

# Entrepreneurship and Adolescents

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## ABSTRACT

This work studied the entrepreneurial aspirations of 3,987 adolescents regarding self-employment and the influence of gender, age, nationality, type of school, location of the school, educational level and performance. The Logit model is used to analyze the data. The results indicate that the pupils' aspirations to be self-employed increase in the case of foreigners, of studying in a state school, of having a lower educational level and of demonstrating a low academic performance. The results were not statistically significant for the gender and age variables. The curriculum and guidance programmes need to promote a spirit of entrepreneurship and creativity in young people

**KEYWORDS:** SECONDARY SCHOOL STUDENTS, ENTREPRENEURS, SELF-EMPLOYED, ADOLESCENTS

## 1 INTRODUCTION

The educational system plays a fundamental role in promoting the attitudes and skills associated with entrepreneurship. The European Union has designed different strategies and action plans for the promotion of entrepreneurship (Bourgeois, 2011). An entrepreneurial system of education that promotes creativity, innovation and self-employment needs to be enhanced at all educational levels. Furthermore, education systems should foster the skills the students need to improve their employability (Teijeiro, Rungo, & Freire, 2013).

There is a discussion in the literature about whether the educational system should encourage entrepreneurship in students (Lourenço & Jayawarna, 2011). Supporters of introducing entrepreneurial knowledge and skills into the curriculum argue that this should begin at the infant stage and continue throughout compulsory schooling. The research work of Peterman and Kennedy (2003), which used a sample of 200 students of different ages, shows how the formation of autonomy skills and personal initiative at an early age helps students define their career.

In Spain, as in other countries, educational policies are oriented more towards the uniformity of thought than fostering imagination, creativity or divergent thinking at an early age (Sobrado-Fernández & Fernández-Rey, 2010; Sternberg, 2002). The Spanish education system has generated measures of attention for diversity to preferentially support failing students, but students with a high level of initiative or creativity are usually neglected.

Education systems should develop creative abilities in students, which allow them to develop complex cognitive processes: imagining, speculating about innovative hypotheses, discovering and inventing (Schleicher, 2003; Urban, 2006). These capabilities are essential in order to make vital decisions in a calm and prudent way (Santana, Feliciano, & Jiménez, 2012).

Self-employment is becoming increasingly important because of its relevance in the global processes of job creation and economic growth (Audretsch & Thurik, 2001; Baumol, 2010; Wenckers & Thurik, 1999). In modern liquid societies, our lives and careers are becoming ever more unpredictable and uncertain (Bauman, 2000; Giddens, 1991; Savickas et al., 2009). As Savickas et al. (2009) point out, "today occupational prospects seem far less definable and predictable, with job transition more frequent and difficult [...] Insecure workers in the information era must [...] embrace flexibility rather than stability and create their own opportunities" (p. 2).

Policy makers have to find ways to maintain and generate entrepreneurship in countries (Sanyang & Huang, 2010). The development of policies to promote entrepreneurship and self-employment among young people requires knowledge of the characteristics of students who aspire to become self-employed. Describing the characteristics of the young entrepreneur will help to understand the qualities which young entrepreneurs have, as opposed to those who do not have such qualities.

This paper aims to find empirical evidence about the characteristics of a compulsory secondary school student in the Canary Islands on the following: 1) the aspirations of young people to work for themselves and 2) the influence of certain variables on the probability that a student wishes to be self-employed in the future.

This article: 1) describes the results of studies on the variables that influence the desire to be an entrepreneur 2) specifies the aim, the hypothesis and research methodology, 3) sets out the procedure and the results of the Logistic Regression analysis, 4)

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summarizes the main findings of the study and suggests future lines of research.

## 2 FACTORS INFLUENCING THE DECISION TO BE SELF-EMPLOYED

The literature on factors which influence predisposition to become an entrepreneur is extensive. This work focuses on personal and educational factors, specifically taking into account factors such as gender, age, nationality, type of school, area where the school is located, educational level and performance.

There are many studies on how gender influences the decision about whether to work on a self-employed basis. The studies by Kolvereid (1996), Kourilsky and Walstad (1998), Matthews and Moser (1995) and Scherer, Adam, Carley and Wiebe (1989) clearly show that men are more predisposed to starting up enterprises than women and that they show a greater preference for self-employment. The results of Minniti and Nardone (2007) show that gender differences may exist in perceptions about motivation in the context of entrepreneurship, which are related to self-esteem, fear of failure, and to a lesser degree, perception of opportunities, all of which are associated with risk appetite. Nevertheless, they conclude that the relationship between the probability of starting a business and other variables (age, household income, employment situation and education) does not depend on gender. According to Sexton and Robinson (1989), entrepreneurship is not a question of preference, but rather one of real opportunities as women have greater difficulty when they start to work on a self-employed basis. Delmar and Davidson (2000) and Delmar and Holmquist (2004) point out that: a) gender is a determining factor in the willingness of individuals to become entrepreneurs and b) women generally have less access to the resources and knowledge necessary to help them to be entrepreneurial. According to Lee and Rogoll (1997) and Romero (1990) female entrepreneurs are more qualified in terms of education than male entrepreneurs, but have less specific training in entrepreneurship. Furthermore, women are more risk averse than men.

The analysis Blanco-González, Mercado-Idoeta and Prado-Roman (2012) in Spain, using data from the 2011 Global Entrepreneurship Monitor (GEM) report, shows the low presence of women in the business world. In a study conducted on 20 old year university students, Rubio-López, Córdón-Pozo and Agote-Martín (1999) it was demonstrated that gender influences the predisposition to start up businesses, but it is the least important factor in explaining the difference in this predisposition. González-Morales (2004) did not detect gender differences in the desire to work for oneself or for others in students in non-compulsory secondary school and technical college. However, differences between men and women were found when considering their employment status (self-employed or employed) in the analysis by González-Morales, Díaz-Pérez and Jiménez-González (2011), of the micro-data from the Survey of the Work Force (EPA Spanish initials), conducted by the National Statistics Office (INE Spanish initials) on the active Spanish work force from 2005 to 2010. Recently, Noguera, Alvarez, Merigó and Urbano (2015: 342) consider that the main findings indicate that informal factors (recognition of entrepreneurial career and female networks) are more relevant for female entrepreneurship than formal factors (education, family context and difference in income level).

Certain studies suggest that entrepreneurship is greater in young people and decreases with age (Blanchflower, 2004;

Levesque & Minniti, 2006). The decision on how to proceed in generating economic activity is conditioned by the different stages in a person's the life. As people get older they are less willing to become entrepreneurs (Singh & Verma, 2001). According to Katz (1994) this decrease in predisposition begins at about forty. Bonnett and Furnham (1991) conclude that young people perceive success or failure to a lesser extent and are less afraid to work for themselves. Honjo (2004) reports that learning ability and the ability to take on challenges is higher in young people. However, Bird (1993) shows that age has less weight than other variables. Young people in Spain are more prone to self-employment and entrepreneurship and this propensity decreases over time (Genesca-Garrigosa & Veciana-Verges, 1984; González-Morales, 2004; OIT, 2000; Rubio-López *et al.*, 1999; Sanz de la Tejada, 1988).

The *nationality* variable refers to the country of birth. According to Kalantaridis and Bika (2006) and Neupert and Baughn (2013) immigrants revitalize the economy because they have more initiative and start more businesses than native people. In the case of the UK, immigrants have a higher predisposition to be self-employed than British nationals (Levie, 2007). Light and Bhachu (2004) review works of interest related to entrepreneurship and immigration. Baycan-Levent and Nijkamp (2009, p. 375) conducted a comparative analysis and concluded that European migrant entrepreneurship is determined by some distinct push factors such as high unemployment rates and low participation rates or low status in the labour market, as well as by an accompanying factor, namely mixed embeddedness. GEM, in its latest reports, provides data for the first time on immigrant entrepreneurship (De la Vega, Corduras, Cruz, & Justo, 2008; GEM, 2010). As a result of migration patterns studies on the creation of businesses by foreigners in Spain have proliferated in recent years. The role of immigrants in the creation of firms has been analyzed in several works (Cebrián, Bodega, & Martín, 2007; Irastorza-Arandia & Peña-Legazkue, 2005). The aforementioned works show the relationship between economic growth and social and the employment integration of immigrants when they become self-employed. The initiatives undertaken by immigrants are rapidly spreading across Spain, a clear example of this is that the immigrants do not only hold job positions, but they are also a source of job creation (Solé & Parella, 2005). According to the study by Mancilla, Viladomiu and Gualarte (2010) foreigners in Spain are more entrepreneurial than Spanish nationals therefore being an immigrant increases the probability of generating an entrepreneurial activity.

The *type of school* (state or private) or the *area where it is located* (rural or urban) also affects the development of skills and positive attitudes towards entrepreneurship. The debate about what type of centre enhances the competence to learn to be entrepreneurial began with the work of Coleman, Hoffer and Kilgore (1982), when they conclude that private schools prepare their students better in this respect. The results of Coleman *et al.* (1982) were later confirmed by other authors (Chubb & Moe, 1992; Friedman & Friedman, 1990; Witte 1992). However, the study by Figlio and Stone (1997) reports that the type of school only affects certain groups of students. Thus, a new point is introduced into the debate on the advantages and disadvantages of state education versus private education (Ballou, 2001; Falck & Woessmann, 2013; James, 1987; James, 1993; Jimenez & Sawada, 2001; Landeras-Cicero & Pérez de Villarreal, 2000; Lassibille, 1998; Lassibille, Navarro-Gómez, Aguilar-Ramos, & de la O Sánchez, 2001; Van der Gaag, 1995).

Educational level and academic performance have a determining influence on the success of business initiatives (Block, Hoogerheide, & Thurik, 2013; Sandberg & Hofer, 1982; Stuart & Abetti, 1987). A person's training conditions his or her attitude towards starting a new business (Krueger & Brazeal, 1994). People with low levels of training may see entrepreneurship as an alternative to ascend economically and socially and to meet their employment needs (Donkels, 1991). However, according to Krueger (1993), people with low levels of formal education may end up with a limited view of business opportunities; people with more formal education tend to have more skills and competencies that open up more options and opportunities for them. A higher level of education allows the entrepreneur to deal better with the everyday problems of business activity (Cooper, Woo, & Gimeno-Gascón, 1994; Dioneo-Adetayo, 2006). According to Hisrich (1990), it is not necessary to have a high level of education to start a business, but it can be an advantage. Magaña (1998) found a limited relationship between the level of education and success in the company. The work of Veciana (2005), in Spain, says that there has been an increase in the training of new businessmen and women in recent times. However, Cuadrado-Roura (2004) and González-Morales (2011) conclude that it is the people with little formal education or those with compulsory education who are more likely to work for themselves.

González-Morales, Díaz-Pérez & Álvarez-González (2012) study the distinguishing features of salaried employment and self-employment in 2009, differentiating between Spanish workers and foreign workers. The analysis shows that, in the group of foreign workers, self-employment is associated with people with high levels of education (graduates), who mainly work in tourist or retail activities. In the case of the Spanish group, self-employment is associated with people with low levels of education (illiterate or primary school), who start up enterprises whose activity is associated with agriculture, forestry, fishing and construction.

Fossen and Buttner (2013) refer to the influence of formal education on the productivity of people who work for themselves. These authors make a distinction between opportunity entrepreneurs, who voluntarily start a business, and necessity entrepreneurs, who have no other employment opportunity. In this respect and starting from the statements of the abovementioned authors, business initiative is linked to a process of detecting opportunities (Shane & Venkatarman, 2000) where one has to be aware of the changes in the environment or it is connected to the hypothesis of refuge employment (Bögenhold & Staber, 1991) which states that self-employment is a response to counter cyclical patterns in the economy, since it becomes a refuge for the unemployed in recessionary times and its presence is less noted in times of growth.

### 3 AIMS, HYPOTHESIS AND METHODOLOGY

The aim of this study is to analyze the characteristics of Compulsory Secondary School adolescent pupils according to their desire to start their own company. The study aims to obtain characteristics of the student entrepreneur in order to see what measures may foster entrepreneurship at these educational levels.

The following hypotheses are proposed which state that the probability that a Compulsory Secondary School pupil wants to start their own business increases if:

- H1: They are male.
- H2: They are older than 16.
- H3: They are foreign.
- H4: They have studied in a state school.
- H5: They have studied in a multicultural school.
- H6: They have a low educational level.
- H7: Their academic performance is low.

This research studied 4,726 adolescent pupils in the Canary Islands in 2011. The secondary schools were specifically selected as they had to fulfil the following criteria: a) to be located in the larger or smaller islands, b) to be located in rural, urban or periphery areas or to be a multicultural school, c) to be a state or privately owned school. The final size of the sample was 3,987 adolescent pupils and Table 1 is the datasheet of the study.

Table 1. Data sheet

| Components                    | Description   |
|-------------------------------|---|
| <b>Methodological process</b> | Surveys with structured and administered questionnaires |
| <b>Population size</b>        | 85,006 adolescent pupils in Compulsory Secondary School |
| <b>Confidence level</b>       | 99%   |
| <b>Margin of error</b>        | ±2%   |
| <b>Sample size</b>            | 3,987 pupils  |
| <b>Field work dates</b>       | 2011-2012 academic year                                 |
| <b>Information processing</b> | SPSS statistical programme (versión 21.0)               |

Table 2 shows the variables used for the multivariate analysis and the degree of significance of the Chi-Square test,  $\chi^2$ . The Chi-Square has obtained from the contingency tables, according to the desire shown by the pupils to start or not start their own business, that 55.1% of the pupils showed a desire to be self-employed.

Table 2. Characteristics of adolescent pupils who want or do not want to start their own business (percentages)

| Variables                      | Do not want to start a business | Want to start a business |
|--------------------------------|---------------------------------|--------------------------|
| <b>Gender</b>                  |                                 |                          |
| male                           | 49.8                            | 52.0                     |
| female                         | 50.2                            | 48.0                     |
| <b>Age</b>                     |                                 |                          |
| 11-16                          | 93.7                            | 92.8                     |
| older than 16                  | 6.3                             | 7.2                      |
| <b>Nationality (***)</b>       |                                 |                          |
| Spanish                        | 88.5                            | 80.2                     |
| Foreign                        | 11.5                            | 19.8                     |
| <b>Type of school (***)</b>    |                                 |                          |
| private                        | 18.4                            | 11.0                     |
| state                          | 81.6                            | 89.0                     |
| <b>Location (***)</b>          |                                 |                          |
| peripheral                     | 9.2                             | 9.0                      |
| multicultural                  | 17.3                            | 21.2                     |
| rural                          | 20.0                            | 19.8                     |
| urban                          | 53.5                            | 50.0                     |
| <b>Educational level (***)</b> |                                 |                          |
| 1st y 2nd                      | 48.9                            | 53.2                     |
| 3rd y 4th                      | 51.1                            | 46.8                     |
| <b>Performance (***)</b>       |                                 |                          |
| low performance                | 34.8                            | 42.1                     |
| high performance               | 65.2                            | 57.9                     |

Number of participants 3,987. Chi-square test of Pearson: Coefficients of significance to 1% (\*\*\*)

Source: Survey of Compulsory Secondary School pupils in the Canary Islands, 2011.



A logistical regression was applied to calculate the probability that a pupil wants to start their own business. This type of model was used when the dependent variable is a categorical variable with two separate and mutually exclusive alternatives.

The dependent variable in this analysis is the desire to start a company (alternatives: yes or no). The explicative variables are gender, age (11-16 or over 16), nationality (Spanish or foreign), type of school (privately or state owned), location of the school (peripheral, multicultural, rural or urban), educational level (1st-2nd Compulsory Secondary School or 3rd-4th Compulsory Secondary School) and performance (low or high according to their academic results). The gender and age variables were not statistically significant; however, they have been introduced into the model to check if they had any influence on it.

#### 4 RESULTS OF THE LOGISTICAL REGRESSION MODEL

Four models were performed to evaluate the results and to select the most parsimonious model with the greatest predictive capacity. The gender, age and location variables were discarded. The nationality, type of school, educational level and performance variables were used to construct the model.

The following *logit* model was proposed to represent, in a logarithmic scale, the difference between the probabilities of alternative 1 (wanting to start a business) and its opposite (not wanting to start a business).

$$\text{Ln} \frac{p_i}{1-p_i} = \beta_0 + \sum \beta_z X_{zi}$$

$p_i$  equal to 1 if the pupil wants to be self-employed and 0 in the other case

$1-p_i$  equal to 1 if the pupil wants to be employed and 0 in the other case

$X_{zi}$  value of the explicative variable  $z$  for each pupil

$\beta$  are unknown parameters which need to be calculated

The model predicts 57.3% of all the cases. This model has a high explicative capacity for the pupils who want to start their own company because it correctly classifies 89.3% of these pupils.

Table 3 shows the estimated coefficients of the model and the individual significance of the variables. The statistical tests show the suitability of the model. The Hosmer-Lemeshow test for goodness of fit of the model shows that the overall fit is good (there is no significance Sig. 0.810). The aforementioned test has a high value of predicted probability ( $p$ ), which is associated with result 1 of the dependent variable.

A detailed observation of the calculations in relation to the characteristics of the pupils studied shows that:

A Spanish pupil has less probability of being self-employed.

Being a pupil at a private school reduces the probability of being self-employed.

As regards to educational level, pupils in 1st and 2<sup>nd</sup> years of Compulsory Secondary School have a greater probability of being self-employed than those at higher levels in Compulsory Secondary School.

Pupils with a low performance have a greater probability of being self-employed.

#### 5 DISCUSSION AND CONCLUSIONS

The decision to be self-employed in adolescent pupils increases in the case of foreigners, of studying in a state school, of being at a lower educational level and of having a low academic performance. Therefore, the hypotheses of the study are true in part; the results were not statistically significant for the gender, age and location variables.

The absence of gender differences is noteworthy, because of the few differences produced by the percentages obtained from the male pupils and female pupils about their wish to start up a company in the future. This result is similar to results obtained in other studies, some of which are mentioned at the beginning of this paper, which consider that there are no differences between men women regarding their predisposition to entrepreneurial initiative, above all at early ages; nevertheless, most pupils pointed in the opposite direction when the real data on entrepreneurship was analyzed. A circumstance that may influence these results is that, in recent years, educational authorities have promoted the inclusion of entrepreneurship education, improving knowledge of the company and the employer in the curriculum, as well as the launch of new lines of public action aimed at developing equality policies that appear to have attenuated gender differences.

Significant differences with respect to age were not found either. The percentage difference in this study, between the 11-16 year old group, when it is compulsory to attend school in secondary education, and the over 16 year old group is too large, thereby making it impossible to obtain conclusive results.

Differences between those who prefer to start their own business or have a salaried job are observed in multicultural schools with students from over 53 different nationalities. This could be explained in part by the entrepreneurial character of immigrant families and, in part, by the need to create a business for self-employment. Immigrants are more predisposed to being entrepreneurs than the native population as immigrants do not usually have networks of family members and friends who can help them to access the labour market; generally speaking, immigrants have to "fend for themselves" by setting up their own businesses. This fact can be seen in our study on immigrant adolescent pupils, where it was found that 65% of these pupils thought that setting up their own business was a priority in their life design (Santana, Feliciano & Jiménez, 2016).

The schools should encourage entrepreneurial attitudes in their students by taking advantage of the synergies of foreign pupils; these students, as found in the research, are more entrepreneurial and want to start their own business in the future. The differences observed in the multicultural schools are not large enough for the location variable to be significant in the model. The explicatory capacity of the model can be improved in future analyzes. It would be desirable to include other variables such as: relatives with their own businesses or who are self-employed, educational level of the parents, island of residence or the reasons for the pupils to start a business.

Pupils enrolled at a lower educational level and who have low academic performance are more predisposed to entrepreneurship. These results are similar to those obtained in other studies conducted in recent decades. The current situation of a company requires employers with more training. Education should promote theoretical and practical knowledge, procedures and attitudes (responsibility, perseverance, creativity, flexibility, adaptability, diverse complex problem solving and decision

**Table 3.** Logit calculation of the probability that a pupil wants to start a business

| Variables   | B     | E.T. | Wald   | gl | Sig. | Exp (B) | C.I. 95.0% for EXP(B) |          |
|---|-------|------|--------|----|------|---------|-----------------------|----------|
|   |       |      |        |    |      |         | Inferior              | Superior |
| <b>Nationality</b><br><b>(***) Spanish</b>                              | -.559 | .093 | 36.326 | 1  | .000 | .572    | .477                  | .686     |
| <b>Type of school</b><br><b>(***) private</b>                           | -.451 | .094 | 22.835 | 1  | .000 | .637    | .530                  | .767     |
| <b>Educational level</b><br><b>(***) 1st or 2nd secondary education</b> | .177  | .065 | 7.514  | 1  | .006 | 1.194   | 1.052                 | 1.355    |
| <b>Performance</b><br><b>(**) low performance</b>                       | .229  | .068 | 11.428 | 1  | .001 | 1.257   | 1.101                 | 1.436    |
| <b>Constant</b>   | .566  | .097 | 34.078 | 1  | .000 | 1.761   |                       |          |

making) for the survival of the company in a highly competitive and globalized world. Generally speaking, the innovative, creative and imaginative entrepreneur has not found a suitable answer in the education system. The teachers and counsellors in the schools should play a role in promoting autonomy and personal initiative in students through curriculum and guidance programs.

The results of this study show the need to reflect on the characteristics of the pupils, which affects their attitude towards entrepreneurship. Teachers should take these features into account in order to promote them in the classroom. Those responsible for education policies should design appropriate strategies to enhance the entrepreneurial skills of pupils in schools.

Education affects entrepreneurial attitudes in the long term. Specific training influences attitudes in the short-term and prepares pupils by means of simulated activities or real practice for the planning, organization and implementation of innovative business projects. The lines of public action addressed at promoting entrepreneurship should combine these aforementioned factors.

Entrepreneurship in secondary education is not integrated into the curricula of different subjects. Academic and career guidance does not help pupils to reflect on the importance of entrepreneurship. Coordination between the integral parts of the education system and business is essential. Strategies need to be devised to offer young people a quality educational and vocational guidance service. Mentoring becomes a fundamental orientation tool if carried out by professionals trained in the coordinates of the information and knowledge society (Castells, 1998a; 1998b; 1998c). Mentoring has extended to the mothers and fathers of pupils since their influence is considerable at these ages. The family should consider other training options apart from university, as a means of access to the labour market (professional training and occupational training). Employers should get closer to the world of young people and try to convey entrepreneurial attitudes, through teachers or by any other means. In order to encourage entrepreneurship among adolescents it is necessary to improve the knowledge of the figure of the entrepreneur and the self-employed person in secondary education.

Job security and comfort at work are priority goals for secondary schools pupils (Santana, Feliciano, & Santana, 2012). However, in modern liquid societies such goals are utopian (Bauman, 2000). In a society subject to constant change where uncertainty prevails in different spheres of life of the people, it is necessary to review students' life goals in light of the socio-economic and cultural reality. Teachers and counsellors training

in new skills and updating curricula are prerequisites to respond to the changing realities of post-modernity. Work needs to be done on entrepreneurial competence in the classroom, defined as the individual's ability to turn ideas into action. Therefore, education should foster the following in students: 1) creativity, innovation and risk taking, and 2) the skills to plan, manage projects and achieve the objectives above, taking ethical values into account. The acquisition of such skills and abilities must be useful not only in the pupils' working life but also in their personal life. Acting with autonomy means we have the ability to make and implement our life plans and personal projects. Autonomy competence and personal initiative are relevant to succeed in the social, cultural, economic, employment, political, emotional or ethical plane. Furthermore, possessing the above skills increases the possibilities of people starting their own business.

The current problems of the education system demands a redefinition of its objectives to address the following: 1) the limitation of public resources, 2) the high rate of youth unemployment at the age of entry to the labour market, 3) the expansion of the social demand for training, 4) the desire of the school community to participate in the development of new curricula and training plans, 5) the existence of technological changes modifying labour relations and skills, and 6) the need for both initial and continuing quality teacher training.

New technologies are a powerful tool that can help to incorporate innovative teaching resources; they can also help to disseminate labour market information and entrepreneurial opportunities. However, the problems of education cannot be solved with the application of IT in the classroom alone. As Postman (1999) points out, it is necessary to create an open and authentic human dialogue between pupils and teachers, as well as finding appropriate methodological strategies to cater for the diversity of students' abilities. Attitudes, values and habits are built cooperatively in the process of planning teaching activities and also require a joint effort between the school, teachers, pupils and their families. In summary, it is necessary to devise a plan that integrates the different stages of the educational process and all members of the educational community to foster entrepreneurial competences. As the African proverb says "it takes a whole tribe to raise a child".

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