and knowledge with certain economic value.

Consequently, understanding entrepreneurial attitude of doctoral students proved to have an increasing importance in correct orientation of these efforts, to ensure maximum successful of doctoral programs. Entrepreneurship is now considered as a key competence, suitable in almost every situation. In academic environment, both for students and teachers, entrepreneurship validates the individual's ability to turn theory into action, to give practical understand to concepts as "creativity, sense of initiative, innovation, pro-activity, determination, independence, responsibility, risk acceptance and the ability to plan and manage projects" [1].

The purpose and objectives of this work is circumscribed to understand the process features and the PhD students' attitudes towards their future entrepreneurial career alternatives. Deep knowledge of the relationship between necessity and opportunity in the entrepreneurial approach could create opportunities to obtain valuable information about entrepreneurial success and could help to promote a genuine entrepreneurial spirit among the academic community, society and economy.

2 – Brief Overview on The Literature

Literature on entrepreneurship is consistent and diverse, examining the nature of entrepreneurship, motivation and predictors, gender differences, the influence of economic environment, education and personality, supportive measures and so on. However, understanding the link between entrepreneurship and doctoral pathway is less common in contemporary research. Thus, beyond the exceptional scientific background of PhD graduates, there are quite a few things known on the set of business skills and competencies held by them and how this set is desirable on the labor market or can be used in self-employment. Also, we found few studies on how PhD students and graduates can progress on entrepreneurial career as an alternative to academia, public institutions or large corporations.

Facing the growing challenges of the "knowledge economy", and the importance of innovation and strategic management, skills and competencies of higher education, doctoral or postdoctoral graduates become of a strategic importance in guiding the acquisition of skills by people able to combine scientific research with entrepreneurial skills. Obtaining doctoral degree remains a focal point for graduates and policy-makers, but interest begins to move to the final product "doctoral thesis itself" to the inherent value of qualified researcher, holder of a single set of high level skills.

According to Smith et al., Higher Education Institutions (HEI) have to be "more pro-active in

providing postgraduates with the opportunity to develop the core competencies they need to succeed in a competitive job market" [2]. From this point of view, it is essential that teachers, all people involved in career guidance and entrepreneurship education to be well trained, to have practical and theoretical skills to effectively manage processes of permanent training of graduates [3]. In many studies, the importance of entrepreneurship in the university environment is analysed in relation with identity, „that relate to their sense of personal and occupational identity" [4], both on doctoral students and also to their teachers. As a general assertion, the accumulation of knowledge and the pursuit of scientific research in a favourable academic environment are considered as the main drivers determining doctoral students and academic staff to get involved in entrepreneurial activity, "although some were categorised as reluctant entrepreneurs 'forced' into an entrepreneurial pathway as the only way to continue their scientific work" [5]. Other researchers consider that the implicit purpose for valorising research results and the academic standards are not neither fundamentally opposed, nor congruent, and the concept of academic capitalism is associated with a change of academic identity [6]. For others, this may be equivalent to a limitation of latitude in scientific research and even of academic freedom itself [7], [8].

The traditional view emphasizes the potential of doctoral studies to develop human capital to high standards in individual terms. On the other hand, we have to admit that the process of innovation and commercialization of research results is a process involving a range of stakeholders, and, in most cases, it is not expected that a researcher, a doctoral student or a recent PhD manage to set up a business, to launch a product or a marketing strategy, to negotiate, in the same way (and efficiency) as he or she carried out the research itself. A real help in aligning the highly qualified researchers with innovative potential and business requirements is increasing the number of spin-out companies. "These spin-outs, as demonstrated [...], frequently provide a vehicle for those with doctoral qualifications to pursue an entrepreneurial career path" [9].

The intentions of graduates and postgraduates entering the labour market are diverse, from academic and research careers, to public or private sector, and finally, establishing and developing own business. The literature contains substantial discussion on the added value of individual skills and employability of PhD holders (see, for example Hooley et al. [9] or Thrift [10]), and on the relative importance given by employers to such degree diploma [11]. According to recent researches, about 10% of doctoral graduates in Europe choose to develop their own business [12], and this proportion appears to be higher than the proportion of the first degree graduates acting as self-

employed [13], [10]. In 2010, according to the Global Entrepreneurship Monitor data for Romania, about 4.80% of Romanian entrepreneurs has postgraduate studies [14] and official data show that interest in doctoral studies in Romania is relatively high: the last five years recorded about 17,000 graduates, and figures presented by the Ministry of Education in Romania estimated around 3,500 places for doctoral studies, per year [15]. By comparison, in the European Union in 2010 there were granted around 100,000 titles of doctor in 2010. More than 70% of total titles were awarded in four countries: Germany (26,000), United Kingdom (19,000), France and Italy (12-13000 each) [16]. Obviously, an important share of PhD graduates in these countries are originated from developing countries, attracted by high-performance systems for education and future employment opportunities in these countries.

Empirical research has revealed a variety of situations and attitudes on entrepreneurship in doctoral community in HEI. Thus, in a survey on economist students in five European countries (Germany, Romania, Latvia, Italy and Austria) [17], researchers have found remarkable differences, both in the attitude toward entrepreneurship, and in the image of the entrepreneur. While students from Latvia were less tempted to consider themselves as potential entrepreneurs (and the image of entrepreneurship does not seem to have much importance for their future decisions), Romanian students tended to attribute high ethical standards to entrepreneurs and had the most positive image of entrepreneurs (compared with other countries). At the same time, Romanian students were also the most tempted to consider themselves as (potential) entrepreneurs, considering that the entrepreneur's social position in the economy and society will increase in the future. However, the results of this study have some limits, the authors pointing that "Exploring this [...] could also involve looking at whether there are differences in students' image of the entrepreneur depending on whether or not they have been educated in entrepreneurial thinking and conduct" [17].

From another perspective, using "identity as a lens through which to examine both employability and entrepreneurship as they are perceived by PhD researchers" [5], a research made on groups of PhD students and their teachers from China and United Kingdom has shown a wide range of acceptance of the relationship between entrepreneurship and the purpose of doctoral studies, both within and between groups, an awareness of the importance of entrepreneurial activity, confirming previous research that students (including PhD students) from Asia, Central and Eastern Europe give a more valuable place for the entrepreneur in society, and also as a career option. In the same time, this research shows serious concerns

about the conflict between the two social roles, researcher and entrepreneur [5].

Finally, according to a research on entrepreneurial attitude among doctoral students from the University of Osnabrueck (Germany), Marion Titgemeyer, and Gerold Holtkamp have found that a large majority of doctoral students are interested in starting their own business, and even they have already founded a business, in a larger proportion than bachelor/master students. In terms of gender, "female doctoral students have approximately the same interest to start business than male doctoral students, but, the share of male doctoral students having a business is higher than for female doctoral students". While for launching a business "females expect an advisor, males expect role models" [18].

3 – Aim, Methodology and Sample

As a part of a wider project investigating some relevant issues on the subject of entrepreneurial attitudes, orientation and potential of doctoral students, in order to support and foster entrepreneurship among students, we have conducted a survey in January 2012 and developed a sample-based study by emphasizing Romanian doctoral students' attitudes and facts concerning issues such as: entrepreneurial background, interest in entering entrepreneurship, factors and motivations driving the choice of an entrepreneurial career, gender.

Online questionnaire was applied during 9 to 18 January 2012 to all 110 doctoral students (in their first, second and third years of study.) and recently graduated doctors who have been financially supported by POSDRU projects (EU funded project on Human Resources Development), coordinated by the University of Oradea. The number of PhD students answering to the questionnaire was 88, with the following distribution by study area: Engineering Sciences 25, Philology 20, Geography 17, Economics 8, Biology 6, Medicine 5, History 5, Sociology 1. By the university where attending studies, the distribution is as follows: University of Oradea - 77 PhD students (88%), Aurel Vlaicu University in Arad - 6 PhD students (7%), Petru Maior University of Targu Mures - 5 PhD students (6%). Occupational status at that time was: doctoral students only (as grants beneficiary, so called "bursieri") - 23 persons (26%); employed in education and research sector - 42 persons (48%); employed in public sector - 8 persons (9%); employed in private sector - 5 (6 %); entrepreneurs - 3 (3%); other 7 (8%). By gender, 51% of the respondents were female and 49% male.

In this paper, we analyse the following issues:

- Future career intentions;
- Contribution of doctoral stage in improving employability and future earnings;

- Entrepreneurial and business start-ups intentions and previous experiences (if any);
- Types of entrepreneurial and business activities intended;
- Relation between the field of doctoral stage and the field of business start up;
- Perception of doctoral students concerning the importance and role of doctoral stage for a future entrepreneurial career.

4 – Results and Discussion

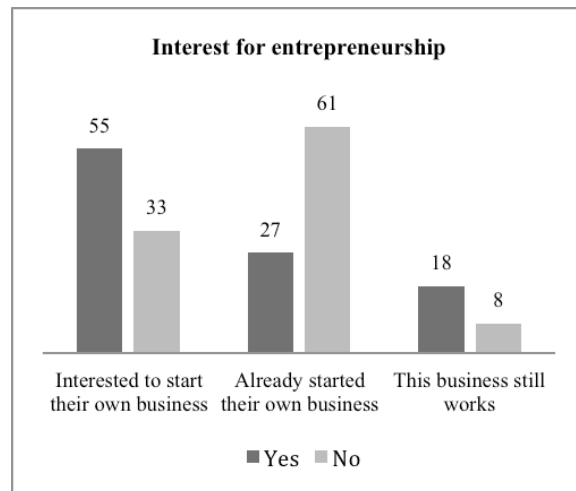
As already mentioned, most of the respondents, i.e. 74%, are, as occupational status, either doctoral students only (as grants beneficiary, so called “bursieri”) or already employed in education and research sector. Given that, there is not surprisingly the fact that, concerning the future career intentions of doctoral students, most of them desire to continue this career (those already involved in education or academic sector) or they are tempted to assume an academic career in the future. At the completion of their doctoral studies, 78% of them declare their desire to work in education and research, 8% in the public sector, 6% in the private sector and only 5% intend to set up their business. Compared to their current occupational status, we note that potentially there are only two possible shifts, i.e. towards the research and education sector and toward entrepreneurial activities; in the case of entrepreneurship, both the variation and the final weight appear to be insignificant.

Before acting as an option in entrepreneurship, holding a doctoral diploma is a necessity and an opportunity for employees in public sector, or private companies, but especially in education and research sector. Thus, an important issue of the analysis concerns the relationship between the doctoral stage and diploma and the employment opportunities and employability. For PhD students, targeting a doctoral title is related (in variable degree, depending on the economic sector indicated) to increased employment opportunities and wages. Respondents were asked to rank (on a scale from 1 – strongly disagree, to 4 – strongly agrees) their agreement with the statement: “doctoral stage improve my employability and wages in the field of ...”. Results calculated as weighted average of the responses indicate that the highest score (strongest agreement) was registered, as expected, for the field of education and research sector (3.41 score), followed by public sector (3.02), entrepreneurship (2.55), and employment in private companies (2.52). What it is surprising is not the spread between the place held by education and research sector compared with the next option (public sector), but rather the relatively low agreement in the case of education and research sector (compared with normal expectations), given that, in terms of employment, promotion opportunities and salary, working as academic

or researcher is definitely conditioned by holding a doctoral title. Entrepreneurship registers relatively high score, slightly above the private sector, meaning that PhD students are concerned on their future career and consider entrepreneurship as effective option for further career (Figure 1).

Almost two thirds of respondents (55 people, or 63%) affirm that they are interested in starting their own business, and 33 of them (37%) admit they are not interested. Moreover, the relatively high interest shown in starting their own business is confirmed by the actual situation, i.e. about one third of all respondents declare they have already started a business of their own, and a considerable number of these businesses (18 out of 27) still work.

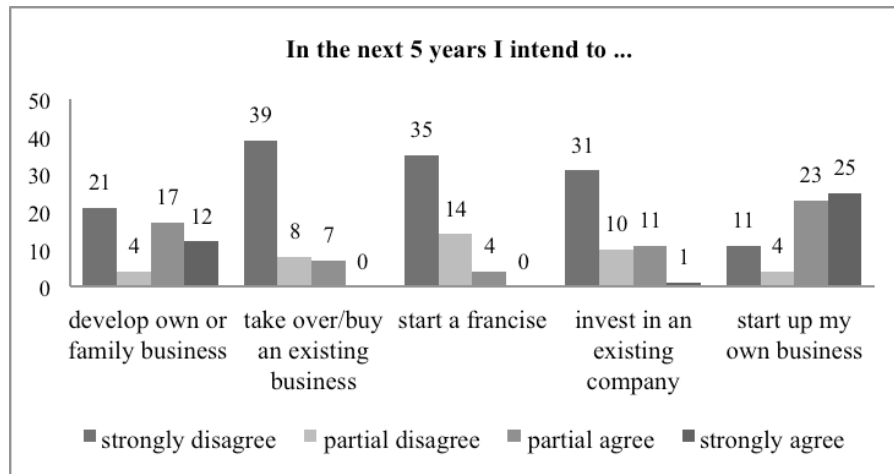
Figure 1. Interest for entrepreneurship. Source: own calculations, based on the dataset



Most of the interviewed PhD students are interested, at least at declarative level, to start a business, but the form this business will run appears to raise greater problems than a simple affirmative option. Going deeper, we questioned the respondents to detail and explain their entrepreneurial options (agreement/disagreement), by offering them five pre-defined options: developing of existing business in the family; taking over an existing business; entering into a franchise; investing in an established business; and finally - the most riskiest option - to start their own business. For each of these options, doctoral students were asked to express agreement / disagreement on a scale with four levels, from 1 – strongly disagree, to 4 – strongly agree (besides these, respondents could choose not to answer the question) (Figure 2). The results were quite surprising. Thus, for all five entrepreneurial choices we have recorded a large number of non-responses (between 28% and 40%). Considering only those respondents effectively answering to the question (i.e. excluding non-responses), we notice that most of them pointed out their partial or total dis-

agreement. Thus, taking over an existing business or entering into a franchise are simply not considered as a business alternative (although they are often recommended for your and inexperienced entrepreneurs).

Figure 2. Types of entrepreneurial / business related intentions. Source: own calculations, based on the dataset



The lack of interest for the first three choices (i.e. developing of existing business in the family; taking over an existing business; entering into a franchise) could be counterbalanced by the propensity for classical entrepreneurship, but neither this choice have not reported significant agreement, i.e. only 25 “strongly agreement” responses (40%). As a partial conclusion, we can state that, either PhD students remain “captive” in theoretical sphere and do not really understand actual forms of entrepreneurship, either their agreement is formal and declarative - facing a tougher choice, they prefer not to answer and dismiss the proposed alternative. A significant part of PhD students (59%) state that they are tempted to start an entrepreneurial career, and even have already undertaken some steps in this direction, and this business is to be outlined in their doctoral studies and concern (58%). Deeper analysis shows, however, that the quasi-similarity of the two figures (59% vs. 58%) do not necessarily describe the desire for an entrepreneurial career based on doctoral skills and knowledge. Thus, only 37 answers (from 52, i.e. 65%) admit that this intended business would be linked to their PhD, and the rest, over one third, considering this business will be in other areas, not directly related with their doctoral studies.

In terms of gender, the extent to which female and male are tempted to start (and even have already started) shaping an entrepreneurial career, are very similar (49% females and 51% males).

The largest gender differences occur when respondents indicate whether their business (even in early stages) have, or will have, a direct relation with the field of their doctoral studies. Compared with the general percentage of PhD students with business in areas related to their doctoral studies of 65% (mentioned above), the figures for women drop to 50%, i.e. only half of the female PhD students’ entrepreneurial intentions have something to do with the advanced skills and competences they acquire during the doctoral stage. On the other hand, the men’s percentage is much higher; about 87% of male doctoral students tempted to launch an entrepreneurial activity state that this is related to doctoral studies they are following (Table 1).

Beyond simple gender differences, these responses raise two issues:

a. The extent to which entrepreneurial option is logically and honestly correlated with the doctoral stage, i.e. whether promoting entrepreneurship

choices for future career is only a trendy way of thinking, remaining on a declarative stage in doctoral student’ speeches and formal declarations; in fact, they prove to be much more interested in academic career or enjoying the benefits offered by a doctoral diploma for people employed in the public sector;

b. If the entrepreneurial intentions turn real and became effective entrepreneurial careers, the fact that most of the entrepreneurs holding a doctoral diploma will not effectively use the high scientific knowledge and skills acquired during their doctoral stage reflects, somehow, a waste of resources, both on personal and societal level.

Propensity for business start-ups differs, as expected, according to PhD domain. Most interested to start a business in the field of their doctoral studies are, by far, doctoral students in engineering sciences (92%) followed by geographers (71%) and economists. Doctoral students in medical sciences, philology and history appear to be less interested in starting a business. The same trends are found when asking doctoral students to evaluate whether the doctoral stage helps them in choosing an entrepreneurial career: future doctors in engineering (96% of them), geography (71% of them) or economics (75% of them) consider that skills and competences acquired during the doctoral stage would support and help them in entering the entrepreneurship and developing their business.

Table 1. Doctoral field versus business sector for entrepreneurship. Source: own calculations, based on the dataset

	YES		NO		Total
	Number	%	Number	%	
Doctoral students have already undertaken steps in starting a business, total	52	59%	36	41%	88
Out of which:					
female	22	49%	23	51%	45
male	30	51%	13	49%	43
Doctoral students stating their future business in the field of their doctoral studies, total	37	65%	15	35%	52
- Out of which:					
female	11	50%	11	50%	22
male	26	87%	4	13%	30

The explanation of these optimistic responses for engineers and economists relies with the nature itself of their field and economic sector working into, and much larger opportunities for economic and entrepreneurial involvement in the so called “real economy”, i.e. in the production of tangible goods and industrial services. In the case of geographers, the high rates reported could be related to their interest and initiative in interdisciplinary areas such as tourism. The tourism sector is considered having an important development potential for small businesses and many Romanian HEI successfully developed bachelors and doctoral programs in the field of tourism and hospitality.

5 – Conclusion

Achieving and transferring knowledge and skills with economic value should be a constant concern both for HEI and policy makers, for public institution and private employers. Undergraduate, postgraduate and especially doctoral stages should not be limited to acquiring high scientific knowledge, but also should consider how ideas, innovations, research can be honestly and motivating marketed, as to give real value to human capital investment.

Creating “doctoral entrepreneurs”, based on strategic policies and not as result of individual initiatives of doctoral graduates, could be integrated in such efforts. The high skills held by this select group of people, their training in research and innovation, the high qualifications and opportunities to insert in high efficiency and innovative driven economic sectors should help to motivate and focus the interest of economic decision makers, policy and academics. Our research showed a significant interest of young doctoral students to acquire skills, to use them in their future career, whether they will follow an academic career, would be employed in private or public sector or will start and run their own business.

The aim of studying doctoral stages with reference to doctoral students’ future business options is clearly focused on understanding the attitudes and behaviour towards entrepreneurship, as to avoid redundant, common or formal information, and, finally, to provide arguments for policies promoting a genuine and effective entrepreneurial spirit among academics, as part of the society. Our research also revealed the existence of

a formal and declarative interest of some doctoral students for the business sector, and superficial knowledge of the realities and requirements for an entrepreneurial career. The fact that most of the doctoral students consider the doctoral stage and diploma as a condition or an asset in their career promotion and higher wages is, in reasonably limits, normal. What should worry is the great proportion of doctoral students not interested in entrepreneurship in a practical manner, although they have previously proclaimed it as a possible option for the future. Another concern regards the fact that significant entrepreneurial intentions of doctoral students are not directly related to the doctoral field and would not use the knowledge acquired as doctoral student.

Of course, it is important to recognize the fact that the relationship between doctoral degree and entrepreneurship goes beyond empirical approaches developed in some universities (such this research) or within business environment. Revealing some features of this relationship, emphasizing stronger the role of doctoral entrepreneurship on the academic concern map, could be a good step forward and a challenge for future research and economic policy measures.

The limited sample and objectives of our research did not allowed us to capture the extent to which entrepreneurial approach is likely to materialize within the HEI, but we strongly consider that these opportunities exist and wait to be supported by internal reforms, integrating entrepreneurial courses in academic university curricula etc. Thus, in our opinion, a fair and realistic attitude of doctoral students toward entrepreneurship could significantly improve, generating positive impact on the development of Romanian society and economy.

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