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Identifying social and economic factors influencing entrepreneurship through a structural equation model

Identificación de factores sociales y económicos que influyen en el emprendimiento mediante un modelo de ecuaciones estructurales

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Abstract

This research analyzes the influence that economic factors and social factors have on entrepreneurship by analyzing the relationship between these three constructs, using a PLS-based structural equation model (SEM) through a variance-based approach, which analyzed the relationships between these factors and entrepreneurship with the disposition of Sustainable Development Goals, Entrepreneurial Intention Rate and Total Entrepreneurial Activity Rate in initial stage as latent variables. In addition, data were collected from 60 countries in various geographic areas, which were validated by means of a quantitative partial least squares model. The results indicate that only economic factors significantly explain entrepreneurship, while social factors are not statistically significant in the model. Our findings imply that countries that invest in strengthening their economic factors have higher rates of entrepreneurship.

JEL Code: L26, C69, O18
Keywords: entrepreneurship; economic factors; social factors; sustainable development; entrepreneurial intention rate

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Resumen

Esta investigación analiza la influencia que tienen los factores económicos y los factores sociales sobre el emprendimiento analizando la relación entre estos tres constructos, utilizando un modelo de ecuaciones estructurales (SEM) basado en PLS mediante un enfoque basado en la varianza, el cual analizó las relaciones entre estos factores y el emprendimiento con la disposición de los Objetivos de Desarrollo Sostenible, la Tasa de Intención Emprendedora y la Tasa Total de Actividad Empresarial en etapa inicial como variables latentes. Además, se recopilaron los datos de 60 países en diversas áreas geográficas, los cuáles se validaron por medio de un modelo cuantitativo de mínimos cuadrados parciales. Los resultados señalan que solo los factores económicos explican de manera significativa el emprendimiento, mientras que los factores sociales no son estadísticamente significativos en el modelo. Nuestros hallazgos implican que los países que invierten en consolidar sus factores económicos obtienen mayores índices de emprendimiento.

Código JEL: L26, C69, O18
Palabras clave: emprendimiento; factores económicos; factores sociales; desarrollo sostenible; tasa de intención emprendedora

Introduction

According to the Global Entrepreneurship Monitor - GEM (2021), a person chooses to become an entrepreneur for one of two reasons: by opportunity or by necessity. This source reports that entrepreneurship by opportunity is preferred due to its greater positive impact on the development of a country. Nonetheless, it is important to understand the behavior of entrepreneurship in order to drive it in the right direction (Barrachina et al., 2021). For example, Amofah and Saladrigues (2022) pointed out that entrepreneurship by opportunity can arise when a favorable environment is established where people do not necessarily want to start a business to obtain income but to improve their well-being by promoting innovation and economic growth.

Consequently, it is of great importance to understand the factors that could have an impact on entrepreneurship. Therefore, considering the greater relation between entrepreneurship by opportunity and the economic development of a country compared to entrepreneurship by necessity (Afi et al., 2022), it is intended to explain the importance of creating an environment that fosters entrepreneurship by opportunity, where people have a broader vision for business (Terán-Yépez & Guerrero, 2019).

On the other hand, the research found in the literature regarding the main triggers or conditioning factors that promote entrepreneurship over time is not sufficient to understand this phenomenon. Moreover, within these previous studies, combinations of economic (Asad et al., 2014; Shakabatur et al., 2022; Tripopsakul et al., 2022) and social factors (Amofah & Saladrigues, 2022; Bastián et al., 2019; Uddin et al., 2022) that help to increase entrepreneurship were identified. For this reason, this study analyzed the influence of economic and social factors on entrepreneurship over time.

It should be noted that the Global Entrepreneurship Monitor (GEM) is a global benchmark in the field of entrepreneurship. According to the GEM, the term entrepreneurship encompasses any initiative to create a new business, establish a new business structure, and expand an existing business, all carried out by an individual or a team (Reynolds et al., 2005). The data provided by GEM are widely used in the literature and are internationally recognized as a source of information on entrepreneurship. Unlike other databases focusing only on start-ups, GEM provides a broader view of entrepreneurial activity, including individuals' attributes, valuations, and personal entrepreneurial aspirations. The GEM model classifies entrepreneurship into three phases: nascent entrepreneurs (gestation phase of business ideas), early-stage entrepreneurs (TEA) (i.e., those with less than 42 months in operation), and established entrepreneurs (with more than 42 months in the market).

Consequently, this research aims to determine which Sustainable Development Goals (SDGs) are most linked to and promote entrepreneurship. Therefore, consolidations of economic and social factors were performed through the achievements of the SDGs pertaining to these specific factors. In this way, the variation of entrepreneurship was analyzed through the Entrepreneurial Intention Rate and the Total Entrepreneurial Activity Rate. In addition, data from 60 countries in different geographic areas were collected for the study and validated through a quantitative partial least squares (PLS) model (Chin, 1998). Similarly, the PLS technique used in this research allowed for exploring the tests of construct reliability, convergent validity, and discriminant validity in the proposed models, being at the same time a methodology progressively preferred by more organizational researchers (Criado-Gomis et al., 2018; Hair et al., 2017).

This research contributes to knowledge of novel factors that influence entrepreneurship over time and how the fulfillment of certain SDGs impacts entrepreneurship in each country. Potential beneficiaries of the above are academics, governmental organizations, entities and agencies related to the United Nations, and entrepreneurs who wish to contribute to any of the three axes of sustainable development (Connelly, 2007).

This paper is structured as follows: the first section presents the theoretical model and the planning of the hypotheses of this study. The second section presents the methodology, data, and statistical method employed. Next, the third section provides the results obtained from applying PLS. In the fourth section, the results are discussed based on the literature. The paper ends with some conclusions based on what has been observed throughout the study.

Theoretical model and hypotheses

This section aims to add to the theoretical literature on the concept of entrepreneurship in its two main types: by necessity and by opportunity. Likewise, the economic and social factors will be analyzed, emphasizing the SDGs concerning these factors. In the same way, with the theoretical construction of the main elements addressed below, the study's hypotheses were defined.

Entrepreneurship

Entrepreneurship is a topic of great interest worldwide due to its ability to generate economic opportunities and benefits (Terán-Yépez et al., 2020). Many countries promote entrepreneurship to achieve sustainable development, which emerged as a response to social, environmental, and economic problems (Baert & Verhaest, 2021; Moya-Clemente et al., 2020). It is relevant to highlight that sustainable entrepreneurship seeks to generate wealth and promote current and future well-being (Terán-Yépez et al., 2020). Moreover, entrepreneurship is considered one of the drivers of a country's economic growth, as it converts knowledge into economic value and helps drive the modern economy (Tripopsakul et al., 2022). Accordingly, sustainable entrepreneurship can contribute significantly to long-term sustainable economic development while addressing current and future social and environmental challenges.

Furthermore, motivation is a key factor for entrepreneurship and has been identified as one of the most relevant predictors of entrepreneurial success (Marulanda & Morales, 2016). Personal motivations, such as the desire to face new challenges, fulfill a dream, and gain independence and financial stability, are strong factors that drive people to become entrepreneurs. In addition, exposure to models of successful entrepreneurs, work experience in business management, and participation in entrepreneurship training programs can be important catalysts for awakening motivation and fostering entrepreneurship (Ynzunza Cortés & Izar Landeta, 2020). Although personal motivations are important, entrepreneurial success seems more related to external factors that allow taking advantage of business opportunities, such as market conditions, access to capital, and government support (Ynzunza Cortés & Izar Landeta, 2021). Therefore, it is essential for entrepreneurs to be attentive to these opportunities and have the ability to adapt to changes in the business environment to ensure long-term success.

Some studies distinguish between different types of entrepreneurship in order to better understand the impact of entrepreneurship on the modern economy, including imitative and innovative entrepreneurship (Cliff et al., 2006; Samuelsson & Davidsson, 2009), productive and unproductive entrepreneurship (Baumol, 1996; Minniti, 2008), formal and informal entrepreneurship (Saunoris & Sajny, 2017; Omri, 2020; Ashourizadeh et al., 2022), and entrepreneurship according to Kirzneru or

according to Schumpeter (Ferreira et al., 2017; Lafuente et al., 2020). On the one hand, Kirzneru states that the entrepreneur should identify and exploit commercial opportunities efficiently in the market and with the best possible technology. On the other hand, Schumpeter focuses on entrepreneurship as a factor of economic development that promotes innovations that result in the change of production curves and move up the technological frontier (Lafuente et al., 2020).

Nevertheless, this study focuses on the two types of entrepreneurship previously justified: entrepreneurship by opportunity and entrepreneurship by necessity (GEM, 2021). Regarding entrepreneurship by opportunity, Afi et al. (2022) corroborated that this type of entrepreneurship reflects the efforts to start a business to take advantage of a specific favorable juncture, where people who decide to undertake do so based on pull factors, as well as the desire to be independent, the need for achievement, and the possibilities of social development. Likewise, Barrachina et al. (2021) stated that entrepreneurs by opportunity usually prepare their access to self-employment on a more solid basis compared to entrepreneurs by necessity since these entrepreneurs generally study the market and identify their potential customers, which leads to a higher survival rate and business growth.

Regarding entrepreneurship by necessity, Barrachina et al. (2021) claimed that the entrepreneur seeks to generate income to subsist in situations of unemployment or dissatisfaction with the conditions offered by a job as a dependent. In the same line, Terán-Yépez and Guerrero (2019) argued that people undertake entrepreneurship by necessity generally due to push motivations, for example, unemployment, family pressure, and dissatisfaction with the current employment situation. On the other hand, according to Xavier-Olivera et al. (2015), household income and a social variable, such as educational level, are positively related to entrepreneurship by opportunity. However, it has an inverse relation with entrepreneurship by necessity.

Additionally, Afi et al. (2022) claimed that opportunity-driven entrepreneurs have higher growth aspirations. Therefore, entrepreneurship by opportunity has positive long-term effects on the economy regarding employment, innovation, and growth. This is linked to the fact that opportunity-driven entrepreneurs can decrease expenditures and delay investments during recessionary periods, generating high taxes, so that, unlike necessity-driven entrepreneurs, they can better cope with periods of adverse economic conditions (Audretsch et al., 2022; Shiller, 2017). Based on this, Terán-Yépez and Guerrero (2019) stated that, compared to entrepreneurs by necessity, entrepreneurs by opportunity impact economic growth to a greater extent.

Economic factors

Regarding the economic drivers of entrepreneurship, SDG variable number 8 is used, which seeks to generate employment and promote economic growth (Sustainable Development Solution Network, 2022). Nonetheless, this goal remains an elusive challenge for many countries due to higher unemployment rates, child labor, and informal activities (Moya-Clemente et al., 2020). In this regard, it is expected that there is a negative relation between the eighth SDG and entrepreneurship. This would mean that the higher the unemployment rate in a country—which is equivalent to being further away from achieving SDG 8—the higher the rate of entrepreneurship to solve this unemployment problem (Tripopsakul et al., 2022; Asad et al., 2014).

The second variable representing economic factors is SDG 9, which refers to industry, innovation, and infrastructure (Moya-Clemente et al., 2020). Based on this goal, the literature shows that innovation is widely recognized as a key driver of sustainable economic development because of its focus on identifying more effective solutions that bring value to the lives of people and governments affected by development challenges (Shakabatur et al., 2022). Similarly, according to the Commission of the European Communities (2003), innovative ideas are generators of successful entrepreneurial initiatives with which disadvantaged people develop their potential by creating their own jobs, thereby finding a place in society and boosting economic development by creating jobs.

Likewise, Quinde-Rosales et al. (2019) stated that issues related to technology and innovation are becoming more important in government agendas since it is impossible to ignore that knowledge is an important factor in society and production. Similarly, to foster technological innovation, it is considered important to improve digital skills (UNCTAD, 2021), including the availability of Information and Communication Technologies (ICTs) and relevant infrastructure (Shakabatur et al., 2022).

The cell phone is one of the most widely used ICTs that does not necessarily require sophisticated skills (Martínez Domínguez & Gómez Navarro, 2020). Rotondi et al. (2020) highlight that cell phones have revolutionized many people's daily activities by allowing them access to new knowledge, information, and better decision making to obtain income. Nevertheless, if people do not exploit these resources to undertake new ways of generating income, the change toward greater well-being in the population will be slower, which is why the United Nations Conference on Trade and Development (UNCTAD, 2021) highlights the need to promote their use through inclusive education and training plans. Thus, the relation between entrepreneurship and SDG 9 is expected to be negative, based on the idea that entrepreneurship seeks to create innovative techniques to offer better products or services (Martínez Domínguez & Gómez Navarro, 2020).

Therefore, considering variables such as employment, economic growth, and innovation, the economic factor is directly related to entrepreneurship in a negative way, which leads to the first hypothesis:

H1: Economic factors have a statistically significant negative effect on entrepreneurship over time.

Social factors

Concerning social factors, SDG 4, which considers the quality of education (Sustainable Development Solutions Network, 2022), is considered as the first representative variable. Sorgner (2017) stated that the minority of the unemployed seek to be job creators, while the majority of the unemployed tend to be job seekers due to the education system in many countries. Indeed, most educational institutions focus on preparing people to get jobs and not to be creators of businesses that generate employment (Baert & Verhaest, 2021).

For this reason, educational institutions play an important role in encouraging people to seek new business opportunities and building an environment that fosters entrepreneurship (Amofah & Saladrigues, 2022). Likewise, considering previous literature on the relation between entrepreneurship and education—which argues that students' entrepreneurship is positively affected by entrepreneurship education (Uddin et al., 2022)—it is expected to find a positive relation between educational quality and the intention to engage in business entrepreneurship.

The second variable representing the social factor is SDG 5, which refers to gender equality (Sustainable Development Solutions Network, 2022). Gender inequality affects the levels of entrepreneurship in society since authors refer to it as an unequal distribution of financial resources within society (Bastián et al., 2019). This greatly affects entrepreneurs, although it will depend on the amount of financial resources they can access for other necessary resources, particularly human and physical ones (Fichman & Levinthal, 1991). Thus, different degrees of inequality in nations can lead to various levels of entrepreneurship.

On the other hand, in the business world, there are significant differences in the levels of entrepreneurship between men and women. Fang et al. (2022) stated that those companies led by women generally have low labor productivity growth compared to companies led by men, but the levels of total factor productivity are similar. Also, this disadvantage in the performance of female-led firms is lower in countries with greater gender equality and lower burden of housework and domestic care for women. For this reason, Serrano-Pascual and Carretero-García (2022) stated that entrepreneurship has become a promoter, not only economically but also of justice, in terms of the search for gender equality, especially

in transition economies, which is where gender inequality is generally higher (Khanin et al., 2022). Therefore, the relation between gender equality and entrepreneurship is expected to be positive.

Considering that the social factor, taking into account variables such as education and gender equality, is directly related to entrepreneurship in a positive way, the second hypothesis aims to reflect this relation:

H2: Social factors have a statistically significant positive effect on entrepreneurship over time.

Research methodology

Subjects of study

In this research, information was gathered on the consolidation of economic and social factors in different countries, as well as data on their entrepreneurship over time. To this end, a database with dissimilar regions was considered to characterize the existing reality by bringing together countries with different economic and social development levels. Therefore, it was decided to cover the largest geographical areas to extrapolate the results obtained globally.

Data from 60 countries around the world were taken into account (Angola, Argentina, Armenia, Australia, Austria, Bosnia and Herzegovina, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Cyprus, Ecuador, Egypt, France, Germany, Greece, Guatemala, India, Iran, Ireland, Israel, Italy, Japan, Jordan, Kazakhstan, Kuwait, Latvia, Lebanon, Luxembourg, Madagascar, Mexico, Morocco, Netherlands, North Macedonia, Norway, Pakistan, Panama, Peru, Poland, Portugal, Qatar, Russia, Saudi Arabia, Slovakia, South Africa, South Korea, Spain, Sudan, Sweden, Switzerland, Thailand, Togo, Turkey, United Arab Emirates, United Kingdom, United States, Uruguay). These data were obtained from GEM and the Sustainable Development Report.

Furthermore, regarding entrepreneurship data, the following indexes were considered: Entrepreneurial Intention Rate and Total Entrepreneurial Activity Rate in the initial stage (TEA) (https://www.gemconsortium.org/data). Data on the Sustainable Development Goals were obtained from the Sustainable Development Report published by the Sustainable Development Solutions Network (https://dashboards.sdgindex.org/).

Statistical method

Since this research aims to determine whether economic and social factors significantly influence entrepreneurship, it is correlational in scope as hypotheses that link the variables are proposed to determine the relation between them. In addition, it is non-experimental (Hernández-Sampieri & Mendoza, 2018). Therefore, in the present research, it was decided to use structural equation modeling (SEM) because, through an analytical approach, this model makes it possible to analyze the relations between latent variables (unobservable variables) that represent theoretical concepts and data collected through indicators (Hair et al., 2017).

Furthermore, the SEM model is a useful multivariate analysis in social science research. The uniqueness of this model lies in the fact that it combines factor analysis and linear regression models to test theories (Moya-Clemente et al., 2020). Thus, the technique used for this model was PLS, which adopts a variance-based approach (Chin, 1998). Such a technique is feasible to explore tests of construct reliability, convergent validity, and discriminant validity of the models (Criado-Gomis et al., 2018). For all these reasons, the software used to model the latent variables was SmartPLS Edition 4.

After the construction of the nomological network, where the constructs such as economic and social factors and entrepreneurship were included, together with the variables involved previously developed (SDG 4, SDG 5, SDG 8, SDG 9), the global model was evaluated. This was done to analyze whether the model fits the factors by ruling out the possibility that the data contained more information than that provided by the model (Henseler et al., 2016).

Results

The study began by analyzing the data obtained from the 60 study subjects; for the social factors, information was collected on SDG 4 and SDG 5, and for the economic factors, data was collected on SDG 8 and SDG 9. Based on this, this data was related to the entrepreneurship variable within a structural equation model. Thus, using multivariate analysis, the following result was obtained for the relations between the variables considered:

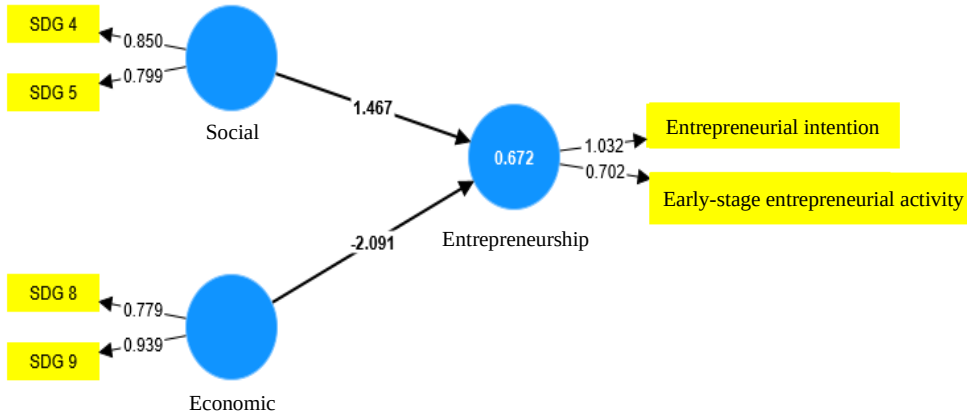

Figure 1: Structural Model of Factors Driving Entrepreneurship
Source: Created in Smart PLS 4.

According to Hair et al. (2017), one of the steps in PLS is to analyze the global model fit. To do this, the Standardized Root Mean Square Residual (SRMR) is observed, defined as the root mean square discrepancy between the observed correlations and the correlations implied by the model. According to Moya-Clemente et al. (2020), a value lower than 0.08 is considered an acceptable fit. The results of this research show that the SRMR is 0.055; therefore, it is a good fit.

For the internal consistency reliability analysis, Cronbach's Alpha was observed, which estimates the reliability from the inter-correlations of the observed indicator variables. Table 1 shows that Cronbach's Alpha values are above 0.70, which is statistically sufficient. Nonetheless, Hair et al. (2017) argued that it is more appropriate to consider applying the composite reliability measure, which considers the different external loadings of the indicator variables. It is generally interpreted like Cronbach's alpha, so results greater than 0.70 offer robustness.

Convergent validity was confirmed by each Average Variance Extracted greater than 0.50 for Economic Factors, Social Factors, and Entrepreneurship, indicating that, on average, each construct explains more than half of the variance of its indicators.

Table 1
Model fit

	Cronbach's Alpha	Rho_A	Composite reliability	Average Variance Extracted
Economic	0.845	0.866	0.852	0.744
Social	0.840	0.931	0.872	0.779
Entrepreneurship	0.809	0.811	0.810	0.681

Source: created by the authors.

On the other hand, Table 2 demonstrates the low multicollinearity among the correlations due to the Variance Inflation Factor (VIF) being below 10 (Hair et al., 2017). Therefore, it can be stated that collinearity does not reach critical levels in any of the formative constructs and is not a problem for estimating the model.

Table 2
Collinearity statistics

	VIF
Entrepreneurial intention	2.105
SDG 4	1.858
SDG 5	1.858
SDG 8	2.151
SDG 9	2.151
Entrepreneurial activity in the initial stage	2.105

Source: created by the authors.

Next, the Heterotrait-Monotrait (HTMT) index was used, measuring the relation between traits and correlations within traits (Hair et al., 2017). According to the suggestions of these authors, a value of HTMT close to 0.85 is considered acceptable. The results in Table 3 indicate that this criterion was met for most of the relations between traits; nonetheless, a value above 0.90 was observed, suggesting a possible lack of discriminant validity between the traits in question. Specifically, the relation between the economic factor and entrepreneurship yielded a value of 0.703, indicating a possible overlap of the constructs underlying these traits.

Table 3
Discriminant validity

	Economic	Entrepreneurship	Social
Economic			
Entrepreneurship	0.703		
Social	0.967	0.516	

Source: created by the authors.

Table 4 shows the results of the regression analyses of economic and social factors with entrepreneurship. According to the recommendations of Hair et al. (2017), a t-value greater than 1.96 indicates that the relation between the variables is statistically significant. It is observed that the relation between economic factors and entrepreneurship has a t-value of 4.193, suggesting that this relation is significant. On the contrary, the relation between social factors and entrepreneurship presents a t-value of 0.529, which is lower than the critical value, indicating that this relation is not statistically significant.

To complement the analysis, the p-values corresponding to each relation were examined. In this case, it is observed that the p-value of the relation between economic factors and entrepreneurship is less than 0.01, confirming this relation's statistical significance. On the other hand, the p-value of the relation between social factors and entrepreneurship is greater than 0.05, which supports the idea that this relation is not statistically significant.

Table 4
Path coefficients — t-value and p-value

	t-value	p-value
Economic => Entrepreneurship	4.193	0.000
Social => Entrepreneurship	0.529	0.597

Source: created by the authors.

Table 5 shows that the R-squared was 0.672, while the adjusted R-squared was 0.660. This moderate value implies that economic factors explain about 66% of the venture's performance over time.

Table 5
R-squared

	R-squared	Adjusted R-squared
Entrepreneurship	0.672	0.660

Source: created by the authors.

Therefore, the resulting equation is:

$$\text{Entrepreneurship} = -2.901 * \text{Economic} + \varepsilon \quad (1)$$

Discussion

This study aimed to determine whether economic and social factors influence entrepreneurship, taking as main variables the Sustainable Development Goals, the Entrepreneurial Intention Rate, and the Total Entrepreneurial Activity Rate. Consequently, a structural equation model was designed using the PLS statistical method, taking data from 60 countries. The model analysis validated the relations considered in the study through the variables SDG 4, SDG 5, SDG 8, and SDG 9, in addition to three constructs: social factors, economic factors, and entrepreneurship.

Following the hypotheses, the results show that economic factors are the main drivers of entrepreneurship over time. Specifically, the variables SDG 8 (employment generation and promotion of economic growth) and SDG 9 (industry, innovation, and infrastructure) significantly impact

entrepreneurship in each country. There is sufficient statistical evidence to support the significant negative effect of economic factors on entrepreneurship over time, as proposed in Hypothesis 1.

Regarding SDG 8, it has been discussed that entrepreneurship arises as a response to people's need for employment (Tripopsakul et al., 2022; Asad et al., 2014). This situation may lead to a predominance of entrepreneurship by necessity in many countries, which is not ideal, as entrepreneurship by opportunity is recognized as having the greatest impact on economic growth (Afi et al., 2022). On the other hand, SDG 9 also plays an important role in entrepreneurship, as shown in previous studies (Shakabatur et al., 2022). In places where the level of innovation or the use of technology is low, entrepreneurship is promoted to foster innovation and improve people's well-being.

Nevertheless, the variables related to social factors, such as SDG 4 (improvement of educational quality and promotion of learning) and SDG 5 (gender equality and female empowerment), did not meet sufficient statistical criteria to remain in the model because no significant effect of both variables on entrepreneurship was detected within the model.

Therefore, although the literature reports that there is a positive relation between entrepreneurship and social factors such as education (Amofah & Saladrigues, 2022; Uddin et al., 2022) and gender equality (Bastián et al., 2019), the data indicate that this is not fulfilled. This result is supported by Uddin et al. (2022) and Fang et al. (2022), who reported the existence of research that determines that there is no relation between education and entrepreneurship nor between gender equality and entrepreneurship, respectively. Based on the above, it is possible to induce that the significant positive effect of social factors on entrepreneurship over time, proposed in Hypothesis 2, is rejected.

Conclusions

As a general conclusion, and after the results obtained, it is possible to affirm that those countries that invest in and consolidate their economic factors and even prioritize them over social factors tend to have long-lasting entrepreneurial intention rates and entrepreneurial activity rates. Social factors are not relevant to the model, so they do not significantly influence entrepreneurship. This study is not only of academic interest but also attractive to government agencies, organizations, and institutions such as the United Nations and entrepreneurs looking for a business opportunity with the SDGs due to its contribution to research on the Sustainable Development Goals and entrepreneurship.

This study was conducted with data collected from 60 countries around the world with different economic and social development levels. It is possible to generalize the conclusions because the regions involved in the research are diverse since different geographical areas worldwide were covered.

As possible limitations and future lines of study, it should be noted that the R-squared obtained was moderate, but this could be increased if other aspects within the SDGs or macroeconomic variables are considered. It is also proposed to extend this study by adding environmental and political factors to learn more about the behavior of entrepreneurial activity in different countries worldwide.

References

Afi, H., Boubaker, S., y Omri, A. (2022). Do foreign investment and economic freedom matter for behavioral entrepreneurship? Comparing opportunity versus necessity entrepreneurs. Technological Forecasting and Social Change, 181. 121761. https://doi.org/10.1016/j.techfore.2022.121761

Amofah, K. y Saladrigues, R. (2022). Impact of attitude towards Entrepreneurship education and role models on entrepreneurial intention. Journal of Innovation and Entrepreneurship, 11(1), 1-30. https://doi.org/10.1186/s13731-022-00197-5

Asad, A., Ali, H. y Islam, U. (2014). The Relationship between Entrepreneurship Development and Unemployment Reduction in Pakistan. Global Journal of Management and Business Research: An Administration and Management. Global Journal of Management and Business Research, 14(1), 75-79. Disponible en: https://journalofbusiness.org/index.php/GJMBR/article/view/1486/1393 consultado en 02/08/2022

Ashourizadeh, S., Saeedikiya, M., Aeeni, Z. y Temiz, S. (2022). Formal sources of finance boost innovation: Do immigrants benefit as much as natives?. Entrepreneurial Business and Economics Review, 10(2), 41-59. https://doi.org/10.15678/EBER.2022.100203

Audretsch, D.B., Belistcki, M., Chowdhury, F. y Desai, S. (2022). Necessity or opportunity? Government size, tax policy, corruption, and implications for entrepreneurship. Small Business Economics, 58 (4), 2025–2042. https://doi.org/10.1007/s11187-021-00497-2

Baert, S. y Verhaest, D. (2021). Work Hard or Play Hard? Degree Class, Student Leadership and Employment Opportunities. Oxford Bulletin of Economics and Statistics, 83(4), 1024-1047. https://doi.org/10.1111/obes.12424

Barrachina, M., García, M. y Calderón, C. (2021). Análisis temporal (periodo 2001-2015) de los factores que identifican el emprendimiento femenino en España por oportunidad y necesidad. Revista investigación operacional, 42(3), 309-314. Disponible en: https://rev-invope.pantheonsorbonne.fr/sites/default/files/inline-files/42321-01.pdf consultado: 02/08/2022.

Bastián, B. L., Metcalfe, B. D. y Zali, M. R. (2019). Gender inequality: Entrepreneurship development in the MENA region. Sustainability, 11(22), 6472. https://doi.org/10.3390/su11226472

Baumol, W. J. (1996). Entrepreneurship: Productive, Improductive, and Destructive. Journal of business venturing, 11(1), 3-22. https://doi.org/10.1016/0883-9026(94)00014-X

Chin, W.W. (1998). The Partial Least Squares Approach to Structural Modeling. En G.A. Marcoulides (Ed.), Modern Methods for Business. (pp. 295-336). Mahwah, NJ: Lawrence Erlbaum Associates.

Cliff, J. E., Jennings, P. D. y Greenwood, R. (2006). New to the game and questioning the rules: the experiences and beliefs of founders who start imitative versus innovative firms. Journal of Business Venturing, 21 (5), 633-663 https://doi.org/10.1016/j.jbusvent.2005.02.010

Commission of the European Communities (2003). Green paper entrepreneurship in Europe. Office for Official Publications of the European Communities, 21(1). Disponible en: https://ec.europa.eu/invest-in-research/pdf/download_en/entrepreneurship_europe.pdf consultado: 02/08/2022

Connelly, S. (2007). Mapping sustainable development as a contested concept. Local environment, 12(3), 259-278. https://doi.org/10.1080/13549830601183289

Criado-Gomis, A., Iniesta-Bonillo, M. A. y Cervera-Taulet, A. (2018). Sustainable entrepreneurial orientation within an intrapreneurial context: effects on business performance. International Entrepreneurship and Management Journal, 14(2), 295-308. https://doi.org/10.1007/s11365-018-0503-x

Fang, S., Goh, C., Roberts, M., Xu, L. C. y Zeufack, A. (2022). Female entrepreneurs and productivity around the world: Rule of law, network, culture, and gender equality. World Development, 154. 105846. https://doi.org/10.1016/j.worlddev.2022.105846

Ferreira, J., Fayolle, A., Fernandes, C. y Raposo, M. (2017) Effects of Schumpeterian and Kirznerian entrepreneurship on economic growth: panel data evidence. Entrepreneurship and Regional Development, 29(1-2), 27-50. https://doi.org/10.1080/08985626.2016.1255431

Fichman, M. y Levinthal, D. A. (1991). Honeymoons and the liability of adolescence: A new perspective on duration dependence in social and organizational relationships. Academic of Management Review, 16(2), 442–468. https://doi.org/10.5465/amr.1991.4278962

Global Entrepreneurship Monitor (2021). 2020/2021 Global Report. Disponible en: https://www.gemconsortium.org/report/gem-20202021-global-report. Consultado: 02/08/2022

Hair, J., Hult, T., Ringle, C. y Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). (2da edición). SAGE Publications Ltd.

Henseler, J., Hubona, G. y Ray P. A. (2016). Using PLS Path Modeling in New Technology Research: Updated Guidelines. Industrial Management & Data Systems, 116(1), 2–20. https://doi.org/10.1108/IMDS-09-2015-0382

Hernández - Sampieri, R. y Mendoza, C. (2018). Metodología de la investigación: Las rutas cuantitativa, cualitativa y mixta. México: Mc Graw Hill.

Khanin, D., Rosenfeld, R., Mahto, R. V. y Singhal, C. (2022). Barriers to entrepreneurship: opportunity recognition vs. opportunity pursuit. Review of Managerial Science, 16 (4), 1147–1167. https://doi.org/10.1007/s11846-021-00477-6

Lafuente, E., Acs, Z. J., Sanders, M. y Szerb, L. (2020) The global technology frontier: productivity growth and the relevance of Kirznerian and Schumpeterian entrepreneurship. Small Business Economics, 55(1), 153-178. https://doi.org/10.1007/s11187-019-00140-1

Martínez Domínguez M. y Gómez Navarro D. A. (2020). Las tecnologías de la información y comunicación (TIC) en el desarrollo rural: retos y oportunidades para México. Textual, 76 (1), 243-269.https://doi.org/10.5154/r.textual.2020.76.09

Marulanda, F. y Morales, S. (2016). Entorno y motivaciones para emprender. Revista EAN., JulioDiciembre (81), 12-28. http://dx. doi.org/10.21158/ 01208160.n81.2016.1556.

Minniti, M. (2008). The role of government policy on entrepreneurial activity: Productive, unproductive, or destructive?. Entrepreneurship: Theory and Practice, 32 (5), 779-790. https://doi.org/10.1111/j.1540-6520.2008.00255.x

Moya-Clemente, I., Ribes-Giner, G. y Pantoja-Díaz, O. (2020). Identifying environmental and economic development factors in sustainable entrepreneurship over time by partial least squares (PLS). PLoS ONE, 15(9), e0238462. https://doi.org/10.1371/journal.pone.0238462

Omri, A. (2020). Formal versus informal entrepreneurship in emerging economies: the roles of governance and the financial sector. Journal of Business Research, 108, 277-290. https://doi.org/10.1016/j.jbusres.2019.11.027

Quinde-Rosales, V., Saldaña-Vargas, M., Guale-Portilla, B. y Mendoza Minaya, A. (2019). Relación entre gasto en ciencia y tecnología y producto interno bruto en Latinoamérica. Revista de Ciencias Sociales, 25(1), 99-113. Disponible en: https://www.redalyc.org/journal/280/28065583006/html/ consultado en 02/08/2022

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P. y Chin N. (2005). Global Entrepreneurship Monitor: Data Collection Design and Implementation 1998–2003. Small Business Economics, 24(1), 205–231. https://doi.org/10.1007/s11187-005-1980-1

Rotondi, V., Kashyap, R., Pesando, L. M., Spinelli, S. y Billari, F. C. (2020). Leveraging mobile phones to attain sustainable development. Proceedings of the National Academy of Sciences of the United States of America, 117(24), 13413-13420. https://doi.org/10.1073/pnas.1909326117

Samuelsson, M. y Davidsson, P. (2009). Does venture opportunity variation matter? Investigating systematic process differences between innovative and imitative new ventures. Small Business Economics, 33 (2), 229-255. https://doi.org/10.1007/s11187-007-9093-7

Saunoris, J. W. y Sajny, A. (2017). Entrepreneurship and economic freedom: cross-country evidence from formal and informal sectors. Entrepreneurship and Regional Development, 29(3-4), 292-316. https://doi.org/10.1080/08985626.2016.1267806

Serrano-Pascual, A. y Carretero-García, C. (2022). Women's entrepreneurial subjectivity under scrutiny: Expert knowledge on gender and Entrepreneurship. Gender, Work and Organization, 29(2), 666-686. https://doi.org/10.1111/gwao.12806

Shakabatur, J., Bar-El, R. y Shwartz, D. (2022). Innovation and entrepreneurship for sustainable development: Lessons from Ethiopia. Progress in Planning, 160. 100599. https://doi.org/10.1016/j.progress.2021.100599

Shiller, R. J. (2017) Narrative economics. American Economic Review, 107(4), 967–1004. https://doi.org/10.1257/aer.107.4.967

Sorgner, A. (2017). The Automation of Jobs: A Threat for Employment or a Source of New Entrepreneurial Opportunities?. Foresight and STI Governance, 11(3), 37-48. https://doi.org/10.17323/25002597.2017.3.37.48

Sustainable Development Solutions Network. (2022). Sustainable Development Report 2022 From Crisis to Sustainable Development, the SDGs as Roadmap to 2030 and Beyond. Disponible en: https://dashboards.sdgindex.org/ consultado: 02/08/2022

Terán-Yépez, E. y Guerrero, A. (2019). ¿Emprendimiento por oportunidad o por necesidad? estudio comparativo entre países. Revista Mikarimin. 5(2), 77-88. Disponible en: https://www.researchgate.net/publication/335619572_Emprendimiento_por_oportunidad_o_por_necesidad_Estudio_comparativo_entre_paises. Consultado: 02/08/2022

Terán-Yépez, E., Marín-Carrillo, G., Casado-Belmonte, M. y Capobianco-Uriarte, M. (2020). Sustainable entrepreneurship: Review of its evolution and new trends. Journal of Cleaner Production, 252. 119742. https://doi.org/10.1016/j.jclepro.2019.119742Get rights and content

Tripopsakul, S., Mokkhamakkul, T. y Puriwat, W. (2022). The Development of the Entrepreneurial Spirit Index: An Application of the Entrepreneurial Cognition Approach. Emerging Science Journal, 6(3), 493-504. https://doi.org/10.28991/ESJ-2022-06-03-05

Uddin, M., Chowdhury, R. A., Hoque, N., Ahmad, A., Mamun, A. y Uddin, M. N. (2022). Developing entrepreneurial intentions among business graduates of higher educational institutions through entrepreneurship education and entrepreneurial passion: A moderated mediation model. The International Journal of Management Education 20(2), 100647.https://doi.org/10.1016/j.ijme.2022.100647

UNCTAD (2021). Technology and innovation report 2021: Catching technological waves Innovation with equity. Disponible en: https://unctad.org/system/files/official-document/tir2020_en.pdf. Consultado: 02/08/2022

Xavier-Oliveira, E., Laplume, A. y Pathak, S. (2015). What motivates entrepreneurial entry under economic inequality? The role of human and financial capital. Human Relations, 68(7), 1183–1207. https://doi.org/10.1177/0018726715578200

Ynzunza Cortés, C. B. y Izar Landeta, J. M. (2020). La intención emprendedora en jóvenes universitarios. Un estudio de caso en Querétaro. Economía Coyuntural, 5(4), 161-203. Disponible en: http://www.scielo.org.bo/scielo.php?script=sci_arttext&pid=S2415-06222020000400008&lng=es&nrm=iso Consultado 21/04/2023

Ynzunza Cortés, C. B. y Izar Landeta, J. M. (2021). Las motivaciones, competencias y factores de éxito para el emprendimiento y su impacto en el desempeño empresarial. Un análisis en las MIPyMES en el estado de Querétaro, México. Contaduría y administración, 66(1), 1-26. https://doi.org/10.22201/fca.24488410e.2021.2327