

Entrepreneurial intention: how cultural and environmental aspects influence the attitude in starting a new business. A benchmark study between Italy and Spain.

Parente S¹, Perfili M², Morales-Alonso G³, Grimaldi M⁴

Abstract The present research points out how engineering students from two different countries, and therefore subject to different cultural and role models, show different entrepreneurial intentions. A questionnaire was submitted to engineering students divided into two groups on the basis of their country origin: Italy and Spain. The sample in use is for students attending Engineering Schools, as engineers are considered as possible founders of future innovative start-ups. The results of the survey show that Italian students have higher entrepreneurial intentions than Spanish ones. This is attributed to their different cultural origins and in particular, the sub-dimensions of individualism and masculinity from Hofstede's Cultural Dimension Theory. Among the results of the research, it has been proved that students whose parents are entrepreneurs present higher entrepreneurial intention than those whose parents are not self-employed.

Keywords: Entrepreneurial intention; cultural dimension; parental role models; engineering students; start-up.

¹Simona Parente (✉ e-mail: simona.parentee@gmail.com)
Dpto. of Civil and Mechanical Engineering, University of Cassino and Southern Lazio, Via G. Di Biasio 43, 03043 Cassino (FR), Italy.

²Marianna Perfili (✉ e-mail: marianna.perfili@gmail.com)
Dpto. of Civil and Mechanical Engineering, University of Cassino and Southern Lazio, Via G. Di Biasio 43, 03043 Cassino (FR), Italy.

³Gustavo Morales-Alonso (✉ e-mail : gustavo.morales@upm.es)
Dpto. de Ingeniería de Organización Administración de Empresas y Estadística. ETSI Industriales, Universidad Politécnica de Madrid. C/José Gutiérrez Abascal 2, 28006 Madrid, Spain.

⁴Michele Grimaldi (✉ e-mail : m.grimaldi@unicas.it)
Dpto. of Civil and Mechanical Engineering, University of Cassino and Southern Lazio, Via G. Di Biasio 43, 03043 Cassino (FR), Italy.

1 Introduction

Entrepreneurship “is the practice of starting new organizations or revitalizing mature organizations, particularly new businesses generally in response to identified opportunities” (Eroglu & Piçak, 2011). The entrepreneur is the single most important player in a modern economy; he carries out three basic functions that are absolutely essential in the operation of any company: the capitalist or financial function; the managerial function; and the booster function (Cuevas, 1994).

Literature suggests that entrepreneurship contributes to an economic performance by introducing innovations, creating change, creating competition and enhancing rivalry, and thus encourages economic wealth and spending power (Holmgren & From, 2005). Particular emphasis has been done in the last years to point out the link between the creation of new technology-based firms (NTBFs) and economic growth (Audretsch, 1995; Carree & Thurik, 2003). The creation of a new firm requires an individual, the entrepreneur, willing to risk his time and money on the venture; he is the detonating and sine qua non condition for economic growth (Morales-Alonso, Pablo-Lerchundi & Núñez-Del-Río, 2016).

On the other hand, human capital, in which education plays a significant role, is one of the most important factors for NTBFs' growth (Colombo, Delmastro, & Grilli, 2004; Colombo & Grilli, 2005). That is to say, in order to successfully create and lead a NTBF, it is necessary to have an entrepreneur with (i) high technical skills (i.e. an engineer) and (ii) high entrepreneurial intentions. For this reason, understanding the determinants of engineering students' entrepreneurial intentions is essential (Pablo-Lerchundi, Morales-Alonso & González-Tirados, 2015).

The present research focuses on the comparison on entrepreneurial intention of engineering master students of Università di Cassino e del Lazio Meridionale and Universidad Politécnica de Madrid. Two main topics have been addressed: entrepreneur's personal characteristics or traits and the influence of contextual aspects in entrepreneurship.

The paper is organized as follows. In the next section, the state of the art is summarized and the research question and hypotheses of the study are established. Later, there is a section in which the methodology used to obtain the results is described. In the following section, the obtained results are described and discussed, while the last section gathers the conclusions of this work.

2 Research framework

2.1 Cultural dimensions

Intentions and behaviours of an individual are determined by contextual and internal factors. Among the latter, the culture in which the individual has been raised plays a dominant role (Schwarz, 1990). Hence, it is with good reason that culture is termed as “software of the mind” by researcher Geert Hofstede (Hofstede, 1980). Hofstede presents in fact a set of cultural dimensions that address individual’s behaviours and intentions. Out of the whole set, collectivism/ individualism and femininity / masculinity has been identified as the most relevant for this study.

Individualism describes tendencies to orient values and actions towards independence, competition, and oneself or one’s immediate family (Tiessen, 1997). On the other hand, collectivists perceive themselves as interdependent members of an “in-group,” a collection of people perceived as sharing the same fate (Triandis, 1993) so they tend to act cooperatively in their group’s interest (Hofstede, 1980; Hofstede & Minkov, 1991; Triandis, 1993).

Hofstede (2001) puts individualism and collectivism at opposite ends of a continuum, which the majority of researchers accept (Morris, Davis & Allen, 1994). People in individualist cultures tend to be more autonomous and independent than people in collectivist cultures, they view uncertainty in the external environment more optimistically than collectivist individuals and they are more likely to involve themselves in situations that collectivist individuals perceive as being extremely risky (Morris, Davis, & Allen, 1994).

On the other hand, masculinity refers to the overall “toughness” and competitiveness of a society (Steensma, Marino, Weaver & Dickson, 2000), being for this reason related to the desirability of achievement; while femininity relates to interpersonal relationships.

In the above mentioned measures, Italy has a level of individualism of 76%, while Spain ranks at 51%, being the percentage of masculinity of 70% for Italy and 42% for Spain. So Spain could be considered a collectivistic and feminine country in comparison with the rest of the European countries, and in particular, with Italy.

In conformity with the above, and considering that in general, researchers have hypothesized that entrepreneurship is facilitated by cultures that are high in individualism, low in uncertainty avoidance, low in power-distance, and high in masculinity (Hayton, George & Zahra, 2002), it is appropriate to establish the first two hypotheses:

H1a. Italian students have high entrepreneurial intention because they are more individualistic and masculine.

H1b. Spanish students have low entrepreneurial intention because they are more collectivistic and feminine.

2.2 Influence of parental occupation

A role model is a common reference to individuals who set examples to be emulated by others and who may stimulate or inspire other individuals to make certain (career) decisions and achieve certain goals (Basow & Howe, 1980; Wright). The relevance of role models for entrepreneurs is evident in the popular business press that is littered with stories of, and references to, entrepreneurial endeavours and successes that have influenced other entrepreneurs (Bosma, Hessels, Schutjens, Van Praag & Verheul 2012).

Parental occupation plays a key role for the development of potential entrepreneurial intention in their children, self-employed parents being a motivator, while civil servants a discouraging factor for entrepreneurship (Morales-Alonso, Pablo-Lerchundi & Vargas-Perez, 2016). The family, particularly the father or mother, plays the most powerful role in establishing the desirability and credibility of entrepreneurial action for the individual (Shapero & Sokol, 1982). For this reason, it is hypothesized:

H2. Students who have fathers entrepreneurs, have a higher entrepreneurial intention.

H3. Students who have mothers entrepreneurs, have a higher entrepreneurial intention.

3 Methodology

The methodology used in the present research follows a quantitative approach. A questionnaire has been submitted to a sample of engineering master degree students from two different universities, namely “Università di Cassino e del Lazio Meridionale” (Italy), and “Universidad Politécnica de Madrid” (Spain). The questionnaire was filled at the beginning of a teaching session during the first semester of academic year 2016/2017.

The main topics treated in the survey are cultural dimensions, entrepreneurial intention as defined by the Theory of Planned Behaviour (Ajzen, 1991), and barriers to entrepreneurship. A set of control variables has been used to explain the demographic and cultural aspects of each student.

The students who took part in these surveys belong to master degrees of Mechanical, Civil and Industrial Engineering and their number is of 154 for Italy and

of 620 for Spain. Regarding genders, in the Italian sample it results a percentage of 69.7% of men and 30.3% of women, while for the Spanish one there is a percentage of 62% of men and 38% of women. Of the two final samples, 33.1% of Italian students were studying civil engineering, 30.3% were industrial engineering and 36.6% mechanical engineering; on the other side 26.6% of Spanish students were civil engineering, 37.2% industrial engineering and 36.2% mechanical engineering.

The survey is composed of 38 items and some demographic questions, divided into 4 modules. The first one is composed of a set of standard segmentation questions, such as student's age, gender, nationality, as well as nationality, education and employment status of student's parents. The second module contains questions related to Hofstede's cultural dimensions theory, in particular to the items of collectivism/individualism, femininity / masculinity and risk aversion. The third module relies on Liñán and Chen's (2009) questionnaire on students' purpose for starting their own firms. The fourth and last part contains propositions of the institutional economic theory (North, 2005) and also some influences from social capital research (Anderson & Jack 2002; Liñán & Santos, 2007).

All these items are evaluated on a five point Likert scale, where 1=total disagree and 5=total agree; exception for module 3 that uses a seven point Likert scale, where 1=total disagree and 7=total agree.

4 Results and discussion

Considering the whole sample of 706 respondents designed valid and meaningful for the study, descriptive analysis was conducted on two sub-samples of 145 students from Italy and 561 from Spain. It was detected an average value of entrepreneurial intention equal to 3.34 for Italy and 2.85 for Spain, with a relative value of standard deviation of $\sigma = 1.86$ and $\sigma = 2.29$, respectively.

The average values obtained for collectivism / individualism are 3.4 ($\sigma=0.549$) in Italy and 3.15 ($\sigma=1.23$) in Spain, while for femininity / masculinity are 3.33 in Italy ($\sigma=0.675$) and 3.06 in Spain ($\sigma=1.33$). Besides, gender effect was also assessed, resulting that men in both countries have a higher entrepreneurial intention than women (Italy: 3.45 (men), 3.09 (women) and Spain: 3.09 (men), 2.48 (women)).

The non-parametric Kolmogorov-Smirnov test was used to verify the normality of all items considered in the analysis, presenting all of them a normal distribution with a significance level of $p < 0.001$. On the other hand, a reliability analysis was conducted on the entire questionnaire, which shows an excellent internal consistency with Cronbach's alpha value equal to $\alpha = 0.972$. Moreover, the accuracy found between the six items of EI was excellent ($\alpha=0.933$), for collectivism / individualism is $\alpha = 0.767$ and for femininity / masculinity $\alpha = 0.669$.

Hypotheses have been checked with the Student's t-test for difference between average values. Table 1 summarizes the results from comparing average values of EI between Italian and Spanish respondents. As it can be seen, Italians present a higher entrepreneurial intention, being this difference statistically significant. When the cultural values are dealt with, it is also found that Italians are more individualistic and rank higher in Masculinity than Spaniards (see also table 1), being the again statistically significant. Therefore, the Hypothesis H1a and H1b are positively verified regarding both cultural values: collectivism / individualism and femininity / masculinity.

Table 1 Student's t-test for Entrepreneurial Intention, Collectivism / Individualism and Femininity / Masculinity

		N	Mean (1-7)	df	T
Entrepreneurial Intention	Italy	145	3.34	704	2.36*
	Spain	561	2.85		
Collectivism / Individualism	Italy	145	3.40	704	2.36*
	Spain	561	3.15		
Femininity / Masculinity	Italy	145	3.33	704	2.30*
	Spain	561	3.06		

***p < 0.001; **p < 0.01; and *p < 0.05.

These results are congruent with previous findings in the literature (Hofstede, 1980; Shane, 1992). Mcgrath, MacMillan, and Scheinberg (1992) establish that a good entrepreneur should have a high level of individualism and a high level of masculinity.

Regarding the influence of parents' employment, both Hypotheses 2 and 3 are confirmed over the whole sample, as shown in table 2. That is, children from self-employed parents show higher entrepreneurial intention and rank higher on entrepreneurial attitudes than the offspring of non-entrepreneurs. Many researchers have declared that vocational outcome depends so much from parental support and encouragement, with the result that the attitudes and behaviours that young people adopt toward work is the consequence of what their parents say. Parents provide their influence to children through comments, beliefs and interactions, such as conversations and verbal and nonverbal reactions, influencing what children think, say and perceive about several careers. The reason of the correlation about parents' influence and children's choice is that parents possess a unique position to influence the future behaviour of their sons/daughters (Morales-Alonso, Pablo-Lerchundi & Vargas-Perez, 2016). In fact, if an individual feels strongly identified with someone in his social context, he will learn by the observation of actions and others themselves, to act and think in the same way.

Table 2 Student's t-test for Entrepreneurial Intention

		N	Mean (1-7)	df	t
Fathers with own business	Yes	155	3.53	698	3.73***
	No	545	2.80		
Mothers with own business	Yes	70	3.58	695	2.45*
	No	697	2.91		

***p < 0.001; **p < 0.01; and *p < 0.05.

5 Conclusions

The present research sheds light on how cultural differences mediate on the entrepreneurial intention of an individual. Besides, the effect of exposure to positive and negative role models for entrepreneurship has also been sought after.

To this end, a questionnaire has been developed and responded by a set of 774 students from two different countries: Italy and Spain.

As illustrated by the results, it emerges that Italians have a higher entrepreneurial intention than Spaniards, because they are more individualistic and masculine than Spanish students, which are more collectivistic and feminine.

The second outcome shows that students are more prone to entrepreneurship when exposed to positive (i.e. entrepreneurs) in their close environment (father and mother). Contrarily, students whose father and/or mother is not an entrepreneur, respond as if subjected to a negative role model to entrepreneurship. That is, exposure to positive role models foster entrepreneurial intention, while this is hindered when subjected to the influence of negative role models. The relevance of this result is that it is independent from the cultural origin of the individual.

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