

EXPLORING YOUTH ENTREPRENEURSHIP THROUGH A BIBLIOMETRIC ANALYSIS: TRENDS AND DEVELOPMENTS IN THE CURRENT LITERATURE

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Abstract

Youth entrepreneurship is a very dynamic field and current trends reflect economic, social and technological changes around the world. The main aim of the research is to determine the current state of scientific research on youth entrepreneurship. In order to achieve the main goal, the following objectives were outlined: O1- To identify the key terms that currently shape the topic of youth entrepreneurship; O2- To understand the evolution of the analyzed topic by identifying the most frequently used terminologies and the links between the keywords that shape the most relevant thematic clusters; O3- To identify future research directions of the analyzed topic. Thus, the bibliometric analysis performed outlines four essential thematic clusters that highlight the barriers and opportunities for young entrepreneurs, the importance of entrepreneurship education, the integration of new technologies and innovation. The results obtained contribute to the development of the literature by providing a broad perspective on the evolution of youth entrepreneurship.

Keywords: *Youth entrepreneurship, entrepreneurship education, new technologies, innovation.*

JEL Classification: *M41, M42*

I. INTRODUCTION

In the current economic context, characterized by globalization, digitalization and dynamism, entrepreneurship becomes an engine of innovation and resilience, offering creative and flexible solutions to face challenges and identify opportunities in the contemporary business environment. Youth entrepreneurship is defined as a tool to ensure youth employment growth, involvement of young people in economic activities, their socialization and self-realization. Stimulating entrepreneurship helps to utilize the creative and innovative potential of young people in the interest of sustainable economic development of a country.

Researchers have shown that entrepreneurship is an important contributor to economic growth, implicitly counteracting the negative effects of a crisis, such as the COVID-19 pandemic or the energy crisis (Grube & Storr, 2018; Boris et al., 2021; Belitski et al., 2022). Thus, we notice an increased interest of researchers on the field of entrepreneurship, especially among young people from the perspective of intentions, attitude, education, motivation, determinants, gender differences, etc. In this context, we turned to a bibliometric keyword analysis to conduct a more in-depth literature review on the topic of youth entrepreneurship. The bibliometric analysis was based on the data provided by the Web of Science (WOS) platform in order to determine the current status of scientific research. In order to achieve the main goal, the following objectives were outlined: O1- To identify the key terms that currently shape the topic of youth entrepreneurship; O2- To understand the evolution of the analyzed topic by identifying the most frequently used terminologies and the links between the keywords that shape the most relevant thematic clusters; O3- To identify future research directions of the analyzed topic.

The results obtained are useful for researchers as well as for future entrepreneurs, as they provide an in-depth understanding of the evolution of youth entrepreneurship, identifying future directions for research as well as for the development of the economy through youth entrepreneurship.

II. LITERATURE REVIEW

Despite an unstable economic context with rapid changes in technology and the economy, many young people are choosing to set up their own businesses and this phenomenon reflects not only a desire for financial independence, but also a desire for change and innovation in today's society. Thus, entrepreneurship has become an important topic in both economics and scientific research.

This paper aims to highlight, at the level of specialized literature, the main reasons that lead young people to venture into entrepreneurship. Along with the barriers and viable solutions that can support their success, as well as the training of future entrepreneurs, the implications of new technologies and ways to stimulate entrepreneurship. The bibliometric analysis undertaken in this regard, allows to structure, organize and manage the database in an objective and systematic manner, providing a wide range of key concepts and research directions, as well as the possibility to observe the efforts of researchers in a particular field and redirect research to less developed areas, so that we can contribute and develop the field of study to make it as homogeneous and useful for future researchers as possible (Molociniuc (Hritcan) et al., 2022).

Within the international literature, there are various bibliometric analyses on the topic analyzed from the perspective of entrepreneurship education for young people that highlight the growing interest in training future entrepreneurs (Durán-Sánchez et al., 2019; Tiberius & Weyland, 2023) or on student entrepreneurship and the role of universities in youth business development (Prelicean & Bejinaru, 2021; Brinzaru et al., 2024). On the other hand, Cavalcanti (2021) and Coronel-Pangol et al. (2023) bring to the forefront the development of social entrepreneurship and its importance in the current economic context and Gupta (2024) emphasizes that entrepreneurship is seen as a solution to reduce youth unemployment. Thus, there are many issues to be considered when discussing youth entrepreneurship and through bibliometric analysis we will be able to identify key issues as well as future research directions within the topic.

III. RESEARCH METHODOLOGY

To achieve the main purpose of the paper we used a bibliometric analysis, a popular and rigorous method for exploring and analyzing large volumes of scientific data. The bibliometric analysis based on key concepts provides a clear picture of the evolution of the analyzed topic over time. For this analysis, data were collected from the international WOS platform based on well-defined criteria. The processing of the data exported on WOS was realized through the VOSviewer software and for a better understanding of the methodology applied, Figure 1 shows the stages of our research.

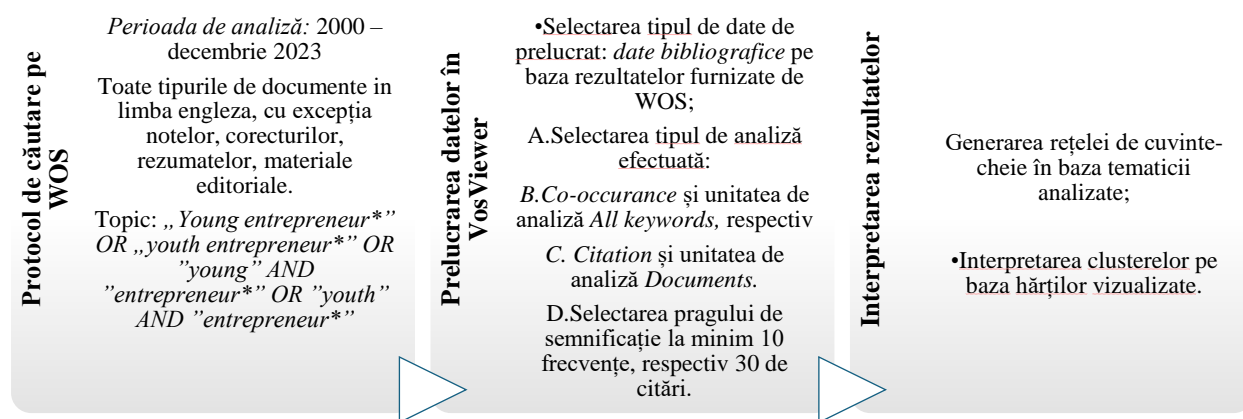


Figure 1. Stages of the research

Source: Authors' own processing

Thus, after applying the protocol mentioned in Figure 1, we obtained 3711 published papers in the form of articles, conference papers, books, book chapters, book chapters, reviews for the topic of youth entrepreneurship, which were further processed with the help of VosViewer software.

IV. RESULTS AND DISCUSSION

The results obtained following the application of the selection criteria in the WOS database are presented in the figures below, in terms of temporal evolution, geographical distribution and WOS research domains. Thus, Figure 2 reflects an oscillating trend in the number of papers published on social entrepreneurship between 2000 and December 2023. It can be observed a significant increase in the number of papers published since 2010, when the number of papers doubled compared to the previous year, and the trend remains upward until 2017. The highest interest in this topic is encountered in 2021, when the number of publications reaches 391 papers. Therefore, there is a growing interest from researchers in social entrepreneurship, which has developed at the same time as the need for innovative solutions and capitalizing on new opportunities has increased.

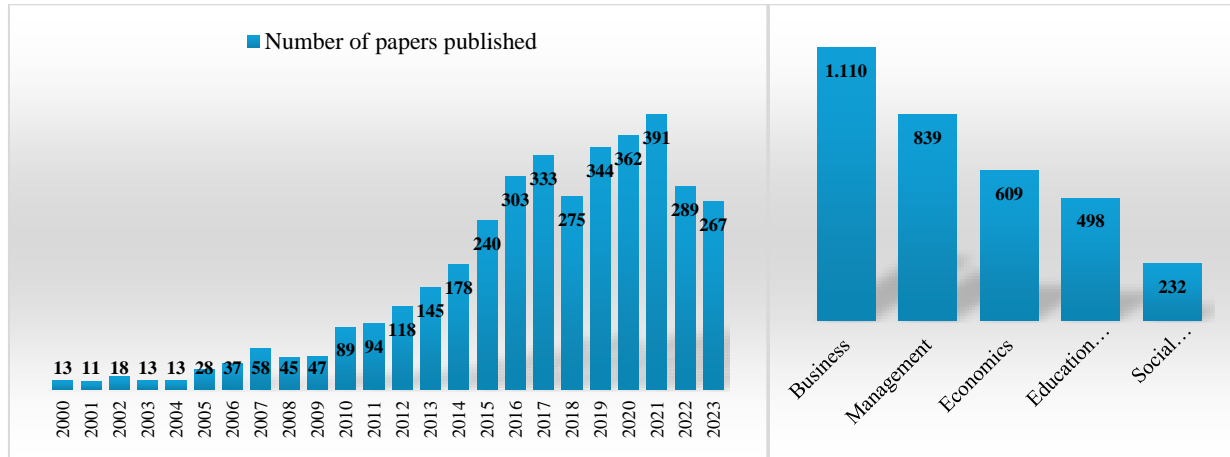


Figure 2. Evolution of papers by year of publication and WOS research areas
Source: Own processing based on data provided by WOS

In terms of WOS research areas, the largest number of papers published on youth entrepreneurship is in the field of business (see Figure 2), i.e. 1110 papers, followed by management with 839 papers and economics with 609 papers. Figure 3 shows the main countries that have a high number of publications on youth entrepreneurship, with the United States, the United Kingdom and China topping the list.

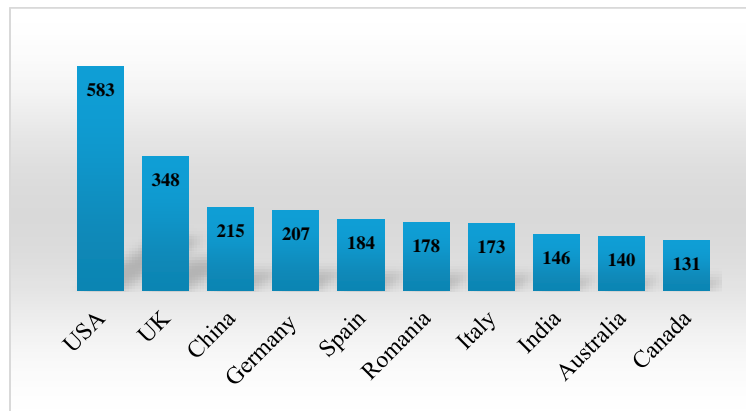
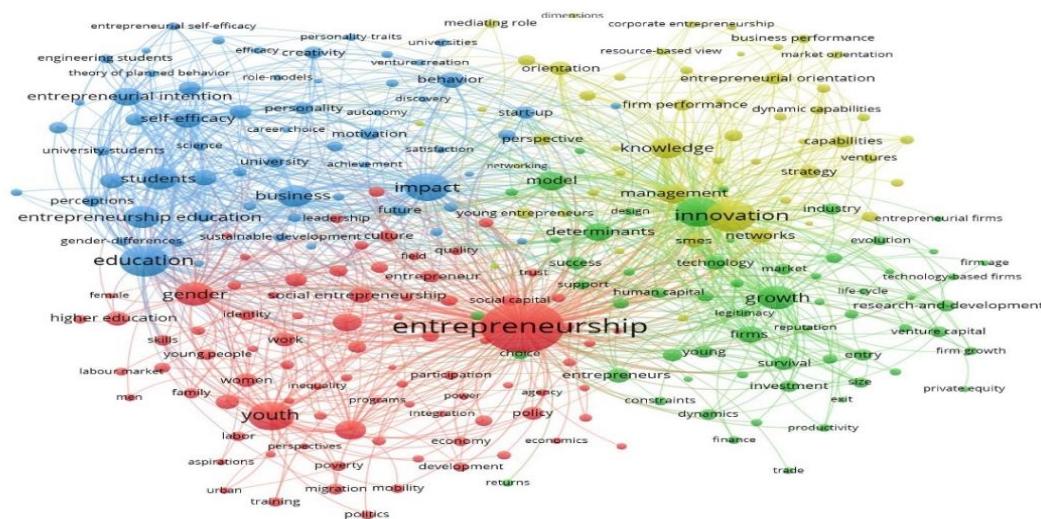


Figure 3. Evolution of published papers by geographical distribution
Source: Own processing based on data provided by WOS

Therefore, the top ten in terms of countries researching social entrepreneurship is led by the United States with 583 papers, followed by the United Kingdom with 348 published papers and China with 215 papers. These countries are followed by Germany with 207 papers, Spain with 184 publications, Romania, 178 papers, closely followed by Italy with 173. Next come India with 146 publications, Australia with 140 papers, and Canada in 10th place with 131 publications on the topic.

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Applying the search methodology in Figure 1 we obtained 10412 keywords which after applying the minimum threshold of 10 frequencies and eliminating some irrelevant keywords (country names, misspelled words, sighting words, etc.) resulted in a network of 257 keywords grouped in four well delimited clusters. The highest frequency is recorded by the term entrepreneurship (1011) with a link intensity of 3572, followed by innovation with a frequency of 372 and an intensity of 1749, education with 354 frequency and 1622 intensity, performance 331 frequency and 1947 link intensity and young showing a frequency of 309 and an intensity of 1045. Thus, we notice that youth entrepreneurship is closely connected by innovation, performance and education. Young people are more likely to be creative and able to adapt to rapid changes in the business environment, including the use of new digital technologies. Their innovative spirit drives them to seek innovative solutions that lead to business performance. And last but not least, education has a key role to play in nurturing entrepreneurial culture, stimulating entrepreneurial initiatives and providing entrepreneurial skills among young people.



Cluster I: *Youth entrepreneurship between barriers and solutions*. This cluster highlighted in red in Figure 4 consists of 85 keywords (unemployment, employment, inequality, labour market, economic growth, globalization, policies, sustainability, social entrepreneurship, social innovation, social capital, social entrepreneurship, poverty, transition, barriers, opportunities, media, female entrepreneurship) based on which we have delimited the research into two categories as follows:

Entrepreneurship as a labor market solution. Both at the policy level and in the literature, entrepreneurship is approached as a solution to reduce unemployment, underemployment of college graduates and increase employment, especially in crisis conditions (Dvoulety et al., 2018; Kang & Xiong, 2021; Vankov et al., 2023). However, Kang & Xiong (2021) demonstrated that for Chinese graduates the main barriers in developing a career as an entrepreneur are emotions, resources and culture, to which we can add the lack of infrastructure, experience and funding (Yuan et al., 2022) or lack of digital skills (Cueto et al., 2022). In addition, Elshaiekh et al. (2023) showed that digital entrepreneurship is a solution to reduce unemployment, especially among women and digital skills enable young people to identify new business opportunities. On the other hand, at European level, the entrepreneurial culture is being intensively promoted through the adoption of policies and the implementation of business financing projects, including the development of entrepreneurial education programs that help stimulate entrepreneurial initiatives among young people. Certainly, early-stage entrepreneurship drives economic growth in European regions, taking into account the fact that businesses established in densely populated areas such as cities and metropolitan areas tend to have a greater effect on the regional economy (Radman & Radman-Funarić, 2022).

Youth social entrepreneurship and its contribution to ensuring economic growth and the sustainability of society. Growing awareness of social and environmental issues, as well as the crises generated by pandemics and military conflict or the energy crisis, have played an important role in stimulating social entrepreneurship. This type of entrepreneurship is the development of businesses that contribute to solving social or environmental problems beyond its main purpose of generating profit. Thus, researchers have shown that social entrepreneurship, including social innovation, but also the integration of digital technologies (Nakpodia et al., 2023), contribute to sustainable economic growth and value creation (Wang, 2022). Contributing factors to the development of social entrepreneurship are universities' social entrepreneurship programs, which de Sousa-Filho et al. (2023) stated that they help form empathetic individuals who are more likely to identify social opportunities, plus social awareness, self-efficacy and previous entrepreneurial experience (Zulkifle & Aziz, 2023); mentoring and social networks (Almeida & Carvalho, 2022) and the adoption of the 2030 Agenda internationally (Margaca et al., 2021). We believe that youth entrepreneurship, be it social or otherwise, drives sustainable economic growth, and for this reason, the enabling institutions must invest in promoting and supporting young entrepreneurs.

Based on the keywords among which we mention start-ups, business models, technology, economic development, performance, success, digital entrepreneurship, digital currencies, private capital, human capital, blockchain, etc., we named Cluster II, *Integrating new technologies in youth entrepreneurship*.

With the growth of the start-up ecosystem, young entrepreneurs have access to more resources such as funding, entrepreneurship courses, business incubators and various digital platforms that support them in developing and implementing their ideas. Moreover, digital technology is an important tool influencing them to manifest their intention to become entrepreneurs. For example, the utilization and availability of new technologies give individuals with experience in the healthcare field the desire to become healthcare entrepreneurs (Patru (Grigorie) et al., 2023). Findings also supported by the study of Festa et al. (2023) which revealed that, knowledge, availability and access about crowdfunding and blockchain had a positive and significant impact on entrepreneurial intention. Also, the evolution of new digital technologies have changed the role of banks in the financial market, by ascribing the quality of equity investors to fund hybrid companies that combine digital entrepreneurship, technology and banking referred to as fintechs (Hommel & Bican, 2020). Moreover, crypto assets, blockchain, fintech, digital payments and cryptocurrencies have prompted major financial powers and international financial institutions to consider launching an official digital currency (Dijmarescu, 2021). On the other hand, the findings of Nkwei et al. (2023) indicate that risk-taking mediates the effects of entrepreneurial capability and the perceived benefits of digital technology on entrepreneurial intentions. At the intersection between new technologies and entrepreneurship, we find the latest form of entrepreneurship, namely digital entrepreneurship. It involves using digital technologies and the internet to develop, promote and manage businesses across all sectors. It is therefore clear that the significant impact of digital technologies on entrepreneurial intentions and financial markets has spurred the development of new innovative and flexible businesses.

Cluster III: *Entrepreneurship education - driver of youth entrepreneurship*. This cluster (blue color in Figure 4) brings education to the forefront and among the 60 terms, we list the following: entrepreneurial education, entrepreneurial intentions, attitude, behavior, skills, competences, universities, students, career, personality, motivation, opportunity, barriers, etc. In the literature, the role of entrepreneurial education is well outlined in the social and economic development of society. Very many book studies addressing the theory of planned behavior theory demonstrate that entrepreneurial education among young people positively influences their entrepreneurial intentions (Bagheri, 2018; Thomas & Wulf, 2019; Damasceno Cavalcante et al., 2022; Wang et al., 2023), along with other personal factors (gender, experience, age, personality, etc.) and external factors (culture or economic development of a country). Moreover, Dodescu et al. (2021) indicated that entrepreneurship education needs to be extended beyond economics and business majors, as it significantly contributes to the growth of entrepreneurial intentions. Moreover, we note the presence of a significant number of articles involving engineering students, and researchers have shown that students' entrepreneurial intentions increase if they receive entrepreneurship education (Sun et al., 2017). On the other hand, entrepreneurship education provides young people with specific competencies and develops their entrepreneurial skills, which in turn positively influence entrepreneurial intentions (Hahn et al., 2020; Lv et al., 2021). Also, terms such as university, students, university entrepreneurs highlight the increased interest of researchers in entrepreneurship education at the graduate level. Thus, universities play an active role in continuously adapting curricula that provide entrepreneurial skills (Li et al., 2023), in knowledge and technology transfer with the business community (Blankesteijn et al., 2021), as well as in supporting entrepreneurial competitions or business incubators that lead to the development of student start-ups (Badri & Hachicha, 2019).

Entrepreneurship education is therefore a driver of youth entrepreneurship, as it has a significant influence on young people's entrepreneurial intentions, shaping an entrepreneurial culture that prepares them for the challenges of the labor market.

Whether they opt to become employees or choose entrepreneurship as a career alternative, entrepreneurship education develops their skills and provides them with the necessary competences to adapt and succeed in a changing business environment.

Cluster IV: *Fostering innovation among young entrepreneurs*. The last cluster (yellow color in Figure 4) is concentrated around the term innovation, together with which we also find the following terms: performance, young entrepreneurs, young firms, SMEs, small firms, networks, knowledge, opportunities, entrepreneurial orientations, international entrepreneurs, competitive advantage, firm performance, etc. In the literature, researchers argue that stimulating innovation among young entrepreneurs can be achieved through educational programs that promote entrepreneurship and creative thinking (Marczewska et al., 2023).

Also, Hamad & Arthur (2012) argue that business incubators that support young people contribute to innovation and entrepreneurship development (Banka et al., 2022) and funding grants can reduce barriers to turning ideas into innovative businesses (Aguilar et al., 2018). The entrepreneurial culture of a firm is another important factor that can stimulate innovation and the development of new business models (Roman & Maxim, 2017; Falaras & Moschidis, 2023). In the same vein, other researchers highlight that entrepreneurship and innovation positively influence firm performance (López-Lemus & De La Garza Carranza, 2020). In contrast, Del Vecchio et al. (2020) show that innovation developed by young entrepreneurs in family firms is influenced by the benefits of network membership, internal and external knowledge flow, innovation track record, and entrepreneurial attitudes of employees. Moreover, young entrepreneurs through SMEs or small firms have a higher capacity to innovate than large firms (Pierre & Fernandez, 2018; Ali et al., 2020). Thus, innovation plays an important role in the development of young entrepreneurs as it leads to increased market competitiveness, internationalization of business, identification of entrepreneurial opportunities, increased adaptability in a dynamic business environment, and value creation for society.

Figure 5 illustrates the network formed between publications that have addressed youth entrepreneurship in terms of the number of citations.

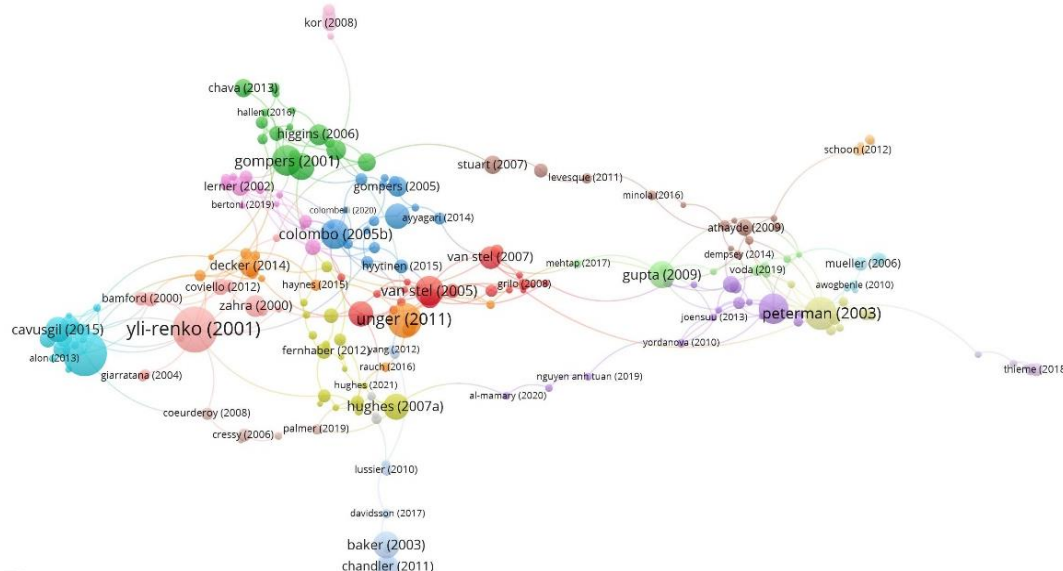


Figure 5. Network of published papers by number of citations

Source: Author's own processing in VOSviewer

In Figure 5, the node is the equivalent of the author's name and the year of the cited article, and its size represents the citations of each paper. The network distance between researches highlights how the articles are correlated with each other or highlights the bibliographical connection of the nodes (van Eck & Waltman, 2018). After applying the threshold of minimum 30 citations we obtained 402 papers of which the Network groups in 19 clusters of different colors, only 207 cited papers that formed links between them. The high number of clusters demonstrates the interdisciplinary character of entrepreneurship, both in scientific research and in practice, being addressed in all fields of activity. Thus, the most cited paper is by Yli-Renko et al. (2001) whose paper highlights the early stage of research on high-tech business development. Basically the start of technology evolution for what today we call new digital technologies is highlighted. At the same time, the research of Knight & Cavusgil (2004) marks the beginning of the

globalization of companies, as the first proponents of international entrepreneurship having a critical role of innovative culture, as well as knowledge and capabilities to develop models of affective models. We notice since the early 2000s, the interest of researchers in entrepreneurship education and its impact on students' entrepreneurial perception (Peterman & Kennedy, 2003), entrepreneurial motivation and skills (Oosterbeek et al., 2010), on the growth of high-tech firms (Colombo & Grilli, 2005), and the influence of gender on entrepreneurial intentions when Gupta et al. (2009) proved that males have higher entrepreneurial intentions than females.

V. CONCLUSION

The results of the bibliometric analysis emphasize the increased interest of young people in entrepreneurship, as well as of researchers internationally. Following the application of the WOS international database search protocol, we obtained 3711 relevant papers during the analyzed period with a significant increase between 2007-2021. The data processed through VosViewer generated a network of about 300 keywords grouped into four clusters that outlined the evolution of the youth entrepreneurship theme. Thus, we were able to highlight that entrepreneurship is seen as a labor market solution that contributes to reducing unemployment, innovation and increased competitiveness. The main barriers identified by researchers in the development of young entrepreneurs are lack of finance, infrastructure, digital skills, as well as culture, gender, emotions, personality. There is also the development of new forms of entrepreneurship, namely social and digital entrepreneurship, which are increasingly gaining ground in practice due to the current economic context. While social entrepreneurship solves social problems in today's society through innovative solutions, digital entrepreneurship has developed with the integration of new technologies into business models. Moreover, these forms of entrepreneurship have led to the development of a new type of entrepreneur characterized by creativity, innovativeness, flexibility, high adaptability to technological change and current market conditions

Another important aspect identified in cluster 3 is entrepreneurial education which has a significant influence on entrepreneurial intentions, developing an entrepreneurial culture that prepares young people for the challenges of the labor market. In this respect, universities have a key role to play in developing entrepreneurs by continuously adapting curricula to meet the demands of today's market. The last cluster, puts at the center the term innovation as a stimulating factor for entrepreneurship development. The researchers also suggest that stimulating innovation is achieved by integrating entrepreneurship education into the university curriculum but also other entrepreneurial educational programs, organizing competitions or developing business hubs. The bibliometric analysis of the most cited papers according to the analyzed thematic highlights the interdisciplinary nature of entrepreneurship, both at the level of scientific research, but also in practice, being addressed in all areas of activity.

Finally, we argue that entrepreneurship is a dynamic topic given the current economic context affected by multiple crises. As future research directions we consider that digital entrepreneurship among young people is on the rise and research on the use of emerging technologies such as artificial intelligence, blockchain or Internet of Things (IoT) in creating new business opportunities is highly relevant. At the same time, a focus on sustainability can help to explore more carefully the effectiveness of social business models in the current economic context and how they can scale. Last but not least, deepening how innovation changes business models, how it solves problems or how customers and partners interact. For future entrepreneurs, innovation can be the key to long-term success in a changing economic environment.

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