

Youth entrepreneurship: Bibliometric analysis and specialized literature

Emprendimiento joven: análisis bibliométrico y literatura especializada

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Abstract

We analyzed young entrepreneurship published on the Web of Science from 1959 until 2018. The information was made using the bibexcel and clarivate analytics software, identifying and categorizing the most productive authors according to the number of articles, citations, research areas, magazines and countries with greater production of articles. It is concluded that productivity and the impact factor do not have a direct relationship, and that bibliometric analysis is an essential factor in the generation of scientific knowledge.

Keywords: Youth entrepreneurship, bibliometrics, h-index, h-core, h-classic, scientific production

Resumen

Se estudió sobre emprendimiento joven publicados en la Web of Science desde 1959 hasta 2018. La información se realizó utilizando los softwares bibexcel y clarivate analytics, identificando y categorizando los autores más productivos según el número de artículos, citas, áreas de investigación, revistas y países con mayor producción de artículos. Se concluye que la productividad y el factor de impacto no tienen una relación directa, y que el análisis bibliométrico es un factor esencial a la generación de conocimiento científico.

Palabras clave: emprendedor joven, bibliometría, h-index, h-core, h-classic, producción científica

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1. Introduction

The creation of new businesses through entrepreneurship has become the main economic driving force in numerous countries (Cahen, Oliveira and Borini, 2017), not only because it is directly involved in terms of employment, but because it also makes a large contribution to GDP (Prieger, Bampoky, Blanco and Liu, 2016); in addition, entrepreneurs provide solutions that are more innovative, sustainable and effective than those provided by governments (Onwuegbuzie, 2016).

Youth entrepreneurship develops innovative activities and, mainly, with lucrative purposes aimed at social objectives (Pramila, Rizal, Kamarudin and Husin, 2017), distributed across all the productive commercial sectors and services, whether they are pure or hybrids which combine different approaches to generate an activity (Cooper and Park, 2008). However, we should consider that there is no clear definition of what youth is, a reason why age is a factor which leads to the segmentation, development and analysis of different studies regarding youth entrepreneurship bearing in mind that the General Assembly of the United Nations defines young people as those who are between the ages of 15 and 24 (Rehak, Pilkova, Jancovicova and Holienka, 2017), while the Global Entrepreneurship Monitor indicates that youth entrepreneurship includes individuals between the ages of 18 and 34 (Holiienka, Pilkova and Jancovicova, 2016).

There is previous analysis of literature referring to youth entrepreneurship where the researchers emphasize social entrepreneurship (Greblikaite, Sroka and Gerulaitiene, 2016; Zainudin, Suzana and Zulazli, 2017), in policies regarding youth entrepreneurship (Pantea, 2016), in Startups (Davidsson, Baker and Senyard, 2017) and how young people face up to the high costs of looking for commercial opportunities (Brixiova, Ncube and Bicaba, 2015). In addition, the literature shows various bibliometric works related to entrepreneurship, where studies are carried out regarding the relationship between entrepreneurial activity and research activity (Abramo, D'Angelo, Ferretti and Parmentola, 2012). The intellectual structure of the research of entrepreneurial sustainability is also researched (Chabowksi, Mena and González-Padron, 2011), the combination of formal and informal dimensions that acknowledge artists and their contribution to entrepreneurs (Ferreira, 2018), the academic production in social entrepreneurship (Macke, Sarate, Domeneghini and da Silva, 2018), operationalization of the concept of entrepreneurial eco-systems (Malecki, 2018), as well as the cleanest production practices in businesses (Neto, Shibao and Godinho, 2016); Nevertheless, when we looked for scientific articles that had developed bibliometric studies in youth entrepreneurship, nothing was found.

This article aims to undertake a bibliometric analysis of the existing literature on youth entrepreneurship in one of the main databases, as is Web of Science (WOS), as well as a content analysis of those publications which are part of the H-core of this field of research; hoping to make a significant contribution to the existing void regarding bibliometric studies on youth entrepreneurship.

This document is laid out in the following way: After this introduction, chapter 2 establishes the characterization of the methodology used for obtaining the sample as well as presenting the bibliometric results of authors and magazines, as well as the level of impact related to the number of citations that it uses. Later, in the third chapter, the h-classic methodology is applied to establish the ensemble of publications that makes up the h-core of this field of research and a content analysis of the eleven most cited articles indexed is undertaken. We end with the main conclusions obtained in reference to youth entrepreneurship.

2. Methodology

2.1. Bibliometrics description

Bibliometrics is the application of mathematics and statistical methods to literature with the aim of tracing the tendencies regarding specific content (Bensman, Smolinsky and Pudovkin, 2010), allowing for the researchers to be able to access different areas of study, articles from other researchers, key words, summaries, countries, titles, number of citations and magazines, among others. It is a frequently-used science to assess and analyze the quality and productivity of the academic research developed by universities, magazines, books, research groups and other actors. In bibliometrics, there are two main methods to complete the exploration of a specific research area, first is the performance analysis where the aim is to assess the impact of the citations made by the production of articles and the second one is the science mapping, which shows a conceptual, social, intellectual, evolutionary structure and the dynamics of the research.

Literature presents a wide variety of bibliometric analysis which creates indicators that allow for the measurement of production (total number of published works, the number of works published in a period of time); also allowing for the measurement of the impact of the article (number of citations, average number of citations per article, index of self-citations, number of highly-cited works, h-index).

In this research, a bibliometric study is carried out which allows for the generation of different indicators through the processing of information. Productivity and impact indicators are created, such as the number of publications and citations of the author, the number of publications and citations of the magazines, the number of articles and citations created per year and the h-index.

The search sequence is defined by the topic of youth entrepreneurship. It is combined selection and exclusion criteria, which are presented in Table 1.

Table 1
Origin of the search data

DATA SEARCH		
Date	17 th of May 2018	
Database	Web of Science central collection	
Citation index	SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC.	
Type	Basic search	
Syntax	Entrepreneur	20127 documents
	Entrepreneur + Young	794 documents
	Entrepreneur + Young + Article	482 documents
	Entrepreneur + Young + Article + author discrimination	122 documents
	Entrepreneur + bibliometrics	10 documents
	Entrepreneur + bibliometrics + article	7 documents
	Entrepreneur + Young + bibliometrics	0 documents
Period	Every year (1959-2018)	

Source: Own preparation

It should be indicated that from the initial sample taken of the Web of Science that consists of 482 documents, the definitive sample consist of a total of 122 articles, having identified that many of the documents did not fall within the parameters of the research, such as, for example, topics related to the degree of the adoption of flour roots and tubers compound technology transferred among micro- and small businesses (Quaye, Onumah, Tortoe, Akonor and Buckman, 2018), as well as the factors which lead to the success or failure of a small business (Baidoun, Lussier, Burbar and Awashra, 2018), the perception of commitment between education and a sports career (Schmidt, Torgler and Jung, 2017), the implementation of a legal, regulated market for new psycho-active substances (Rychert and Wilkins, 2016), insurance against professional accidents and illnesses for workers in mining companies (Zinoviev, 2016), the stress levels of businessmen (Baron, Franklin and Hmieleski, 2016), the impact of snail meat by the assessment of the life cycle from the cradle to the farm focused on the carbon footprint (Forte, Zucaro, De Vico and Fierro, 2016), among others; due to which a discrimination was conducted according to authors' criteria for leaving those documents that were directly related to the research topic.

3. Results

3.1. Evidence

As the literature is developed, it is a good idea to regularly stop to take inventory of the work done and to identify new directions and challenges for the future (Siegel, Siegel and Macmillan, 1993). The sample choice is done from Web of Science, the samples of our study referring to youth entrepreneurship, including articles dated between 1959 and 2018. The first article referencing youth entrepreneurship that can be seen on Web of Science is called "Brigham Young as Entrepreneur" written by (Bolino, 1959). 23 years later, there is a second article titled "Portrait of the entrepreneur as a young man" by (Stacey, 1982) and eleven years later a third article with the title "Who wants to be an entrepreneur? A study of adolescents interested in a Young Enterprise scheme" written by (Bonnett and Furnham, 1991), whose study specifies factors such as motivation and perception, which differentiates adolescents who show a positive interest in the entrepreneurial spirit; from here there is a constant increase in the development of articles connected to youth entrepreneurship.

For the choice of data bases a sample is taken until the 17th of May 2018, with a total of 122 scientific articles, which are the result of the research of 303 authors and co-authors, which were cited 908 times with an average of citations by elements of 7.44% and a h-index of 11. Of the total citations, 74.45% focuses on the first ten documents, ordered from most to least by the level of impact of each one of them. As seen in Table 2, the first four articles in the list are Oosterbeek Hessel in 2010, Van Praag Mirjam in 2003, Bonnett Celia in 1991 and Dahles Heidi in 1999, who account for more than 54.41% of the total number of citations previously mentioned, (Table 2).

Table 2
The 10 most cited articles

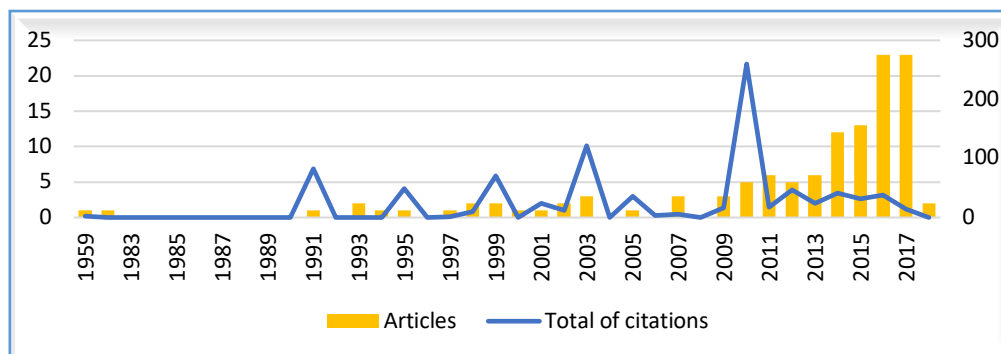
Ranking	Title	Authors	Year	Citations	% citations
1	The impact of entrepreneurship education on entrepreneurship skills and motivation.	Oosterbeek, H; Van Praag, M; Ijsselstein, A.	2010	225	24.78%
2	Business survival and success of young small business owners.	Van Praag, CM	2003	115	12.67%
3	Who wants to be an entrepreneur - a study of adolescents interested in a young enterprise scheme.	Bonnett, C; Furnham, A	1991	83	9.14%

Ranking	Title	Authors	Year	Citations	% citations
4	Entrepreneurs in romance - Tourism in Indonesia.	Dahles, H; Bras, K	1999	71	7.82%
5	Determinants of willingness and opportunity to start as an entrepreneur.	Vanpraag, CM; Vanopphem, H	1995	49	5.40%
6	Young entrepreneurs, social capital and doi moi in Hanoi, Vietnam	Turner, S; Nguyen, PA	2005	36	3.96%
7	Attitudes toward risk and self-employment of young workers.	Ahn, Taehyun	2010	29	3.19%
8	Occupational choice and dynamic incentives.	Ghatak, M; Morelli, M; Sjostrom, T	2001	24	2.64%
9	Beyond necessity and opportunity entrepreneurship: motivations and aspirations of young entrepreneurs in Uganda.	Langevang, T; Namatovu, R; Dawa, S.	2012	23	2.53%
10	Who Becomes an Entrepreneur? Early Life Experiences as Predictors of Entrepreneurship	Schoon, I; Duckworth, K.	2012	21	2.31%

Source: Own preparation

In Graphic 1, the variation that the articles have had over time can be seen. In order to make the analysis easier, they have been grouped by the total number of citations made in each year, highlighting that in 2010, five articles were completed which accounted for a total of 260 citations, although fluctuations were also observed in specific years to be highlighted. For example, in 1991 with 1 article and 83 citations, in 1995 with 1 article and 49 citations, in 1999 with 2 articles 71 citations, in 2003 with 3 articles and 121 citations, in 2005 with 1 article and 36 citations, it can also be seen that during the period between 2012 and 2015 there was a continuous increase of articles with few significant variations among them. It is clear, from the evidence shown, that in the last decade, there has been a constant increase by year of the publications completed related to youth entrepreneurship; although there is no directly proportional relationship with the citations made and the articles, that is to say, less articles are cited in relation to the production of scientific articles published. So much so, that in 2017 when 23 articles were published which were cited 14 times and, so far, in 2018 none of the articles published have been cited.

Graphic 1
Number of articles and citations per year



Source: Own preparation

3.2. Authors

Table 3 mentions the categorization of the ten most productive authors from 303 authors and co-authors that have developed scientific articles related with youth entrepreneurship on the Web of Science and whose percentage is estimated in relation to the total citations of our study. Among the magazines indexed in the Web of Science, the authors and co-authors do not publish more than two articles, which is indicative of the lack of continuity by the researchers who lead this research topic. This could be due to it being a knowledge area in development and an evolution in the literature of this topic shall be necessary to highlight the most productive authors and those who had the most impact that may be considered “classical” authors of the discipline.

Table 3
The 10 main authors by number of articles in the sample

Ranking	Authors	No. of articles	No. of citations	%
1	Afutu-Kotey RL	2	3	0,330%
2	Agans JP	2	10	1,101%
3	Al Mamun A	2	0	0,000%
4	Bronk KC	2	10	1,101%
5	Damon W	2	10	1,101%
6	Fazal SA	2	0	0,000%
7	Gao P	2	6	0,661%
8	Geldhof GJ	2	10	1,101%
9	Gough KV	2	3	0,330%
10	Jeffrey C	2	11	1,211%
			63	6,938%

Source: Own preparation

Table 4 shows the ranking of the 10 main authors by impact reached, that is to say, the number of citations received. In reference to the previous table, we can see that there are significant variations in relation to the order of the authors according to the impact of their publications, not coinciding with any of them. There are authors, such as Van Praag CM, who occupies second place in the table with two publications and has 164 citations, while Oosterbeek H, who with only one publication leads the table due to the number of times cited. It must be remembered that from the nine hundred and eight citations that make up the amount of our sample, 75.77% come from a mere ten scientific authors.

Table 4
The 10 main authors by number of citations

Ranking	Authors	Entries	No. of citations	%
1	Oosterbeek h.	1	225	24,78%
2	van Praag, CM.	2	164	18,06%
3	Bonnett, c.	1	83	9,14%
4	Dahles, H.	1	71	7,82%
5	Turner, S.	1	36	3,96%
6	Ahn, Taehyun.	1	29	3,19%
7	Ghatak, M.	1	24	2,64%
8	Langevang, Thilde.	1	23	2,53%
9	Schoon, Ingrid.	1	21	2,31%
10	Bruhn, Miriam.	1	12	1,32%
			688	75,77%

Source: Own preparation

3.3. Journals

To finish the analysis regarding the bibliometric characteristics, we should highlight that there are ninety-four magazines which have published scientific articles referring to youth entrepreneurship, of which the ten main magazines are numbered by the amount of published documents (Table 5). With reference to magazines, we notice that there are exceptional cases such as Forbes which leads the table with the number of publications but does not have any amount of times cited. However, the International journal of entrepreneurial behaviour and research of small business economics is the most representative by number of publications as well as the amount of citations that the magazine has, followed by the African journal of business management. It must also be mentioned that some magazines are not found in the table due to having just one publication, such as the European economic review (225 citations), Small business economics (115 citations), Journal of economic psychology (83 citations); Annals of tourism research (70 citations), and Kyklos with (49 citations), which are largely responsible for the impact created by the scientific articles that are published.

Table 5
The 10 best magazines per amount of articles

Ranking	Magazines	No. of Articles	No. of citations	% of citations
1	Forbes	5	0	0,00%
2	International journal of entrepreneurial behaviour research	4	7	0,77%
3	African journal of business management	3	8	0,88%
4	Chimia	3	0	0,00%
5	Entrepreneurial business and economics review	3	5	0,55%
6	International journal of technology management	3	12	1,32%
7	Journal of small business and enterprise development	3	3	0,33%
8	Actual problems of economics	2	0	0,00%
9	Entrepreneurship and regional development	2	11	1,21%
10	Geoforum	2	6	0,66%
			52	5,73%

Source: Own preparation

3.4. Analysis of h-classics of the study of youth entrepreneurship

The h-classics concept is based on the h-index indicator and provides us with impartial and fair criteria to construct a procedure for the systematic search of classics of citations for any field of research (Campopiano, Minola and Sainaghi, 2016); the h-classic is used to choose the documents considered "classics" in this area and to establish the most influential studies of youth entrepreneurship among the 122 articles that are part of the sample.

The h-classic is a bibliometric concept which allows us to choose highly-cited articles in a research area (Gutierrez-Salcedo, Angeles Martinez, Moral-Munoz, Herrera-Viedma and Cobo, 2018), helping us reveal potentially significant information in the construction of a scientific structure, consisting of its origins, its present and possible future (Tian et al., 2018). Because of this, the development of studies regarding classic citations has become a fundamental tool when analysing scientific disciplines.

The approach that makes h-classics comes from these documents that are highlighted in a discipline and whose purity is over the rest (Gutierrez-Salcedo et al., 2018). For the correct handling of the h-index, the following procedure was used:

- Choose the database using scientific production and citations.
- Establish the sample that represents the research area to be analysed.
- Determine the h-index of the field that is the subject of the study.
- Extract the h-core for the field being studied

For this study, the h-index is located in eleven, as a result of which the first eleven articles in descending order of citations are going to configure the H-Core of this area and it shall proceed in following to apply to a meta-analysis of these.

Table 6 shows the eleven h-core articles, where the authors, their aims, the sample applied, the location, methodology and results of the study completed can be seen.

Table 6
Meta-analysis of the H-core works

Authors	Aim of the study	Details / sample	Place	Method	Results
Oosterbeek, Van Praag and Lijsselstein, 2010	Teaches the students to put theory into practice and understand entrepreneurial initiative	562 students in four study programmes in the "AVANS Hogeschool" vocational school	Netherlands	Assessing the impact of a leading entrepreneurial education programme	The effect on the self-assessed entrepreneurial skills is insignificant and the effect on the intention of becoming an entrepreneur is actually negative.
Van Praag, 2003	Undertakes an analysis of the duration of commercial survival among young, white owners of small businesses (self-employed) in the USA.	The National Longitudinal Study of the Youth (NLSY), in 1979, with 12,000 people surveyed, when they were between 14 and 22 years old.	USA	Ordinary least squares regression model (OLSR), a dependent variable which is explained through a group of independent variables.	The estimated risk rates for young people are affected by the features of the owner of a small business and the commercial conditions.
Bonnett and Furnham, 1991.	Determines whether factors such as motivation to achieve, as well as perception, differentiate among adolescents who show a positive interest in the entrepreneurial spirit, by being involved in the management of a business under the British Young Enterprise Scheme.	190 adolescents (16-19 years of age).	Netherlands	Application of the growth survey that makes up the Protestant Work Ethic (PWE), the Economic Locus of Control Scale, specific elements for the quick measurement of achievement and perception motivation.	The group of young entrepreneurs have a more internal place and a stronger belief in hard work but there are no differences among the groups in terms of the upbringing they have received. The demographic data did not reveal significant differences among the groups.
Dahies and Bras, 999.	Provides until the extent that romantic entrepreneurship leads to a challenge for the great amount of youth in a marginal or almost marginal life level in two tourist areas of Indonesia.	Informal and structured interviews with around 50 local guides of licensed or unlicensed, through the registry of stories of the life.	Indonesia	Butlers' Model of the destinations of Indonesia.	The position in the life cycle of the area affects the opportunities and restrictions that young, male freelancers encounter during their participation in the informal tourism sector and their expectations in relation to female tourists.

Authors	Aim of the study	Details / sample	Place	Method	Results
Van Praeg and Vanophem, 1995.	Develops an empirical model to separate the unseen factors of "opportunity" and "availability" in the decisions of young people to participate in the work force through self-employment or not.	The National Longitudinal Study of the Youth (NLSY), in 1979, with approximate 12,000 people surveyed, when they were between 14 and 22 years old.	USA	Bivariate probit model with partial observability.	The results of the estimation suggest that the majority of American youth are open to changing their job for self-employment.
Turner and Nguyen, 2005.	Examines the characteristics of young people in the frame of social capital, to highlight how the ways of non-monetary support through networks, safety and the connections could be helping these entrepreneurs.	75 in-depth interviews with young adults, between the ages of 25 and 35.	Vietnam	Of a qualitative and exploratory nature, with the sample collected through the snowball strategy.	The networks of social capital that young entrepreneurs in Hanoi operate and the restrictions that entrepreneurs in Vietnam face, underlying the complexities to access formal credit and capital.
Ahn, 2010.	Researches the effect of individual risk tolerance of youth regarding the probability of entering self-employment.	Using multiple replies to risks in the National Longitudinal Survey of Youth in 1979 (NLSY79)	South Korea	Measurement for the individual level of risk aversion and other co-variables that may potentially affect the decision to be self-employed varies with age.	Considers that the estimated effect of risk aversion of youth regarding the probability of entering self-employment is dramatically underestimated if the measurement error is not taken into account.
Ghatak, Morelli and Sojstrom, 2001.	Studie a version of generations superimposed on a model, where the contracts and incentives are specified in general balance.	Empirical studies based on panel data in the USA and the United Kingdom, demonstrating the importance of the restriction of the credit market for potential businesspeople	USA	Model of superimposed generations.	The imperfections in the credit market lead to incomes in entrepreneurial activities that involve capital. These incomes motivate poor, young agents to work hard and save to overcome the restrictions of being in debt.
Langevang, Namatovu and Dawa, 2012	Examines the motivations and aspirations of young entrepreneurs in Uganda	The youth of Kampala	Uganda	Qualitative analysis	The results showed the common representation of entrepreneurs, and discusses that it is far from probable that the entrepreneurs driven by need in developing countries are inspired to grow.
Schoon and Duckworth, 2012.	Taking a longitudinal perspective, it is tried an entrepreneurial context model in a representative sample at national level	Following the lives of 6,116 young people born in 1970 in the United Kingdom from birth until the age of 34	USA	Contextual model	These results suggest the influence of the social structure and individual activity in the configuration of occupational selection and execution.

Source: own preparation

With the aim of examining the articles included in the h-core in a more in-depth way, they have been grouped in accordance with the area they refer to, the type of study described, the main approach of the research work, the methodology used in the development of the research, as well as the results which the researchers arrived at.

The h-core articles are mostly inclined towards youth entrepreneurship of a private nature, for example (Ahn, 2010; Bonnett and Furnham, 1991; Langevang *et al.*, 2012). Very few authors refer to topics related to youth entrepreneurship directed at social contribution (Dahles and Braz, 1999; Langevang *et al.*, 2012; Turner and Nguyen, 2005), which shows the tendency of youth entrepreneurship at the moment of creating new businesses and the orientation they have.

Of all of the 11 articles that match the h-core as a result of our sample, just 3 refer to the study of youth entrepreneurship in social areas. The existence of a void in studies regarding this type stands out and may be used for the development of future research.

3.5. Study type

Of the 11 articles that are part of the h-core, they are grouped into two categories according to the study type they have been classified in:

- Theory study: This is developed through a technical, conceptual or methodological framework, within the sample we find researchers such as: (Langevang et al., 2012; Turner and Nguyen, 2005).
- Empirical study: the researchers develop these studies using the application of qualitative or quantitative techniques; among those who have done these types of studies, we have (Bonnett and Furnham, 1991; Oosterbeek *et al.*, 2010; van Praag, 2003)

It should be indicated that, of the eleven publications, some are referenced in more than one area. The majority of the studies are empirical or produce an impact, carried out on financial, educational and economic topics.

3.6. Study approach

It is complex to define the categories, bearing in mind the diversity of approaches and aims of the articles corresponding to the h-core. Youth entrepreneurship provides a wide area of studies. In order to define the range of possibilities, we have done so with the topics in the following way:

- Financial: is the main topic of interest on the part of researchers. They analyse diverse aspects such as those related to the hazard rate and how this involves in the survival of youth enterprises (van Praag, 2003), such as opportunity factors motivate the decision to be self-employed (Vanpraag and Vanophem, 1995), as well as how possessing a high degree of risk aversion may be considered a fundamental characteristics in young entrepreneurs (Ahn, 2010).

Education: it is the second field where most research has been done. Its authors deal with topics related to education in entrepreneurship and how this helps improve skills and improve entrepreneurial motivation (Oosterbeek et al., 2010), to how financial education allows for the strengthening of entrepreneurship in young people (Bruhn and Zia, 2013) and predict how the entrepreneurial spirit in future young entrepreneurs may be influenced by the recognition of socio-economic environment, alongside life experiences (Schoon and Duckworth, 2012); topics related to the studies of learning through experiences, as well as the unknown in the moment of entrepreneurship help to develop an entrepreneurial culture among the youth.

- In addition, there are other studies in diverse areas of knowledge such as: economic factors (Ghatak *et al.*, 2001), informal tourism (Dahles and Bras, 1999), share capital (Turner and Nguyen, 2005), sex (Schoon and Duckworth, 2012), and regarding the factors that specify the identity of the entrepreneur (Langevang et al., 2012).

4. Conclusions

Youth entrepreneurship fulfils a role of a driving force in economic development. In agreement with (Barna-Zuluage and Alberto Riera-Godoy, 2012), the entrepreneurs are people who create business ideas, which make them powerful and profitable and break the adjusted cycles of the market, of which it is a destructive-creative agent. According to (Elena and Oana, 2010), being well-informed and adding their creative potential may unleash new ideas, which allow them to make the most of the opportunities which arise in their surroundings (Makhbul and Hasun, 2010).

The aim of this study was to show patterns and tendencies followed by a specific field such as youth entrepreneurship, through the identification of articles published on Web of Science, showing the areas that researchers are most interested in. A strong nucleus of researchers in youth entrepreneurship cannot be identified, as the most important authors have only produced two articles between 1959 and 2018. Additionally, there is no correlation between productivity and impact, due to the authors varying in their indicator once classified.

If we focus on the list of the eleven classics derived from this h-classics methodology, some aspects may be considered:

- The way that the literature classics regarding youth entrepreneurship was chosen gives us a real picture of discipline when carrying out the study. It must be understood that the h-classic is quite dynamic and that the methodology used responds to changes in the patterns given. In terms of citations received, the higher levels shall continue to be part of the classics for some time that shall in future be consulted; not being the same for those which are always in the lower-half, as they shall be subject to modifications, that is to say, as long as some articles move up the ranks, some shall be replaced by other new ones.

- When the processing and standardization work is carried out on the information, the summaries of the articles were read to confirm if they were adjusted within the study topic, observing an important group of authors who deal specifically with the topic and others who, although there is a clear relationship, it is not done in a specific way.

- When assessing scientific articles and the number of citations in each one, the citations are considered to be the main bibliometric indicator; it is worthwhile to indicate that is an essentially quantitative indicator, as well as a measure of visibility and impact. While assuming there no is direct correspond among the number of citations and the usefulness of the article, in this study a great number of citations is associated with great interest from the scientific community.

- The studies of this type are of a temporary nature as they are subject to certain time delays for an uncertain period from the publication of the article until the moment it receives its first citations. This means that the first articles have a higher probability of getting citations, and the most recent works have less possibility of showing their transcendence through citations received, hence, the need for updating each specific time.

To summarise, this work was planned to contribute to youth entrepreneurship from bibliometrics, showing in this way that the combination of the h-classics methodology, with the analysis of the content generating scientific knowledge beyond traditional literature reviews does not rely on the support of qualitative or quantitative plots.

The restrictions presented are mainly based on the lack of consensus on the definition of youth entrepreneurship in the literature; thus, the articles come from very different disciplines which implies that the patterns of citations vary significantly; as well as it being impossible to specify a directly proportional relationship between the number of citations received and their quality or usefulness.

To conclude, it would be important to corroborate the information provided through the future research of other databases regarding the topic of youth entrepreneurship, allowing for the identification of concepts, tendencies and patterns generated in a specific period of time.

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