
**PORTRAYING THE CHANGES IN THE ENTREPRENEURIAL
ENVIRONMENT CAUSED BY THE PANDEMIC CRISIS: A MULTI-COUNTRY
ANALYSIS**

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Dissertation

Master's in Innovation and Technological Entrepreneurship

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2021

Abstract

Considering that the coronavirus pandemic affected the entire world in different ways, this work focused on showing the impacts and effects felt by entrepreneurs. In addition to the already known health problems caused by the disease (Covid-19), this historical moment also promoted a crisis of different proportions than we already know, showing changes in modern life and cities and communities worldwide. Bearing in mind that the promotion of entrepreneurship can be central to multiple governments worldwide for the foreseeable future, especially considering the significant negative impacts on economies due to the pandemic, it is vital to understand which variables are affected in times of crisis and how it is possible to promote a favorable scenario for the entrepreneurial activity. To do so, it was chosen conceptual and exploratory research with a mixed-method nature, based on the study of over 50 articles regarding the subjects and the data provided by the Global Entrepreneurship Monitor (GEM) to analyze the entrepreneurial perception of the entrepreneur environment quality and how it can affect their activity comparing the data from 2018, 2019 and 2020.

“The COVID-19 pandemic has led to a dramatic loss of human life worldwide and presents an unprecedented challenge to public health, food systems, and the world of work. The economic and social disruption caused by the pandemic is devastating: tens of millions of people are at risk of falling into extreme poverty” (WHO, 2020). According to the WHO Coronavirus (COVID-19) Dashboard¹, coronavirus has directly affected more than 185 million people and killed more than 4 million. In most economies, it was possible to verify the immediate influence of the pandemic on entrepreneurial activity, reducing the levels of Total Early-Stage Entrepreneurial Activity (TEA) and Established Business Ownership (EBO) between the years 2019 and 2020. This indicates that entrepreneurial activity in the world was drastically affected; however, a few economies showed some increase in entrepreneurial activity. This diversity of behavior can be explained by the context and especially the support (or lack of it) in actions to mitigate the impacts of the pandemic. It was also possible to notice a substantial reduction in the perception of opportunities among the economies, which translated into a decrease in TEA in most cases. Despite entrepreneurs taking the first actions to reduce costs and conserve the financial side, more assertive measures are needed to turn this moment of uncertainty into opportunity, moving from short-term passive measures to long-term actions. Also, it is necessary to understand that there is not only one measure capable of helping the development of entrepreneurship and its ecosystem, but that a series of measures need to be taken by several ecosystem actors to achieve better recovery.

Keywords: *Entrepreneurship, Coronavirus, Entrepreneurial Environment, Economic Growth, Crisis*

¹ <https://covid19.who.int/>

Resumo

Considerando que a pandemia de coronavírus afectou o mundo inteiro de diferentes formas, este trabalho centrou-se em mostrar os impactos e efeitos sentidos pelos empresários. Para além dos já conhecidos problemas de saúde causados pela doença (Covid-19), este momento histórico também promoveu uma crise de proporções diferentes das que já conhecemos, mostrando mudanças na vida moderna e nas cidades e comunidades em todo o mundo. Tendo em conta que a promoção do empreendedorismo pode ser central para múltiplos governos em todo o mundo num futuro previsível, especialmente considerando os impactos negativos significativos nas economias devido à pandemia, é vital compreender que variáveis são afectadas em tempos de crise e como é possível promover um cenário favorável para a actividade empresarial. Para tal, foi escolhida uma investigação conceptual e exploratória de natureza mista, baseada no estudo de mais de 50 artigos sobre os temas e os dados fornecidos pelo Global Entrepreneurship Monitor (GEM) para analisar a percepção empresarial da qualidade do ambiente empresarial e como pode afectar a sua actividade, comparando os dados de 2018, 2019 e 2020.

“A pandemia COVID-19 levou a uma dramática perda de vidas humanas em todo o mundo e representa um desafio sem precedentes para a saúde pública, sistemas alimentares, e o mundo do trabalho. A perturbação económica e social causada pela pandemia é devastadora: dezenas de milhões de pessoas estão em risco de cair na pobreza extrema” (OMS, 2020), segundo o Dashboard da OMS Coronavirus (COVID-19) , o coronavírus afectou directamente mais de 185 milhões de pessoas e matou mais de 4 milhões. Na maioria das economias, foi possível verificar a influência imediata da pandemia na actividade empresarial, reduzindo os níveis de Actividade Empresarial Inicial Total (TEA) e de Propriedade Empresarial Estabelecida (EBO) entre os anos de 2019 e 2020. Isto indica que a actividade empresarial no mundo foi drasticamente afectada; contudo, algumas economias mostraram algum aumento na actividade empresarial. Esta diversidade de comportamento pode ser explicada pelo contexto e especialmente pelo apoio (ou falta dele) em acções para mitigar os impactos da pandemia. Também foi possível notar uma redução substancial na percepção de oportunidades entre as economias, o que se traduziu numa diminuição da TEA na maioria dos casos. Apesar dos empresários tomarem as primeiras acções para reduzir os custos e conservar o lado financeiro, são necessárias medidas mais assertivas para transformar este momento de incerteza em oportunidade, passando de medidas passivas de curto prazo para acções de longo prazo. Também é necessário compreender que não há apenas uma medida capaz de ajudar o desenvolvimento do empreendedorismo e do seu ecossistema, mas que uma série de medidas precisa de ser tomada por vários actores do ecossistema para se conseguir uma melhor recuperação.

Palavras-chave: *Empreendedorismo, Coronavírus, Ambiente Empreendedor, Crescimento Económico; Crise*

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1. Introduction

The present study emerged through the conjunction of a series of factors, among the most relevant, the historical moment provided by coronavirus pandemic and its influences on people's behavior and markets. Since this is a historical moment and event that must be understood, as “the COVID-19 pandemic has led to a dramatic loss of human life worldwide and presents an unprecedented challenge to public health, food systems and the world of work. The economic and social disruption caused by the pandemic is devastating: tens of millions of people are at risk of falling into extreme poverty” (WHO, 2020). The study is also relevant for understanding some factors that influence the emergence and extinction of new ventures. In addition to the already known health problems caused by the disease (Covid-19²), this historical moment also promoted a crisis of different proportions than we already know, promoting changes in modern life and cities and communities around the world. According to the Global Entrepreneurship Monitor (GEM) report for 2020 we find ourselves in unfamiliar territory considering this moment as a “black swan”³. "Given the uncertainty associated with these crises existing approaches often do not work and require a new entrepreneurial approach" (Ratten, 2020, p.5).

Bearing in mind that the promotion of entrepreneurship can be central to multiple governments worldwide for the foreseeable future, especially considering the significant negative impacts on economies due to the pandemic, it is important to understand the factors that can influence the entrepreneurs to start, keep, and to finish their business. That is, to understand which variables are affected in times of crisis or how it is possible to promote a favorable scenario for the emergence of new ventures. It is important to point out that the business path “from startup to maturity is not easy, and not all will make it, but the ones that do contribute to the economy by providing stable jobs and incomes,

² More information about the COVID-19 disease can be found in the World Health Organization site (https://www.who.int/health-topics/coronavirus#tab=tab_1)

³ Black Swan is a surprising, unpredictable, of great significance and dramatically affects the political and economic environment (Kuckertz et al., 2020, p. 2)

as well as by producing goods and services that people continue to buy” (Bosma et al., 2020, p. 38).

For the development of the study, it is also important to understand how the coronavirus pandemic has influenced, and can still influence, people's lives and the market. Using the words, already widespread, of the American economist Paul Romer (2004), “a crisis is a terrible thing to waste”. Taking that into account, the present research wants to promote a study able to understand the principal impacts of the pandemic in economies from around the world also to understand the importance of the Entrepreneurial Initiative (E.I.) to overcome the crisis and to provide some insights and measures towards the development of the entrepreneurial environment as a tool for economic growth. Additionally, to answer the questions: “Q1: *What were the effects of the pandemic on the entrepreneurial environment?*” and “Q2: *What can be done to help the development of this environment face the new dynamics affected by the pandemic?*”

To address these questions and the objectives mentioned, the present work is divided into a Literature Review of background concepts regarding concepts of entrepreneurship, crises, entrepreneurial motivations, entrepreneurial environment, entrepreneurial actions, and post-crisis survival, also the knowledge gap. The subsequent segment is a presentation of the methodology with the research question and research methodology, followed by the results obtained from the Global Entrepreneurship Monitor (GEM) regarding the two years prior to the pandemic and the year of the pandemic (2018, 2019, and 2020) and focusing on six of their indicators, to understand the influences of the pandemic in the Entrepreneurial Environment and the entrepreneurial perceptions about the market. The last segment is focused on presenting some insights regarding possible actions for entrepreneurs and policymakers to think about the influences and to overcome difficulties provided by the pandemic, since at this moment, we are limited to understanding the before and during crisis, looking for possible solutions to a problem while we still do not have the “after”.

2. Literature Review

This section aims to elucidate some relevant concepts for a better understanding of the research. These addressed concepts are entrepreneurship in a brief definition, the understanding of the crisis and the differences promoted by the coronavirus pandemic, entrepreneurial motivations to start a business, the entrepreneurial ecosystem as a whole network, the most common entrepreneurial actions face the pandemic and post-crisis survival first insights.

2.1. Review of Background Concepts

2.1.1. *Entrepreneurship*

Entrepreneurship, widely defined as “any attempt at new venture or new business creation, such as self-employment, a new business organization or the expansion of an existing business, by an individual, a team of individuals, or an established business” (Raynolds, 1999), is constantly associated to economic growth (Wennekers, 1999; Valliere, 2009) and innovation (Scott, 2012). The concept of entrepreneurship considered in this study considers these aspects of new businesses with innovative capacity capable of helping the region's economic growth. Regarding the economic side, the importance of entrepreneurship is systematically related to job growth (Henderson, 2010), although, entrepreneurship cannot be seen only as a means of improving job creation, it goes beyond that, it "represents a form of adaptive developmental regulation through which both entrepreneurs and their ecologies benefit." (Geldhof et al., 2014, p. 1).

Hence, “the importance of entrepreneurs as vehicles of economic and societal transformation is not new in the economic literature” (Youssef et al., 2018, p. 233). However, the nature and process of that economic development can vary considerably between economies, so entrepreneurship and entrepreneurs are needed to develop new types of events based on the environment they are inserted in, being a good “tool” to get around the substantial reallocation of resources demanded by globalization (Wennekers, 1999) and the crisis (Bosma et al., 2021). While encouraging and developing entrepreneurship is an important policy objective for most national decision makers and

politicians, many would also agree that knowledge of the causes and consequences of entrepreneurship is far from complete.

2.1.2. Entrepreneurial Motivation

“The decision to start a new business is the product of an individual’s attitudes, perceptions and intentions, set within a social, cultural and political context that could support or constrain that decision” (Bosma et al., 2020, p. 30). The opportunity of creating a new business is “likely to be influenced by the three key institutional dimensions. The normative dimension incorporates social norms, values, and beliefs related to social behavior; the cultural-cognitive dimension relies on “taken-for-granted rules, this dimension can be viewed as the “knowledge and skills possessed”, and the regulatory dimension considers the formal system of rules, laws, regulations, and government programs as important features to promote certain behaviors and inspect others” (Pinho and de Lurdes Martins, 2020, p. 399).

Despite some differences between authors’ proposals, it is relevant to highlight three basic types of entrepreneurship motivation: Opportunity-driven; Necessity-driven, and Sustainability-driven. Where it is considered that opportunity-driven entrepreneurs start their businesses when they perceive some opportunity in the market, being moved by a voluntary search for an attractive business opportunity. "Identified as the type of activity, which encompasses high-growth expectation entrepreneurial activities, and has been linked to job creation" (Sambharya, and Musteen, 2014, p. 316).

The necessity-driven entrepreneurs “includes self-employment in the absence of job opportunities and is not typically associated with radically new business models or innovation” (Sambharya, and Musteen, 2014, p. 316). Sustainability-driven entrepreneurship may be seen as a branch of opportunity-driven motivation, although it focuses on a business creation process able to achieve sustainable social and environmental goals, "which slows degradation and gradually improves ecosystems" (Youssef et al., 2018, p. 233). Sustainability-driven entrepreneurship is a relatively new concept and is growing and developing as societies recognize the need to develop environmental and sustainable measures. So, the research in this field may include social and green entrepreneurship, as they follow the same structure. While some authors “have

linked green entrepreneurship and social entrepreneurship to sustainable entrepreneurship, as all three categories share the common goal of positive environmental impacts” (Kraus et al., 2018, p. 2).

Some authors show that “the survival rate of opportunity entrepreneurship was always bigger than that of necessity entrepreneurship” (Simón-Moya et al., 2016, p. 158). The authors make an interesting correlation between these concepts presented by Keasy and Watson (1999) and (Bosma and Schutjens 2011; Stuetzer et al. 2014) where they show that times of high economic growth create opportunities for the establishment of new companies and opportunities for employment, while economic crises are more associated with job losses, and this ends up pushing people towards entrepreneurship. In this way, “entrepreneurship can be an effective response to crises” (Simón-Moya et al., 2016, p. 159). Although it must be done in a socially responsible way, "a socially responsible corporation should, besides make a profit, strive to obey all applicable laws, behave in an ethical and responsible way" (Kraus et al., 2018, p. 3).

2.1.3. Crisis

A crisis, as defined by the Collins dictionary, is 1. A crucial stage or turning point in the course of something; 2. An unstable period; 3. A sudden change (for better or worse) in the course of a disease. In other words, it can be described as a phenomenon that does not occur frequently and has a high level of uncertainty and impact society. According to Ratten (2020), a crisis generates a sense of urgency in how to respond to the situation. Crises can differ in duration, type, and magnitude depending on their impact on society. So, the first diagnosis of the coronavirus crisis is that it has threatened the ability of a business to conduct its activities due to social policies being introduced, such as working from home and social distancing.

If we look back on humankind’s history, we can find a series of crises that shook different countries and continents in different ways. We have financial and economic crises, as for example, the Credit Crisis of 1972, originated in London and spread to Europe, collapsing several banks; The Great Depression of 1929, probably the worst financial and economic event in the 20th century, initiated in the US but affected several countries in the Americas, Europe and Oceania; The Financial Crisis of 2007/08, also

originated in the US with a contraction of the liquidity in the markets but spread to the whole world. We also have several health crises, such as HIV/AIDS from 1980 onwards; The Mad Cow in the 90s; SARS in 2003; the Bird Flu in 2005; and others.

At the beginning of 2020, the world was surprised with the spreading capability of a new type of coronavirus (SARS-CoV-2), unlike other coronaviruses that were contained in specific regions, this virus rapidly spread from Asia to other parts of the world (World Health Organization, 2020). The outbreak of “the new coronavirus in China had created wide-ranging supply and demand shocks that have reverberated across the globe. Commodity exporters around the world braved lower prices as Chinese demand collapsed, while global manufacturers faced production cuts as Chinese factories are locked down” (Cheng, 2020, p. 2).

The rise of the disease caused by this new coronavirus (COVID-19) “has brought unprecedented turbulence to the societal and economic systems around the world. Whether it is the implementation of social distancing measures, the reorganization of the public health system, or the production and distribution of hygiene products, no industry sector has remained unaffected” (Neumeyer et al., 2020, p.1). The crisis provided by coronavirus, seem to unite the problem related to all previous crises, affecting people’s health and the economy at the same time, the pandemic “has significantly affected the global economy and fundamentally changed society” (Ratten, 2020, p. 1) making people face different challenges over the past one and a half years to adapt to all the changes and the *new normal*, “as a result, many countries adopted new health and working conditions. While there has been other worldwide crisis such as the 9/11/2001 terrorist attacks in the USA, the current Covid-19 crisis has had significant health and workplace implications” (Ratten, 2020, p. 1).

Given the unprecedented nature of the pandemic crisis, which generated “unprecedented socioeconomic disruption on a global scale” (González-Bustamante, 2020, p. 1), people were unable to rely on specific past experiences and “governments were sailing in uncharted waters, having to take initiative without much input from public opinion” (Altıparmak et al., 2021, p. 1160). Thereby, governments around the world had to “take quick measures to ensure the health system could cope with the surge of coronavirus cases, and to respond rapidly to the economic consequences of the crisis” (Altıparmak et al., 2021, p. 1159). Besides some infectious disease specialist that could imagine the difficulty that a pandemic could pose, nobody could predict the real impact

of the coronavirus pandemic in the global economy. In 2019, the most global issues that lingered in people's thoughts were the US-China trade war and the Brexit, then coronavirus drastically changed it, “due to fear and uncertainty, and to rational assessment that firms’ profits are likely to be lower due to the impact of COVID-19, global stock markets erased about US\$6 trillion in wealth in one week. The S&P 500 index lost over \$5 trillion in value in the same week in the US while the S&P 500’s largest 10 companies experienced a combined loss of over \$1.4 trillion.” (Ozili and Arun, 2020, p. 2).

Even Though, not all is just bad thing with this situation, it “created an opportunity for many governments to make lasting reforms in the public health sector” (Ozili and Arun, 2020, p. 24) and “unlike other crises, the coronavirus crisis has resulted in entrepreneurs being able to respond quickly to multiple needs” (Ratten, 2020, p. 6). If we do not waste this occasion, it can be the “perfect time to create opportunities to rethink entrepreneurship’s priorities in the face of crisis and in the dawn of a new normal” (García-Vidal et al., 2020, p. 6), by taking action to create “new knowledge, skills and resources that can then be leveraged to discontinue, modify or scale subsequent efforts to pursue opportunities” (Bjorklund et al., 2020, p. 7). The effect of a crisis “depends on how an entity handles the disruption, which means entities who see a crisis as an opportunity to learn will perceive it in a more favorable way” (Ratten, 2020, p. 7), with this in mind, it is noticeable the relevance and a great movement in search of understanding the unfolding crisis and its consequences in different spheres of society through the increase of studies dedicated to the subject in the scientific community, with more than 100 studies⁴ published considering the keywords crisis, entrepreneurship and covid-19 in the last one and a half year.

2.1.4. Entrepreneurial Environment

Considering the environment as a purposeful dynamic network of interdependent entities that support the creation and growth of new ventures, “the concept of an entrepreneurial ecosystem is an important way of understanding the effects at the present

⁴ Search made on 01/06/2021 in Scopus through the string: TITLE-ABS-KEY (crisis; AND entrepreneurship; AND covid-19).

time and in the future as a result of the coronavirus” (Ratten, 2020, p. 3). This entrepreneurial environment requires constant interaction between the entities related, to encourage collaboration and information sharing capable of helping more entities to succeed in their pursuit. The main components of an entrepreneurial environment include a community culture, sustaining networks, and infrastructure, however, the participation and involvement in the ecosystem will be based on opportunity as well as necessity according to Ratten (2020). The entrepreneurial success "depends on the support that entrepreneurs receive from their environment, be that of other individuals or institutions. (...) Entrepreneurial ecosystems play an important role in the foundation and growth of enterprises and determine the long-term prospects of regional development and sustainable urban development (Neumeyer et al., 2020, p.2).

There are many different factors that can influence the entrepreneurship atmosphere, and several of these factors are related to the environment constant change. Consequently, it is important to observe the whole environment since different environments affect the success of new ventures and environmental variables create opportunities to exploit market inefficiencies. Hadzic and Pavlovic (2019) believe the combination of different financial models for financing the entrepreneurship is vital, but to provide greater support for these entrepreneurial activities, it is necessary to have activities based on solving problems as well as a large early-stage investment activity (Ratten, 2020). Ratten also believe that the ecosystem needs a diverse range of entities co-existing in order to work properly, and these entities must be in constant interaction with each other to foster the environment.

Nevertheless, including the most common changes among authors, it is possible to highlight the change in the status quo. Ratten (2020) believes that there is a need for change at the social and this helps drive competitiveness by introducing improved products, services, or processes. In other words, it is necessary to foster research institutions so they can promote the knowledge practice association, because obtaining relevant information in early stages is useful for competitiveness. And of course, this information must be spread across the segment, because in a functional ecosystem there is a continuous flow of knowledge and information. And this will help entrepreneurs “invest and believe in the future, despite the inherent risks and uncertainty” (Muñoz et al., 2020, p. 3).

One of the pillars proposed by Muñoz et al. (2020) for the entrepreneurship and recovery policy reorientation is based on the nurture of the ecosystem democracy. To reach this democracy, it is of paramount importance to balance the level of inequality, so, “to nurture ecosystem democracy in times of crisis, governments should not directly target particular firms or sectors, but rather focus on spatially located agglomerations of economic activity, in a decentralized manner” (Muñoz et al., 2020, p. 3).

2.1.5. Entrepreneurial Actions

"Entrepreneurial action incorporates a powerful mindset that can help society bounce back from a crisis" (Ratten, 2020, p.7), while crises disrupt resource stocks, they can also “amplify the value of other resources (social connections, newly relevant material items, etc.) that can be deployed for venturing” (Thorgren and Williams, 2020, p. 3). With all the changes experienced since the beginning of the pandemic with the social distancing and reduction in group activities, the growth of online communication and others, entrepreneurs are needed to develop new types of events based on the environmental context (Ratten, 2020). What is certain is that businesses everywhere will need to increase their capacity to adapt, improving their flexibility and responsiveness (GEM report 2019/2020).

It is difficult for individual entrepreneurs in the middle of the crisis to foresee the real extension and how the crisis will affect them in the long term. Meanwhile some will be able to accurately “predict to what extent their business will be affected, many others are likely to underestimate the negative or positive impact of a black swan external shock on their business” (Thorgren and Williams, 2020, p. 4).

The most common immediate actions taken by entrepreneurs face a crisis is to cut down costs, and the preferred way to do so in the present scenario was deferred investments, layoffs/government-funded work allowance and reduced labor costs. So, the measures were focused on reducing negative cash flows and reducing tied-up capital. Indicating that most of the measures were “focused on conserving resources rather than other resourceful approaches such as repurposing equipment, imagining new products or purposes of existing resources to expand investments in a revised future” (Thorgren and Williams, 2020, p. 6).

While the most common survival strategies are focused on costs, reducing negative cash flow and tied-up capital, new ventures and Small and Medium-sized Enterprises (SMEs) should mind the possibility of boosting revenues by being innovative. As presented in the GEM report 2019/2020, new entrepreneurship can cultivate the important function of introducing new products and services into markets, according to their research, “in seven economies (Canada, Colombia, Guatemala, Ecuador, Panama, Chile and the United Arab Emirates), more than one in 20 adults are starting or running a new business with products or services that they say are at least new to the local area.” (Bosma et al., 2020, p. 81)

Times of economic alterations “are also a good opportunity for current entrepreneurial business to reorganize and rethink the economic viability of their business cutting certain fixed costs and mainly to undertake new investments in high-potential growth areas” (Pinho and de Lurdes Martins, 2020, p. 396). When “‘victims’ of a crisis take action to invest rather than conserve resources they are more likely to have positive psychological and organizational outcomes in the long-term” (Thorgren and Williams, 2020, p. 9).

When decision-makers in Small and Medium-sized Enterprises (SMEs) “are faced with a black swan external shock, they worry about securing both liquidity and solidity. In an unfolding crisis, SMEs are evidently very hesitant to take any kind of action that will increase their debt-to-equity ratio—preferring to conserve rather than take risks even though risks might lead to an aggressive (rather than passive) solution to surviving the crisis” (Thorgren and Williams, 2020, p. 8). Although “beyond traditional economic concerns, societal and environmental issues should be taken into account” (Gast et al., 2017, p. 45).

2.1.6. *Post-crisis Survival*

Crisis is not a new phenomenon, but the pandemic crisis provided by coronavirus has “significantly affected the global economy and fundamentally changed society” (Ratten, 2020, p. 1). Bosma et al. (2020) considers this “new normal” as the biggest challenge economies and government have ever known. Estimating that economies will shrink between 5% and 10% and waves of additional unemployment will kick as

government subsidizing ends. The GEM team estimate that some changes were definite such as consumer behavior and some business shifts (Ionescu-Somers and Tarnawa, 2020, p.21). Also, we all have noticed the changes in the way we interact with each other, being public institutions with some process digitalization, remote working, or online education as example of the distancing, and “the way that an organization responds will determine their ability to have a sustainable business model that survives in the marketplace (Ratten, 2020, p.6). The GEM team also believe the “de-globalization” promoted by this scenario will disrupt the world trade system and creativity, “innovation and openness to new solutions are skills that will be needed in the post-COVID-19 world” (Ionescu-Somers and Tarnawa, 2020, p.22).

It is important to understand and propose some measures to facilitate the survival of small and medium-sized companies as well as to facilitate the emergence of new startups, as they are an essential element in the generation of jobs and the basis of any economy according to Simón-Moya et al. (2016). SMEs represent “over 90% of all firms worldwide, making them the backbone of the world economy in formal and informal business sectors” (Thorgren and Williams, 2020, p. 2). With the reduction in the activities of these companies, we have the beginning of a snowball and, as presented in the GEM report aimed at diagnosing the first impacts of coronavirus on the enterprises, several national chambers of commerce or statistical agencies reported drops in startup rates in the second quarter of 2020.

Small and medium-sized enterprises are the pillar of many economies, and shocks such as the coronavirus pandemic can affect “performance and even the existence of SMEs” (García-Vidal et al., 2020, p. 1). So, the pandemic impacted the SMEs with intensity worsening the well-known situation of lack of resources and its tendency to disappear in the very early years of existence. This can be catastrophic for many countries where SMEs represent an important generator for employment and economic growth according to García-Vidal et al. (2020). “Countries experiencing crisis must balance short-term and long-term considerations, so that over time the economy can become more resilient and thus better able to withstand shocks” (Muñoz et al., 2020, p. 4).

It is a common consensus among authors and scholars that the current situation with the developments of the coronavirus pandemic (COVID-19) can be classified as one “black Swan” (Thorgren and Williams, 2020) (Wind et al., 2020) (Amankwah-Amoah, et al., 2021), a “surprising, unpredictable, of great significance and dramatically affects

the political and economic environment” (Kuckertz et al., 2020, p. 2). However, using the words of economist Paul Romer (2004), “a crisis is a terrible thing to waste”, since it is the “perfect time to create opportunities to rethink entrepreneurship's priorities in the face of crisis and in the dawn of a new normal” (García-Vidal et al., 2020, p. 6). Also, it is “generally recognized that behind a crisis, there are a large number of opportunities” (Pinho and de Lurdes Martins, 2020, p. 396).

Some authors such as Simón-Moya et al. (2016) believe that new companies are more likely to survive during periods of crisis than during periods of growth. The authors analyze factors capable of promoting the growth of new companies, also considering the entrepreneur's motivations in relation to opportunity x need. Although it is certain that “crises such as COVID-19 will have lasting impacts on the economic and environmental context for organizing, creating both challenges and opportunities for SMEs and/or nascent firms” (Thorgren and Williams, 2020, p. 4).

As the pandemic caused by coronavirus is affecting practically all individuals and organizations worldwide, “there is particular concern about how the fallout from the pandemic and the various government responses to it (lockdowns, social distancing guidelines, etc.) will affect SMEs” (Thorgren and Williams, 2020, p. 1). The main development barriers must be overcome, like weak financial support, heavy fiscal duties, complicated fiscal and inspection procedures (Hadzic and Pavlovic, 2019), as the “level of regulatory complexity may represent a significant obstacle to entrepreneurship” (Pinho and de Lurdes Martins, 2020, p. 404).

The development of decisive and collective actions must be quick to help the SME and new ventures, for many SMEs immediately affected, it is a matter of weeks before bankruptcy. According to the IMF’s policy responses to COVID-19 Tracker⁵, the most common support measures adopted by governments of 130 countries around the globe during COVID-19 were based on financial assistance. Their data show that “overall, financial assistance such as grants was the most used policy measure (adopted by 77 percent of countries), followed by public guarantees on loans (50 percent), delays in loan repayments (30 percent), tax relief (28 percent), and lower interest rates (24 percent)”

⁵ More information available at: <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

(Shirono et al., 2021). However, loans or any other measures that increase firm's debt-to-equity ratio are not attractive to SMEs. "Policymakers need to consider whether it is better to support SMEs by means of various programs or, alternatively, to stimulate the economy by investing in projects related to infrastructure, construction or energy" (Thorgren and Williams, 2020, p. 9). Policy makers should also "facilitate inter-organizational networks to encourage cooperation about COVID-19 related entrepreneurship projects" and to do so, they need to "take an international approach to COVID-19 entrepreneurship to share resources and information. This requires coordination as research teams combine their talents to create innovations" (Ratten, 2020, p. 10).

2.2. Knowledge Gap

Previous research on crisis responses focusses on financial events such as the global financial crisis on 2008 or tended to focus on natural disasters. As the current crises is still ongoing, there needs to be more attention paid to how entrepreneurs' attitudes and behaviors are changing based on creativity, innovation, and futuristic decision-making, according to Ratten (2020). Current entrepreneurship "literature appears to be insufficiently organized and consolidated to inform immediate actions facing these specific circumstances (crisis) and demands" (Muñoz et al., 2020, p. 2), as preceding studies "examining the business effects of previous pandemics, and in particular, their impact on SMEs, are extremely limited" (Razumovskaia et al., 2020, p.4). Determining "how economies can bounce back from a crisis and what policymakers can do in the midst of a crisis still require research" (Muñoz et al., 2020, p. 5).

"Research on the impact of crisis events for SMEs is sparse, despite the fact that SMEs are often the firms most disadvantaged by crisis episodes" (Brown et al., 2020, p. 381). "Create opportunities to rethink entrepreneurship policy in the face of crisis and in the dawn of a new normal, which can help to "build back better" than before" (Muñoz et al., 2020, p. 6). Relying on the words of such important authors, it is noticeable the gap regarding the knowledge of measures necessary to entrepreneurs and governments around the world to overcome the present crisis promoted by coronavirus and its pandemic. Since some authors relate the present crisis with a total disruptive event, it is important to understand its effects and to think and suggest some measures to deal with our "new

normal”. This study, relying on several other studies, aims to help reduce this information gap, contributing with some analyzes of effects perceived by the population and, especially, by entrepreneurs, in order to identify some failings and present possible suggestions on how to deal with similar crises in the future.

3. Methodology

3.1. Research Questions

The present study aims to promote an analysis of the literature to better understand the impacts of the pandemic crisis in the entrepreneurial activity in economies from around the world, also to understand the importance of the entrepreneurial environment to overcome the crisis. Additionally, to provide some insights and measures towards the development of the entrepreneurial activity as a tool for economic growth. Furthermore, to answer the two questions: “Q1: *What were the effects of the pandemic on the entrepreneurial environment?*” and “Q2: *What can be done to make this a favorable environment face the new dynamics affected by the pandemic?*”.

3.2. Research Methodology

This segment, through a conceptual and exploratory research with a mixed method nature, it is intended to show the methodology used to answer the previous research question in order to analyze it properly. Considering Lima's (2008) statement, a qualitative analysis consists in the search for understanding and interpretation of what is being investigated, the present study shows a relationship with this aspect, as it conducts a literature review based on a deeper examination of the data obtained through bibliographic research, thus aiming a clarification of certain concepts related to the entrepreneurial activity face of a crisis, such as the impacts and consequences, entrepreneur perceptions and possible outcomes. In this sense, the qualitative methodology was used with the process of analysis and interpretation of non-numerical data with a view to understanding how individuals perceive and give meaning to their realities affected by the coronavirus pandemic. Meanwhile, quantitative research was carried out through secondary data collection for analysis, based mainly on numeric data from the APS provided by the GEM. Such integration permits a more complete and synergistic utilization of data and flexibility and adaptability to the study, characterizing a mixed-method study. The choice of this method is also based on the complexity of the problem, which is full of social and institutional uncertainties.

Since the goal of the study is based on the understanding of the consequences of actions related to the problems generated by crisis, in specific, the one experienced with the coronavirus pandemic, the philosophical worldview proposed in the study is based on a pragmatic way. Instead of focusing on methods, “the pragmatic worldview emphasizes the research problem, using all approaches available to understand the problem” (Creswell, 2018). Regarding the design, there are two designs that seem to be applicable for the intended study, being phenomenology and case study. Since the goal is to analyze the aspects capable of helping the development of the entrepreneurial activity, it is important to use an exploratory way and study the different impacts on entrepreneurs in distinct countries and geographic regions. However, it is also important to understand the experiences of the individuals related to a specific phenomenon, the coronavirus pandemic crisis.

To do such analysis, it was executed an examination of secondary data, collection count with a longitudinal analysis regarding the pre-crisis and crisis period and suggesting some actions to deal with the post-crisis. In the first segment, the data collection was based on a bibliographic review of over 50 articles, focusing on the perception and behavioral attitudes of entrepreneurs and governments towards the changes provided by the pandemic. The main databases used for the selection of articles were Scopus and SSRN, both databases are robust and have global content on several subjects, being sources of academic research that enable researchers to get a broader insight and to improve outcomes for the benefit of society in large multidisciplinary databases that covers published material from almost any discipline through recent sources.

At first, the Scopus database was used with several combinations of keywords and logical operators to help the process. Following the first 5 queries and the possible combinations of keywords, the result of documents was around 370 (adding all queries). After these queries, it was possible to verify that, even though all of them presented some relevant work for the development of the thesis, the words that proved to be the best Keywords for the previous research were: *Entrepreneurship*, *COVID-19*, *Crisis* and *Entrepreneurial Ecosystem*. And the best search string to find the most relevant papers was (KEY (entrepreneurship) AND KEY ("COVID-19" OR "crisis") OR KEY ("entrepreneurial ecosystem")). With these keywords the collection process was expanded to SSRN also, to implement the base of articles selected. The exclusion criteria were based on removing records duplicated in all the searches and those that were not in fact

related to the desired subject, also excluding documents with a very tight focus, this exercise resulted in about 70 documents (including articles, conference papers, book chapters) chosen to be analyzed in more detail, later resulting in 55 articles included in this work, as shown in figure 1.

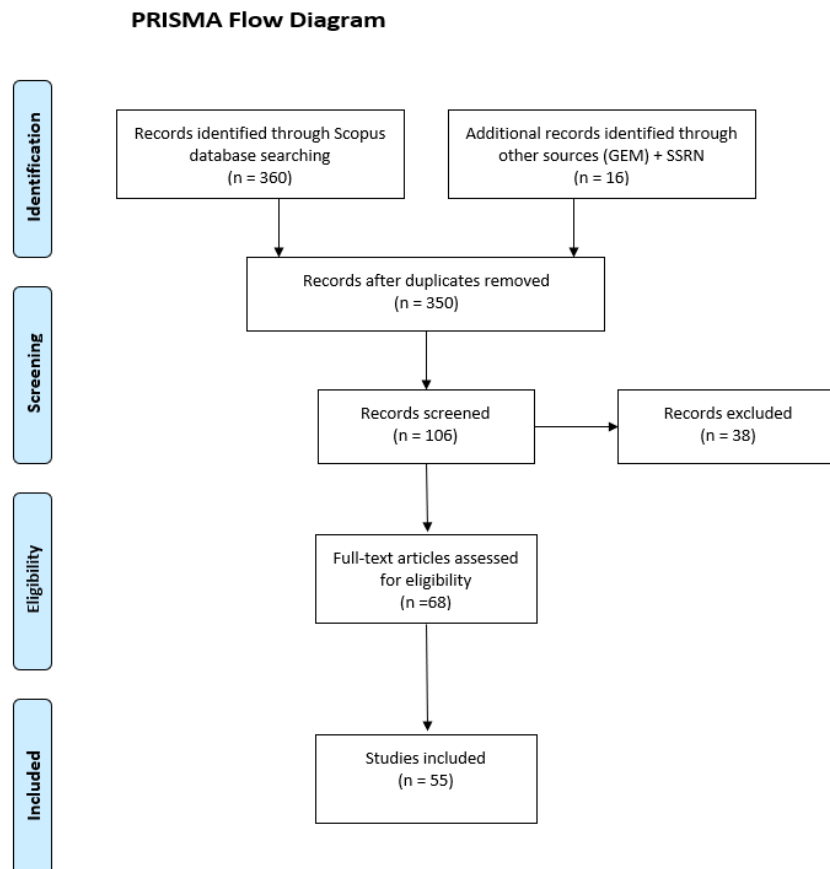


Figure 1 - Prisma Flow diagram

The second phase of this research was based on the Adult Population Survey (APS) promoted by GEM and made available in their website (<https://www.gemconsortium.org/data>). According to GEM, the APS “explores the role of the individual in the lifecycle of the entrepreneurial process. The focus is not only on business characteristics, but also on people’s motivation for starting a business, the actions taken to start and run a business, as well as entrepreneurship related attitudes”. And this survey is administered to a minimum of 2.000 adults (between 18 and 64 years) in each economy.

The descriptive analysis is made then on the data from the APS concerning the years 2018, 2019 and 2020 to provide a longitudinal perspective of the last three years to understand the impact of the crisis in the entrepreneurial ecosystem of different economies. As not all the economies responded the APS for all the desired three years, it was selected the 32 economies that have disponible data for those years, as a balancing sample procedure. These 32 economies were then separated into groups regarding their economic development level, based on the phases set out by the World Economic Forum (WEF). The first phase is the *Factor-driven*, where economies compete based on their factor endowments (Global Competitiveness Report 2017–2018), dominated by subsistence agriculture and extraction businesses, with a heavy reliance on (unskilled) labor and natural resources (GEM); as the economies become more competitive, their productivity increase and wages rise with advancing development and they move into the *efficiency-driven* stage of development, when they must begin to develop more-efficient production processes and increase product quality. The third phase is the most developed, “in this phase, businesses are more knowledge-intensive, and the service sector expands” (GEM), it is called *Innovation-driven economies*. Table 1 shows the group of the considered 32 economies according to this economic development division.

Table 1 – Participant economies grouped by their economic development according to the World Economic Forum⁶.

Factor-Driven	Efficiency-Driven	Innovation-Driven
India	Brazil	Canada
Iran	Chile	Cyprus
Russia	Colombia	Germany
	Croatia	Greece
	Egypt	Israel
	Guatemala	Italy
	Morocco	Luxembourg
	Panama	Netherlands
	Poland	Qatar
	Saudi Arabia	Slovenia
	Slovakia	South Korea
		Spain
		Sweden
		Switzerland

⁶ More information about this can be found in the WEF website:

<https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018>

		Taiwan
		United Arab Emirates
		United Kingdom
		United States

The main probabilistic analysis is made considering six indicators present in all the reports, to identify changes in the entrepreneurial activity it was chosen the Total Early-Stage Entrepreneurial Activity (TEA) and Established Business Ownership (EBO), since these two indicators relate to the business lifecycle. TEA is an important indicator to perceive the proportion of working-age adult population actively engaged in starting or running a new business, while EBO displays the proportion of adults owning and managing an established business, being a good indicator of the healthiness of entrepreneurship in an economy. Another two indicators were selected regarding the entrepreneurial perceptions, Perceived Opportunities and Perceived Capabilities, to focus on how the entrepreneurs perceived the influence of the pandemic in their ecosystem. Being Perceived Opportunities the percentage of adult population who agree they see good opportunities to start a business in their area and Perceived Capabilities the percentage of adults who agree they have the required knowledge to start a business. The last two indicators relate to the impact on the job creation expectation, High Job Creation Expectation, and the Business Discontinuance. The analysis used the data for the year 2018 as basis for verifying the behavior of the entrepreneurial ecosystem during a transition to a normal year (2019) and then compare this transition to an atypical year (2020), after the beginning of the pandemic.

4. Results

This segment focuses on showing the data results and some analyzes referring to the chosen indicators, with a focus on understanding the behavior of the market as a whole and also the perceptions of entrepreneurs considering the performance of the six following indicators in the years 2018, 2019 and 2020.

4.1. Total Early-Stage Entrepreneurial Activity (TEA) and Established Business Ownership (EBO)

The term Total Early-Stage Entrepreneurial Activity (TEA), coined by GEM, concern all the activity in the period preceding the start and the immediate period after the start of a firm. Including the phases of nascent entrepreneurship and new business ownership. The report usually applies this concept to understand patterns of early-stage entrepreneurial activity among adults (between 18 and 64 years) in the economies they have access and measure it.

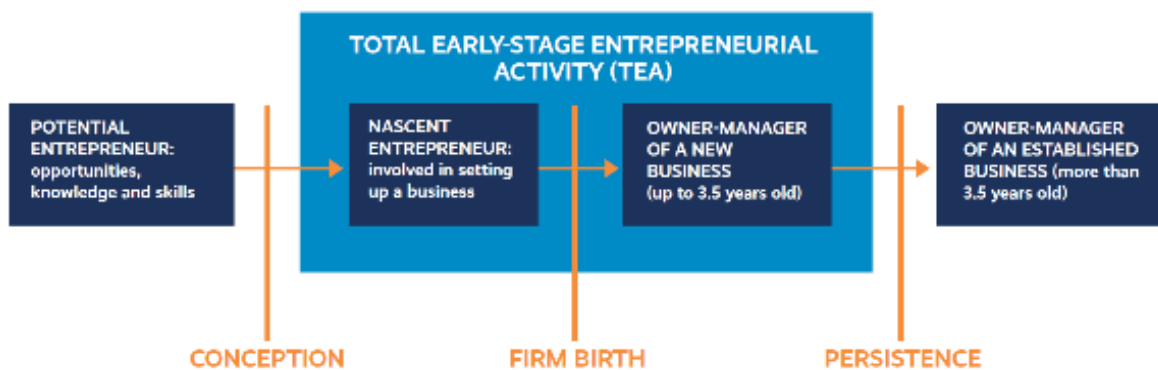


Figure 2- Entrepreneurial phases // Source : GEM Report 2019/2020

While TEA consider start and the immediate period after the start of a firm (up to 42 months), Established Business Ownership (EBO) includes the business owners who owns or run a business that has been around for 42 months or longer, as can be seen in figure 2. The relationship between these two variables can provide some relevant insights regarding the participation across entrepreneurial phases and the balance between nascent and mature activity. “In a majority of economies, encouraging individuals to start a business is an important, and common, policy objective. However, turning those startups

into long-term financial sustainable businesses is also important” (Bosma et al., 2020, p. 38).

The 2018/2019 GEM Report stated that the lowest overall rates of TEA can be found, mostly, in high-income economies such as Europe and North America, where all European economies were below 15% and US and Canada showed the highest rates. “GEM has traditionally found that developed economies tend toward lower entrepreneurship rates, at least in part due to the presence of alternative job options and higher levels of competitiveness that can make starting a business less attractive” (Bosma and Kelley, 2018, p. 20). The same behavior can be seen in Latin America and Caribbean region and East and South Asia region, where the high-income economies showed the lowest rates, with a few exceptions such as Chile and South Korea.

Entrepreneur activity can differ substantially among economies and people regarding their engagement in the entrepreneurial activity. As can be seen in table 2, there are a considerable number of economies showing higher numbers of early-stage levels than established business. It can relate to the “attractiveness” of the entrepreneur market and the entrepreneurial motivations or interest in starting a business. However, it can be a performance indicator of that market, where people are starting more business than the market can support, presenting difficulties in transitioning from TEA into EBO, “the businesses may be difficult to sustain and grow because of competitive or market conditions or other factors such as bureaucracy, economic or political stability, or corruption” (Bosma and Kelley, 2018, p. 37).

Analyzing the factor-driven group, it can be seen in figures 3 and 4 that all the economies showed a growth in TEA rates from 2018 to 2019 and almost all of them, except for Iran, presented a growth in the EBO rates, indicating a dynamic growth in the economy, with higher levels of starts in business translating into established business. Although, in 2020, those economies presented a sharp fall in both indicators, presenting numbers even lower than the numbers used as basis (2018), indicating a contraction in the entrepreneurial activity in that group. The innovation-driven group presented a similar behavior, with growth in both indicator for the majority of the economies from 2018 to 2019 and a decrease from 2019 to 2020.

In the efficiency-driven group, the most diverse considering the income classification and the most distinct behavior in the ETA x EBO comparison, it is also possible to notice evolution in the rates of the TEA in 2019 regarding the previous year. However, the group did not reveal great evolution in EBO rates, showing balance between overall growth and decline, and even the economies that showed growth did not show substantial growth. Suggesting “difficulties in transitioning these (new business) into established businesses” (Bosma et al., 2020, p. 40). Comparing to 2020, the majority of the group presented growth in the TEA rates, being only Chile, Morocco and Poland the economies that presented decline on this indicator. On the EBO side, the group had an overall decrease in the indicator. The GEM report concluded that, among those starting or running a new business, most of them agreed that “the pandemic had led to new opportunities they wanted to pursue” while “there was less optimism about new business opportunities among established business owners” (Bosma et al., 2021, p. 52).

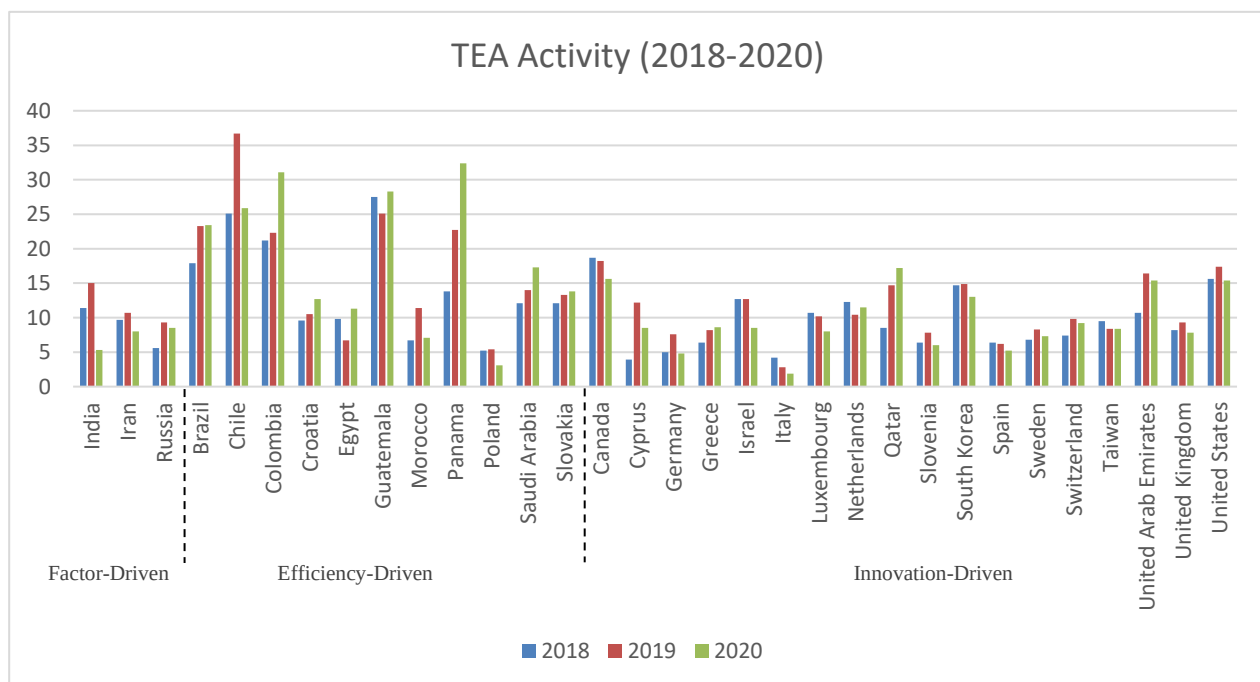


Figure 3- Percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business (up to 42 months) regarding 2018, 2019 and 2020 data.

The results obtained in the 2020 GEM report shows that the intensity of EBO among the reached economies is less variated than the TEA and, all global regions are represented by this. “In 2020, 12 of the 43 economies have fewer adults starting or running new business than owning and managing an established business, including four of the five Central & East Asia economies, seven economies from Europe & North

America, just one from Middle East & Africa and none from Latin America & Caribbean” (Bosma et al., 2021, p. 40).

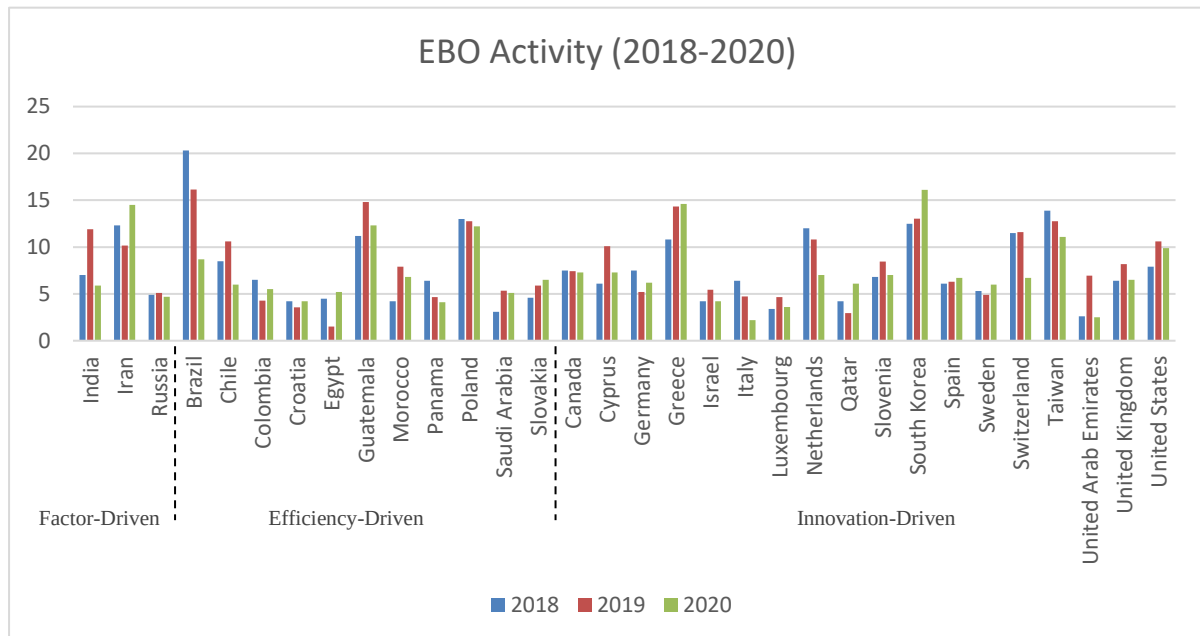


Figure 4 - Percentage of 18-64 population who are currently an owner-manager of an established business, for more than 42 months) regarding 2018, 2019 and 2020 data

The relationship between TEA and EBO can provide some relevant insights regarding the participation across entrepreneurial phases and the balance between nascent and mature activity. Entrepreneur activity can differ substantially among economies, and people regarding their engagement, TEA indicator higher than EBO can relate to the “attractiveness” of the market and the entrepreneurial motivations or interest in starting a business. However, it can be a performance indicator of that market, where people start more business than the market can support, presenting difficulties in transitioning from TEA into EBO. The diversity of behaviors presented in this segment can be explained by the individual context and mainly by the support (or lack) in actions to mitigate the impacts of the pandemic.

4.2. Perceived Opportunities and Perceived Capabilities

“One important determinant of whether or not to start a business, and a significant influence on the success and longevity of that business, may be whether, and to what extent, individuals see themselves as potential entrepreneurs” (Bosma et al., 2020, p. 33).

GEM seeks to present the self-perception of their interviewees by asking their perception about the opportunities around them and their skills and knowledge. This indicate if there are greater or minor degree of recognition of opportunities and capabilities in a society, reflecting their perception on the entrepreneurial environment. “Opportunities may be out there for all to see, but not everyone is cognizant of them” (Bosma and Kelley, 2018, p. 47). Also, even though they perceive the opportunities, it is important to understand their self-confidence in their skills and abilities. It is important to understand if the environment is enabling or constraining entrepreneurial activity, “In many cases, high opportunity perceptions can explain high TEA rates, in many other economies, low rates of entrepreneurship may be a result of few opportunities, or few people recognizing them” (Bosma and Kelley, 2018, p. 52).

The ability to perceive opportunities can be seen as a vital attribute for successful entrepreneurs, since it requires observational and analytical skills to understand the environment and compare the actual moment to what it could be. “High proportions of adults claiming that there are good opportunities to start a business may be the product of high levels of economic and social change in that economy and/or high levels of awareness” (Bosma et al., 2021, p. 32). There are some situations where the level of perception of opportunities is high but there are few people opening businesses, some countries indicate that no matter how much opportunities are perceived, people do not perceive they have enough skills to pursue these opportunities. "People having a fairly high expectation of what it takes to run a typical business in their country may cause this" (Bosma and Kelley, 2018, p. 52).

According to the 2019/2020 GEM report, the link between income levels and social and cultural foundations for entrepreneurship seems to be low. Since there is a high proportion of adults perceiving opportunities in high-income places and in low-income places, as well as low proportion of adults perceiving opportunities in high-income places and in low-income places. “Seeing good opportunities to start a business may indicate that innovation potential exists” (Bosma et al., 2020, p. 30).

Analyzing table 3 and the numbers presented for the factor-driven group, it can be seen a large variation in the Perceived Opportunity indicator from 2018 to 2019. The growth of this indicator, as well as the TEA (shown in previous section) may indicate a greater ease in starting a new business in 2019, as adults are perceiving more opportunity and this perception is being translated into new businesses. However, in figure 5, it can

be observed 3 different behaviors of the economies of this group for the year 2020, where India had a slight decline in the indicator, Russia maintained growth, albeit moderate, and Iran had the second largest drop in this indicator among all economies. Consequently, showing a large reduction in opportunities perception after the start of the pandemic.

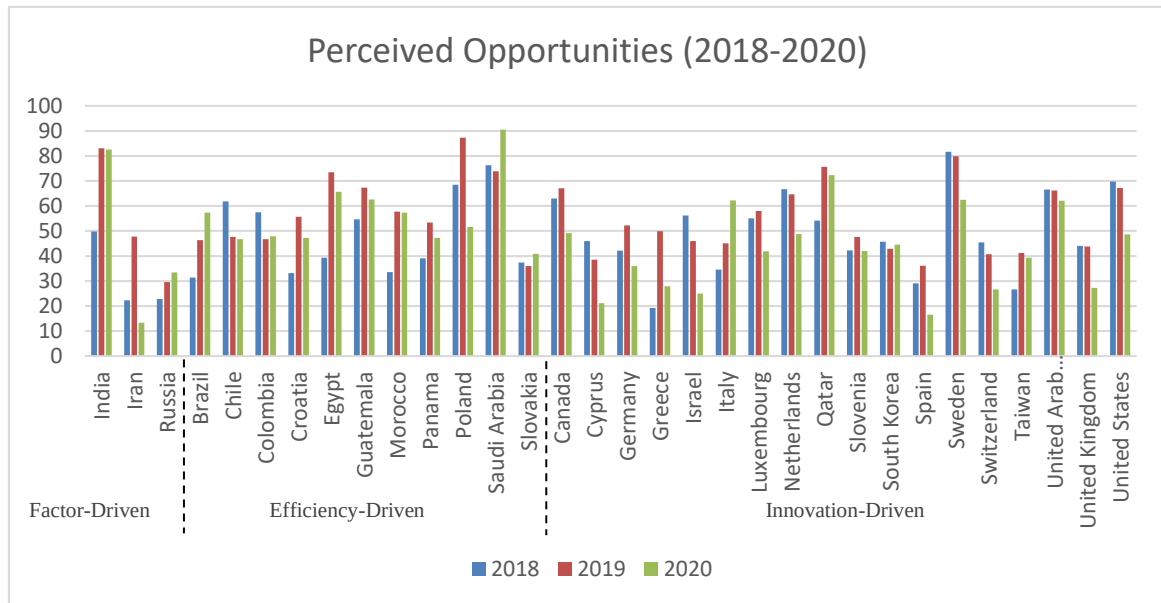


Figure 5 - Percentage of 18-64 population who see good opportunities to start a firm in the area where they live, regarding 2018, 2019 and 2020 data

In fact, all 3 groups showed similar behavior regarding this indicator, showing a greater perception of opportunities in 2019 in comparison to the previous year and a considerable reduction in these numbers for the 2020 indicators. With the exception of 7 countries (Russia, Brazil, Colombia, Saudi Arabia, Slovakia, Italy, and South Korea) all economies considered in the analysis showed lower perception of opportunities, "this influence could reflect new opportunities due to the pandemic and the response to it, or diminishing prospects for employment." (Bosma et al., 2021, p. 35)

Regarding the perception of capabilities, it can be seen in table 4 that most economies presented high values of perceived capabilities for 2018, nonetheless, the numbers presented for 2019 had a vast growth. Almost all economies presented growth in the perceived capabilities, there were only 3 economies from the total that presented decline in this indicator. Saudi Arabia and Slovakia, belonging to the efficiency-driven group, presented a decline practically inconsiderable of 0,2 and 0,4 respectively, and Netherlands had the biggest drop with 4,2. It is possible to notice in figure 6 that, for the

bigger part of economies, "more than half of adults consider they have the skills, knowledge and experience to start a new business." (Bosma et al., 2020, p. 33)

For the comparison with 2020, once again, it is noticeable some reduction for the indicator for all the groups, however all economies still present some high numbers, with more than one in three adults able to perceive they have the knowledge and skills needed to start a business. When comparing people's perceptions, it is possible to notice, despite a slight reduction in the perception of their capabilities, the indicator that had the greatest impact was the perception of new business opportunities. These indicators show "strong evidence of the impact, mostly negative, of the pandemic on attitudes, expectations and intentions, and shown considerable diversity in these impacts between economies. This diversity may be related to context, and especially the support (or lack of support) in mitigating the economic impacts of the pandemic in specific economies" (Bosma et al., 2021, p. 37).

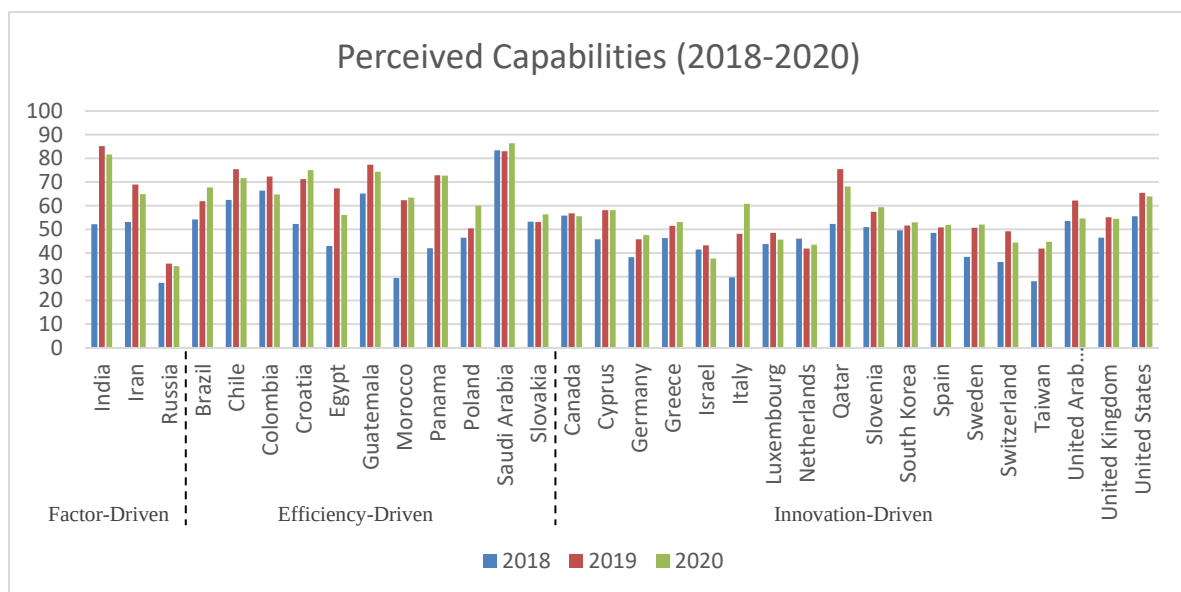


Figure 6 - Percentage of 18-64 population who believe they have the required skills and knowledge to start a business, regarding 2018, 2019 and 2020 data

Understanding the variations in people's perception of their opportunities, skills, and knowledge is also essential in times of crisis. It is important to know if the environment is enabling or constraining entrepreneurial activity. However, even if opportunities are available in the market, some may require a range of specific skills to recognize and seize them. The pandemic negatively affected almost all countries presented in the study, reducing the perceptions of opportunities of adults in these regions,

reducing attitudes, expectations, and intentions to open new ventures. However, the perception of capacity and skills to start new businesses, despite showing a drop for the year 2020, still showed high numbers for each economy, indicating they noticed a change in the entrepreneurial ecosystem capable of reducing the venture of new opportunities.

4.3. High Job Creation Expectation

GEM presents this indicator as a percentage of TEA who expect to create six or more jobs in five years, and those who anticipate the creation of six or more jobs can be classified, considering their growth-orientation, as medium to high oriented. This indicator can be important to “offer a guide to the likely economic impact of that new business” (Bosma et al., 2021, p. 60). Considering the entrepreneurial potential to create jobs, “they can contribute to employment and wellbeing in their societies. In low-income regions in particular, entrepreneurs can play a major role in advancing their economies” (Bosma and Kelley, 2018, p. 25).

Even though some economies present a relative low TEA rate, the entrepreneurs in that economy can project a high level of job creation, in example, the United Arab Emirates and Saudi Arabia present a relatively low TEA rate but are among the highest high job creation expectation, “this demonstrates that, even when entrepreneurship is less prevalent in a society, it can nonetheless exert substantial impact” (Bosma et al., 2020, p. 37). Then, when an economy can combine high job expectation with high levels of TEA it has plenty of potential regarding the job creation. Consequently, the opposite is also true, when an economy presents low TEA rate and low job creation expectancy, it reduces the job potential of an early-stage entrepreneurship. “This may be a reflection of the types of business being started or a preference for working on one’s own or as a small business.” (Bosma et al., 2020, p. 52) or could be a result of a lack of skilled labor or restrictions related to hiring and retaining employees.

Analyzing the groups in this indicator at table 5 and figure 7, we can see that the factor-driven group, in general, showed to maintain the expected growth of job creation from 2018 to 2019 and then to 2020. Except for Iran, which showed a large drop for the indicator in the year 2020, the other economies showed considerable growth. Despite

showing a reduction in TEA rates for the same years, new businesses in these economies showed a greater intention to employ 6 or more people.

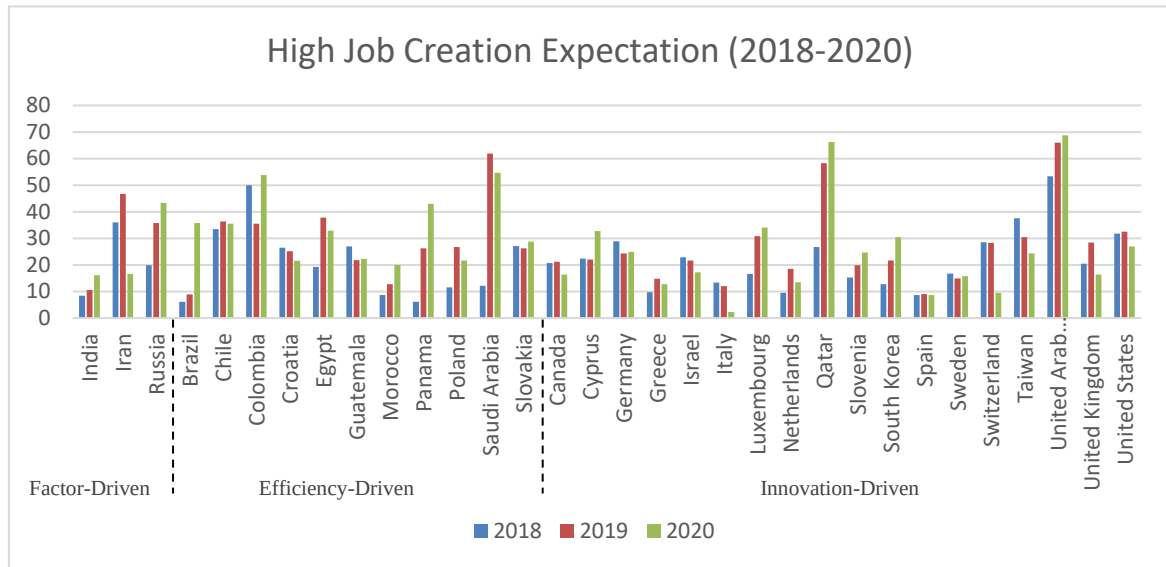


Figure 7 - Percentage of those involved in TEA who expect to create 6 or more jobs in 5 years, regarding 2018, 2019 and 2020 data.

Regarding the efficiency-driven and innovation-driven groups, both showed similar behavior in this indicator, presenting declines and recovery in the indicator for the years analyzed, as is the case of Colombia Guatemala and Slovakia in the efficiency-driven group and Cyprus, Germany, and Sweden for the innovation-driven group. In addition, both groups also counted on economies showing continuous growths as well as continuous declines. It is important to highlight the case of Brazil, in the efficiency-driven group, which had the highest growth, from 8.9 in 2019 to 35.8 in 2020, and when compared to the TEA growth of this economy in these same years, it may indicate a great potential for job creation in the region. Italy, on the other hand, is the opposite, the economy did not have the biggest drop in the indicator, however had the lowest number for 2020, with 2.3% of those involved in TEA who expect to create 6 or more jobs in 5 years. As the economy had the lowest TEA numbers and a strong decline in the indicator of job creation expectations, indicating reductions in the job potential of an early-stage entrepreneurship. This lack of ambition towards creating new jobs can also be seen in Greece and Spain, where "entrepreneurs will need to generate substantially more employment growth to help aid the recovery" (Bosma et al., 2020, p. 107).

Figure 7 also shows an interesting behavior of the Arab States, despite presenting declines in some of the survey indicators, Qatar, UAE, and Saudi Arabia presented high values or increased across some conditions compared to 2019. Their high values

presented in figure 7 demonstrates entrepreneurial confidence and the perception of the relevance of their government policy support, the “experts’ evaluations of governmental conditions improved during the pandemic, compared to many other economies in which experts registered frustrations with their government’s response” (Bosma et al., 2020, p. 169). “Overall, the positive signs in entrepreneurial activity, in addition to some strong expert scores on the government’s handling of the pandemic, indicate that there may be reasons for optimism over the coming years, as they may be well positioned for a strong recovery from the pandemic” (Bosma et al., 2020, p. 153).

This indicator is relevant for analyzing job projections in different economies, showing the likely economic impact of new businesses. When compared to the TEA index of economies, it can explain the implications on economies even better. Both indicators are directly related. When they are on the rise, they can indicate a great capacity to generate employment in the region, but when they are low, they suggest the opposite. When analyzing this indicator in the years referred to, the numbers showed a certain balance; even if the economies have shown a reduction in TEA, the companies that are starting activity during this period expect to employ more people in most cases.

4.4. Business Discontinuance

To understand the reasons that lead entrepreneurs to discontinue their business is of paramount importance. In this indicator, GEM asks their interviewees whether they have shut down or quit a business they managed withing the past one year. As the metric for this indicator changed in the last reports, it was used data from 2019 and 2020, focusing on the influences of the pandemic as presented in tables 6 and 7. The discontinuance can occur for several different reasons, it may happen because the type of business, personal preferences such as selling the business, retirement, another opportunity. In other occasions it may in fact not be a choice from entrepreneurs, some negative reasons can influence this, for instance the lack of conditions in the environment, bureaucracy, difficulties to reach or maintain profitability, etc. "The reasons for exiting a business can also be an important indicator of the health of entrepreneurship within economies" (Bosma et al., 2020, p. 68) consequently, it is important to not look only at this indicator but how it can relate to entrepreneurship activity.

The correlation between business exits and TEA rates are high in many cases. Several times, an economy presents high levels of TEA but also the discontinuance rate is high. This can signalize limited alternative for the entrepreneurs, “it may be costly or disruptive to have so many starts and stops, and it might be questioned why so many people are starting businesses they are unable to maintain” (Bosma and Kelley, 2018, p. 39). On the other hand, when the exit rates are low accompanied by a low TEA rate can be explained as “a case of pragmatic selectivity, in that few businesses get started, but those which do are most likely to be viable” (Bosma and Kelley, 2018, p. 39).

Even considering that the closures can be “important components in the process of structural change, which (eventually) improves productivity and living standards, by releasing resources from the production of goods and services that no longer have a market in favor of those that do” (Bosma et al., 2020, p. 66), it is important to understand the main reason of that closure, because it can be an indicator of health in the entrepreneurship ecosystem. The last GEM report (2020) was able to add in their surveillance the impact of coronavirus pandemic in the exits, although some entrepreneurs present a few positive reasons for exiting, the majority of exits presented in table 7 were for negative reasons (excluding coronavirus), if we include the influence of coronavirus pandemic as a negative reason, this number is even higher. Therefore, it is important to understand better those reasons to reduce the difficulties and pursuit the improvement of the entrepreneurial ecosystem.

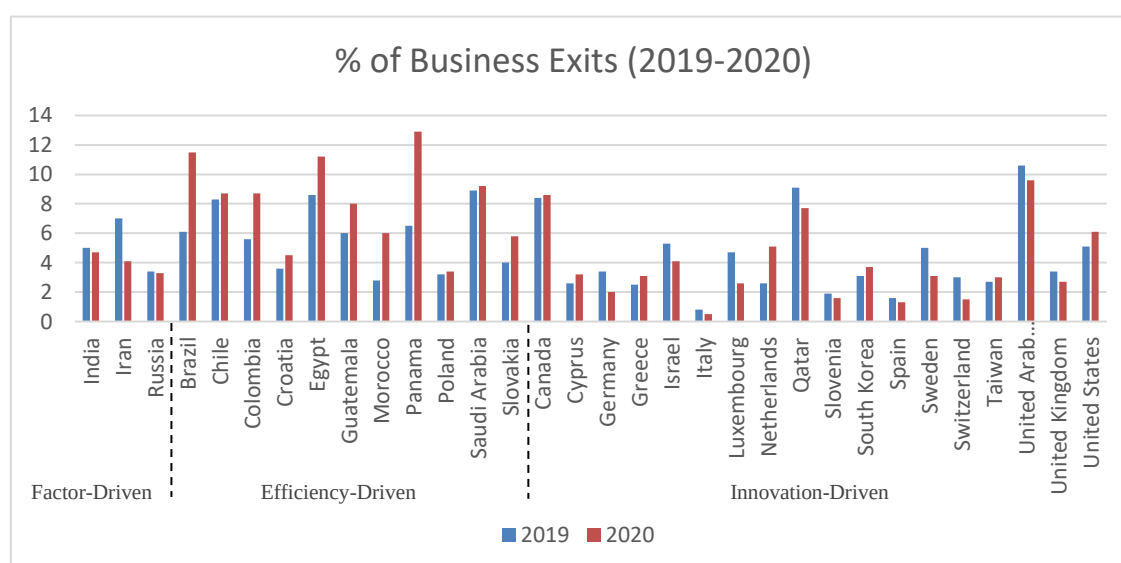


Figure 8 - Percentage of adults (18–64 years) who exited a business in past year, regarding 2019 and 2020 data
* Non-existent values for 2018

Regarding the business exits presented in table 6 and figure 8, all three groups present different behavior. All the factor-driven group experienced a decrease in this indicator regarding 2019 to 2020, while all the efficiency-driven group presented increase in those numbers. The innovation-driven presented more balanced variations, ranging from growth to reduction in the exit rate among their economies. While the pandemic may appear to have generated a large increase in business discontinuation, the data suggest a complex relationship and difficulty to make such conclusion. Another relevant insight from this data is related to the reasons for exiting, considering the data from GEM 2020 survey, figure 9 presents the percentage of entrepreneurs who exited their business for positive reasons, negative reasons and who cited the pandemic as the most important reason for exiting. The negative environment is mostly dominant among the reasons, even more if the COVID-19 and negative environment rates are added, since the "effects of the pandemic may well have played a part in some of those other negative reasons". (Bosma et al., 2021, p. 51)

Nonetheless, it is possible to notice the correlation between exit rates with ETA, where "low exits typically occur alongside low TEA, and high exits alongside high TEA" (Bosma et al., 2020, p. 66) as example it can be mentioned Panama which had the highest exit rate of all economies with 12.9% then had the highest ETA rate compared to the same economies, with 32.4% for 2020. Another example is Italy, which had the lowest exit rate with 0.5% but also had the lowest TEA with 1.9% for the same year.

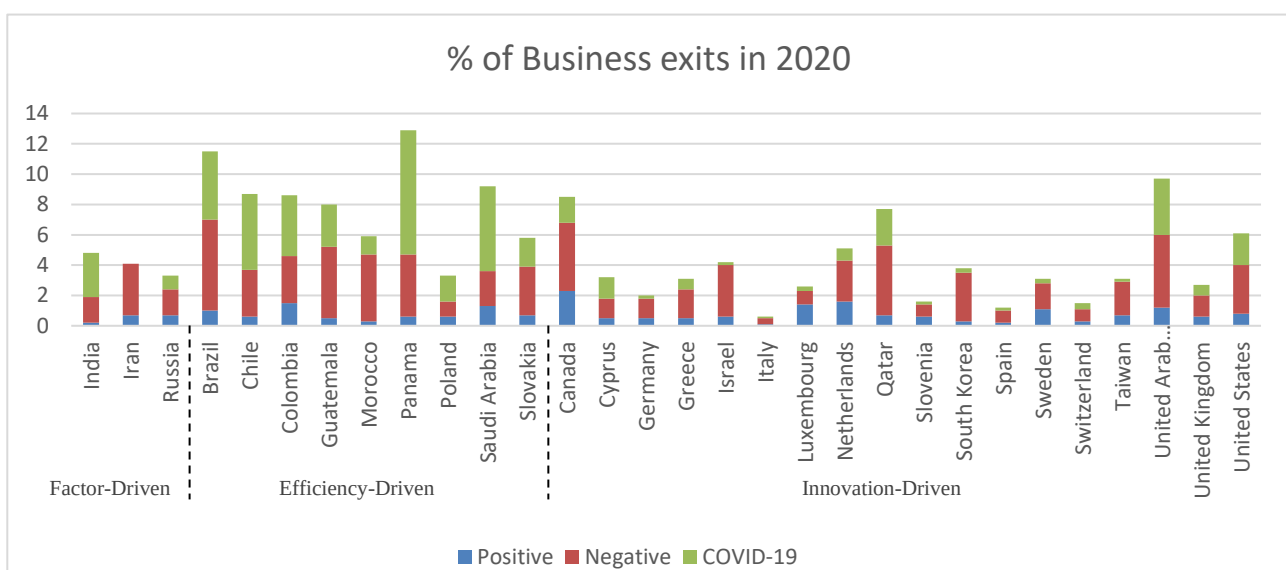


Figure 9 - Percentage of business exits in 2020, considering positive, negative, and COVID-19 influences.

Given the unprecedented nature of the pandemic crisis and the fast need for measures to ensure the health system capacity, the first measures taken by governments were aimed at preventing the spread of the virus, thus, most countries restricted the movement of people. Nonetheless, considering the different characteristics of the diverse countries around the world, “it can be a public policy challenge to keep the equilibrium between restrictive measures and the economic and social problems which these responses imply in the medium term” (González-Bustamante, 2020, p. 1).

In the case of Malaysia for example, “Individuals and businesses affected by the temporary closures will be at high risk of facing immediate cash flow constraints as their earnings dwindle. this liquidity squeeze will be disproportionately felt by small-and-medium enterprises (SMEs), and vulnerable groups such as lower-income individuals, and part-time and unemployed workers. This can have knock-on effects on the entire economy—leaving businesses insolvent, individuals bankrupt, and the financial system saddled with non-performing loans” (Cheng, 2020, p. 1).

When looking at South America, where governments “had to decide whether to follow the European model of emergency closures in a scenario of high uncertainty, weaker social protection networks, and a higher level of informal employment” (González-Bustamante, 2020, p. 2), it is possible to verify a series of different behaviors in the face of the pandemic. González-Bustamante (2020) compared the countries considering 3 aspects (1- central measures of the suppression strategy such as the closure of schools, non-essential businesses, and stay at home requirements; 2- testing policy; and 3- contact tracing) and divided them into 4 groups.

The group one has only Paraguay, “which has promoted a strict suppression strategy, implementing in the third week of March the closure of schools, workplaces, and stay at home instructions. Moreover, it has stringent testing and case tracing policy. This is reflected in the low incidence of cases registered in mid-May and in how well its health system is holding out” (González-Bustamante, 2020, p. 4). The second group encompasses "cases that combine suppression strategies with a consistent testing policy. This is the case of Chile and Colombia. In Chile, schools and universities were closed in mid-March, and teleworking was promoted. Colombia, for its part, implemented similar measures with just a few days of delay in the restrictions of workplaces. Furthermore, both countries have implemented a consistent testing policy, which allows us to assume that, like in Paraguay, there is not a significant underestimation of infections” (González-

Bustamante, 2020, p. 4). The third group includes Argentina and Peru, “both countries implemented stringent suppression strategies and stay at home requirements in the third week of March. However, in both countries, testing is laxer, and contact tracing presents the same problem of late response as in Chile and Colombia” (González-Bustamante, 2020, p. 4). The last group is formed by Bolivia, Brazil and Uruguay, “the countries that did not implement stringent suppression strategies or promote strict testing and tracing policies. (...) Although Bolivia and Uruguay have not promoted exhaustive testing and case traceability policies, both implemented school closures in mid-March and the closure of non-essential workplaces was promoted at the end of March in Bolivia. (...) Brazil is the only country in the region that has not systematically implemented at the national level any key suppression policy or clear strategies of detection and tracing of infections. This is evident in evaluating almost any indicator, the possible overwhelm of its health system, as well as the confirmed cases and deaths per million inhabitants” (González-Bustamante, 2020, p. 4).

These differences in the approach to the pandemic and the applied public policies are certainly capable of giving insights on why the different results in figure 8. Despite being the indicator that we most expect to be negatively affected during times of crisis, we have the counterpoint of countries and regions having the capacity to read the situation and to apply measures capable of defending their economies as well as their social, even though challenging for every single government in the world, keep the balance between restrictive measures and the economic and social problems is particularly difficult for the vast majority of underdeveloped or developing countries.

5. Discussion and Insights

Since the “importance of entrepreneurs as vehicles of economic and societal transformation is not new in the economic literature” (Youssef et al., 2018, p. 233), to recover and even improve some of these indicators presented in the previous chapter, it is important that both policymakers and entrepreneurs show capacity to understand the changes in the scenario and show resilience to overcome the challenges. Also, “international challenges such as pandemics and climate change require international collaboration” (Mawani et al., 2021, p. 256) and we must work as global community to achieve a sustainable recovery.

5.1. Policymakers Insights

Despite the important role of SMEs in the world economy, they are the most threatened by a crisis given their relatively vulnerable financial position. Governments have provided cash payments and income protection plans to those in need, to soften the impact of the pandemic. However, “many areas of the economy such as the informal sector are not eligible for government support” (Ratten, 2020, p. 5). “Governments should use financial assets to supply coordinate bolster to influenced businesses to arrange to secure the beneficial capacity that will be required to resuscitate the economy of nations” (Pratama et al., 2021, p. 4). Policymakers should also enable economies to become more diverse, “loans and subsidies to entrepreneurs and small business must not simply consolidate the position of dominant businesses but must seek to encourage competition and diversity” (Muñoz et al., 2020, p. 5). This diversity can bring broader range of knowledge and nurture the whole ecosystem.

According to Szabo et al. (2013), innovation have a significant role in the social and economic development assuring economic competitiveness and creating value through knowledge. Consequently, policies must prioritize the enlargement of the innovation support, the diffusion of the knowledge, facilitate the access to skill and competences to upgrade human resources. Being important the financial support for research and innovation meanwhile the public authorities create a regulatory framework to provide guarantees to reduce the risk related to innovation. Considering the changes in the environment promoted by the pandemic and the lower rates of TEA presented by the

economies in 2020, innovation can be considered as “a key aspect of business recovery in the ongoing and post-COVID-19 pandemic period” (Caballero-Morales, 2021, p. 1) since, if well addressed, it can reduce the rate of disappearing businesses. Reckoning that the economic recovery depends on the innovativeness of the enterprises, to improve the situation after crisis, “long and short-term policies are needed at the level of each country” (Szabo et al., 2013, p. 5). It is important to reorient the model for entrepreneurship policy, including interventions during and post crisis, potentially capable of minimizing the effects of the crisis and changing the orientation of future support” (Muñoz et al., 2020, p. 5).

As described by Muñoz et al. (2020), in addition to providing initial funding for entrepreneurs, it is also important to develop the support industry for entrepreneurs, such as incubators, accelerators, mentoring networks, etc. Youssef et al. (2018) presents that to increase the R&D capabilities it is necessary a national innovation system as well as coordination, and this requires institutions dedicated to technology transfer, innovation protection, laboratories and associated public policies. The knowledge transfer is also a crucial instrument for the post-crisis recovery, since “knowledge about specific techniques and contacts (suppliers, clients) can be performed to make better use of the limited resources of SMEs” (Caballero-Morales, 2021, p. 8). It is likewise important to facilitate the communication among entrepreneurs, “knowing other entrepreneurs means exposure to role models and mentors, hardwires the motivating factors or drivers for being successful, and provides connections to relevant stakeholders and advice” (Bosma et al., 2020, p. 30). This would then be able to spread entrepreneurial activities to facilitate their recovery and face the effects of economic crises.

The development of environmental sustainability is also relevant in terms of recovery in the post-pandemic as a “sustainable entrepreneurship slows degradation and gradually improves ecosystems” (Youssef et al., 2018, p. 233). Mawani et al. (2021) also address the importance of the attention paid to “socioeconomic recovery interventions that focus on concurrently addressing environmental sustainability. Economic growth can only be achieved in the long term if biodiversity is protected and sustainable energy solutions are implemented” (Mawani et al., 2021, p. 255), and “Sustainable systems can only be created through collaboration both directly between companies and between SMEs and government agencies” (Razumovskaia et al., 2020, p.3). It is necessary to equip communities and ventures with the tools to collectively respond to crisis considering

long-term responses, so “the entrepreneurship support structure can lessen the likelihood of future crisis impact” (Muñoz et al., 2020, p. 5). The cycle - ecosystem democracy, emergent responsive venturing and social cohesion - is potentially capable of minimizing the effects of the current crisis and changing the orientation of future support” (Muñoz et al., 2020, p. 5). It is also important to focus on the development of “comprehensive socioeconomic response interventions with a long-term preventive, rather than temporary, reactive view” (Mawani et al., 2021, p. 255), as a result, these measures "developed by states should be based on clear goals of economic policy, be systemic and also take into account long-term priorities for business development" (Razumovskaia et al., 2020, p.6).

Ionescu-Somers and Tarnawa (2020) considers government should focus on creating a stable, supporting framework that is conducive to entrepreneurship, for this to happen, policymakers must focus on a series of principles to create a cohesive, holistic, and conducive framework for their healthy development. The principles are based on a CRISP rule as follows:

- ***Clear and concise communication*** of policies is a must, if a maximum number of entrepreneurs are to benefit from policies favorable to entrepreneurship. Collaboration and cooperation with entrepreneurs, academics, hubs and other enabling organizations will be essential.
- ***Responsibility*** and ***resilience*** will be assets to all organizations; the COVID-19 pandemic showed us just how important it is to work together for the common good.
- ***Innovating*** and celebrating innovation is the name of the game moving forward as entrepreneurs grasp opportunities.
- ***Simplifying*** policies is also important so that new entrants from the informal sector in particular will be able to navigate the new, formal business context that they have entered.
- ***Preparation***, since policymakers would do well to spend time preparing for a potential — many say even likely — new wave of the pandemic. (or another crisis)

In summary, Policy Insights should be based primarily on developing the foundation for entrepreneurs to gain knowledge and skills to develop their businesses. As a basis, it is important to emphasize the dissemination and facilitation of access to

knowledge for people, in order to better develop human resources. It is also worth emphasizing the importance of promoting diversity and innovation not only in products and services but also in business models. It should also focus on developing support industries, as forms of financing and early development of new ventures. The encouragement of collaboration between entrepreneurs is also effective when the objective is development, as it creates a greater network of knowledge and exchange of experiences, capable of nurture the ecosystem, so the communities and ventures will have the tools to collectively respond to crisis.

5.2. Entrepreneurial Insights

The effects of the pandemic can be seen in many ventures, where many are even on the verge of collapsing, others are struggling to survive, and some are changing and investing to deal with all the changes. Survival ventures and new entrepreneurs now have the challenge to adapt to the “new normal” and its demands, studies show that some of SMEs solutions are related to “reducing their expenses to the maximum and transforming their business models” (García-Vidal et al., 2020, p. 1). SMEs must “re-adjust and improve their strategies and behaviors fit to the environment to ensure business survival” (García-Vidal et al., 2020, p. 2). So, resilience must be the main word for the entrepreneurs willing to establish themselves in the crisis period or after it, because “innovative business tends to be able to anticipate and then adjust to change in an appropriate way” (Ratten, 2020, p. 2).

To encourage economic activity, “entrepreneurs are needed as they come up with solutions to market problems” (Ratten, 2020, p. 5). “As individuals, organizations, and other stakeholders emerge to solve problems together, it is necessary to have short and long-term organizational solutions. For example, some may launch community-based ventures to address urgent needs, whereas others may emerge after several months when secondary needs appear” (Muñoz et al., 2020, p. 4). As a result, the entrepreneurial activity in times of crisis can make important contribution to the social environment, performing important community recovery roles, mainly if considered that “crises can intensify experimentation, “freeing entrepreneurial actors from the perceived constraints or limitations that they typically face in their day-to-day work environments” (Bjorklund et al., 2020, p. 2).

Although entrepreneurship can contribute to economic growth and development, there are some market failures in the economic system that “motivate environmentally degrading entrepreneurial behaviors” (Dean and McMullen, 2005, p. 52). Thus, entrepreneurs must find their way to “take an active role in seeking to balance economic goals with sustainability and environmental goals” (Gast et al., 2017, p. 46). According to Sheperd and Patzel (2011), Entrepreneurial action can reduce environmental degradation, improve agricultural practices, preserve ecosystems, and maintain biodiversity but “sustainable entrepreneurship research is needed to explore the role of entrepreneurial action as a mechanism for sustaining nature and ecosystems while providing economic and non-economic gains for investors, entrepreneurs, and societies” (Sheperd and Patzel, 2011, p. 3).

García-Vidal et al. (2020) made an analysis of measures and recommendations based on manuscripts that present recommendations from McKinsey & Company for SMEs to face post-pandemic time. They summarized the most frequent recommendations as follows:

1. ***Investment in technology***: where the rapid change in the scenario made people more physically distant and helped in the development of digital tools, the business managers had and still have to face new technology challenges, "the greatest challenge involve empowering owners, managers and employees with the skills to manage data, and technology they needed to engage with customers in new ways" (García-Vidal et al., 2020, p. 5).
2. ***Use of scenarios and contingency plans***: It is important to understand and apply a hands-on approach on different scenarios, as “having a varied range of scenarios can allow for more agility and flexibility in both the planning process itself and the SMEs responses to the changes that may emerge” (García-Vidal et al., 2020, p. 5).
3. ***Crisis management***: Is essential to deal with major events capable of affecting the company’s performance, “SMEs need to deal with crisis before, during, and after they have occurred, and crisis management provide with the skills and techniques required to identify, assess, understand, and cope with a crisis situation” (García-Vidal et al., 2020, p. 6).
4. ***Stakeholder management***: A key recommendation to maintain an open communication to obtain new ideas, “managing interactions with customers, suppliers,

financial institutions governments, investors, activists and many others, may be particularly vital during and after the pandemic” (Garcia-Vidal et al., 2020, p. 6).

5. **Teamwork:** Necessary for reinventing some core processes and interactions ways to satisfy customers and employees, “teams are at the heart of the new operating model for SMEs in order to create an effective post pandemic organization” (Garcia-Vidal et al., 2020, p. 6).
6. **Resilience:** It is all about maintaining a positive mindset to grow and learn from setbacks, “Successful SMEs should redesign their operations and supply chains to protect itself against potential crisis and to bounce back from present one” (Garcia-Vidal et al., 2020, p. 6).
7. **Agile and flexible operations:** Entrepreneurs must embed agile habits to their business models to handle the impacts on their business better than the competition, “agile practices will make easy to cope shifts in the environment in order to adapting more quickly to them” (Garcia-Vidal et al., 2020, p. 6).
8. **Decentralize decision making:** Should be implemented to make smart decisions faster during the crisis, “it is time to reject the hierarchical model and instead involve employees to get smarter decisions as fast as possible” (Garcia-Vidal et al., 2020, p. 6).
9. **Communication across all channels:** Effective communication is more than ever fundamental for the business, as the human interaction is still at distance, it is important that entrepreneurs “define and point to long-term goals, listen to and understand your stake holders, and create openings for dialogue” also “communicate clearly, simply, frequently can help to keep employees with a sense of purpose to get the vision of future” (Garcia-Vidal et al., 2020, p. 6).

In brief, survival ventures and new entrepreneurs must face the challenge of adapting, readjusting, and improving strategies to cope with the challenges provided by the pandemic crisis. It is necessary to show resilience and propose new solutions to market problems, since their role is of relevant importance for the economic and social recovery of countries. Entrepreneurs must use this moment to develop tools to understand scenarios and contingency plans for crisis management, develop communication through different channels to better understand their consumers as well as their employees and stakeholders in general, apply investments in technology and show agility and flexibility in adapting.

6. Conclusions

Considering that the coronavirus and its pandemic affected the entire world in different ways, this work focused on showing the main impacts and effects felt by entrepreneurs as well as their actions and perceptions, as they are an important tool in the economic recovery of countries for the post-pandemic moment. Seeking to answer the two questions: " Q1: What were the effects of the pandemic on the entrepreneurial environment?" and "Q2: What can be done to make this a favorable environment face the new dynamics affected by the pandemic?"

As seen, the pandemic, despite being a global event, affected countries and groups in different ways, where entrepreneurs from each economy showed different behaviors and perceptions of how to act in this situation. In most economies, it was possible to verify the immediate influence of the pandemic on entrepreneurial activity, reducing the levels of TEA and EBO between the years 2019 and 2020. This indicates that entrepreneurial activity in the world was drastically affected, however, a few economies showed some increase in entrepreneurial activity. This diversity of behavior can be explained by the context and especially the support (or lack of it) in actions to mitigate the impacts of the pandemic.

Among the data presented, it was also possible to notice a strong reduction in the perception of opportunities among the economies, which apparently translated into a reduction in TEA in most cases. This represents a decrease in entrepreneurial activity and a reduction in job projections. However, the perception of capacity and skills to start new businesses, despite showing a drop for the year 2020, still showed high numbers for each economy, indicating they actually noticed a change in the entrepreneurial ecosystem capable of reducing the venture of new opportunities.

This change promoted by the coronavirus pandemic, in different proportions than known in previous crises, was able to show that even in economies that had little entrepreneurial activity (TEA), the entrepreneurial activity can promote a substantial impact on job creation and recovery tool. As shown, the indicator of expected creation of 6 or more jobs in entrepreneurial activity showed a certain balance when comparing the years 2018, 2019 and 2020. That is, even if the economies have shown a reduction in

TEA, the companies that are starting activity during this period expect to employ more people in most cases.

Pondering that the decision to leave or discontinue a business can be affected by several reasons, positive or negative, it is interesting to understand that putting entrepreneurs who ended their business in 2020 under some influence from the pandemic. In most cases presented, entrepreneurs reported that the discontinuity of their business was influenced by negative factors, however, the data suggest a complex relationship with these negative reasons and the pandemic, making specific conclusions difficult. Still, the pandemic was certainly another negative aspect able to influence the entrepreneurial ecosystem.

Thus, considering the importance of entrepreneurship and SME activity in the economic recovery of countries, despite entrepreneurs having taken the first actions to reduce costs and conserve the financial side, more assertive and aggressive measures are needed to turn this moment of uncertainty into opportunity, moving from short-term passive measures to long-term actions. In addition, it is necessary to change interpersonal relationships, facilitating communication and combating this gap caused by the pandemic to address measures capable of fostering the entrepreneurial environment as a collective, where each actor must understand and develop specific actions to make the best use of the opportunities that crisis situations can provide.

Politicians should not only focus on aid packages with financial measures for businesses, they should also think about promoting measures capable of making economies more diversified, thus focusing on research and development and innovations. The growth of knowledge and innovation in economies can perform an important role in economic and social development. Governments should also focus on disseminating this knowledge, through facilitating access to information and communication between entrepreneurs and society, as greater access to entrepreneurs can serve as an example and model for the development of new businesses. In this case, greater knowledge of the entrepreneurial ecosystem can increase entrepreneurial activity in the regions. Another aspect raised by the authors studied in this research still concerns this knowledge transfer, however, through the development of a support industry, such as incubators, accelerators, and mentoring networks. This moment of focus and development of the entrepreneurial ecosystem can be an excellent moment to seek to achieve measures and stipulate new

forms of sustainable development, so that the support structure of the entrepreneurial ecosystem is able to reduce the impacts of a possible future crisis.

On the side of companies and entrepreneurs, some readjustments are also needed to ensure the survival of the business. Considering that SMEs have greater capacity to readjust their activities and business models, their role is important for the economic and social recovery of countries. In this aspect, it is necessary for them to show resilience, to understand the impacts of crises and propose new solutions to market problems. The development of conscious entrepreneurship is capable of helping the sustainable development of both the entrepreneurial ecosystem and the ecosystem as a whole, thus promoting a reduction in the degradation of the environment and biodiversity. Therefore, entrepreneurs need to use this moment to develop tools to understand scenarios and contingency plans capable of dealing with crisis management as well, develop communication through various channels to better understand their consumers as well as their employees and stakeholders in general, apply investments in technology and show agility and flexibility in adapting to possible changes, with resilience perhaps being the great aspect necessary to face crises and abrupt changes in the markets.

This work focused on portraying the changes in the entrepreneurial environment caused by the pandemic crisis and providing some insights to use entrepreneurship as a recovery tool, however, there are still some factors and limitations that were not addressed in this work but can certainly help with the development of the entrepreneurial environment. Several of these factors were already needed to be more focused and developed even before the coronavirus pandemic, however, they can certainly help companies and businesses recover and it would be interesting to have more studies on them. The present study has limitations, among others, the available time window, as it is still not possible to analyze the post-crisis years. It is also heavily dependent on the GEM database, constraining the availability of data and limiting the set of countries included in their survey. Despite having a multi-country focus, the suggested insights should be applied according to adaptation to the macro environment of the region as it does not provide specific guide for countries.

For further studies, it would be interesting to approach gender topics, as there is still a considerable gap and studies such as the GEM show that most new businesses are more likely to be started by men rather than women. Other important aspects for future research are the relationship between entrepreneurship and the age of people starting new

businesses; how companies are addressing their resources in the post-crisis; the development of sustainable entrepreneurship and waste management; the level of education and dissemination of knowledge (which is often also related to the internal social environment of countries).

Given the magnitude of the effects of the coronavirus pandemic on society, this study offers insights and contribute to reduce the information gap regarding the main effects and perceptions of entrepreneurs about the crisis impacts on their business. With these insights, it is hoped to help policymakers elaborate adequate strategies to foster entrepreneurship in their region, targeting to increase overall entrepreneurial activity and socio-economic development. It is necessary to understand that there is not only one measure capable of helping the development of entrepreneurship and its environment, but that a series of measures need to be taken by several “actors” to achieve better recovery. Companies affected by the crisis need to “take charge of the situation” and show capacity to adapt, while governments and politicians must focus on avoiding any actions capable of limiting entrepreneurial activity and its contributions to social and economic development in the post-crisis moment.

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Annex

Table 2 - Total early-stage Entrepreneurial Activity (TEA) and Established Business Ownership (EBO) per year
Source: Global Entrepreneurship Monitor Adult Population Survey, 2018/2019/2020

	Economy	2018		2019		2020	
		TEA	EBO	TEA	EBO	TEA	EBO
Factor-Driven	India	11,4	7	15	11,92	5,3	5,9
	Iran	9,7	12,3	10,7	10,15	8	14,5
	Russia	5,6	4,9	9,3	5,09	8,5	4,7
Efficiency-Driven	Brazil	17,9	20,3	23,3	16,16	23,4	8,7
	Chile	25,1	8,5	36,7	10,61	25,9	6
	Colombia	21,2	6,5	22,3	4,27	31,1	5,5
	Croatia	9,6	4,2	10,5	3,57	12,7	4,2
	Egypt	9,8	4,5	6,7	1,5	11,3	5,2
	Guatemala	27,5	11,2	25,1	14,8	28,3	12,3
	Morocco	6,7	4,2	11,4	7,89	7,1	6,8
	Panama	13,8	6,4	22,7	4,66	32,4	4,1
	Poland	5,2	13	5,4	12,76	3,1	12,2
	Saudi Arabia	12,1	3,1	14	5,35	17,3	5,1
	Slovakia	12,1	4,6	13,3	5,88	13,8	6,5
Innovation-Driven	Canada	18,7	7,5	18,2	7,44	15,6	7,3
	Cyprus	3,9	6,1	12,2	10,1	8,5	7,3
	Germany	5	7,5	7,6	5,2	4,8	6,2
	Greece	6,4	10,8	8,2	14,33	8,6	14,6
	Israel	12,7	4,2	12,7	5,45	8,5	4,2
	Italy	4,2	6,4	2,8	4,72	1,9	2,2
	Luxembourg	10,7	3,4	10,2	4,65	8	3,6
	Netherlands	12,3	12	10,4	10,81	11,5	7
	Qatar	8,5	4,2	14,7	2,96	17,2	6,1
	Slovenia	6,4	6,8	7,8	8,45	6	7
	South Korea	14,7	12,5	14,9	13,03	13	16,1
	Spain	6,4	6,1	6,2	6,31	5,2	6,7
	Sweden	6,8	5,3	8,3	4,88	7,3	6
	Switzerland	7,4	11,5	9,8	11,6	9,2	6,7
	Taiwan	9,5	13,9	8,4	12,75	8,4	11,1
	United Arab Emirates	10,7	2,6	16,4	6,96	15,4	2,5
	United Kingdom	8,2	6,4	9,3	8,18	7,8	6,5
	United States	15,6	7,9	17,4	10,59	15,4	9,9

Table 3 - Percentage of 18-64 population who see good opportunities to start a firm in the area where they live Source: Global Entrepreneurship Monitor Adult Population Survey, 2018/2019/2020.

Perceived Opportunities (2018-2020)			
Economy	Year		
	2018	2019	2020
India	49,8	83,1	82,5
Iran	22,3	47,7	13,3
Russia	22,8	29,6	33,4
Brazil	31,4	46,4	57,3
Chile	61,8	47,6	46,7
Colombia	57,5	46,7	47,9
Croatia	33,1	55,7	47,2
Egypt	39,3	73,5	65,7
Guatemala	54,6	67,3	62,6
Morocco	33,6	57,7	57,3
Panama	39	53,4	47,2
Poland	68,5	87,3	51,6
Saudi Arabia	76,3	73,8	90,5
Slovakia	37,4	36	40,9
Canada	63	67,1	49,1
Cyprus	45,9	38,5	21,1
Germany	42,1	52,2	36
Greece	19,2	49,9	27,9
Israel	56,2	46	25
Italy	34,6	45,1	62,2
Luxembourg	55	58	41,9
Netherlands	66,7	64,6	48,8
Qatar	54,2	75,6	72,3
Slovenia	42,2	47,6	42
South Korea	45,7	42,9	44,6
Spain	29,1	36,1	16,5
Sweden	81,6	79,8	62,5
Switzerland	45,5	40,7	26,7
Taiwan	26,7	41,2	39,3
United Arab Emirates	66,5	66,1	62,1
United Kingdom	44	43,8	27,3
United States	69,8	67,2	48,6

Table 4 - Percentage of 18-64 population who believe they have the required skills and knowledge to start a business, regarding 2018, 2019 and 2020 data

Perceived Capabilities			
Economy	Year		
	2018	2019	2020
India	52,2	85,2	81,7
Iran	53,1	68,9	64,9
Russia	27,5	35,6	34,5
Brazil	54,3	62	67,8
Chile	62,5	75,5	71,7
Colombia	66,4	72,4	64,8
Croatia	52,3	71,2	75
Egypt	43	67,3	56,1
Guatemala	65,2	77,4	74,4
Morocco	29,5	62,4	63,4
Panama	42,1	72,9	72,7
Poland	46,6	50,4	60
Saudi Arabia	83,4	83	86,4
Slovakia	53,3	53,1	56,4
Canada	55,9	56,8	55,6
Cyprus	45,9	58,2	58,1
Germany	38,3	45,8	47,6
Greece	46,4	51,6	53,2
Israel	41,5	43,3	37,7
Italy	29,8	48,1	60,8
Luxembourg	43,9	48,5	45,7
Netherlands	46,1	41,9	43,6
Qatar	52,3	75,5	68,2
Slovenia	51	57,5	59,4
South Korea	49,7	51,7	53
Spain	48,5	50,8	51,9
Sweden	38,4	50,7	52,1
Switzerland	36,3	49,2	44,5
Taiwan	28,2	42	44,8
United Arab Emirates	53,6	62,2	54,7
United Kingdom	46,6	55,2	54,5
United States	55,6	65,5	64

Table 5 - Percentage of those involved in TEA who expect to create 6 or more jobs in 5 years. Source: Global Entrepreneurship Monitor Adult Population Survey, 2018/2019/2020

High Job Creation Expectation			
Economy	Year		
	2018	2019	2020
India	8,4	10,6	16,1
Iran	36	46,7	16,6
Russia	19,8	35,8	43,3
Brazil	6,1	8,9	35,8
Chile	33,5	36,3	35,5
Colombia	49,9	35,5	53,8
Croatia	26,5	25,1	21,5
Egypt	19,3	37,8	32,9
Guatemala	27	21,8	22,2
Morocco	8,7	12,8	20
Panama	6,1	26,2	43
Poland	11,5	26,7	21,6
Saudi Arabia	12,2	61,9	54,7
Slovakia	27,1	26,2	28,8
Canada	20,7	21,2	16,4
Cyprus	22,4	22	32,7
Germany	28,9	24,3	24,9
Greece	9,7	14,8	12,7
Israel	22,9	21,7	17,2
Italy	13,3	12	2,3
Luxembourg	16,6	30,8	34
Netherlands	9,5	18,5	13,5
Qatar	26,7	58,3	66,2
Slovenia	15,3	19,9	24,7
South Korea	12,8	21,7	30,4
Spain	8,7	9	8,7
Sweden	16,7	14,9	15,7
Switzerland	28,5	28,3	9,5
Taiwan	37,6	30,4	24,3
United Arab Emirates	53,3	66	68,7
United Kingdom	20,5	28,4	16,4
United States	31,8	32,5	27

Table 6 - Percentage of adults (18–64 years) who exited a business in past year, regarding 2019 and 2020 data. Source: Global Entrepreneurship Monitor Adult Population Survey, 2020

% of Business exits		
Economy	Year	
	2019	2020
India	5	4,7
Iran	7	4,1
Russia	3,4	3,3
Brazil	6,1	11,5
Chile	8,3	8,7
Colombia	5,6	8,7
Croatia	3,6	4,5
Egypt	8,6	11,2
Guatemala	6	8
Morocco	2,8	6
Panama	6,5	12,9
Poland	3,2	3,4
Saudi Arabia	8,9	9,2
Slovakia	4	5,8
Canada	8,4	8,6
Cyprus	2,6	3,2
Germany	3,4	2
Greece	2,5	3,1
Israel	5,3	4,1
Italy	0,8	0,5
Luxembourg	4,7	2,6
Netherlands	2,6	5,1
Qatar	9,1	7,7
Slovenia	1,9	1,6
South Korea	3,1	3,7
Spain	1,6	1,3
Sweden	5	3,1
Switzerland	3	1,5
Taiwan	2,7	3
United Arab Emirates	10,6	9,6
United Kingdom	3,4	2,7
United States	5,1	6,1

Table 7 - Percentage of business exits in 2020. Source: Global Entrepreneurship Monitor Adult Population Survey, 2020

% of Business exits in 2020			
Economy	Reasons for exiting		
	Positive	Negative	COVID-19
India	0,2	1,7	2,9
Iran	0,7	3,4	0
Russia	0,7	1,7	0,9
Brazil	1	6	4,5
Chile	0,6	3,1	5
Colombia	1,5	3,1	4
Guatemala	0,5	4,7	2,8
Morocco	0,3	4,4	1,2
Panama	0,6	4,1	8,2
Poland	0,6	1	1,7
Saudi Arabia	1,3	2,3	5,6
Slovakia	0,7	3,2	1,9
Canada	2,3	4,5	1,7
Cyprus	0,5	1,3	1,4
Germany	0,5	1,3	0,2
Greece	0,5	1,9	0,7
Israel	0,6	3,4	0,2
Italy	0,1	0,4	0,1
Luxembourg	1,4	0,9	0,3
Netherlands	1,6	2,7	0,8
Qatar	0,7	4,6	2,4
Slovenia	0,6	0,8	0,2
South Korea	0,3	3,2	0,3
Spain	0,2	0,8	0,2
Sweden	1,1	1,7	0,3
Switzerland	0,3	0,8	0,4
Taiwan	0,7	2,2	0,2
United Arab Emirates	1,2	4,8	3,7
United Kingdom	0,6	1,4	0,7
United States	0,8	3,2	2,1