

Bogdan BRUSTUREANU
University “Politehnica” of Bucharest

SURVEY ON ENTREPRENEURIAL ATTITUDES AND BEHAVIOR WITHIN UNIVERSITIES

Empirical
study

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Abstract

The paper presents a series of results obtained through a pilot survey applied to academics from a department of a state technical university and to leadership representatives of a private university in Romania. The survey is based upon an original conceptual framework aimed at analyzing the entrepreneurial attitudes and behavior within universities. The conceptual framework was elaborated by transferring and adapting to the university setting concepts that are relevant in the business environment. More precisely, the framework is drawing on Stevenson’s conceptualization of entrepreneurial management and on the approach of the entrepreneurial phenomenon through the social networks of the entrepreneur, developed by Bengt Johannisson. The analyses are aimed at obtaining quantifications of some features of university people entrepreneurial behavior: the degree of engagement in personal networking within the higher education system and with the business community representatives and the intention of initiating a venture.

Introduction

This paper presents a series of results obtained through a pilot survey applied to academics from a department of a state technical university and to leadership representatives of a private university in Romania. The survey is based upon an original conceptual framework aimed at analyzing the entrepreneurial attitudes and behavior within universities.

Brustureanu & Scarlat (2014) introduced and described elements of a conceptual framework meant to analyze the entrepreneurial attitudes and behavior within universities. The conceptual framework relied on theories developed in the frame of entrepreneurship studies field, i.e. Stevenson's conceptualization of entrepreneurial management (1983, 1985, 1990) and Johannisson's approach to entrepreneurship through the personal networks of the entrepreneur (1987a, 1987b, 1988, 1998).

The conceptual framework is aimed at gathering theoretically based knowledge in order to be able to transform the institution and to develop the individual entrepreneurial frame of mind, taking into account that, by design, a university is not an organization suited for the pursuit of business opportunities. Through the framework one can observe the existing patterns of individual behavior and the organizational culture and strategic choices. Then, by using the theoretical prescriptions, an entrepreneurial behavior and a favorable organization could be replicated easier. The general approach in the elaboration of the conceptual framework was that of drawing on concepts developed in the field of entrepreneurship studies and trying to apply them to the university setting, being supported in this effort by practical examples presented in the literature focusing on the entrepreneurial university or on academic entrepreneurship (Brustureanu & Scarlat, 2014).

Stevenson's conceptualization contributes to the framework on organizational aspects (the strategic orientation and the entrepreneurial culture) and also the role of the individual within the organization. But it does not respond to other important questions regarding the individual behavior.

In what follows there are presented results based on Johannisson's approach to entrepreneurship, which offers a useful insight in the way the individual entrepreneur builds its firm. More precisely, in a series of papers he analyzed the role of social networks in the business formation. The conceptual framework is extending these concepts to the university setting; in order to describe the way an academic could try to develop a specific entrepreneurial project.

Analyzing the way entrepreneurs act in the business environment, Johannisson (1987a) identified the role of informal structures in putting into action what he called "dynamic resources such as willpower and enthusiasm" within organizations. He identified processes that are unfolding into business companies in which informal structures are "voluntarily created by organization members" and are functioning alongside formal structures in "the continuous flows of activities within an organization". Can one identify such structures in the university setting? One role of the conceptual framework is to identify if university people are acting in a similar manner or not.

One important concept developed in the field of entrepreneurship studies is that of familiarity with a particular setting. Jones and Casulli (2014, p.50) show that the decision to internationalize a company is influenced by the "familiarity with a particular kind of institutional context" and emphasized that "repetition develops familiarity with the setting and the types of problems encountered in that setting". In a similar manner an academic will get involved into entrepreneurial action if he/she will repeatedly interact with the business environment.

The concepts of egocentric and sociocentric networks that are used by Johannisson in his conceptualization of entrepreneurship are familiar to the university people. It is an undisputed fact that each academic has its own network within the university system consisting of people to whom he/she cooperates in diverse scientific projects, whether these are connected to teaching or research. Also the sociocentric network can be naturally defined as collective of academics who relate on scientific issues. If the business component in a professor's activity were enhanced, these networks and their extensions outside the university environment could be involved in entrepreneurial processes (Brustureanu & Scarlat, 2014).

Thus, one comes to the research questions of this paper. Are the academics using personal networks for the involvement in business activities? Are there any similarities between the academics' behavior and that of business entrepreneurs in terms of personal contacts or not? Are the academics discussing business initiatives on a regular basis?

This way there will be obtained a series of theoretically-based measurement instruments, and a possibility to avoid as much as possible the experimentation in the process of institutional transformation (Clark, 1998).

The research design

The data for the analyses was gathered through a survey of the academic and non-academic staff in two universities - one public and

one private - based on a questionnaire developed using the conceptual framework specific to the higher education system.

The questionnaire was addressed to academics, whether having leadership experience in the university setting or not. Also the questionnaire can be addressed to other persons that unfold activities within the university setting and could be involved in entrepreneurial projects, i.e. doctoral students and non-academic staff.

The questionnaire allows for the development of measurement instruments regarding the interest for entrepreneurship manifested by the academics. This is the basis for further research having as goal the increase in the level of entrepreneurship, i.e. the number of pursued opportunities (Stevenson & Jarillo, 1990).

The overall objectives of the pilot research were:

- observing and analyzing the attitudes of the university people towards some management and entrepreneurship concepts, which could be determining for the success or failure of a process of entrepreneurial transformation in a higher education institution;
- gathering quantitative, measurable data regarding the entrepreneurial behavior of the university people (characteristics of their networking with other academics and representatives of the business community) and comparing them with data obtained in similar research that have at their core entrepreneurs acting in the business world.

In this paper there are presented results regarding the individual behavior of academics, the way they engage in personal networking both with their peers and with business persons. Also, there are discussed a few ideas regarding the academics' intention to develop a business initiative.

The first questions refer to the personal networking of an academic, quantified by the average number of hours per week allocated for developing new contacts and maintaining the existing ones. The variable measured this way is called the degree of engagement in personal networking.

The conceptual underpinning for this approach is the characteristic of the networks of entrepreneurs identified by Johannisson (1998, p. 305): „entrepreneurs using at least 5 h a week for developing new contacts”, and „Entrepreneurs using at least 5 h a week for maintaining existing contacts”, respectively.

In the case of university people these characteristics can be structured on two directions:

- The networking within the higher education system with peers;
- The networking outside the university setting with representatives of the business community.

The first of these two directions is not directly connected to the entrepreneurial

phenomenon, but it shows a personal trait, a potential of development. In the case of university people who at this moment are not concerned with pursuing an entrepreneurial path, the existence of an interest in developing new professional contacts and maintaining the existing ones within the university setting can be regarded as a first, necessary step, which can be followed by an opening toward the economic environment.

On the other hand, the characteristics of academics' personal networks on the second direction are directly comparable at a quantitative level with the results obtained for the entrepreneurs acting in the business world.

It is interesting to notice in this sense a research result obtained by Nicolaou & Birley (2003) regarding academics having significant business involvement. Thus, they studied the spinoffs founded by university inventors and divided them into two categories after the way the founder chooses his career path: leaves the university after founding the company or remains an employee of the higher education institution. The authors found that this choice of career path was dependent upon the weight carried by the social ties within the business community compared to those within the university setting.

Following Johannisson's conceptualization of entrepreneurship one could analyze the primary network of an entrepreneur professor “the five most important members of their personal networks, those they preferred to talk with about their business as existential and economic projecting” (Johannisson, 1998, p. 304). An entrepreneur professor with a primary network consisting (mostly) of members from the business community would probably choose to leave university and pursue a business career (Brustureanu & Scarlat, 2014).

Other two questions refer to discussions regarding a business initiative with at least five persons within the last six month. Thus, it is defined as variable the intention to develop a business initiative, foremost at individual level, but it could be also quantified, aggregated at department / faculty level.

The conceptual underpinning for the formulation of these two questions was a characteristic of the personal network of the entrepreneur identified by Johannisson (1998, p. 305): “entrepreneurs having discussed the venture with at least five persons over the last 6 months”. By formulating these questions it is sought the existence of some similarities between the behavior of entrepreneur and that of academics, but also if there any characteristics specific to the setting.

An ordinal classification of the individual answers to these questions as follows:

- He/she has not discussed a business neither within the institution nor outside the university setting:

“NO/NO” – it shows a lack of entrepreneurial intention;

- He/she has not discussed a business within the institution, but has done that outside the university setting: “NO/YES” – it shows the existence of an entrepreneurial intention, but outside of the institutional framework (it is of interest to design other experiments, formulating other variables, the cause of such attitudes);
- He/she has discussed a business within the institution, but has not done that outside the university setting: “YES/NO” - it shows the existence of an entrepreneurial intention connected to the institutional framework to which the academic belongs;
- He/she has discussed a business within the institution, and also outside the university setting: “YES/YES” – it shows the existence of a pronounced entrepreneurial intention, independent of the institutional context.

Beyond the individual level, through a percentage type calculation, one can obtain a rough measurement of the entrepreneurial intention at department level or more general at organization level expressed by the discussion of such an initiative.

Findings

The networking within the higher education system with peers was analyzed comparatively for academics from a department of a state technical university and to leadership representatives of a private university. The results are presented in Table No.1.

In the case of the department of a state technical university one can observe close values of the average, the mean and the mode, both regarding the development of new contacts and maintaining the existing ones. It is to be mentioned though that there are differences regarding the value of the standard deviation. This is relatively low for the new contacts, thus the values are close to the average, but it is higher regarding the maintaining of contacts.

On the other hand, in the case of the leadership representatives of a private university one can observe a significant difference between the values of the average, on the one side, and the values of the mean and the mode, on the other side. This is caused by the existence of two “populations” inside this group, one that represents the majority and gives the value of the mode or has values close to this, and the other, a minority that has values much higher.

There were formulated four hypotheses regarding the repartition of the values considered to be normal (Gaussian) and it was applied the Shapiro - Wilk test for their verification, which is specific to low volume selections ($10 < n < 50$). If the p - value was lower or equal to 0.05, then the

hypothesis was rejected. Otherwise, if the p - value was higher than 0.05, then the hypotheses were accepted. For the values representing the number of hours allocated for developing new contacts and maintaining the existing ones within the higher education system, all four normality hypothesis were rejected.

The networking outside the university setting with representatives of the business community was also analyzed comparatively for academics from a department of a state technical university and to leadership representatives of a private university. The results are presented in Table No.2.

Similar to the situation presented above, for the contacts with the business environment in the case of the technical university department, one could observe close values of the average, the mean and the mode, both regarding the development of new contacts and maintaining the existing ones. Also the values of the average and the mean are close in the case of the leadership representatives of a private university. It is to be mentioned though that the mode is much lower regarding the development of new contacts, which reflects the existence of a “population” that allocates a much smaller number of hours to this activity.

For this data also there were formulated four hypotheses regarding the repartition of the values considered to be normal (Gaussian) and applied the Shapiro - Wilk test for their verification. In this case though, the result was different. Two hypotheses of normality afferent to the sets of data regarding the technical university department were accepted with p - values of 0.3689 and 0.08611, respectively.

Table 3 presents a rough measurement of the entrepreneurial intention at department level or more general at organization level expressed by the discussions regarding a business initiative. There are slight differences between the two groups of academics whose answers are compared. To be mentioned the difference at the “class” of answers “NO/YES” (the existence of an entrepreneurial intention, but outside of the institutional framework) with six choices (37.5%) at the technical university department and only two (14.3%) for the leadership group of a private university. Also to be mentioned that in the case of the technical university department no one had the choice “YES/NO” - the existence of an entrepreneurial intention connected to the institutional framework to which the academic belongs.

Further research

This being only a pilot research there is not enough data in order to have conclusive results, but at least two important lines of research can be projected.

The first one is straight forward and refers to comparing data obtained for entrepreneur professors with those regarding the entrepreneurs acting in the business environment (Johannisson, 1998). For example, one could compare the sets of data regarding the new businesses that are discussed or those regarding the degree of engagement in personal networking. Are there any similarities or differences between the personal networks of entrepreneur professors and those of entrepreneurs activating in the business environment?

The second one needs an explanation. The variables presented in this paper and others that are derived from the conceptual framework represent input type indicators. The intention to initiate a new business will not always result in a viable company or in a long term university-industry relationship. As more data is gathered, there can be done comparative analysis with outcome type indicators such as those deriving from the results of entrepreneurial activities carried out in universities. For example, there could be obtained data regarding the results of entrepreneurial activity. One could use a classification of entrepreneurial activities as that proposed by Louis, Blumenthal, Gluck, & Stoto (1989): earning supplemental income outside the university, mainly through consulting (knowledge transfer for personal gain), soliciting funds from industry (capitalizing on university-industry relationships to provide new sources of funding for research), patenting the results of research, and forming companies based on the results of research.

Conclusions

The paper has presented quantifications of some features of university people entrepreneurial behavior based upon the conceptual framework drawing on theories developed in the frame of entrepreneurship studies field:

- The degree of engagement in personal networking within the higher education system and with the business community, and
- The intention of initiating a business.

Thus, there were analyzed comparatively data coming from the answers to a questionnaire provided by academics from a department of a state technical university and leadership representatives of a private university:

- The networking within the higher education system with peers, and
- The networking outside the university setting with representatives of the business community.

There was also quantified the intention to develop a business through the discussions about possible ventures initiated by academics within the university setting and/or outside of the institutional framework.

It can be concluded that the academics are using personal networks for the involvement in business activities. It can also be stated that academics are discussing business initiatives on a regular basis.

The concrete examples and the analyses performed thus far confirm the conclusions drawn at a conceptual level by Brustureanu & Scarlat (2014): universities can be at the core of innovative processes through individual actions fostered by organizational solutions oriented entrepreneurially. Although the universities are not organizations that are designed to pursue business opportunities, the concepts identified for other arenas, the local community or the corporation, could be adapted and used in this setting.

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Appendices

Appendix A

Table No. 1

Interpersonal contacts within the university setting (the situation of a department from a state technical university and to leadership representatives of a private university)

<i>Organizational structure</i>	<i>Average number of hours allocated per week</i>				
	<i>Average</i>	<i>Mean</i>	<i>Mode</i>	<i>Standard deviation</i>	
<i>Technical university department (N=16)</i>	<i>3,375</i>	<i>3</i>	<i>2</i>	<i>1,59</i>	<i>New contacts</i>
	<i>5,44</i>	<i>4</i>	<i>4</i>	<i>4,49</i>	<i>Maintaining contacts</i>
<i>Private university leadership (N=14)</i>	<i>4,78</i>	<i>2,5</i>	<i>2</i>	<i>4,28</i>	<i>New contacts</i>
	<i>4,36</i>	<i>2,5</i>	<i>2</i>	<i>3,86</i>	<i>Maintaining contacts</i>

Note. N = the total number of responses

Table No. 2

Interpersonal contacts within the university setting (the situation of a department from a state technical university and to leadership representatives of a private university)

<i>Organizational structure</i>	<i>Average number of hours allocated per week</i>				
	<i>Average</i>	<i>Mean</i>	<i>Mode</i>	<i>Standard deviation</i>	
<i>Technical university department (N=16)</i>	<i>2,5</i>	<i>2</i>	<i>2</i>	<i>1,63</i>	<i>New contacts</i>
	<i>3,93</i>	<i>4</i>	<i>4</i>	<i>2,77</i>	<i>Maintaining contacts</i>
<i>Private university leadership (N=14)</i>	<i>4,64</i>	<i>4</i>	<i>2</i>	<i>3,3</i>	<i>New contacts</i>
	<i>4,64</i>	<i>4</i>	<i>4</i>	<i>3,77</i>	<i>Maintaining contacts</i>

Note. N = the total number of responses

Table No. 3

Discussions regarding a business initiative within the university setting and outside the institutional framework (the situation of a department from a state technical university and to leadership representatives of a private university)

<i>Organizational structure</i>	<i>Discussions regarding a business initiative</i>				
	<i>"NO/NO"</i>	<i>„NO/YES"</i>	<i>„YES/NO"</i>	<i>„YES/YES"</i>	
<i>Technical university department</i>	4	6	0	6	<i>N=16</i>
	25%	37,5%	0%	37,5%	<i>percent</i>
<i>Private university leadership</i>	3	2	2	7	<i>N=14</i>
	21,4%	14,3%	14,3%	50%	<i>percent</i>

Note. N = the total number of responses