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**EFFICIENCY EVALUATION OF BUSINESS EDUCATION ACCORDING
TO EXPERTS FROM VARIOUS COUNTRIES**

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Abstract

The aim of the study is to evaluate business education in 54 countries according to local experts. The study is based on the Global Entrepreneurship Monitoring for 2018. The models were developed that describe the indicators of effectiveness of school children, students, and adults' professional and higher education. The density functions of the normal distribution are used as models. The results of the study allowed to determine the average values and intervals of change for most countries of the indicators values describing the experts' opinion on a ten-point scale.

Keywords

Entrepreneurs – Business training – Higher education – Secondary education

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Introducción

The development of entrepreneurship under modern conditions is aimed at solving important socio-economic problems in most countries, such as improving competitiveness, economic growth¹, reducing unemployment², resource efficiency, developing new markets, increasing the welfare of the population³. Therefore, one of the most urgent problems solved at the state level in modern national economies is the formation and implementation of an effective policy in the field of business education.

In recent years, the role of entrepreneurship in the Russian Federation economy has significantly increased. The number of small and medium-sized businesses had exceeded 5.2 million by 2018, and the total number of all employees in this sector was about 20 million people. In other words, entrepreneurs create a significant number of jobs not only for themselves and for employees. They saturate the markets with their goods, works and services and consequently increase the level of competition, especially in regional markets. However, entrepreneurship in Russia has not yet reached the level that is typical for economically developed countries. Thus, the share of small and medium-sized businesses is about 20% of the gross output and 28% of the economically active population of the country⁴. In the European Union countries, it provides 58% of gross added value and employment for 67% of the working population, including Germany where these indicators are 60% and 48%, respectively⁵. The strategy for improving business activity in our country until 2030⁶ provides for a significant (one and a half times) increase in the number of employees in this sector of the economy.

The accelerated development of the national economies business sector requires understanding of the meaning of entrepreneurial activity by the population, its place in society, and training of qualified personnel who are able to create their own business in modern conditions. This is why, in recent decades, many governments are paying increasing attention to entrepreneurship, including the organization of business education. The latter includes two elements: direct training of people to create their own business and solving a broader educational task, namely, the development of certain personal qualities that are not directly aimed at creating new businesses⁷.

¹ D. M. De Carolis y P. Saporito, "Social capital, cognition, and entrepreneurial opportunities: a theoretical framework", *Entrepreneurship Theory and Practice* num 1 (2006): 41-56.

² R. Decker; J. Haltiwanger; R. Jarmin y J. Miranda, "The Role of Entrepreneurship in US Job Creation and Economic Dynamism", *Journal of Economic Perspectives* Vol: 28 num 3 (2014): 3-24.

³ V. Simon-Moya; L. Revuelto-Taboada y D. Ribeiro-Soriano, "Influence of economic crisis on new SME survival: reality or fiction?", *Entrepreneurship and Regional Development* Vol: 28 num 1-2 (2016): 157-176.

⁴ Federal State Statistics Service. Institutional transformations in the economy. http://old.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/reform/ (accessed: 03/10/2020).

⁵ R. Sollner, "The economic importance of small and medium-sized enterprises in Germany", *Wirtschaft und Statistik*, Issue January (2014): 40-51.

⁶ Strategy for the development of small and medium-sized enterprises in the Russian Federation up to 2030 [Digital resource]: Order of the Government dated 02.06.2016 No. 1083-r. URL: http://www.consultant.ru/document/cons_doc_LAW_199462/f3fa9da4fab9fba49fc9e0d938761ccffdd288bd/ (accessed: 03/10/2020).

⁷ Helping to create an entrepreneurial culture: A guide on good practices in promoting entrepreneurial attitudes and skills through education. Brussels: European Commission Directorate-General for Enterprise. 2004.

The beginning of business education, according to K. Vesper, W. Gartner⁸, dates back to 1945. At this time, the Harvard business school introduced a business course aimed at preparing students who were returning after World War II. During this period the economy was transforming due to a sharp reduction in the production of weapons. In the following years, the problem of business education ceased to be relevant, since large corporations mostly developed in the United States. It was only towards the end of the 60s that the rapid growth of small and medium-sized businesses began. For this reason a new stage of business education started in 1970, when 16 US universities introduced courses aimed at studying entrepreneurship. By 1995, the number of universities and colleges offering business courses had grown to more than 400. It is interesting to note that 50 universities from this list offered students four or more specializations in business education. In the following years, there was an exponential growth of business education in higher education institutions in the United States. So according to D. Katz⁹ in 2001, the corresponding educational programs were already available in 1200 business schools.

Business education in the increasingly globalized, uncertain and complex world in which we live is driven by the requirements for all people to master the opportunities to transition from hired work to starting their own businesses¹⁰. Such a transition can be caused either by the presence of a person's increased motivation, or by a necessity due to the prevailing life circumstances. The purpose of our study is to evaluate the effectiveness of the main directions of business education in various countries, according to experts from these countries. The authors also solve the tasks of indicators assessment of current levels of school and post-secondary education, identifying countries with high and low values of these indicators, as well as the average values of the analyzed indicators and ranges of their changes, characteristic for the majority of countries.

Literature review

Theoretical and applied aspects of business education are reflected in foreign academic publications. Thus, a number of works provide definitions of business education. In our opinion, this concept is described most accurately in the following works. In 1999 J. McIntyre, M. Roche¹¹ proposed the definition of this type of education as the process of transferring skills, knowledge and competencies necessary for people to identify new business opportunities and achieve a high level of self-confidence to benefit from such opportunities. The second definition of business education, as a process of forming students' knowledge, competencies and experience that allow them to initiate and participate in the creation of entrepreneurial values, was proposed by the Danish Entrepreneurship Foundation¹². At the same time, the created values can be financial, cultural, or social.

⁸ K. Vesper y W. Gartner "Measuring Progress in Entrepreneurship Education", *Journal of Business Venturing* Vol 12 num 5 (1977): 403-421.

⁹ J. A. Katz, "Fully Mature but Not Fully Legitimate: A Different Perspective on the State of Entrepreneurship Education". *Journal of Small Business Management*. num 46 (2008): 550-566.

¹⁰ A. Gibb, "In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge", *International Journal of Management Reviews* num 4 (2002): 233-269.

¹¹ J. McIntyre y M. Roche, *University education for entrepreneurs in the United States: A critical and retrospective analysis of trends in the 1990s*. Georgia Institute of Technology, Atlanta. 1999.

¹² K. Moberg; E. Stenberg y L. Vestergaard, *Impact of entrepreneurship education in Denmark - 2011*. Odense, Denmark: The Danish Foundation for Entrepreneurship – Young Enterprise. 2011.

Researchers A. Gibb, A. Price¹³ in their work identified eight most important elements of business education:

- entrepreneurial behaviors, skills and attitudes;
- empathy, understanding and perception of the businessmen's life world;
- key business values;
- motivation for a business career;
- understanding the processes (stages) of creating a new business and related tasks;
- general business competencies;
- key ideas about launching new businesses;
- understanding the nature of relations with the external environment objects and the development of interaction with them.

In today's ever-changing world, people need business skills and abilities to thrive¹⁴. These articles also emphasize that a flexible market requires businessmen with a high level of relevant knowledge and competence.

Much attention has been paid to business education in the European Union in recent years. Thus, in 2016, the European Commission prepared a report on business competencies¹⁵. The document considers 15 competencies combined into 3 groups, as well as an eight-level model of competence development, which provides for 442 learning outcomes.

Governments in developing countries are also making efforts and investing resources in training businessmen. For example, in Saudi Arabia, much attention is paid to the development of entrepreneurial talents and skills program¹⁶.

Continuing education is a key factor in improving the level of businessmen's knowledge and competencies¹⁷. In the Nordic countries, much attention is paid to teaching business competencies at school¹⁸. Post-secondary business education is based on the entrepreneurial knowledge and competencies development¹⁹.

¹³ A. Gibb y A. Price, *A Compendium of Pedagogies for Teaching Entrepreneurship* (London, UK: International Entrepreneurship Educators Programme, 2014).

¹⁴ B. Jones y N. Iredale, "Enterprise education as pedagogy", *Education+Training* Vol: 52 (2010): 7-19 y D. F. Kuratko, "The emergence of entrepreneurship education: Development, trends, and challenges", *Entrepreneurship Theory and Practice* Vol: 29 (2005): 577-597.

¹⁵ M. Bacigalupo; P. Kampylis; Y. Punie; G. Van den Brande, *EntreComp: The Entrepreneurship Competence Framework* (Luxembourg: Publication Office of the European Union. EUR 27939 EN, 2016).

¹⁶ M. I. Salem, "The Role Of Business Incubators In The Economic Development Of Saudi Arabia", *International Business & Economics Research Journal (IBER)* Vol 13 num 4 (2014): 853-860.

¹⁷ M. Kaseorg; M. Raudsaar y L Uba, "Entrepreneurship education in lifelong learning". Conference: 3rd International Conference of Education, Research and Innovation (ICERI) Madrid, Vol: Proceedings CD (2010): 6739-6747.

¹⁸ M. Korhonen; K. Komulainen; H. Raty y J. Mattanen, "Do 'good students' make better entrepreneurs than 'bad learners'? Ninth-grade pupils' perceptions of entrepreneurial abilities within the school's discursive practices", *European Educational Research Journal* Vol: 15 num 2 (2015): 1-18.

¹⁹ G. Linton y M. Klinton, "University entrepreneurship education: a design thinking approach to learning", *Journal of Innovation and Entrepreneurship* Vol: 8 num 3 (2019): 1-11.

It is interesting to analyze the number of academic publications on the issues of business education in Russia. We have studied the relevant data on works published in the most comprehensive national bibliographic database of scientific citation (RSCI). As it is known, the development of entrepreneurship in this country began in 1991. However, until 1996, there were no publications on the problem of business education in Russia. Occasional works on this subject have appeared in the RSCI database since 1996. However, between 1996 and 2005, the total number of publications was only 6. In 2006-2010, 2-5 articles were published annually. In 2011 and subsequent years, the number of publications exceeded 10, and by 2016 it had reached 34. The distribution of the number of publications on the six main topics of business education included in the RSCI for the period 2016-2019 is shown in table 1.

The topics of the publications	2016	2017	2018	2019
1	2	2	3	4
General secondary education	4	6	4	4
Secondary vocational education	5	9	6	4
Additional education	4	2	4	2
Higher education	17	17	33	31
Continuing education	4	1	7	3
Total number of publications	34	35	54	44

Table 1
Academic publications on business education included in the RSCI

The information analysis provided in the national bibliographic database of scientific citation (RSCI) shows that 167 academic publications were devoted to the problems of business education in Russia in the period from 2016 to 2019. 98 publications (59%) of them considered various aspects of training businessmen in higher education institutions. At the same time, they focused on educational programs and courses, as well as knowledge and competencies, taking into account various types of economic activities characteristic of modern business structures. 24 articles (14%) provided the analysis of secondary professional business education. 18 publications (11%) were devoted to teaching students the basics of business in the general secondary education system. The data shown in table 1 demonstrates an increase in the number of academic publications on business education by 24% in 2018-2019 compared to 2016-2017. The most interesting publications on business education in Russia belong to Y. B. Rubin²⁰.

In general, the review of previous studies has shown that the main directions of business education in modern countries are school education and professional training for students and adults' business activities.

Methodical approach and initial data

The level of business education development and effectiveness in contemporary national economies has been evaluated in our research based on the experts' opinions on this issue.

²⁰ Y. B. Rubin, Competition. Entrepreneurship education. Business system (Moscow: Moscow financial and industrial University "Synergy", 2018).

Y. B. Rubin, "Higher business education in Russia: diagnostics of the problem", Higher education in Russia num 11 (2015): 5-17.

These opinions are presented in the report on the Global Entrepreneurship Monitor Project²¹. For each of the countries, the monitoring process identified the opinions of at least 36 highly qualified experts. Experts assessed the level of school and post-school education development and effectiveness on a ten-point scale. The value equal to 1 corresponded to a very low level of efficiency, while the value equal to 10 corresponded to a very high level. The average indicators for experts living in each country are presented in table 11 of the above-mentioned report on the Global Enterprise Monitoring Project.

This report provides data for 54 countries. It contains the experts' opinions from 21 European, 14 Asian, 11 Latin American, 6 African and 2 North American states. These countries are distributed by income level as follows: 32 countries have high incomes, 14 countries have medium incomes, and 8 countries have low incomes.

As it has been already noted, in the course of our research, we considered indicators that characterize the experts' opinions on the effectiveness of the following two areas of business education:

1. Schoolchildren business training. This area included the expert assessment of the extent to which awareness of specific entrepreneurship issues is included in school curricula, as well as whether schools instill business values in students. Besides, this direction includes schoolchildren's additional education on the basics of entrepreneurship.

2. Post-secondary business education. It is related to the entrepreneurs' professional training in universities, colleges, business schools and training centers. It also includes educational courses for retraining and advanced training of adults employed in small and medium-sized businesses. In addition, this direction includes training in entrepreneurial knowledge and competencies of employees who want to create their own business. At the same time, experts assessed the effectiveness of existing systems of post-secondary business education.

Three hypotheses were tested in our study:

- hypothesis 1 - currently, there are significant differences in the values of indicators that characterize the effectiveness of each of the above-mentioned two directions of business education in the countries under consideration;
- hypothesis 2 - the values of the indicators under consideration do not depend on the level of the countries' economic development;
- hypothesis 3 - the values of each indicator are not related to the countries' geographical location.

These hypotheses' testing was based on empirical data modeling using density functions of the normal distribution. As it is shown by the authors' previous work, these functions development allows obtaining unbiased characteristics of the studied indicators distribution. The methodology for using normal distribution density functions to estimate the distribution of indicators by country is given in the article²². The obtained functions allow us to determine the average values of the two indicators under consideration for the

²¹ Global Entrepreneurship Monitor 2018-2019. Global Entrepreneurship Research Association (GERA). 2019.

²² I. S. Pinkovetskaia, "Modeling of indicators of small and medium-sized businesses in the regions using the density function of the normal distribution", Problems of territory development Vol: 6 num 80 (2015): 93-107.

reviewed countries, the intervals of their changes that are typical for most countries, as well as lists of countries where these indicators have values higher than the upper and lower limits of the intervals. The boundaries of the range of changes in the values of indicators for most countries (about 68%) were determined by the average values of indicators and the corresponding standard (average square) deviations. The lower bound of the interval is equal to the difference between the average value and the standard deviation, and the upper bound is their sum. When developing the normal distribution density functions, we used the empirical data provided in table 11 of the Global Enterprise Monitoring Project Report.

Results of economic and mathematical modeling

As indicated above, the assessment (on a ten-point scale) of the distribution of indicators that characterize experts' opinions was based on the development of appropriate models that approximate the initial empirical data. The developed economic and mathematical models describing the patterns of regional distribution of indicators in the above-mentioned two areas of entrepreneurial education have the following forms:

- business training of school children

$$y_5(x_5) = \frac{57,38}{1,11 \times \sqrt{2\pi}} \cdot e^{-\frac{(x_5-3,44)^2}{2 \times 1,11 \times 1,11}} ; \quad (1)$$

- post-secondary business education

$$y_6(x_6) = \frac{40,51}{0,93 \times \sqrt{2\pi}} \cdot e^{-\frac{(x_6-5,30)^2}{2 \times 0,93 \times 0,93}} . \quad (2)$$

Econometric analysis using Kolmogorov-Smirnov, Pearson, and Shapiro-Wilk tests showed the high quality of functions 1 and 2. In particular, the computation showed that the calculated values of statistics for the Kolmogorov-Smirnov test are 0.066 to 0.040, respectively.

These values are lower than the table value of 0.152 (with a significance level of 0.05). The calculated values for the Pearson test are 3.11 for function (1) and 2.28 for function (2), which is significantly less than the table value (9.49). The calculated values of statistics for the Shapiro-Wilk test exceed the table value of 0.93 (with a significance level of 0.01).

Obtained Results Discussion

Using the density functions of the normal distribution (1) and (2), estimates were obtained showing the indicators values that characterize the experts' opinions on the effectiveness of the implementation of the two directions of business education in different countries (table 2).

The average values are shown in column 2; column 3 of this table provides the intervals of change in the values of indicators for most (68%) countries.

Areas of business education	Average values	Values typical for most countries
1	2	3
Entrepreneurial training in schools	3.44	2.33-4.55
Post-secondary business education	5.30	4.37-6.23

Table 2

Values of indicators that characterize expert opinions (on a ten-point scale)

As shown by the data in table 2, a higher level of efficiency was observed in adults' business education in 2018, according to the experts surveyed. Significantly, they point out that less efficiency is typical for schoolchildren business training.

The average value of the index characterizing the effectiveness of schoolchildren business training for the countries considered was 3.44. The maximum value of the indicator (from 4.55 to 6.76) took place in 2018 in countries such as Canada, Latvia, USA, UAE, Indonesia, Iran, Netherlands, Qatar, Argentina. These countries are located in Latin America (Argentina), Asia (UAE, Indonesia, Iran, Qatar), North America (USA, Canada) and Europe (Latvia, the Netherlands). They had high (USA, Canada, Latvia, Netherlands, UAE, Qatar, Argentina), medium (Iran), and low (Indonesia) incomes. Values less than the lower limit of the interval (from 2.11 to 1.94) were observed only in four states: Saudi Arabia, Mozambique, Morocco and Panama. They are located in Latin America (Panama), Africa (Mozambique, Morocco), and Asia (Saudi Arabia). They had high (Panama, Saudi Arabia) and low (Mozambique, Morocco) incomes.

The average value of the indicator of adult business education effectiveness in 54 countries was 5.30. Values of this indicator above the upper limit of the range (from 6.24 to 7.30) were observed in such countries as India, Germany, Luxembourg, Uruguay, Croatia, Mexico, the Netherlands, Iran, Qatar. These countries are located in Asia (India, Iran, Qatar), Latin America (Uruguay, Mexico), and Europe (Croatia, Germany, Luxembourg, the Netherlands). Values lower than the lower limit of the interval (from 4.37 to 2.25) were found in Mozambique, Saudi Arabia, Cyprus, France, Ireland, Sudan, Slovakia and Angola. These countries are located in Europe (France, Ireland, Slovakia, Cyprus), Asia (Saudi Arabia) and Africa (Mozambique, Sudan, Angola). They had high (France, Ireland, Slovakia, Cyprus, Saudi Arabia) and low (Mozambique, Sudan, Angola) incomes.

The data shown in column 3 of table 2 demonstrates significant differences in the indicators' values by country. Thus, we can conclude that the hypothesis 1 put forward earlier has been confirmed. The analysis of the lists of countries with high and low values for each of the indicators shown above demonstrates that there are no links between these values and the level of the countries' economic development, as well as the countries' geographical location. This has led to the conclusion that hypotheses 2 and 3 were also confirmed.

Of particular interest is the comparative analysis of the values of indicators that characterize the effectiveness of the implementation of school and post-school business education in Russia and the average values of these indicators for foreign countries. It shows that in Russia, expert assessments in such areas as school (3.21) and post-secondary education (5.30) do not significantly differ from the experts' opinions in foreign countries. Thus, we can conclude that the level of business education development in Russia and most foreign countries is similar.

Conclusions

The research achieved its goal. The results have substantial novelty and originality:

- the average values of indicators and their intervals of change for most countries are determined, describing the opinions of experts on the effectiveness of school and post-school education on a ten-point scale;
- countries with high and low values of each indicator are identified;
- it is shown that the average value of the indicator describing post-school business education is higher than the average value of the indicator describing schoolchildren business training;
- it is proved that the values of both indicators are significantly differentiated across 54 countries;
- the absence of links between the values of the considered indicators and such factors as the population income level in specific countries and their geographical location is confirmed.

The practical significance of the research can be implemented in the work of federal, regional and municipal authorities related to educational activities. The new knowledge obtained can be used in academic research, in the educational process of bachelors and masters` preparation, as well as in the training specialists in small business issues.

The proposed methodical approach and tools for evaluating business education effectiveness education based on the density functions of the normal distribution can be used in the process of the education level monitoring, as well as the justification of programs for business education development at the federal and regional levels. The methodology and tools that were used in the research process can be applied in similar studies in the regions of Russia, as well as in the countries with a significant number of territorial (administrative) units.

The practical significance of the research lies in the possibility of using the results obtained to justify the resources needed to improve business education effectiveness. The study provides the government, regional government bodies and other administrative structures with information about possible ways of developing business education. The government and regional authorities can apply the study's results in the development and implementation of state policy for business education promotion.

The new knowledge obtained can be applied in the educational activities of higher and secondary professional educational institutions, as well as schools and organizations of additional education.

Further research may be related to the study of the effectiveness of the implementation of the business education considered areas, according to Global Entrepreneurship Monitoring Project, in subsequent years.

References

Bacigalupo, M.; Kampylis, P.; Punie, Y. y Van den Brande, G. EntreComp: The Entrepreneurship Competence Framework. Luxembourg: Publication Office of the European Union. EUR 27939 EN. 2016.

De Carolis, D. M. y Saporito, P. "Social capital, cognition, and entrepreneurial opportunities: a theoretical framework". *Entrepreneurship Theory and Practice* num 1 (2006): 41-56.

Decker, R.; Haltiwanger, J.; Jarmin, R. y Miranda, J. "The Role of Entrepreneurship in US Job Creation and Economic Dynamism". *Journal of Economic Perspectives* Vol: 28 num 3 (2014): 3-24.

Gibb, A. "In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge". *International Journal of Management Reviews* num 4 (2002): 233-269.

Gibb, A. y Price, A. *A Compendium of Pedagogies for Teaching Entrepreneurship*. London, UK: International Entrepreneurship Educators Programme. 2014.

Global Entrepreneurship Monitor 2018-2019. Global Entrepreneurship Research Association (GERA). 2019.

Helping to create an entrepreneurial culture: A guide on good practices in promoting entrepreneurial attitudes and skills through education. Brussels: European Commission Directorate-General for Enterprise. 2004.

Jones, B. y Iredale, N. "Enterprise education as pedagogy". *Education+Training* Vol: 52 (2010): 7-19.

Kaseorg, M.; Raudsaar, M. y Uba, L. "Entrepreneurship education in lifelong learning". Conference: 3rd International Conference of Education, Research and Innovation (ICERI) Madrid, Vol: Proceedings CD (2010): 6739-6747.

Katz, J. A. "Fully Mature but Not Fully Legitimate: A Different Perspective on the State of Entrepreneurship Education". *Journal of Small Business Management*. num 46 (2008): 550-566.

Korhonen, M.; Komulainen, K.; Raty, H. y Mattanen, J. "Do 'good students' make better entrepreneurs than 'bad learners'? Ninth-grade pupils' perceptions of entrepreneurial abilities within the school's discursive practices". *European Educational Research Journal* Vol: 15 num 2 (2015): 1-18.

Kuratko, D. F. "The emergence of entrepreneurship education: Development, trends, and challenges". *Entrepreneurship Theory and Practice* Vol: 29 (2005): 577-597.

Linton, G. y Klinton, M. "University entrepreneurship education: a design thinking approach to learning". *Journal of Innovation and Entrepreneurship* Vol: 8 num 3 (2019): 1-11.

McIntyre, J. y Roche, M. *University education for entrepreneurs in the United States: A critical and retrospective analysis of trends in the 1990s*. Georgia Institute of Technology, Atlanta. 1999.

Moberg, K.; Stenberg, E. y Vestergaard, L. *Impact of entrepreneurship education in Denmark - 2011*. Odense, Denmark: The Danish Foundation for Entrepreneurship – Young Enterprise. 2011.

Pinkovetskaia, I. S. "Modeling of indicators of small and medium-sized businesses in the regions using the density function of the normal distribution". Problems of territory development Vol: 6 num 80 (2015): 93-107.

Rubin, Y. B. Competition. Entrepreneurship education. Business system. Moscow: Moscow financial and industrial University "Synergy". 2018.

Rubin, Y. B. "Higher business education in Russia: diagnostics of the problem". Higher education in Russia num 11 (2015): 5-17.

Salem, M. I. "The Role Of Business Incubators In The Economic Development Of Saudi Arabia". International Business & Economics Research Journal (IBER) Vol: 13 num 4 (2014): 853-860.

Simon-Moya, V.; Revuelto-Taboada, L. y Ribeiro-Soriano, D. "Influence of economic crisis on new SME survival: reality or fiction?" Entrepreneurship and Regional Development Vol: 28 num 1-2 (2016): 157-176.

Sollner, R. "The economic importance of small and medium-sized enterprises in Germany". Wirtschaft und Statistik, Issue January (2014): 40-51.

Vesper, K. y Gartner, W. "Measuring Progress in Entrepreneurship Education". Journal of Business Venturing Vol: 12 num 5 (1977): 403-421.