THE EMERGENCE OF UNIVERSITY GRADUATE ENTREPRENEURS: WHAT MAKES THE DIFFERENCE?  
EMPIRICAL EVIDENCES FROM A RESEARCH IN ARGENTINA

Hugo Kantis\textsuperscript{1}  
Sergio Postigo\textsuperscript{2}  
Juan Federico\textsuperscript{3}  
María Fernanda Tamborini\textsuperscript{4}  

\textsuperscript{1} Program for Entrepreneurial Development-Universidad Nacional de General Sarmiento  
J.M. Gutierrez 1150 (1316), Los Polvorines, Argentina. Tel./Fax: +54 11 4469-7581  
E-mail: hkantis@ungs.edu.ar

\textsuperscript{2} Karel Steuer Chair in Entrepreneurship, Universidad de San Andrés-Vito Dumas 284 (1644), Victoria, Argentina. Phone: +54 11 4725-7068  
E-mail: spostigo@udesa.edu.ar

\textsuperscript{3} Program for Entrepreneurial Development-Universidad Nacional de General Sarmiento  
J.M. Gutierrez 1150 (1316), Los Polvorines, Argentina. Tel./Fax: +54 11 4469-7581  
E-mail: jfederic@ungs.edu.ar

\textsuperscript{4} Karel Steuer Chair in Entrepreneurship, Universidad de San Andrés  
Vito Dumas 284 (1644), Victoria, Argentina. Phone: +54 11 4725-7044  
E-mail: ftambori@udesa.edu.ar
ABSTRACT

In the context of the knowledge society new ventures founded by graduates are called to play a critical role as agents of change. This potential role is especially crucial in emergent countries such as Argentina where existing firms do not play an important role as “organizational incubators” for new entrepreneurs. By the other hand, recent research in Latin American countries has found that half of the most dynamic entrepreneurs have an university degree. These evidences have led us to formulate some questions about the process of emergence of these university-based entrepreneurs: Which are the distinctive characteristics of it to be considered by those who promote entrepreneurship in universities? What is the contribution of universities to the emergence of entrepreneurs? The results contribute to enlarge the knowledge about the entrepreneurial process in Latin America with especial focus in the more distinctive aspects differentiating the emergence of university degree founded new ventures.
INTRODUCTION

There is wide-spread consensus about the importance of new businesses for modern economies. The globalization of markets, the so-called ‘new economy’, and the scientific and technological revolutions in communications and computer science, are signs that the sources of economic growth in today’s world are very different from the past (OECD, 2000).

In this scenario, where innovation and knowledge are the key notes in growth and economic development, new businesses play a leading role as generators of innovation. They are at an advantage over more established firms in being able to adapt more quickly to the new context’s continuum of change. Several studies in various countries show that new businesses, especially the most dynamic, are an important source of employment growth and innovation. They revitalize the productive fabric, relaunch the regions and channel society’s creative energies (Audretsch and Thurik, 2001; Kantis et al., 2002; OECD, 1999 and 2001; Reynolds et al., 1999, 2000 and 2001). There is also a growing consensus that, in the knowledge and information society, education is one of the key variables in the emergence of new enterprises and their development prospects.

The relationship between education and new firms has been examined at length in various different studies in the subject’s international literature. Based on general population samples, some of these studies have found a positive relationship between individuals’ educational level and their inclination to be enterprising (Cowling and Taylor, 2001; Delmar and Davidsson, 2000; Gill, 1988; Karcher, 1998; Lasource and Salas, 1989; Rees and Shah, 1986; Robinson and Sexton, 1994). Another group of works studies different types of entrepreneur, such as those who are technology-based and have a relatively high level of education (Colombo and Delmastro, 2001; Litvak and Maule, 1976). There is also a series of surveys designed to evaluate the impact of entrepreneurial university courses and the businesses set up by university leavers (Charney and Libecap, 2000; Clark et al., 1984; Deschoolmeester et al., 1997; Kolvereid and Moen, 1997; Levie et al., 2001; Lüthje and Franke, 2002; Tackey et al., 1999; Upton et al., 1995).
This growing interest in the relationship between entrepreneurs’ education, their businesses and prospects of success, is evidence of the growing importance of graduates and undergraduates as ‘source of potential entrepreneurs’, especially in terms of encouraging the emergence of new knowledge and technology-based businesses (Veciana, 2002). In recent years governments have been implementing various schemes and initiatives designed to develop universities’ and research institutes’ potential in for setting up such businesses⁵.

Numerous universities have grasped the significance of this phenomenon and have included in their undergraduate and postgraduate programs content and initiatives designed to encourage a cultural change in their students, to value entrepreneurship as a personal and professional development alternative, and encourage closer relations with the productive sectors. Various authors have drawn attention to the worldwide increase in the number and import of entrepreneurship programs over the last 25 years, as well as to the emergence of research centers in the field, as a response to universities’ concerns and the growing demand for such courses (Fayolle, 1998; Flinke and Deeds, 2001; Kolvereid and Moen, 1997; Lüthje and Franke, 2002; Vesper and Gartner, 1997)⁶.

Businesses set up by university graduates are particularly crucial in emerging countries like Argentina and Latin America because the industrial structure consists of traditional firms with relatively low or moderate technological content. Such firms do not play a significant role as ‘incubators’ for dynamic new entrepreneurs.

Argentina has some of the greatest potential for the emergence of such young entrepreneurs with growing university entries during the last 20 years⁷. The percentage of students over total population between age 18 and 24 also rose from 18.2% in 1985 to 21.8% ten years later. This gives an estimated 27.7% for 2002, almost ten points above the Latin American average⁸.

---

⁵ Examples of such schemes are the German EXIST Program, the Business Birth Rate Strategy in Scotland, or the forthcoming Enterprise 2010 Strategy in Ireland.

⁶ In a study on nine countries, Vesper and Gartner (1997) show that the number of universities with entrepreneurship courses grew from 16 in 1970 to 400 in 1995.

⁷ According to official statistics, the number of students in higher education per 10,000 inhabitants rose by 221% between 1980 and 2000, from 149 in to 478.8.

⁸ According to UNESCO’s 1999 Statistical Yearbook, the regional average for Latin America and the Caribbean was 19.4%.
A recent study of business start-up and development in certain areas of Latin America has shown that 50% of the most dynamic firms are set up by university graduates. If those with an incomplete university education are also taken into consideration, they total two thirds of a total sample of 690 entrepreneurs (Kantis et al., 2002). As in other parts of the world, Latin American universities in general, and Argentine ones in particular, are seeing a growing commitment to developing entrepreneurial abilities among students and graduates (Braidot, 2001; Postigo and Tamborini, 2002; Ussman and Postigo, 2000; Varela, 1997). However, there exists a dearth of studies on graduate businesses and entrepreneurship, especially in Latin America, where research in the field is at an embryonic stage, though there has been more interest in recent years (de Souza, 2001; Kantis et al., 2000 and 2002; Rearte et al., 1999; Rearte and Liseras, 2001; Torres Carbonel et al., 2000 and 2001; Varela, 1991).

It is therefore appropriate to study the phenomenon of entrepreneurship by placing the emphasis on a particular type of entrepreneur, namely university graduates, in exploring their differences with other entrepreneurs. The results of the study provide valuable assets both for university policy-makers, and for entrepreneurs and businessmen alike.

**The Study**

The general aim of this work is to explore differences in entrepreneurial careers between university graduates and those who have not attended university. It also seeks to identify the main personal traits of graduates and their enterprises and to answer the following questions:

- What are the main features and key factors in the emergence of UEs\(^9\)?
- What features distinguish them from other entrepreneurs?
- What contribution do universities make in the emergence of entrepreneurs?

Conceptually, it focuses on the three stages of a project: gestation, start-up, and initial development, analyzing phenomena such as acquiring the skills and motivation to become an entrepreneur, identifying openings, developing a project, taking final

---

\(^9\) UE: University Entrepreneur.
decisions, accessing and mobilizing resources, penetrating markets and running a company for its first three years.

The basic methodological design and information gathering were done under the project “Entrepreneurship in Emerging Economies: Creation and Development of New Companies in Latin America and East Asia”, organized by the Inter-American Development Bank, the Universidad Nacional de General Sarmiento and the Development Bank of Japan during the period October 2000-January 2001. 122 founders of new businesses in Argentina (defined as businesses between 3 and 10 years old) were interviewed. The survey’s design included a target group of entrepreneurs with university qualifications (UEs) and a control group of entrepreneurs with no university qualifications (NUEs)\(^\text{10}\). Their answers were contrasted and the differences analyzed using statistical significativity Chi-square testing.

THE RESULTS

About the firms

Most of the new businesses studied had been set up by teams of entrepreneurs in both conventional manufacturing and information technologies and communications (ITCs). These firms’ main clients are small and medium businesses, as well as larger companies in the Argentine domestic market. The presence of exporters is extremely limited, standing at less than 10%, and involving small businesses with few employees and low sales and investments in their first year. In Table 1 below are the data for the size of UE and NUE companies, measured by employee numbers and first year sales volumes.

Table 1: Number of Employees and First Year Sales by Group

<table>
<thead>
<tr>
<th>No. Employees</th>
<th>UE ( (%) )</th>
<th>NUE ( (%) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 0 to 10</td>
<td>74%</td>
<td>81%</td>
</tr>
<tr>
<td>From 11 to 15</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>From 16 to 30</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>From 31 to 50</td>
<td>8%</td>
<td>0%</td>
</tr>
</tbody>
</table>

\(^{10}\) NUE: Non-University Entrepreneur.
Compared with other companies, the profiles of companies set up by UEs present distinctive features. First, there are more teams of entrepreneurs with specialized and complementary abilities and roles, a feature which coincides with results from Canada (Litvak and Maule, 1976). Second, the number of engineers and technicians employed is also higher; in other words, the human resources profile is considerably better qualified when compared to other new firms. UEs’ contribution to new firms in cutting-edge ITC sectors is likewise very much higher (48.8% as against 12.5%), as it also is in firms based on innovation (42.5 % as against 17.9%) rather than on price competition.

UEs’ client portfolios are conspicuous for the greater presence of big businesses (61.6% as against 41.4%), especially those operating in the service and trade sectors. These showed great dynamism during the birth and development of the companies surveyed. It should therefore come as no surprise that in their third year the sales of the UE firms were higher than NUE firms, an expansion accompanied with a increase in the number of employees. Moreover, the drop in sales recorded by these firms in Argentina’s recession (1999-2003), which began late in the period studied, had less of an impact on UE firms than on other companies. In other words, as has been found in similar European studies, UEs set up businesses with more innovative profiles in more technology-intensive sectors, create better employment opportunities, and show better levels of performance than other new businesses (Colombo and Delmastro, 2001; Levie et al., 2001; Lüthje and Franke, 2002; Richter and Schiller, 1994).

---

11 The per capita growth in GDP and consumption, the privatization of public services and the expansion of the big retail chains explains the dynamism of these market segments.
The university entrepreneurs and their entrepreneurial process

The distinctive features of the enterprises in the previous section justify finding out who their founders are and what is involved in the process of setting them up.

Who are the university entrepreneurs?

UEs are usually middle-class males from large metropolitan areas who set up their first business several years after they have left university (average age 33). This time lag between leaving university and launching their entrepreneurial careers can also be observed in other similar studies (Litvak and Maule, 1976; Colombo and Delmastro, 2001; Lovereid and Moen, 1997).

Though better represented by female university graduates, women account for only a little over 12% entrepreneurs. Their participation is even more limited if one bears in mind the Ministry of Education, Science and Technology figures for 2002, which state that around 41% of public university graduates in Argentina are women.

UEs tend to come from slightly more well-to-do backgrounds than other NUEs, there being fewer UEs from lower-middle and working class homes (16.1%), for example, than there are among NUEs (35%). This is apparently not exclusive to Argentina, for similar results can be observed in Canada (Litvak and Maule, 1976).

Furthermore, if one considers that, of the total of university students, 36% come from lower-middle and working class backgrounds (Marquina and Straw, 2002), this group is clearly under-represented in the overall numbers of UEs. The figure also shows more generally that participation of the lower income segments in university life is also limited. This phenomenon opens up reflection about the importance of greater access to more advanced levels of education for the less privileged classes, while nurturing their inclination to become entrepreneurs.

Another significant result is the relatively limited importance the UE phenomenon has outside of the large metropolitan areas. In regional areas, approximately 1 in 5 entrepreneurs are UEs, whereas in the metropolitan areas 4 out of 5 have a university background.12 There are arguably two negative effects on UE start-ups: a) the low

---

12 It is worth pointing out that the areas surveyed in this research, Rafaela and Mar del Plata, both have universities.
‘birth-rate’ and b) the emigration of potential entrepreneurs to other areas of Argentina. Various studies have contributed evidence about the lower enterprise initiative rate in the Argentine provinces, as against metropolitan areas (Rearte et al., 1999). And there is among UEs a significant (though lower than expected) participation from engineering graduates (24.4%) and economic science (29%).

This initial description of UEs is of interest in drawing up lines of action to promote entrepreneurial development. There are three groups on the university campus who could be focused on to develop their as yet untapped entrepreneurial potential: students in lower-middle or working class socio-economic segments, those studying in universities outside of metropolitan areas, and women.

_The gestation period of business projects_

- The motivation behind business start-ups

Like other entrepreneurs, most UEs are seeking personal self-fulfillment by putting their knowledge to good effect and increasing their income. The positive effects of displacement are clearly predominant. Similar results are found in other studies, which stress the importance of non-economic and, especially, technology-based factors in entrepreneurial motivation (Litvak and Maule, 1976; Lasource and Salas, 1989; Tackey et al., 1999). The desire to be one’s own boss is, however, only an important motivation for around half the UEs. This relatively low presence of individuals driven by a desire for independence is common to all entrepreneurs, regardless of educational background.\(^{13}\)

The extremely limited influence of positive role models is of undoubted interest to those who seek to promote entrepreneurship schemes in universities. The influence of role models is low among other young entrepreneurs (28.2%), but even lower among university graduates (18.3%), a phenomenon which is also observed elsewhere (Lasource and Salas, 1989). Role models, by definition, help to get across the message that a career in business is both possible and desirable. The diffusion of role models is of particular significance in weak productive structures such as Argentina’s, and

\(^{13}\) A recent study on business start-ups in Latin America associates this with the limited individualism which, according to Hofstede (1980), characterizes Latin American as against Anglo-Saxon culture (Kantis et al., 2002).
various international studies have stressed the role of universities in facilitating contact between students and the real world of business and businessmen (Ducheneaut, 1997; Ogorelc, 1998).

- Training and learning environments

Most UEs acknowledged the importance of universities in acquiring the technical knowledge to set up a business (76.8%), solve problems (68.3%) and, to a lesser degree, lay plans (53.7%). However, they did not feel that universities boosted motivation or nurtured other entrepreneurial talents such as negotiating, risk-taking, communicating or managing. The international evidence coincides with this research in suggesting that most entrepreneurial skills are forged in the workplace (Lasource and Salas, 1989; Robinson and Sexton, 1994; Tackey et. al, 1999).

Table 2: Main Areas of Skills Acquisition, UE Group

<table>
<thead>
<tr>
<th>Skills</th>
<th>University</th>
<th>Work Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Solving</td>
<td>68%</td>
<td>79%</td>
</tr>
<tr>
<td>Business Aptitude</td>
<td>15%</td>
<td>54%</td>
</tr>
<tr>
<td>Sociability</td>
<td>35%</td>
<td>51%</td>
</tr>
<tr>
<td>Risk and Uncertainty Tolerance</td>
<td>27%</td>
<td>57%</td>
</tr>
<tr>
<td>Negotiating</td>
<td>18%</td>
<td>77%</td>
</tr>
<tr>
<td>Teamwork</td>
<td>41.5%</td>
<td>68%</td>
</tr>
<tr>
<td>Creativity</td>
<td>44%</td>
<td>39%</td>
</tr>
<tr>
<td>Technical Knowledge</td>
<td>77%</td>
<td>38%</td>
</tr>
<tr>
<td>Marketing</td>
<td>24%</td>
<td>52%</td>
</tr>
<tr>
<td>Managing</td>
<td>39%</td>
<td>52%</td>
</tr>
<tr>
<td>Hard Work</td>
<td>22%</td>
<td>48%</td>
</tr>
<tr>
<td>Planning</td>
<td>54%</td>
<td>58.5%</td>
</tr>
<tr>
<td>Communicating</td>
<td>32%</td>
<td>67%</td>
</tr>
<tr>
<td>Motivating Others</td>
<td>18%</td>
<td>56%</td>
</tr>
</tbody>
</table>

Although, in terms of work experience, small and medium business employees are in the majority in both groups, the percentage who have worked for large companies is significantly higher in the case of the UEs.

Apart from acknowledging that actual businesses are the real ‘business schools’ (in that they encourage more effective experiential learning and non-codified knowledge), the results of the survey show the clear limitations of universities in
training entrepreneurs. Their impact in this field would probably be much greater if their technical content were accompanied by a more ‘enterprising’ education both in terms of content and teaching methods. The research shows that training should include an experiential learning component in fledgling businesses, and precisely such a formula has been implemented by various universities around the world in order to forge enterprise abilities and a go-ahead outlook.

The relative importance of various environments in acquiring technical knowledge merits an additional final word. Universities do play a significantly more important role in the field than work experience (76.8% as against 37.6%). This gap between the value of university-acquired knowledge and that acquired in the workplace may well be one of the driving forces behind becoming an entrepreneur, out of a need to seek out more suitable areas to apply their knowledge in. In the previous section such motivation was found to be of the utmost importance.

- Identifying Opportunities

We earlier stressed the distinct contributions of universities and the workplace in developing business skills. Work experience was also signaled by UEs as the main source for identifying the opportunities on which business projects were based (82.9%). Its importance for them was significantly higher than for NUEs. This result reinforces the argument outlined above about the role of ‘business incubators’ and the ‘technical knowledge gap’ between universities and the workplace. To complete this interpretative logic, universities supply technical knowledge which, on subsequently being enriched with experiential learning in the ‘world of business’, enables entrepreneurs to identify opportunities. Developing these opportunities creates a field in which their knowledge can be applied and self-fulfillment achieved by channeling their energies into starting a business. In fact, opportunities are perceived by people in their knowledge environments (Colombo and Delmastro, 2001; Litvak and Maule, 1976).

---

14 It should be born in mind that most businessmen were trained at a time when the kind of university chairs and entrepreneurial development degrees that have begun to appear in Argentine universities did not exist. This study thus provides a snapshot of the situation prior to the birth of such university initiatives and a clearly defined backdrop against which to compare their impact on the entrepreneurial process.
The argument about the knowledge gap between ‘incubation environments’ and their role as the driving force behind entrepreneurial careers could offer a local variant on the entrepreneurial option (Audretsch, 1995). This approach explains business start-up in terms of individuals with ideas and projects that they cannot implement in the organizations where they work, due to information asymmetry problems with strategic decision-takers, and to their differing perception of their idea’s market value. Such an interpretation has emerged in technologically advanced contexts of development. In Argentina’s case, however, the industrial structure is low-tech and characterized by weak company presence in the new ITC sectors, where many of the businessmen interviewed have set up shop. In such less advanced contexts, the ‘knowledge gap’ is very likely to increase asymmetries of information (and perception). The field of existing businesses (given their sectorial profile) is also less likely to be fertile ground for developing these projects as ‘intrapreneurs’.

Another extremely important source for identifying business opportunities is UEs’ personal networks (81%). These differ from other entrepreneurs’ networks in the greater prominence of other professionals (25% as against 10%) and the stability of the link with the company, which is explained by the tendency to internalize these contacts as part of the business team (38% as against 11%). Other entrepreneurs relied more on interaction with relatives (24.7% as against 14.2%); in other words, their contacts were concentrated within their private circle. UEs also made more use of the Internet (20.7% as against 7.5%) and academic papers (34.1% as against 15%). Such (freely available) sources of knowledge are usually more important in business start-ups in new sectors than in conventional ones.

To sum up, in identifying the opportunity on which they have based their businesses, UEs make use of a greater diversity of information sources, and more open, specific contact networks, than do NUEs.

*The Business start-up phase*

- The decision to set up a business

When it comes to deciding whether or not to set up a business, entrepreneurs take into consideration a set of variables, including their original motivation, economic and
commercial information, and technical business-related matters. They weigh up both personal and business-related concerns in making the final decision.

A dimension that distinguishes UEs is the profile of the information they take into consideration and the nature of their subsequent evaluation. The greater importance attached to information about market size and dynamism (74% as against 52.5%), and the investment needed to be able to compete (64% as against 42.5%), might signal a more growth-orientated outlook than other Entrepreneurs. Better economic performance in the first few years is quite possibly linked to these entrepreneurs’ desire to grow, a result similar to those obtained in Scotland (Levie et al., 2001) and Spain (Lasource and Salas, 1989). It is striking that most entrepreneurs (59%) do not feel financing is a barrier to their final decision. However, as will be seen later, 72% stated that barriers to access to finance had repercussions for the business’s initial conditions. We argued in a previous work that financing affects the early development of a business rather than the decision to set it up in the first place (Kantis et al., 2002).

UEs are also different in terms of a more marked tendency to make use of professional tools (Deschoolmester et al., 1997). More than half the UEs drew up business plans, as against slightly more than a third of NUEs. The differences are even more pronounced if one looks at three-year fund flow projections (61% as against 15%). These results are fairly logical insofar as they express greater overall value placed on systematic knowledge applied to decision taking on the part of UEs. The proportion of entrepreneurs who estimated their incomes from their new businesses is also higher. However, despite a greater tendency to plan, only a minority of UEs compared expected income with company salaries (less than a third) in opting for a entrepreneurial career. This result backs up the earlier arguments about the existence of a complex set of (economic and non-economic) motivations explaining why people set up a business and reaching beyond the calculative logic of neoclassical models of the option between self-employment and working for a company (Evans and Jovanovic, 1989; Rees and Shah, 1986).

- Access to resources

To get a business underway, a wide variety of information, technology and materials are necessary. Many of these are obtained through networks, both social (friends,
acquaintances, colleagues, etc.) and industrial (suppliers, clients, etc.). Although having greater importance for UEs, institutional networks (chambers of commerce, universities, etc.) play a relatively minor role, a result which bears out research done in the United Kingdom (Tackey et al., 1999). UEs are different from other entrepreneurs in the support they receive from their colleagues in terms of access to information, and from regional suppliers in terms of technology. In both these cases, universities played a less significant role.

Table 3: Means of Access to Resources by Group

<table>
<thead>
<tr>
<th>Means</th>
<th>Information</th>
<th>Technology</th>
<th>Other Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UE NUE</td>
<td>UE NUE</td>
<td>UE NUE</td>
</tr>
<tr>
<td>Personal Networks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Friends</td>
<td>78% 72.5%</td>
<td>66% 55%</td>
<td>51% 40%</td>
</tr>
<tr>
<td>- Relatives</td>
<td>32% 45%</td>
<td>19.5% 25%</td>
<td>16% 22.5%</td>
</tr>
<tr>
<td>- Acquaintances</td>
<td>16% 27.5%</td>
<td>8.5% 17.5%</td>
<td>16% 15%</td>
</tr>
<tr>
<td>- Colleagues</td>
<td>54% 50%</td>
<td>37% 32.5%</td>
<td>28% 27.5%</td>
</tr>
<tr>
<td>- Teachers</td>
<td>48% 25%</td>
<td>26% 20%</td>
<td>18% 7.5%</td>
</tr>
<tr>
<td>Commercial Networks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Local Suppliers</td>
<td>69% 67.5%</td>
<td>63% 55%</td>
<td>43% 55%</td>
</tr>
<tr>
<td>- Suppliers from Other Regions</td>
<td>48% 40%</td>
<td>45% 27.5%</td>
<td>28% 40%</td>
</tr>
<tr>
<td>- Local Clients</td>
<td>24% 32.5%</td>
<td>32% 30%</td>
<td>18% 27.5%</td>
</tr>
<tr>
<td>- Clients from Other Regions</td>
<td>37% 42.5%</td>
<td>15% 20%</td>
<td>18% 25%</td>
</tr>
<tr>
<td>Institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Universities</td>
<td>22% 25%</td>
<td>13% 12.5%</td>
<td>11% 10%</td>
</tr>
<tr>
<td>- Public Institutions</td>
<td>32% 17.5%</td>
<td>24% 10%</td>
<td>12% 5%</td>
</tr>
<tr>
<td>- Chambers of Commerce</td>
<td>19.5% 5%</td>
<td>16% 7.5%</td>
<td>4% 2.5%</td>
</tr>
</tbody>
</table>

The survey has also enabled exploration of the sources of financing used in the start-up phase. In an earlier work (Kantis et al., 2002) it was pointed out that most Argentine entrepreneurs finance their start-ups with personal and/or relatives’ savings, and then eke out these resources by relying on suppliers and clients or by purchasing secondhand equipment. The vast majority do not avail themselves of public or private bank loans, while venture capital is marginal. In the case of UEs private bank loans are even more limited, whereas client advances and, to a lesser extent, formal and informal venture capital (business angels and corporate) are more significant.

UEs claimed more emphatically than other entrepreneurs that banks did not meet their needs (58.7% as against 33.3%), revealing a gap in financing. In addition, business project assessment (set up by most universities) demands technical know-how,
analytical abilities and the strength of mind to face up to the risks involved. Such qualities are rare in traditional banking.

The consequences of not having access to external sources of finance broke down into three types. First, most entrepreneurs had to alter their project either by scaling it down (58%), or by scaling down its technology (43%) and/or the start-up opportunity (31%). Second, they sought client/supplier backing (48.6%). Third (and here they differ significantly from other entrepreneurs), they sought a business partner (19% as against 2.9%).

Solving the problem of start-up financing must then involve getting to grips with the particular case of this enterprise profile. Both their potential contribution to economic development and the extreme difficulty in gaining access to conventional credit sources are justification for such a need.

The business’s early years

Entering the marketplace puts the dreams of all entrepreneurs to the test. The beginning of business operations raises the challenge of legitimizing a project’s viability by demonstrating its capacity to commercialize the product or service, fend off the competition, manage the limited financing properly, and (should the project survive and expand) to manage human resources successfully. The first few years are the acid test for a new business. What challenges do UEs face, and are they any different from those faced by NUEs?

The survey confirmed that in general UEs and NUEs have most of the traditional problems in common, a result that also agrees other surveys (Tackey et al., 1999, Litvak and Maule, 1976). Their three major obstacles are finding clients, managing cash flow, and hiring employees with the right skills. However, overall business management is a considerably more important problem for UEs than for other businessmen (44.4% as against 28.2%).
Table 4: Main Problems Faced, by Group

<table>
<thead>
<tr>
<th>Problem</th>
<th>UE</th>
<th>NUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finding market information</td>
<td>31%</td>
<td>26%</td>
</tr>
<tr>
<td>Finding clients</td>
<td>72%</td>
<td>61.5%</td>
</tr>
<tr>
<td>Finding suitable suppliers</td>
<td>44%</td>
<td>51%</td>
</tr>
<tr>
<td>Hiring managers</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>Hiring qualified workers</td>
<td>52%</td>
<td>49%</td>
</tr>
<tr>
<td>Getting the Adequate Equipment</td>
<td>41%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>61.5%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Managing the Company</td>
<td>44%&lt;sup&gt;c&lt;/sup&gt;</td>
<td>28%&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Financing and managing cash-flow</td>
<td>68%</td>
<td>67%</td>
</tr>
<tr>
<td>Handling company operations</td>
<td>32%</td>
<td>41%</td>
</tr>
<tr>
<td>Meeting quality standards</td>
<td>30%</td>
<td>23%</td>
</tr>
<tr>
<td>Adapting the product/service to market needs</td>
<td>42%</td>
<td>44%</td>
</tr>
<tr>
<td>Handling relations with major clients</td>
<td>37%</td>
<td>36%</td>
</tr>
</tbody>
</table>

<sup>a</sup>: significant difference to 1%.
<sup>b</sup>: significant difference to 5%.
<sup>c</sup>: significant difference to 10%.

When consulted about their weaknesses as compared to the competition, UEs put greater stress on marketing (41% v 26.5%) and on conditions of financing (29.8% v 16.7%). Judging by their economic performance, most of them manage to make up for these weaknesses with better quality (66.7%), service (61%), research and development, and/or design (47.8%).

To meet such challenges the majority (53%) fell back on contact networks, especially on suppliers and clients (35.8%). Once the business is up and working, these issues become more specific and, as a result, the role of social networks tends to lessen vis-à-vis specific contributions to the business by their contacts (Kantis et al., 2002). UEs at this stage interact with more extended networks (one out of four did so with at least 9 other people). This interaction facilitated access to information about the business environment, finding clients and suppliers and, to a lesser extent, hiring employees.

In this phase institutional assistance is even more limited than in previous ones. In some cases (Universities or Research and Development Centers) their participation is even more limited, and backing from chambers of commerce is significantly less for UEs in than for NUEs.
The areas showing higher demand for backing on the part of UEs, as well as the strengths which sustain their development, are of some interest. These strengths have something to do not only with their competitive edge, but also with behavioral issues such as their tendency to develop more extended networks. Also identified was a lack of institutions to support entrepreneurs during these crucial years of their organizational lives. Despite this absence of back up, entrepreneurs came through the acid test of the first few years thanks to teamwork and sheer enterprising ability.

CONCLUSIONS

The study confirmed that businesses set up by UEs have a more highly qualified profile in terms of dynamism, human resources and the kind of opportunities they take advantage of. Their contribution to the diversification and enrichment of the industrial fabric is enough justification to back them at every turn. It is therefore vital to further the understanding of factors that bear on their birth and development.

By exploring what makes them different it is possible to draw certain lessons for universities’ support for the entrepreneurial process. First, it is necessary to broaden the entrepreneur base, while bearing in mind that participation from women, people living in the regions, or lower-middle or working class families is limited.

Furthermore, the education of UEs shows various faultlines. Most of them do not come from a business home background, and university does not help them to recognize role models or other direct sources of entrepreneurial motivation. The skills they develop at university are restricted essentially to technical knowledge. Indirectly, the existence of a gap between this knowledge and the knowledge they later apply in
the real world of business, influences their incentive to start-up businesses that will enable them to develop more fully both professionally and personally. This must be recognized by the educational system as a whole. It must change if it is to answer the needs of graduates, who increasingly have to start their own businesses in order to find an outlet for the knowledge they have acquired at university. The key role played by team building, work experience and contact networks with other colleagues and professionals at different stages of the entrepreneurial process ought to be given due priority in an effort to encourage the development of UEs and UE businesses.

The study also revealed the existence of areas of weakness in UEs. Even when these shortcomings were overcome and/or compensated for with other strengths or the support of their networks, they should be taken into account in order to improve UE performance. Some shortcomings, such as finance, can only partly be tackled through initiatives within the educational system, whereas for others, universities could perform a vital role, in business management or marketing, for example. This issue suggests a need not only to review university training in these areas, but to explain the lack of support from institutional networks when faced by the problems in the years after start-up.

In the last few years several universities in Argentina have made headway in implementing initiatives to foster entrepreneurial careers and business start-ups. The environment, in which the entrepreneurs who responded to the survey have been educated, is slowly beginning to change. However, if we are to witness a genuine transformation in the university system, one capable of having an impact on Argentine society as a whole, there is still a great deal to be done. Universities’ must give this challenge the priority it deserves on their strategic agendas.

REFERENCES


Ducheneaut, B. (1997); “Entrepreneurship and higher education. From real-life context to pedagogical challenge”, paper presented at the Internationalizing Entrepreneurship Education and Training Conference, IntEnt97, Monterey Bay (California, USA).


OECD (1999); Fostering Entrepreneurship. Paris: OECD.

OECD (2000); A new economy? The changing role of innovation and information technology in growth. Paris: OECD.


Postigo, S. and Tamborini, F. (2002); Entrepreneurship Education in Argentina: The case of San Andrés University, work presented at the Internationalizing Entrepreneurship Education and Training Conference, IntEnt02, Malaysia.


Varela, R. (1991); *Innovación empresarial: Un nuevo enfoque de desarrollo*. Cali, Colombia: ICESI.

Varela, R (1997); *Entrepreneurial Education in Latin America*. Center for Entrepreneurship Development.

Veciana, J. (2002); “Comentarios sobre los resultados de la investigación comparada sobre la empresarialidad entre América Latina y el Este de Asia”, in Kantis, H. Ishida, M and Komori, M. (2002); *Entrepreneurship in emerging economies: The Creation and Development of New Firms in Latin America and East Asia*. Inter-American Development Bank, Department of Sustainable Development, Micro, Small and Medium Business Division.