Track Title

Education and Pedagogy

Paper Title

Entrepreneurial propensity in university students of Mexico (GESt-Study).

Key Words: propensity, entrepreneurship, students, education

Aim of the Paper

This paper is an exploratory empirical study prepared for Mexico, based on the project 'Starting up Business and Entrepreneurship spirit of students (GESt-Study)' which is founded on the analysis of the obstacles and business proceedings in the previous process of creation that university students face (Ruda, Martin, Ascúa, and Danko 2008). It is focused on an educational context, to analyze the factors that influence the entrepreneurial activity, the support about students' needs, and the barriers of the business creation process because of the importance of identifying the influence of currently receiving formation in universities to promote entrepreneurial activity, and to reinforce the entrepreneurial spirit promotion among university students, especially in public universities. In this proposal, we are focused to identify entrepreneurial propensity between two big groups of students: administrative sciences and basic and technological sciences.

Entrepreneurial propensity in students is relevant because its contribution to increasing employment in a country, since it is represented by a group of people that have a high dynamicity and proximity to labor market, and also because is a principal source of entrepreneurial talent.

In a previous study, we confirmed that demographic issues are especially representative when we are analyzing entrepreneurial activity as other authors have demonstrated (Liñan, and Chen, 2009), also gender and age represent two of the most frequent foundations barriers that have been studied and are linked to area of formation, it has been also found that male students have a higher foundation propensity (Görisch 2002; Hinz 2000).

In Mexico, the creation of new businesses reflects those needs of society and there is not an economic platform that provides enough opportunities for graduate students of universities (García, González, Ascúa, and Danko 2014), which represents a huge opportunity to develop, especially in emerging economies since under different points of view entrepreneurial education would generate more and better entrepreneurs than there have been in the past and this education also increases the chances of obtaining entrepreneurial success (Ronstandt 1985; Kirby 2002), then entrepreneurial education is an important catalyst to develop student's business vision, then the entire national system needs to be restructured to improve the traditional way to educate through a new entrepreneurial education that should be spread in early stage of studies.

Previous studies have demonstrated that there is a strong propensity to develop new businesses in the cases of Germany and Brazil, mainly among students pursuing careers as administration and engineering (Ruda 2008; Otten 2000; Görisch 2002; Schwarz 2001), while in Spain has been found greater propensity among social sciences which involve administration students (Jiménez 2012). This research includes the selection of careers that presently reflect an increase among student's preferences, such as Communication and Information Technologies and Architecture, to identify the propensity to start up new business. Consequently, this new proposal can allow us being able to distinguish what areas of knowledge offer a significant difference from the previously found findings.

The Shapero's Model (1982), has been frequently used to offer a background related to student behavior, but in these cases human intentions have been seen as a psychological scope, considering that attitudes are oriented to long-term goals, then entrepreneurial intention is identified as those individual attitudes related to feasibility and desirability to create enterprises.

After a literature review, focused on entrepreneurial attitudes and its results and using basically the GESt Study proposes the foundation ambition types-model (Ruda, Martin, Ascúa, and Danko 2008), this new proposal has identified that entrepreneurship motivation is determined by several factors that have been tested through a survey of 533 standardized questionnaires applied to undergraduate students from two public universities of the central region of Mexico, in consequence we have established the following hypothesis:

H_1 Categorized *Founder* students have a strong influence determined by masculine sex, elder 25 years and technological background.

H_2 Typified *Sensitized* students are younger than 20 years, and they have a business clear idea; however, they have not received appropriate formation to create a new business.

H_3 *Prepared* students represent an entrepreneurial group with the potential to develop new business in the short-term.

H_4 Exist a significant correlation between the type of academic student background and the field or industry on which they want to start up a new business.

H_5 Exist a significant correlation between the student background and *Founder* ambition type-model.

H_6 There is a significant correlation between the student academic background and the market to which they address their new business idea.

Methodology

This study is based on the GESt-Study at the German Center for Entrepreneurship (Ruda, Martin, Ascúa, and Danko 2008). A new research questionnaire has been developed and proved, even though model GESt-Study is still based on theory and empiric literature previously used; this new survey included 533 students from two public universities during the winter period 2014-2015, but due to the obtained results and in order to identify clearly the answers of students concerning the GESt Study foundation ambition types-model, we took into consideration only 524 questionnaires which include 25 questions. The survey emphasized two academic groups: administrative and engineering sciences students, considering previous results and studies that have demonstrated that there is a higher enterprise foundation propensity on administration and engineering students (Görisch 2002, Ruda, Martin, Ascúa, and Danko 2008), but this research includes the selection of careers that presently reflects an increase among student's preferences, such as Communication and Information Technologies Engineering and Architecture.

Results and Implications

The survey included 51.6 female and 46.5 percent male students; 55.3 percent is younger than 20-year-old and 40 percent is between 20 and 25-year-old. The study includes two big groups: non-technical profile students, 70.5 percent and technical profile students 29.5, as can be seen at Table 1.

Considering the foundation ambition types-model, proposed by the GEST-Study (Ruda, Martin, Ascúa, and Danko 2008), 31.7 percent of students are *Layman*, it means that they have not dealt with foundation at all, but the second more representative result is that 22.3 percent of

students are *Foundation Preparers*, because they are in the previous stage to launch the enterprise. In the opposite side, the *Founders* who have the lowest percentage of students that already have started-up a new business is the smaller, with only the 9.2 percent.

Results also show a high percentage of students under 20 years that represent 55.3 percent is rated under the Sensitized classification, reflecting that even when visualized a type of business do not have identified the category of business undertaking, which could result in a loss of opportunity to channel their interest if their concerns are not addressed, and educational institutions do not provide tools that encourage student's entrepreneurial spirit.

These results demonstrate that as younger are students, more interest they have to create new enterprises, then is very important to develop programs that stimulate young students in early stage to create enterprises, but this support must be reinforced and adapted according students characteristics because there is a great opportunity to create successful proposals that students can develop during their studies, also because they can take advantage of the university support. Learning can be more significant if they can make a linkage between their knowledge and their real experience as entrepreneurs.

One interesting result we have found, is that there is a significant correlation to create new business among administration students with $p = 0.001$, architecture students $p = 0.001$, in both cases with a significance level of 0.01, but in the case of communication and information technologies engineering students, there is a significant correlation of $p = 0.019$, with a significance level of 0.05, being this formation area that reflected the greater propensity of the *Founders*, in accordance with the model previously dealt, providing an interesting result, which additionally correlates significantly with demographic factors such as age and gender.

As final conclusion, results have demonstrated that education strategies in emerging economies as Mexico should consider current trends because concerns of students demonstrate an

orientation to participate in the national economy through proposals that presently reflects a big attractiveness, furthermore, there is a big opportunity to conform multidisciplinary teams to promote entrepreneurial activity in students, developing skills and knowledge in entrepreneurship training, and it includes every academic background of students.

Table 1

Descriptive data analysis

Data	**Percentage**
Sex	
Female	51.6
Male	46.5
Not answered	1.9
Age	
Younger than 20-year-old:	55.3
20 - 25-year-old:	40.0
26 – 29-year-old:	1.1
Other	3.6
Academic background	
Administration:	24.4
Accounting:	19.0
Marketing:	18.8
Communication and Information Technologies Engineering:	12.4
Industrial Engineering:	11.6
Foreing Trade:	8.4
Architecture:	5.4
GEST Model results	
Layman	31.7
Sensitized	16.7
Interested	18.4
Preparer	22.3
Founder	9.2

Source: survey made in November 2014, included n=533.

Figure 1
Questionnaire design for México

Propensión Estudiantes Universitarios y el proceso de Creación de Empresas

Carrera de grado _____ **Número de semestre**[1] _____.

Posgrado _____ **Número de semestre**[1] _____.

Fecha _____ **Ciudad** _____ **País** _____

1. Sexo ☐ femenino ☐ masculino

2. Edad ☐< 20 A. ☐20-25 A. ☐26-29 A. ☐30-35 A. ☐ > 35 A.

3. Ha pensado usted en la posibilidad de crear su propia empresa? Si ☐ **No** ☐

4. ¿Cómo evalúa el clima para la creación de empresas?

	Clima favorable	Clima desfavorable	No Sabe/No Contesta
México			
Europa			
Norteamérica			
Latinoamérica			
India			
China			
Asia			

5. ¿Cuán importantes son para Ud. los siguientes aspectos en relación a su actividad emprendedora?

	Muy importante	Importante	Poco importante	Insignificante
Salida del desempleo				
Ingresos				
Autorealización				
Prestigio				
Altos ingresos				
Horarios de trabajo flexible				
Poder				
Ser su propio jefe				
Instrumentar propias ideas				
Otros: ……				

6. ¿Qué apoyos desearía recibir de su universidad?

	Muy importante	Importante	Poco importante	Insignificante
Capacitación				
Ejercicios de planeamiento				
Seminarios sobre Businessplan				
Bolsa de contactos con empresas				
Encuentros de análisis con profesores				
Coaching y asesoría				
Impulso inicial financiero				
Oficina universitaria de apoyo				
Incubadora				
Otros: ……				

7. ¿Que dificultades esperaría o ha experimentado? (coloque una cruz sobre la escala o en la casilla gris)

	Ninguna dificultad	Gran Dificultad ← → Reducida Dificultad
Ausencia de una correcta idea de negocios	☐	
Ausencia de un adecuado socio para el lanzamiento	☐	
Ausencia de calificación emprendedora	☐	
Ausencia de valor (ánimo)	☐	
Ausencia de tiempo	☐	
Ausencia de contactos con clientes	☐	
Carencia de capital propio	☐	
Carencia de capital de terceros	☐	
Deficit de Know how	☐	
Temor a perder el capital propio	☐	
Reducido volúmen de ventas	☐	
Reducida ganancia	☐	
Apoyo familiar y/o de amigos	☐	
Ambiente de política económica	☐	
Coyuntura	☐	
Temor al fracaso	☐	
Costosa regulación para el inicio	☐	

[1] Señalar el número de semestre al momento de contestar la encuesta. Por ejemplo, si está cursando en la primera parte del tercer año de la carrera, se indica Semestre 5. Si ha terminado de cursar y sólo quedan exámenes, colocar el último semestre que para un estudio de 5 años es Semestre 10.

8. ¿Cómo evalúa su actitud para con el riesgo?
☐ muy temeroso ☐ temeroso ☐ preparado ☐ muy preparado

9. ¿Ud. vive actualmente ...?
☐ solo ☐ con otros adultos ☐ con su familia (padres)
☐ con su pareja (sin hijos) ☐ con su pareja (con hijos)

10. ¿Tiene previa experiencia en el manejo de recursos humanos?
☐ No ☐ menor a 2 Años ☐ 2-5 Años ☐ más que 5 Años
En caso de respuesta positiva, en qué rama/sector: _____

11. ¿Es alguien de su entorno privado cercano autonómo/independiente?
☐ No ☐ Madre ☐ Padre ☐ Otras Personas _____

12. ¿En qué estadio se encuentra con el tema de la creación de empresas?
☐ todavía no ha pensado ☐ pensado y en etapa previa a la creación ☐ pensado y preparada la creación
☐ creación aún no meditada ☐ creación meditada pero con lanzamiento a futuro

13. ¿Si se interesó en la creación de una empresa, cuándo lanzaría el emprendimiento?
☐ este Año dentro de ☐ 1 A. ☐ 2 A. ☐ 3 A. ☐ 4 A. ☐ ____ Años

14. ¿Cómo evalúa la probabilidad de concretar la creación de la empresa? _____ Porcentaje

15. ¿En qué ámbito desea trabajar autonómamente?
☐ Principal/Full-time (actividad exclusiva) ☐ Secundaria (adicional a la actividad principal)

16. ¿Tiene una idea para la creación de una empresa?
☐ No ☐ Si, ¿cuál?: _____

17. ¿Hace cuánto tiempo que se está ocupando con el tema de la creación de empresas?
☐ Menos de 1 Año ☐ 1-3 Años ☐ más de 3 Años

18. ¿Dónde ha obtenido información para analizar el tema de creación de una empresa?
☐ Ninguna parte ☐ Cámara de Comercio e Industria ☐ Cámara de artesanos ☐ Promoción económica
☐ Asociación ☐ Asesor impositivo ☐ Escribano ☐ Asesor empresario ☐ Abogado
☐ Banco ☐ Amistades ☐ Parientes ☐ Bibliografía ☐ Internet ☐ Universidad/Instituto
☐ Centro de Información Laboral ☐ Red empresarial ☐ Red Business Angels
☐ _____

19. ¿Cómo desearía crear la empresa?
☐ Solo ☐ con otras personas _____

20. ¿Qué mercado piensa atender?
☐ local ☐ regional ☐ nacional ☐ internacional, cuáles _____

21. ¿Dónde le gustaría desempeñar su actividad?
☐ en el Hogar ☐ fuera del Hogar ☐ directo con los clientes (por ej. Como Asesor/Vendedor)

22. ¿En qué rama/sector desearía crear la empresa?
☐ Comercio ☐ Industria ☐ Servicios ☐ Agropecuario ☐ Tecnología de Información (TI)
☐ Otros _____

23. ¿Después de cuántos años piensa establecerse de manera firme en el mercado? ____ Años

24. ¿Cuánto capital inicial necesitaría aproximadamente? _____ Euro/Dólar/Peso/_____

25. ¿Pagaría Ud. por un asesoramiento para la creación de un emprendimiento? ☐ No ☐ Si

Muchas Gracias por su Colaboración! *

* En cooperación con ZMG Zentrum für Mittelstands- und Gründungsökonomie – Kaiserslautern-Zweibrücken-Ludwigshafen, Alemania – Director de Proyecto/Investigación: Prof. Dr. Walter Ruda. Líder de Proyecto México Profa. Blanca Josefina García Hernández.

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