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INNOVATIVE AND CREATIVE ENTREPRENEURSHIP IN SPAIN

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[1] José Luis Crespo-Espert and Federico Pablo-Martí, Lecturers of the University of Alcala (Madrid) have also participated in the research of this paper. The authors would like also to thank Fernando Crecente for his help and research assistance. Our gratitude also to the suggestions received from the external referees.

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ABSTRACT:
The aim of this paper is to consider the potential relationship between characteristics of entrepreneurs and competitive creativity, using the Spanish case as a reference. The paper is based on various research projects carried out previously, the last of which was completed in 2007. The analysis takes as its point of reference a number of surveys previously developed on entrepreneurship trends in Spain, but it pays particular attention to the study of innovative and creative activities, an aspect specifically included in the 2006 survey completed in 2007. The results in line with the objective pursued lead to some interesting conclusions on the subject, which has not yet been widely studied.

Key words: Entrepreneurship, characteristics of entrepreneur, innovativeness, creativity, entrepreneurial clusters.

RESUMEN:
El objetivo de este trabajo es estudiar la relación potencial que existe entre las características de los emprendedores y su creatividad competitiva, empleando el caso español como referencia. El documento está basado en varios proyectos de investigación realizados en los pasados años en el Instituto IAES (antes Servilab) y en otro nuevo que fue terminado en 2007. El análisis toma como punto de referencia varias encuestas llevadas a cabo previamente sobre las tendencias de la actividad emprendedora en España. Particularmente, la última encuesta, realizada entre 2006 y 2007, presta atención especial al estudio de las actividades innovadoras y creativas. Los resultados presentan algunas conclusiones de interés sobre el tema, que aún no ha sido extensamente estudiado.

PALABRAS CLAVE: actividad emprendedora, características del emprendedor, creatividad innovadora, clúster de empresarios.

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1. INTRODUCTION. APPROACH AND OBJECTIVES

The differences observed in the entrepreneurial activity in a given country are complex to interpret as they respond to several causes and their origins are quite diverse. Probably the most appropriate method (Verheul *et al.* 2001) for explaining these is to use a supply and demand diagram, as in the case of other productive factors, particularly capital and labour, in which the interaction of the supply and demand functions establishes the quantities and salaries allocated by economy.

The supply of entrepreneurial activity is latent in society and materialises by individual deliberations occasionally made on the market situation by potential entrepreneurs. It is basically determined by the characteristics of the population in which it occurs, including aspects of demography – both individual and social – and human capital. Therefore, this is a perspective of the labour market where supply is defined as the entrepreneurial activity that is latent in society. In terms of dimension and variety, demand is determined by the business opportunities offered by the economy to entrepreneurs. This is determined in turn by the economic development, technical progress, level of international integration and sectoral structure. Market and environmental conditions, the risk assessment and the entrepreneurs' way of life also affect the volume of inputs and outputs. From a spatial perspective, the urban environment and its agglomerate economies favour creative entrepreneurs, who benefit from the networks or try to create them (Nijkamp, 2000).

The conjunction of all these aspects determines the level of entrepreneurial activity observed in the economy, which can differ from long-term equilibrium. The evolution of the equilibrium rate of entrepreneurship has been studied from diverse perspectives, particularly through the relationship between said rate and economic growth (Caree *et al*., 2000; Audretsch *et al*., 2002), or by linking entrepreneurial activity with the level of unemployment (Thurik and Verheul, 2002), which is precisely what was done in the Spanish case. The automatic adjustment mechanisms vis-à-vis situations of imbalance in the evolution of the entrepreneurship rate have also been studied for the Spanish case, as well as the relationship - first decreasing and then increasing - between the level of development and the equilibrium rate (Belso, 2004).

Public administrations have frequently intervened in the markets in order to increase entrepreneurial activity by means of training, financing or counselling incentive programs (Velasco, 1998; Audretsch *et al*., 2002). It would appear that these programs have reduced entry barriers, but they have made little progress with respect to exit barrier elimination.

Studies of entrepreneurial activity in Spain are still few in number and lack transitional perspective. Some of them have been used in the development of this paper, including *Global Entrepreneurship Monitor*-GEM (De la Vega *et al.,* 2006) and two research studies: one on businessmen in Spain (Garcia-Tabuenca, de Jorge and Pablo-Martí, 2004), and another on the region of Madrid (De Jorge *et al.,* 2005). Both studies were carried out at the Institute of Economic and Social Analysis (SERVILAB). Their results[1] reveal some of the characteristics of Spanish entrepreneurs and provide conclusions relative to the factors determining their success and/or failure.

In 2006, within the framework of a new research project[2] whose aim was to delve deeper into this phenomenon, the same entrepreneurs who three years ago gave their opinions and provided information were surveyed again, as well as some new ones from companies set up between 2003 and 2005. The survey, which is representative of the Spanish entrepreneurial structure, was stratified according to the size and age of the enterprises. The survey's primary objective is to contrast the results previously obtained and to investigate new aspects in relation with the entrepreneurs. More specifically, to consider the entrepreneurs' motives for choosing the time, place and sector when launching their companies, as well as the level of product emergence offered depending on their novelty and the market at which they are aimed. Also highlighted is the possible existence of technological cooperation agreements with other businesses or agents. The aim is to find evidence of entrepreneurial behaviours related to emerging –or *Schumpeterian*- activities, which can be linked to territorial or sectoral clusters or to the exploitation of specific advantages.

The objective is to characterise and distinguish between '*Schumpeterian* entrepreneurs' and 'managing entrepreneurs' (Wennekers and Thurik, 1999), as the afore-mentioned managing entrepreneurs only represent a minority group in the business world and are identified by their creativity at the initial stage and during the development process of the project undertaken –the process of creative destruction- associated with the corresponding risk. Therefore, they create independent and innovative enterprises with a market structure. Frequently, after the creative idea has materialised, they take on the role of traditional entrepreneurs, although they occasionally start new business adventures (Carree et al., 2002) either related to the previous business or not. In this sense, Audretsch and Thurik (1997) identify the complexity of differentiating between entrepreneurs and managing entrepreneurs, due to the wide scale existing between the pure *Schumpeterian* and the pure trading entrepreneur.

[1] These two research studies used specific surveys; 458 were conducted in the research related to Spain, and 701 for that related to Madrid. The quantitative part was based on the SABI database at the Commercial Registries of Spain and Portugal (Bureau van Dijk Electronic Publishing, S.A.).
[2] Also carried out at the Institute of Economic and Social Analysis (SERVILAB).

Generally speaking, we attempt, within the context of Spanish entrepreneurial dynamics, to illustrate the relationship between the personal characteristics of entrepreneurs and the behaviors adopted by those who strive towards an innovative and creative activity.

On the basis of this, the present paper is organised in five sections, including the introduction. The second section describes the principal characteristics of Spanish entrepreneurs, including aspects related to their success or failure. In section 3, the factors explaining the entrepreneurial activity are analysed and different homogeneous groups of entrepreneurs (clusters) are established. Section 4 provides evidence gathered from the relationships between the entrepreneurship and the innovative/creative activities. The paper's main conclusions are presented in section 5.

2. SOME CHARACTERISTICS OF SPANISH ENTREPRENEURS

The results of the research carried out indicate that the vast majority of Spanish entrepreneurs are men (over 90 percent). In contrast, almost one third of the youngest entrepreneurs are women. Even so, and despite the social changes, the latter continue to have greater difficulties in achieving the materialisation of their projects in consolidated companies. As in most countries, the most common age of an entrepreneur ranges from 40 to 50, although the average starting age is around 25.

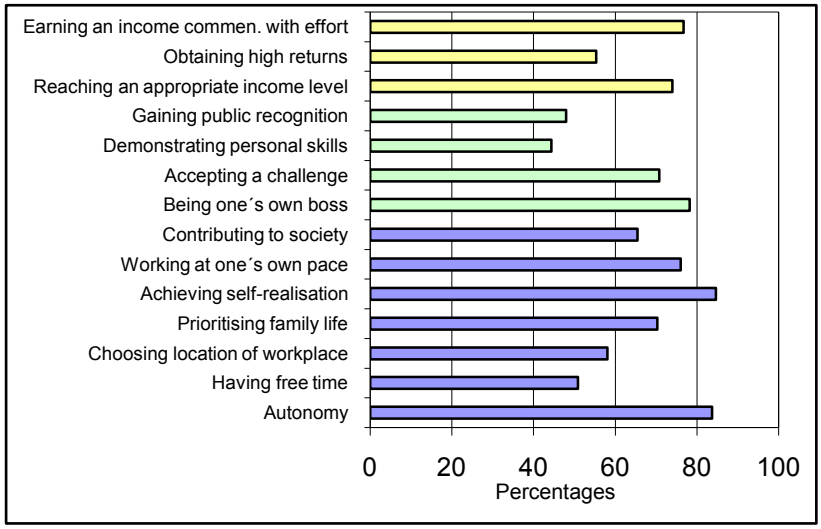
Family environment is a driving force in entrepreneurial activity. Almost two thirds of entrepreneurs come from families with entrepreneurial experience, particularly in the case of women. Entrepreneurial tradition has a determining influence on which sector is chosen by the new entrepreneur, as well as on the project's success (Van Praag, 1999).

A large group of entrepreneurs –more than 40 percent- has only finished primary school, although a similar proportion has been to university. We can, nonetheless, observe that entrepreneurs' qualifications are also a result of their previous working experience. Women have less experience in this regard, especially in the area of company management. On the other hand, almost half of the entrepreneurs consider themselves unable to negotiate in a language other than their mother tongue.

The motivations behind an entrepreneur's activity are diverse, although they can be divided into three groups (Patchell, 1991): 1) quality of life, 2) job satisfaction, and 3) income (figure 1). From the above motivations the following can be highlighted: in the first group, self-realisation and the independence obtained from being working for oneself; in the second group, being the boss of one's own business and taking on a challenge; and in the third group, earning an income

commensurate with the effort put in and attaining an adequate standard of living. The following reasons rank much lower in importance: having more free time, demonstrating personal skills and gaining public recognition.

FIGURE 1.
Reasons for being an entrepreneur



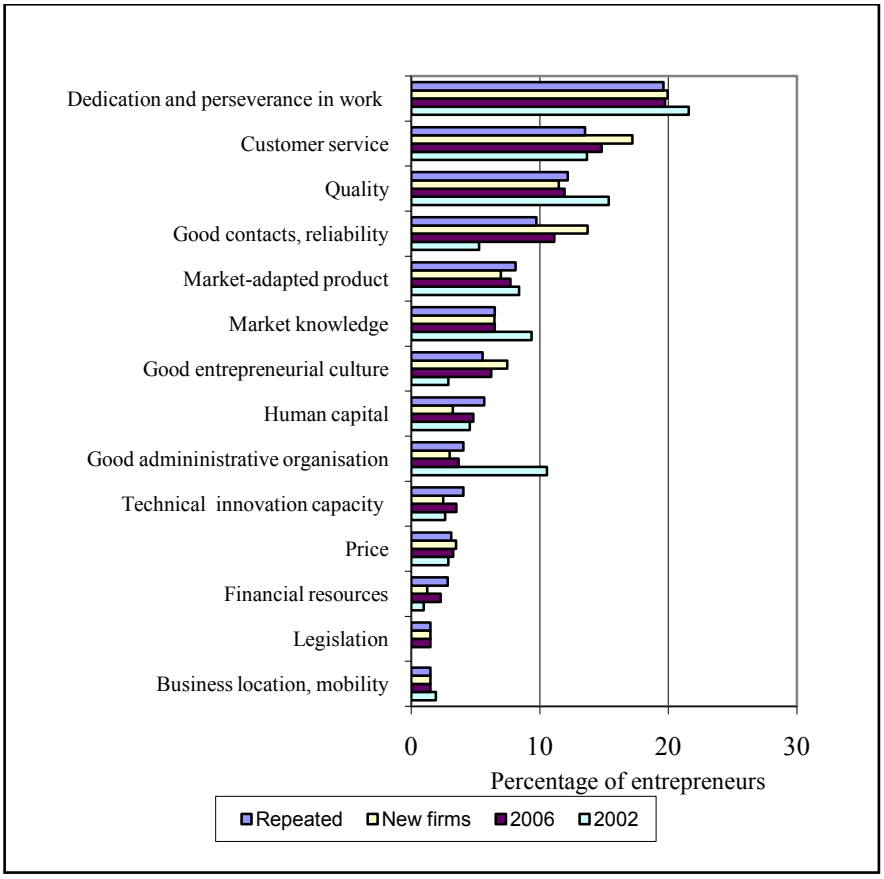
Source: García Tabuenca et al. (2004)

For the majority of Spanish entrepreneurs, the key to success is on the whole related to 1) differentiation against competition, 2) maintaining an attitude of doing a good job, whether during production, sales, or post-sales processes –dedication, quality, service and good organisation-. On the contrary, human capital, good business culture, capacity for technical innovation and financial resources available do not figure in a significant position. However, these last reasons explain the company's survival as basic characteristics essential for survival in the market (figures 2 and 3). Overall, these data and results regarding the characteristics of the entrepreneurs are similar or vary minimally among the research studies carried out (2002 and 2006).

The minimal presence of entrepreneurs that fail (figure 4) indicates that, unlike other countries, in Spain past failures induce entrepreneurs to abandon business activity. In comparison with other business cultures (mainly Anglo-Saxon countries), the possibility of starting a new business after a failure appears to be looked down upon socially in Spain, which makes it unlikely for entrepreneurs to be able to consider the possibility of creating another company, due to the personal and financial considerations involved. Moreover (figure 5), the majority of entrepreneurs who return to the activity after previous failure (55 percent) do so in the same sector, due to their knowledge and due to the costs involved, on which a return is difficult to be found in other

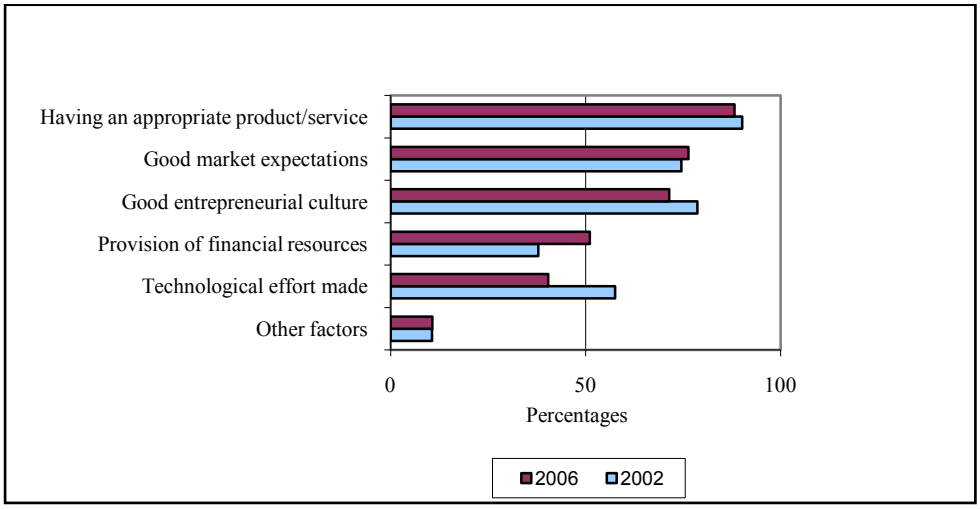
sectors. Callejon (2003) has shown that companies that manage to survive more than five years scarcely represent half of the total amount of those created, while one fifth has already disappeared during their first year.

FIGURE 2.
Reasons for entrepreneurial success



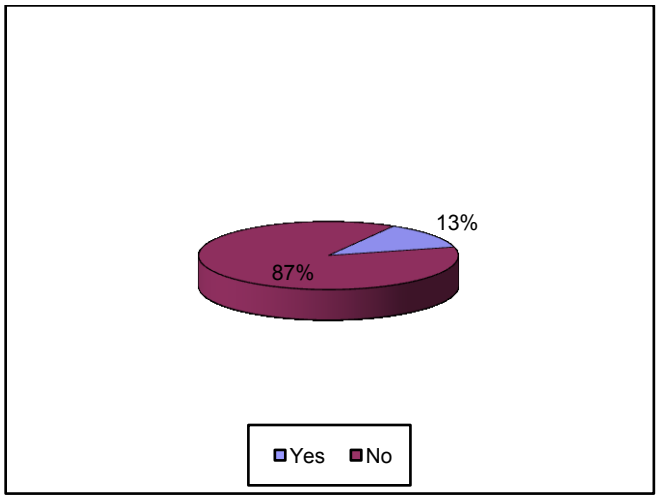
Source: García Tabuenca *et al*. (2008)

FIGURE 3.
Reasons that influence entrepreneurial survival



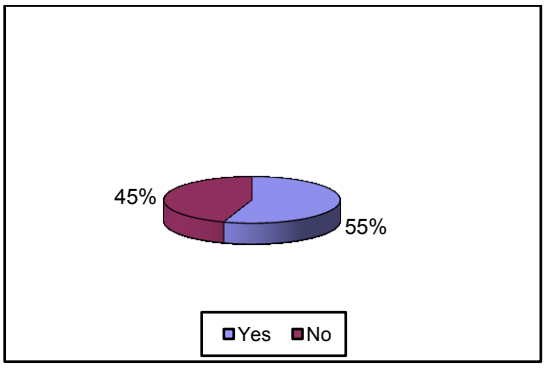
Source: García Tabuenca *et al*. (2008)

FIGURE 4.
Entrepreneurs with previous failures



Source: Own elaboration

FIGURE 5.
Entrepreneurs who return to the same sector afterprevious failure



Source: Own elaboration

3. FACTORS AND CLUSTERS OF ENTREPRENEURIAL ACTIVITY

Taking into consideration the main variables demonstrated by literature in relation with the different spheres of company behaviour (demographical and psychological, sectoral and environmental, organisational and influence from public policies, among others), we selected 37 variables from the survey made in 2006 in order to determine the factors characterising the entrepreneurial initiative in Spain (table 1), grouping them into five sections: motivational, survival, valuation of public aids, characteristics of the entrepreneur and characteristics of the company environment. Some of these variables have been presented in section 2.

In this analysis, various research papers that suggest combining entrepreneurs' individual dimensions, organisation and the environment have been taken into consideration. Particularly the proposals by Baum, Locke and Smith (2001) and de Lumpkin and Dess (1996) as related to using multilevel analysis to explain the main factors of entrepreneurial activity. The information provided by the Reports of the Global Entrepreneurship Monitor (GEM) -primarily the 2004 (Reynolds *et al*.) and 2005 (Acs *et al*.) editions- as well as data from the 'Flash Eurobarometer' on 'Entrepreneurship' of the European Commission (2004) have also been taken into consideration.

Of the variables included in the analysis, some stand out to a greater extent. Some specific motivators such as the value placed on autonomy, prioritisation of family life, self-realisation, working at one's own pace, being one's own boss and earning an adequate income reach values above 4. Similarly, within those aspects or variables influencing survival, having an appropriate product/service, good market

TABLE 1.
Descriptive characteristics of the variables, survey 2006

Description of the variable	Measurement scale	Average	Standard deviation
• *Motivational variables*			
- Autonomy	Likert-type scale (1= "not important" to 5 =" very important")	4.35	0.99
- Having free time		3.44	1.43
- Choosing location of workplace		3.61	1.34
- Prioritising family life		4.01	1.14
- Achieving self-realisation		4.36	0.92
- Working at one's own pace		4.09	1.13
- Contributing to society		3.84	1.10
- Being one's own boss		4.12	1.09
- Taking on a challenge		3.90	1.16
- Exhibiting personal skills		3.21	1.35
- Gaining public recognition		3.33	1.37
- Reaching an appropriate income level		4.12	0.97
- Obtaining high returns		3.51	1.07
- Earning an income commensurate with effort		4.18	1.01
• *Factors influencing survival*			
- Having an appropriate product/service	Likert-type scale (1= "not important" to 5 =" very important")	4.49	0.90
- Provision of financial resources		2.85	1.51
- Good market expectations		4.03	1.08
- Good business culture		4.16	1.22
- Technological effort made		3.59	1.44
• *Appraisal of public policies*			
- Social benefits promoting the creation of business	Likert-type scale (1= "not important" to 5 =" very important")	2.84	1.07
- National policies related to the creation of business		2.75	0.98
- Regional policies related to the creation of business		2.78	1.02
- Administrative/bureaucratic processing for the creation of business		2.36	1.06
- Taxation in the creation of new business		2.44	1.03
- Predictable and consistent governmental regulations		2.66	0.99
• *Entrepreneurs' characteristics*			
- Age	4-position scale	2.86	0.91
- Work experience	"	2.73	0.97
- Level of decision making	Yes=1; No=0	0.58	2.45
- Existence of another entrepreneur in the family	"	0.51	2.46
- Family experience related to his/her activity	"	0.69	2.47
- His/her business is related to his/her previous activity.	"	0.60	2.46
- University studies	"	0.40	0.49
• *Entrepreneurial/environmental characteristics*			
- Age of the enterprise	4-position scale	2.86	0.98
- Percentage of actions owned by the main shareholder.	3-position scale	2.43	0.76
- Size (in number of employees)	4-position scale	2.50	1.12
- Sales concentration (3 main clients)	"	2.47	1.07
- Activity sector	3-position scale	2.43	1.14

Source: Own elaboration

expectations and good entrepreneurial culture also reach, on average, values above 4. In contrast, public aids for the creation of enterprises reach a lower value.

Within the group of entrepreneurs' characteristics, we can observe that they place attention on all business decisions in 57 percent of the cases, they have entrepreneurial tradition in 60 percent of the cases, and have a family member with experience in the same activity in 51 percent of the cases. Finally, data indicates that the businesses under analysis are 11 years old on average and operate in 7 activity sectors according to NACE (one-digit level).

Characteristics of factors defining entrepreneurs

In order to reduce and synthesize the information relative to the 36 original items representing the entrepreneurial spirit, the validation of the application of the factorial analysis (main components) was judged by calculating different indicators showing appropriate results (Barlett test = 4.551 with $p<0,01$) and the correlations matrix -0.000035-, which indicates the existence of linear dependencies between the answer variables. In view of this result, an analysis was carried out from which we obtained- after applying the varimax rotation -the matrix of factorial charges included in table 2. Therefore, we have detected the existence of 11 factors which represent 59.09 percent of the variance of the original variables, therefore achieving a manageable data sample. The first six factors virtually explain 40 percent of the accumulated variance, and each of these considered individually represents between 5.3 and 9.4 percent of the explained variance. The other five factors contribute to only 19.44 percent of the accumulated variance.

In the first factor, named 'gaining returns', those variables with the highest level of saturation refer to motives mainly related to monetary incentives and, to a lesser extent, to the exercise of leadership within the company. The second factor groups together those variables related to the assessment of public policies, to the extent that they favour the creation of businesses hence, the entrepreneurial initiative. This has been called 'contribution of public policies'. The third factor, called 'accumulated experience: personal reasons', presents three variables which are highly related to experience: work experience, age of the entrepreneur and age of the company.

The fourth factor, listed as the 'survival factor', is associated with those variables having the highest influence on the company's survival. The fifth factor, 'quality of working life', is highly associated with the following variables: prioritising family life, having more free time and choosing the workplace location. And finally, the sixth factor, is labelled 'need for personal and social achievements' because its variables are associated with the need to demonstrate the entrepreneur's social and personal skills.

TABLE 2.
Rotated matrix of factors determining the entrepreneurial activity, 2006

Factorial Analysis	Obtaining of returns	Contribution of public policies	Accumulated experience (I): Personal reasons	Survival factor	Quality of working life	Need for personal and social achievements	Autonomy in decision-making	Accumulated experience (II): Family traidtion	Financial dependence	Sector - Market breadth	Organisational/managerial complexity	Communality
Being one's own boss	0.4708											0.5582
Reaching an appropriate income level	0.8181											0.6902
Obtaining high returns	0.7805											0.6882
Earning money in line with the effort made	0.8001											0.6617
Social benefits promoting the creation of companies		0.6764										0.5066
National policies related to the creation of companies		0.8482										0.7445
Regional policies related to the creation of companies		0.8026										0.6883
Administrative processing for the creation of companies		0.7057										0.5269
Taxation of the creation of businesess		0.729										0.5531
Governmental regulations are predictable		0.7328										0.5827
Age of the company			0.792									0.6811
Work experience			0.85									0.7469
Age of the enterprise			0.7513									0.6233
Having an appropriate product/service				0.7047								0.5323
Good market expectations				0.5157								0.5721
Good business culture				0.7401								0.6171
Technological effort made				0.69								0.5481
Having free time					0.7994							0.6958
Choosing location of workplace					0.669							0.5658
Prioritising family life					0.826							0.7498
Achieving self-realisation						0.6458						0.5758
Working at one's own pace						0.4656						0.4176
Contributing to society						0.6347						0.4958
Taking on a challenge						0.6298						0.5117
Demonstrating personal skills						0.6609						0.5774
Gaining public recognition						0.5768						0.5977
Autonomy							0.5121					0.4805
Level of decision-making							0.6492					0.4804
Existence of another entrepreneur in the family								0.793				0.6502
Family experience related to his/her activity								0.8134				0.6769
Percentage of shares owned by the main shareholder									-0.5132			0.4639
Provision of financial resources									0.8246			0.7247
Sales concentration (3 main clients)										0.772		0.6357
Activity sector										-0.7506		0.6396
His/her enterprise is related to his/her previous activity											-0.529	0.4466
University studies											0.6447	0.5066
Size (in number of employees)											0.4353	0.45
Variance	24.468	34.809	2.118	19.717	20.463	2.611	1.557	15.001	14.823	13.598	12.901	
% of variance	6.61%	9.41%	5.72%	5.33%	5.53%	7.06%	4.21%	4.05%	4.01%	3.68%	3.49%	
% of accumulated variance	6614,00%	16.02%	21.75%	27.07%	32.6%	39.66%	43.87%	47.92%	51.93%	55.61%	59.09%	

Source: Own elaboration

Groups of entrepreneurs and characteristics of each group

A cluster analysis of the factors has enabled us to create six main groups. With this reduced number of groups the information obtained from the results is of greater use. The process of group generation by the Howard- Harris algorithm is represented in figure 6. The divisions are determined by the factor with the highest variance and the results are shown in table 3. The validation of these groups has been made by the application of a discriminant analysis. Also more proof of their validity has been obtained by calculating the confusion matrix, which enables us to observe that 99.78 percent of the cases are correctly regrouped.

Table 3. **Groups of entrepreneurs**

Groups of Entrepreneurs	No.	Enterprises	Obtaining of returns	Contribution of public policies	Accumulated experience (I): Personal reasons	Survival factor	Quality of working life	Need for personal and social achievements	Autonomy in decision-making	Accumulated experience (II): Family tradition	Financial dependence	Sector-Market breadth
Adaptative	**84**	Average	0.16	0.45	0.42	0.39	-0.07	0.54	-0.38	0.06	-0.41	1.16
		ST. Dev.	0.79	0.93	0.87	0.86	0.83	0.87	0.95	0.93	0.93	0.72
Self-employed	**72**	Average	0.16	-0.58	-0.2	0.29	-0.68	-0.5	1.05	0	0.7	0.49
		ST. Dev.	0.75	1.03	0.87	0.87	0.8	1.05	0.73	1.02	1.02	1.05
Manager	**79**	Average	0.48	0.26	-0.46	0.39	1.39	-0.16	0.04	0.08	0.33	-0.31
		ST. Dev.	0.79	0.83	0.77	0.9	0.67	0.95	0.9	1	1	0.79
Employee	**111**	Average	0.21	0.26	0.99	-0.45	-0.22	-0.2	-0.08	0.04	0.04	-0.55
		ST. Dev.	0.81	0.85	0.66	0.9	0.78	0.98	0.86	0.98	0.82	0.64
Family man	**108**	Average	0.02	-0.28	-0.85	-0.54	-0.43	0.29	-0.55	0.1	-0.22	-0.32
		ST. Dev.	0.71	0.89	0.53	0.93	0.63	0.73	0.78	1.01	0.85	0.77
Creative	**53**	Average	-1.68	-0.27	0.1	0.44	0.31	-0.12	0.43	-0.5	-0.43	-0.24
		ST. Dev.	1.06	1.16	0.85	0.55	0.86	1.14	0.92	0.97	1.03	0.87
		F-Ratio	53.26*	15.06*	80.46*	22.94*	75.56*	13.11*	36.10*	3.09*	16.98*	58.13*

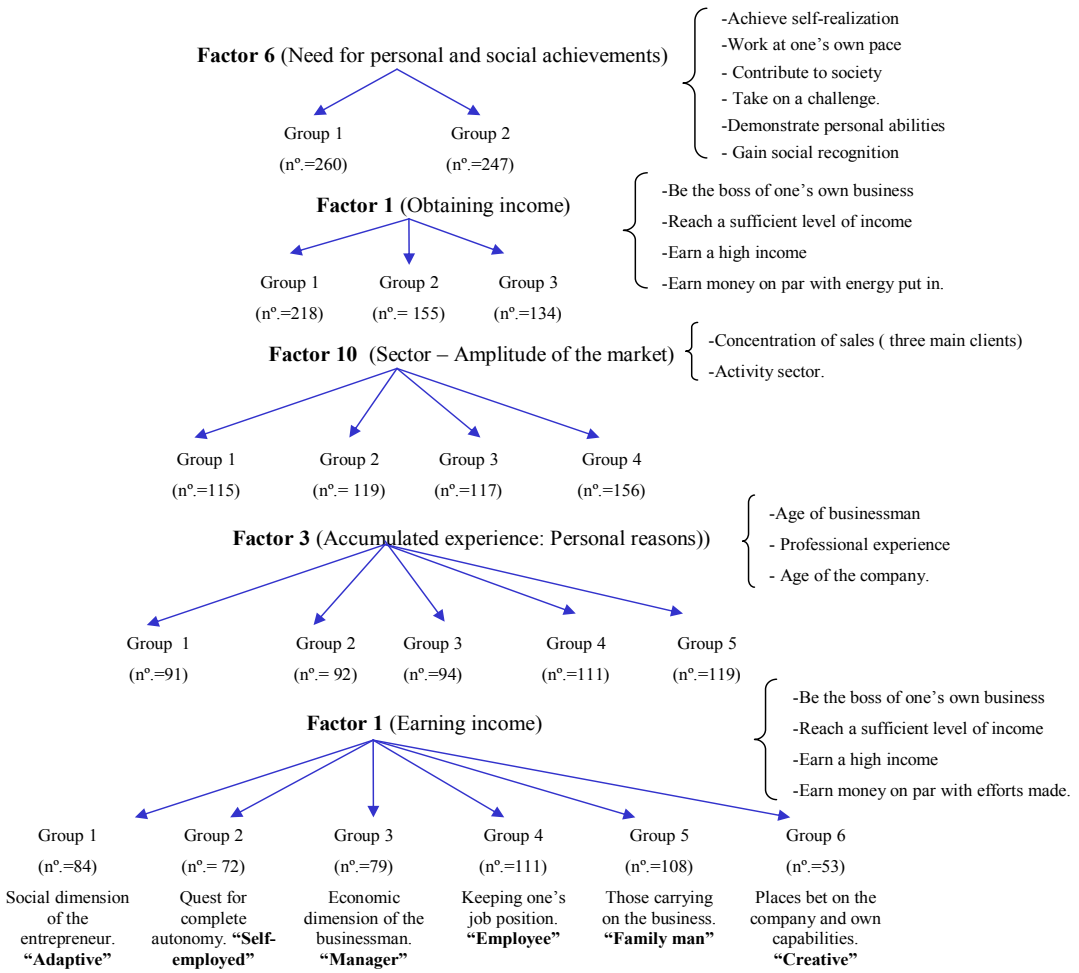
* $p < 0{,}001$.

Source: Own elaboration

Once the groups were established, there was a need to determine the differences between them. In order to obtain the differences and thereby characterise the groups, we must do an in-depth analysis of the results shown in table 3, which reflects the significance of the average differences for the eleven factors. Therefore:

Group 1 includes 84 entrepreneurs and is characterised by factors and variables that, from the point of view of their functions, stress their social dimension. This has been named '*adaptative entrepreneur*'. **Group 2**, with 72 entrepreneurs and labelled '*self-employed entrepreneur*', is related to factors of autonomy in decision-making, financial dependence, rejection of public policies and a need for personal achievement. **Group 3**, made up of 79 entrepreneurs, differs from the first group in that it is focused on the economic dimension, in the gaining returns and in attaining better quality of life. This group has been called '*entrepreneur-manager'*. **Group 4**, with 111 entrepreneurs, are a highly experienced and professional group, and aspire to keep their jobs, and has therefore been called '*entrepreneur-employee'*. **Group 5**, composed of 108 entrepreneurs, is associated with a more entrepreneurial tradition and rejection of the other features of entrepreneurial survival, and has thus been called '*family entrepreneur'*. Finally, **Group 6**, with 53 entrepreneurs, is characterised by the value it places on survival factors, strategic and market aspects, complexity of the organisation/management (level of education and company size) and freedom to investigate the areas where business opportunities are detected. This group has been called '*creative entrepreneur*'.

FIGURE 6.
Process of group generation



Source: Own elaboration

To conclude, the factorial analysis has enabled us to simplify the complex relationships that might exist between all 37 variables observed, through eleven factors that link ostensibly unrelated variables. On the other hand, due to the cluster analysis, we have been able to classify all the entrepreneurs studied into six different groups according to the higher positive (or negative) amount of factors they hold. These methods, apart from facilitating the interpretation and understanding of the determinants that explain the entrepreneurial activity, allow us to also examine the cluster groups in depth. That is to say, identifying the entrepreneurs according to the type of enterprise they have created (chosen) or, in other words, according to the motivations and conducts carried out in their entrepreneurial dynamic, as well as the influence of public incentives and the entrepreneurship rate.

On the basis of this premise, we can formulate the hypothesis that the most dynamic and innovative entrepreneurs, i.e. those related to emerging markets and products, will be characterised by common behaviours, similar to those expected in the innovative and creative activity and which coincide with some of those of the clusters.

4. ENTREPRENEURIAL ACTIVITY AND INNOVATIVE AND CREATIVE INDUSTRY

The 2006 survey included eight new questions, apart from those used in 2002, about certain fields that illustrate the level of creativity or innovation of entrepreneurs. This survey was directed at two groups: a) the 285 entrepreneurs surveyed in 2002 ("repeat firms"); and b) approximately 222 new entrepreneurs who created their companies between 2003 and 2005 ("new firms"). These eight new questions have made it possible to explore the following crucial aspects: a) the degree of novelty of the product chosen by the entrepreneur, b) reasons for creating the company with respect to location, timing and sector chosen, c) commitment to R&D; d) technological cooperation agreements with other companies or entities, e) strategies for future development, and f) the number of college graduates and engineers in the company.

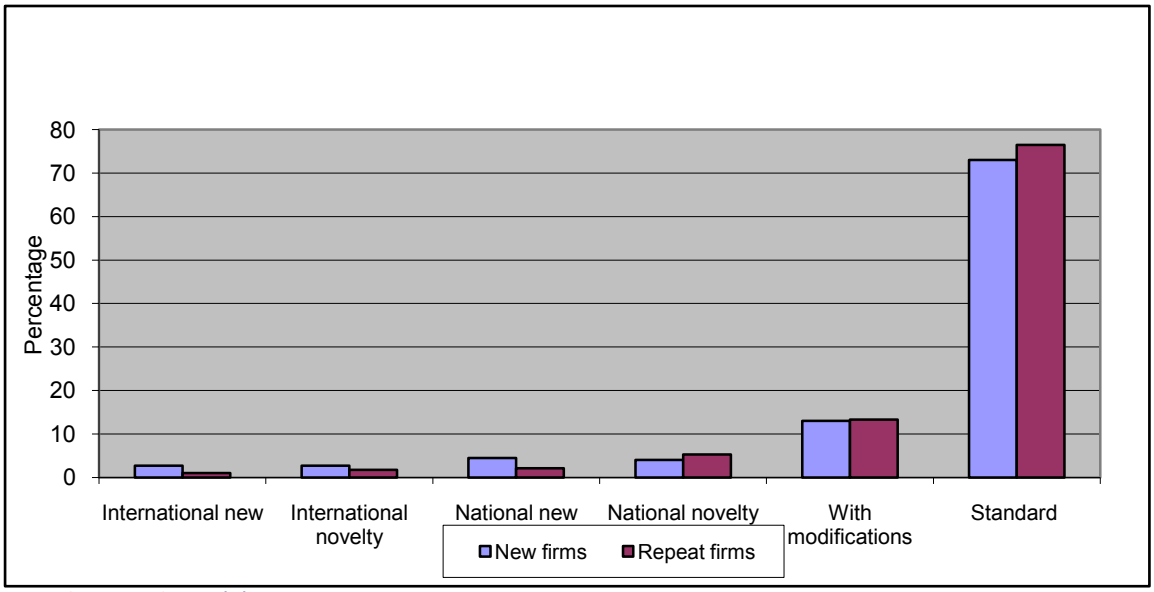
The results arising from this analysis, for example, certain **indicators** of the innovativeness and creativity of the entrepreneurial activity, will then be crossed with the characteristics of the entrepreneurs extracted from the factorial and cluster analysis in order to find relationships, if they exist.

Figure 7 shows the **type of product** chosen by the entrepreneur when creating his/her current company. As a working hypothesis, we will assume that, from the market perspective, the product offered at the beginning of an entrepreneurial activity is a decisive component, although not unique, in the projection of the company. Therefore, it can be used as an initial indicator of the level of commitment of the entrepreneur to productive innovation or intelligent creativity.

75 percent of the entrepreneurs decided to produce a standard, existing and well-known product or service. In contrast, 25 percent of the entrepreneurs chose a non-standard product, or at any rate they introduced some type of innovation or change to differentiate their product. The percentage drops to 7.9 percent when launched nationally, providing the product with new or novel characteristics in the Spanish market. When the reach is international, the percentage falls to only 4 percent. Nevertheless, the type of product chosen by new entrepreneurs is, as expected, remarkably more innovative than that of established entrepreneurs or those already active in 2002. In the research process, the replies given by the entrepreneurs surveyed were contrasted with

the information provided by the annual reports of SABI Database (Commercial Registries).

FIGURE 7.
Type of product chosen in the creation of the enterprise



Source: Own elaboration

In order to explore the commitment of the entrepreneurs with intelligent, creative and highly market-orientated ideas, we have carried out more in-depth research into their motivations for choosing a specific location, time and activity for the creation and launch of their companies - in other words, the most frequent reasons for setting up their business. Table 4 shows aggregate data. No significant differences have been observed between new and established companies.

TABLE 4.
Motivations for creating an enterprise (percentages)

Motives	Location	Time	Sector
Personal and family	77,9	71,0	14,9
Strategic, sectoral or market opportunity	**14,6**	**17,4**	**10,9**
Availability of factors and resources	7,5	11,6	
Experience (know-how)			65,9
Other reasons			8,3
TOTAL (%)	100	100	100

Source: Own elaboration

We can establish the hypothesis that **"strategic, sectoral or market opportunity"** motivations are those which are closest to the concept of creative or innovative industry. The others are, to a greater or lesser extent, further from the essential entrepreneurial core. Among such strategic motivations we find: 1) the non-existence of a company of the

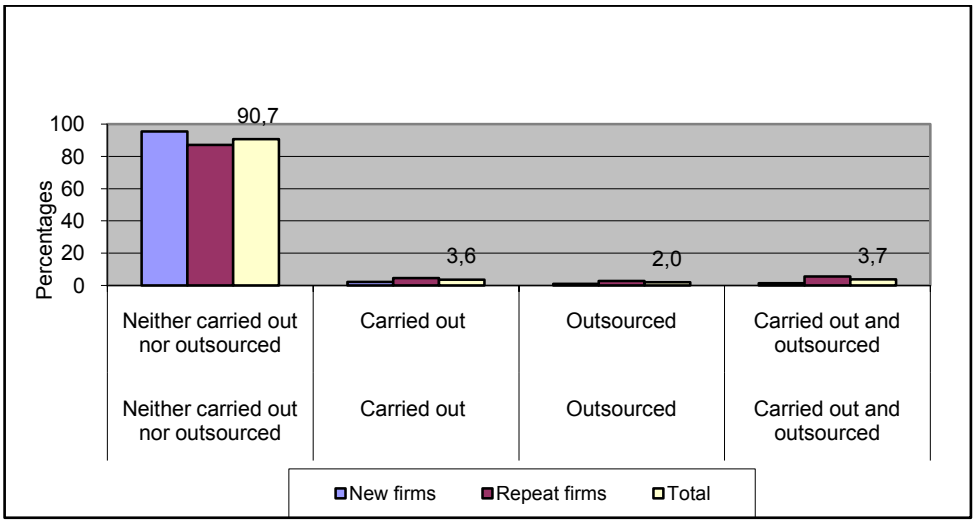
same kind; 2) the belief that there are good market expectations; 3) the availability of a novel product; 4) good development expectations; 5) business opportunity or a demand predicted in the location and sector. In the cases under study, 'location' stands at 14.6 percent, 'time' at 17.4 percent, and 'sector' at 10.9 percent.

The table also shows three further motives for creating companies either vaguely related or not at all to their possible innovative or creative nature: **"personal or family reasons", "reasons related to the availability of factors and resources"** and **"experience-related reasons".**

When correlating the three variables, the result was that scarcely 1 percent of the entrepreneurs chose the same item of "strategic, sectoral or market opportunity" when they were questioned regarding the location, time and sector. This reduced group of entrepreneurs, apparently the most intelligent from the entrepreneurial perspective, would be those who promoted the most innovative companies, as their decisions were made by using more competitive factors. Moreover, 2.8 percent of the entrepreneurs would have chosen the same strategic item, although only with respect to two variables: location and sector, and 3.6 percent when the sector and time variables were combined, and 2.6 percent combining location and time.

It has also been determined whether the entrepreneurs surveyed have made any type of technological effort, either within the company itself or through outsourcing (figure 8). In principle, we could assume that the maintenance of a **commitment in the field of R&D** means a higher creativity and enhanced business performance. As illustrated in figure 11, the results of this commitment to technology are quite low, according to the trajectory of Spanish entrepreneurs. Only 9.3 percent of the companies claimed to have carried out or contracted research and development activities during 2005. Out of this 13 percent, 3.6 percent were carried out within the enterprise, 2 percent were outsourced and 3.7 percent used both methods. Most recent companies only carried out this type of activity in less than 4.5 percent of the cases, while more established companies registered a percentage of almost 13 percent. However, the technological effort made by the former was in the same proportion as the latter, which seems to agree with the typology of incoming companies.

FIGURE 8.
R&D activity in the companies, 2005

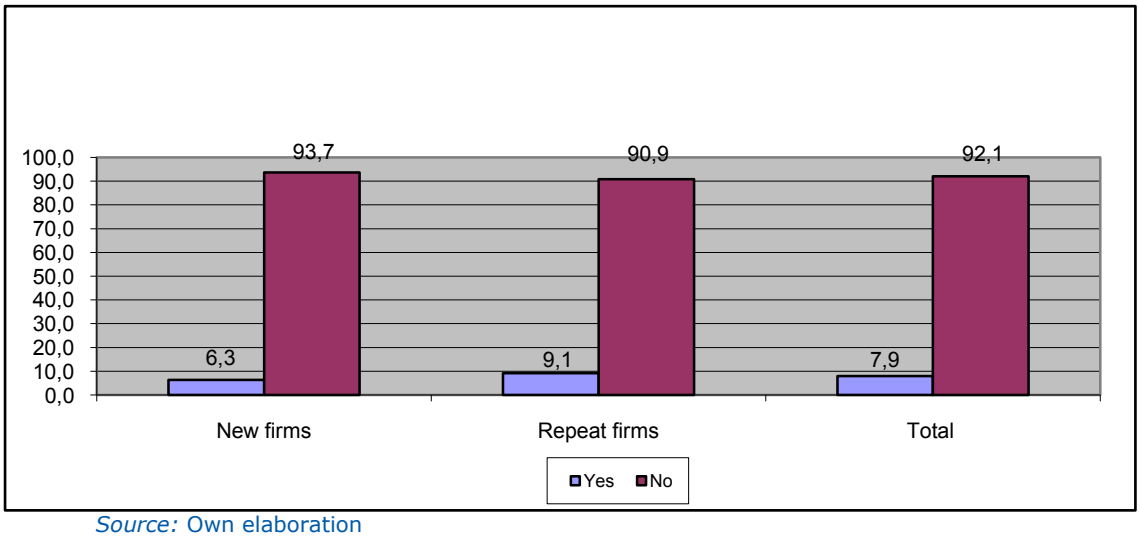


Source: Own elaboration

Moreover, the possible existence of **R&D cooperation agreements** with other specialised companies or institutions has also been analysed. Processes of business cooperation, particularly those referring to the field of technological development, are effective indicators of emerging companies, of opening to competition and potential competitiveness gains. As shown in figure 9, this conduct is not widespread among Spanish enterprises. From the group of companies that have carried out any technological activity in 2005, less than one out of eight (7.9 percent) signed cooperation agreements in this area with other specialised companies or entities. More established companies enterprises are rank above those newly created, although the difference is only three points: 9.1 as opposed to 6.3 percent.

In the case of new companies, these agreements are mainly signed with other small- and medium-sized companies (42.9 percent). However, it is important to highlight that a high number of agreements are signed at large companies (28.6 percent), but fewer at universities or technological centres, despite the aparent dynamism in recent years in connection with entrepreneurs' and specialized research centres' new initiatives. However, established companies state that their agreements have been made with universities and research centres (26.9 percent), as well as with large enterprises (23.1 percent) and technological centres (19.6 percent).

FIGURE 9.
R&D cooperation agreements with other business and entities, 2005 (percentages)



Source: Own elaboration

Along the same lines, a relationship can be established between the technological activity developed by the companies and the number of **college graduates and engineers they have**, which varies depending on the activity sector and company size. It is assumed that the higher the number of engineers or college graduates, the deeper their commitment to innovative and creative activities (table 5). Finally, in this investigation on the indicators, the **growth strategies** that the entrepreneurs have maintained or plan to maintain in the future have also been taken into consideration. In general, the majority of entrepreneurs progress at the pace of the company's internal growth. It can be presumed that entrepreneurs who plan not only internal growth strategies, but other methods of growth based on mergers or acquisitions of other enterprises, offer a more dynamic and forward looking quality and, therefore, their possibility of becoming an established company is higher (table 5).

The above mentioned ideas allow us to establish relationships with respect to the different behaviours of innovative and creative entrepreneurs. Table 5 shows the relationships between the indicators referred to in this section (innovativeness of new business) and the aforementioned clusters (characteristics of the entrepreneur). The different measures or values obtained from this correlation between indicators and groups of entrepreneurs will lead us to establish a ranking of categories from the highest to the lowest commitment to entrepreneurial innovative and creative activity.

TABLE 5.
Innovativeness of new business and characteristics of the entrepreneur (clusters) (1)

Entrepreneur group / Variables	Global Sample: Average Values	Group I: "Adaptative"	Group II: "Self-employed"	Group III: "Manager"	Group IV: "Employee"	Group V: "Family man"	Group VI: "Creative"	Significance Chi-Square
Number of entrepreneurs	507	84	72	79	111	108	53	
Type of product								
- International novelty	3.95%	+ *	=	+	- *	-	+	
- National novelty	7.89%	- *	+	+	+	-	+ *	0.2784
- Modifications	13.21%	=	+ *	+	- *	-	+	
- Standard	74.95%	=	-	-	+ *	+	- *	
Choice of business due to strategic opportunity:								
- Place	14.6%	=	=	+ *	-	- *	+	0.4345
- Time	17.36%	+ *	+	-	-	- *	=	**0.0745**
- Sector	10.85%	+	+	+	- *	-	+ *	**0.0682**
Companies that carry out R&D activities								
- R&D	9.27%	+ *	+	+	-	- *	+	**0.0028**
Companies that have cooperation agreements								
- Agreements	7.89%	+	+	+	-	- *	+ *	0.1453
Future growth strategies								**0.0002**
- Internal growth	82.45%	-	-	-	+	+ *	- *	
- Acquisition of other compar	3.75%	+	-	+	-	- *	+ *	
-Mergers	3.55%	+	-	-	- *	-	+ *	
- Other	10.26%	-	+	+	-	- *	+ *	
Num. of college grads/engineers								0.3449
-Up to 5	6.71%	- *	=	+	=	+ *	-	
-More than 5	93.29%	+ *	=	-	=	- *	+	

(1) '=' means the average; '+' above the average, '-' below the average; $+^{*}$ or $-^{*}$ show the values furthest above and below average.

Source: Own elaboration

To conclude, we can infer from the analysis that Group VI (comprising just 53 individuals or 10.5 percent of the total) is explained principally by the factors of company survival as well as organisational and managerial complexity and registers the highest concentration of values of the indicators/variables associated with creative and innovative activity. This group includes the largest number of entrepreneurs committed to the creation of emerging and dynamic companies. The following values of the indicators' averages yield positive results: 1) as for the product chosen by the entrepreneur, three values exceed the average (one of these –national novel product- being higher than the average) and the fourth one –standard product- is lower than the average, as would be expected from an emerging entrepreneurial group; 2) whether the business was chosen for strategic reasons: the specific value of the sector is noteworthy, which - apart from being furthest from the average - is statistically significant; 3) as for the technological effort

made, the value exceeds the overall average, although there is another group –one identified with acknowledgement and public aids- which shows a better result, probably due to the support received from public administrations; 4) in relation with technological cooperation agreements, the value stands out as being above average; 5) the implementation of growth strategies, a statistically significant result, offers the highest values, taking into account that -from the perspective of this internal growth analysis (considered within itself)- it must be considered of less interest than the other options (mergers, acquisitions…), and finally, 6) the number of college graduates or engineers hired presents an above-average performance when there are more than five college graduates or engineers.

Group I stands in second position of the ranking in relation with the entrepreneurial-creative activity in Spain, although its performance is worse than Group VI, which is composed of entrepreneurs striving towards personal and public achievements and those seeking public aids. Groups III and II follow, in an intermediate position. The former is characterised by entrepreneurs dedicated to the normal management of the company and to pecuniary gains; contrariwise, the latter group is made up of entrepreneurs whose main objectives are to achieve autonomy in their activity, to take on challenges, and to pursue public incentives.

Finally, Group V seeks the continuity of the company (accumulated experience: family tradition) and shows in the lowest part of the table, registering the smallest concentration. This group is very closely followed by Group IV, called "employee" due to the interest in keeping their job (accumulated experience: personal reasons).

5. MAIN CONCLUSIONS

This article provides some provisional hypotheses and comparisons regarding the innovative and creative capacity of the entrepreneurial activity in Spain and the characteristics of the entrepreneurs.

In the first section, we examined some characteristics of Spanish entrepreneurs and the reasons for their projects' success or failure, as well as the factors determining the entrepreneurial activity. In order to simplify and obtain the typical features, some of these characteristics have undergone a factorial analysis, which has led to the creation of groups of entrepreneurs with homogeneous behaviours. Moreover, we presented and examined several variables/indicators – entrepreneurial conduct, either new or consolidated - which is supposed to strengthen the entrepreneurial activity to turn it into not just a mere standard activity whose primary end is the creation of a company, but into an

intelligent, creative and innovative action, which could be characteristic of the so-called *Schumpeterian* entrepreneurs.

Among the working hypotheses, innovative and creative entrepreneurs are believed to offer a differentiated product (either nationally or internationally) and to choose strategic opportunities with respect to their companies' location, the time when they are set up and the area of activity. Moreover, these companies favour technological effort, whether internal or outsourced. They also favour cooperation with other companies or agents in the same sector, territory or different networks that promote economies of scale and growth from which they benefit. Finally, this type of entrepreneur hires more college graduates or engineers in relative terms and projects growth strategies for the future, based not only on the company's internal development, but also on mergers, acquisitions and other similar processes with other companies.

TABLE 6.
Summary of typologies and ranking of Spanish entrepreneurs
(From a high to low level of creative and innovative capacity)

Entrepreneurs: typologies and ranking	Amount percentages	Main characteristics of the entrepreneurs (factors)
Creative (close to Schumpeterian entrepreneur)	10.5	Survival of the enterprise: good business culture, appropriate product, technological effort… Organisational complexity: university studies and influence of the size of the enterprise
Adaptative	16.6	Need for personal and social achievements Very interested in public aids
Manager	15.6	Quality of working life (prioritises family life) Pursues high returns
Self-Employed	14.2	Autonomy in decision-taking (concentrates on decisions)
Employee	21.9	Accumulated experience: personal reasons (age)
Family man	21.3	Accumulated experience: family tradition

Source: Own elaboration

Table 6 offers a summary of the results obtained. We can deduce from these results that in Spain, the number of entrepreneurs whose profiles demonstrate a certain commitment to creativity and innovativeness is approximately one out of ten with respect to new business ventures. This paper suggests that, among those who tackle entrepreneurial activity, the most dynamic, innovative and creative entrepreneurs belong to quite a homogeneous group characterised by their commitment to factors of entrepreneurial survival, and others linked to organisational and managerial complexity, rather than to achieving personal challenges or gaining public recognition. There does not seem to be an eagerness in this group to gain an advantage from public programmes aimed at favouring the productive activity.

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