DOES ENTREPRENEURSHIP IMPACT ECONOMIC GROWTH AND EMPLOYMENT IN GCC COUNTRIES?

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Abstract: This paper examines the effects of entrepreneurship on growth and employment in GCC countries during the period 2006–2019. The fixed and random effects suggest that the development of entrepreneurship is associated with higher economic growth. In addition, the results indicate that other variables, such as employment, trade openness, and foreign direct investment, are key factors influencing economic growth. The findings also reveal the existence of a positive relationship between entrepreneurship and employment in GCC countries. Specifically, the estimates indicate that economic growth, trade openness, and foreign direct investment are positively linked to employment. These findings have been confirmed using the Ordinary Least Squares, Feasible Generalized Least Squares, and Panel-Corrected Standard Errors techniques. The study concludes the importance for decision-makers in GCC region to implement measures that aim to promote entrepreneurship to boost growth and employment.

Keywords: Entrepreneurship, Economic growth, Employment, GCC countries.

JEL Classification: E24, L26, O41.

1 Introduction

The study of the relationship between entrepreneurship and economic growth dates back to Schumpeter (1911). Schumpeter was one of the first economists to highlight entrepreneurship as an important factor impacting economic growth. According to Schumpeter (1911), entrepreneurship, defined as the process of creating new innovative products and activities on the market, is a fundamental growth vector and therefore a contributor to wealth creation. The notion of entrepreneurship has been the subject of considerable interest among scholars since the Schumpeterian works. The definition of this term has been the focus of numerous studies. Indeed, entrepreneurship, in its most comprehensive sense, encompasses the activities that involve the identification, assessment, and utilization of opportunities, and it may ultimately manifest as the development of a new product or business. According to Kauffman (2008) and Bilic, et al. (2011), entrepreneurship should be regarded as a transformative process that involves the conversion of an innovative concept into a business with the objective of generating additional value. In addition, Rico and Cabrer-Borrás (2019) underscored that entrepreneurial activities are not limited to the creation of new businesses but also include the introduction of new products or production processes in the market. These several definitions appear to agree on entrepreneurship as any human action that attempts to create or develop economic activity; identify and use new products, processes, or markets; and create economic value.

In recent years, entrepreneurship has emerged as a priority for governments and economic development strategies. Most public authorities have centered their efforts on supporting entrepreneurial activity because of the economic and social benefits it may offer to the country, such as greater economic growth rates, additional job opportunities, and lower unemployment rates (European Commission, 2017; US Census Bureau, 2017; Hamdan, 2020). Giving the role of entrepreneurs in enhancing economic growth and achieving sustainable development goals, researchers have recently focused on the contribution of entrepreneurial activities in driving sustainable growth and development. A first body of research has focused on the impact of entrepreneurial activities on economic growth and development dynamics (Carree, et al., 2007; Anokhin, et al., 2008; Naudé, 2010; Aghion, 2017). Another line of research has examined the effects of entrepreneurship on employment (Decker, et al., 2014;

Chen, 2014; Carree, et al., 2015; Doran, et al., 2016; Kumar and Raj, 2019; Amoa-Gyarteng and Dhliwayo, 2024). It is crucial to emphasize that the majority of existing research has focused on the relationship between entrepreneurship and economic performance, particularly economic growth and employment, in many countries. For instance, Pradhan, et al. (2020) examined the case of Eurozone countries, Sabra and Shreteh (2021) focused on MENA countries, while Tahir and Burki (2023) examined emerging BRIC economies. However, research on the impacts of entrepreneurship on economic growth and employment in Gulf Cooperation Council (GCC) countries is very scanty.

The objective of this study is filling this gap by examining the relationship between employment dynamics, economic growth, and entrepreneurship in GCC countries. GCC countries present an interesting case study to examine the relationship between entrepreneurship, economic growth, and employment. In recent years, the majority of GCC countries have opted to diversify their economies and reduce the influence of oil on their economic dynamics, thereby establishing entrepreneurship as one of their primary development directions (Hamdan, 2020). As a result, these countries have initiated a number of reforms designed to improve entrepreneurial culture and increase business start-up rates. Governments are actively investing in developing entrepreneurial activity by establishing significant support and assistance institutions for entrepreneurs and project managers. These include Qatar's Science and Technology Park, Saudi Arabia's Knowledge Economic City, Oman's Knowledge Oasis Muscat, and Dubai's Mohammed Bin Rashid Al Maktoum Knowledge Foundation (Baporikar, 2015). These institutions have been leaders in developing new high-tech products and services, supporting the supply of market-ready technologies and contributing to economic diversification in GCC countries. The compilation of entrepreneurial initiatives sought to establish a favorable economic environment for entrepreneurial activity and business creation. In addition, a number of measures have been put in place to reduce the cost of setting up a new business by simplifying procedures and reducing costs. Other measures have also been put in place, designed to support businesses throughout the start-up process. The above-mentioned institutional entrepreneurship and legislative measures have effectively stimulated entrepreneurial activity and the dynamics of business creation. According to data from the World Bank, there has been a noticeable rise in the number of businesses established per 1,000 inhabitants in the majority of GCC countries between 2010 and 2020. For example, the World Bank's entrepreneurship rate measured by the density of new businesses (new licenses per 1,000 people aged 15–64) rose from 1.57 to 3.11 in Bahrain, 1.45 to 1.51 in Oman, 0.20 to 0.63 in Saudi Arabia, 1.75 to 2.29 in the United Arab Emirates, 1.9 to 3.28 in Kuwait, and 4.48 to 6.06 in Qatar during the period 2006–2020. These facts require an assessment of the effects of the increasing entrepreneurial activity on GCC countries, specifically economic variables such as economic growth and employment. The present paper will address this research topic by examining the relationship between entrepreneurship, economic growth, and employment in GCC countries over the 2006–2019. To this end, several panel data techniques will be implemented.

The rest of the paper is structured as follows. Section 2 reviews the theoretical and empirical studies on the effects of entrepreneurship on economic growth and employment. The third section presents the econometric methodology and data, while the fourth section presents the empirical results. Finally, the fifth section concludes the paper.

2 Review of Theoretical and Empirical Literature

There is a growing body of research on the effects of entrepreneurship on sustainable development. Several studies have highlighted the positive impact of entrepreneurship on economic activities and its contribution to overall economic growth (Kasseeah, 2016; Rico and Cabrer-Borrás, 2019; Pradhan, et al. 2020; Hamdan, et al. 2020; Sabra and Shreteh, 2021; Adeosun and Shittu, 2022). Other studies have supported the idea that entrepreneurship can contribute to job creation and is therefore an important solution for absorbing unemployment (Failla, et al. 2017; Kumar and Raj, 2019; Amoa-Gyarteng and Dhliwayo, 2024).

2.1 The Nexus Between Entrepreneurship and Economic Growth

Recent research widely acknowledges that entrepreneurial activity plays a crucial role in driving economic development. Entrepreneurship is a crucial dimensions of a country's economic growth by creating innovation and improving competition. Some authors, like Acs (2006) and Fritsch and Changoluisa (2017), indicated that entrepreneurship contributes to the prosperity of companies, improves productivity, helps intensify competition, and has a positive impact on growth dynamics. The recent literature confirmed the link between entrepreneurship and growth dynamics (Kasseeah, 2016; Doran and O'Connor, 2018; Rico and Cabrer-Borrás, 2019; Pradhan, et al. 2020; Sabra and Shreteh, 2021; Tahir and Burki, 2023). Smith (2010) showed that entrepreneurship intensity has a significant positive effect on economic growth in a large sample of 77 countries. In addition, Chen (2014) confirmed the role of entrepreneurial activities in explaining growth rates in Taiwan. The author highlights the importance of creating a business environment conducive to stimulating entrepreneurship and consequently to boosting growth. Ben-Salha and Zmami (2019) further supported these findings by demonstrating the positive impact of a good business climate on domestic investments in the MENA region. Kasseeah (2016) used data from the World Bank Group's Entrepreneurship Survey in 125 countries. The empirical study revealed a positive relationship between productive entrepreneurship and economic development in the studied countries. Furthermore, Rico and Cabrer-Borrás (2019) studied the effects of different entrepreneurship forms on economic growth in a sample of firms operating in 17 regions in Spain. The authors concluded that entrepreneurship has a positive effect on the productive efficiency of firms and can explain regional differences in economic growth. Pradhan, et al. (2020) examined the relationship between innovation, entrepreneurship, and economic growth in a sample of Eurozone countries. The results highlight the importance for Eurozone countries to adopt growth strategies that prioritize innovation and entrepreneurship. Sabra and Shreteh (2021) assessed the relationship between entrepreneurship and economic growth in the MENA countries. The system GMM method shows a positive relationship between entrepreneurship and economic growth. Recently, Adeosun and Shittu (2022) used cointegration tests and the error correction model over the 1990–2016 period. The authors showed that entrepreneurship promotes the creation of small and medium-sized enterprises, and therefore contributes to the growth of the Nigerian economy. Tahir and Burki (2023) studied the effects of entrepreneurship on economic growth in emerging BRICS economies. The results of the panel approach revealed that entrepreneurship has a positive and significant effect on economic growth in these economies. Furthermore, causality tests revealed a one-way relationship between entrepreneurship to economic growth. Then, this study clearly concluded that entrepreneurship is a key determinant of economic growth.

To better understand the relationship between entrepreneurial activity and economic growth, a number of studies have highlighted the role of country-specific factors, such as institutional factors, in explaining the relationship between entrepreneurship and growth. Under this approach, the conditions that foster entrepreneurial dynamism are often linked to the institutional environment. Accordingly, a number of studies have shown that the regulatory environment is able to stimulate or inhibit entrepreneurial activities and the degree to which these activities affect economic growth. In this regard, Hamdan, et al. (2020) highlighted the role of public governance in explaining the relationship between entrepreneurship and growth dynamics in the UAE. The authors found that public governance reinforces the positive effect of entrepreneurship on economic growth in the UAE. This means that as the level of public governance increases, entrepreneurial activities will likely to hinder economic growth. Similarly, Khyareh (2023) highlighted the role of institutional quality in explaining the relationship between entrepreneurial activity and economic growth. Examining a sample of 54 countries over the 2008–2020 period, the author showed that governance quality reinforces the positive relationship between entrepreneurial activity and economic growth. Furthermore, Chowdhury, et al. (2024) found that entrepreneurial dynamics play an important role in boosting economic growth, based in South Asian countries during the period 2010–2022. Similarly, Munyo and Veiga (2024) found positive effects

of entrepreneurial activities on growth dynamics in South American countries.

2.2 The Nexus Between Entrepreneurship and Employment

Traditional forms of full-time, open-end salaried employment are becoming less and less important in labor markets of developing countries. Only innovative projects seem to provide employment solutions, thanks to the added value they create. Consequently, the objective of public policy in numerous emerging countries appears to have been the promotion of entrepreneurial activities, particularly innovative enterprises. Indeed, most authorities are focusing their strategies on promoting entrepreneurial activity because of the impact these strategies have on employment dynamics and subsequently on reducing unemployment rates. Indeed, it is generally accepted that entrepreneurship helps to create jobs. The idea is derived from the consensus that small and medium-sized enterprises (SMEs) constitute the majority of the economic structure in many countries. It is these SMEs that generate the majority of new employment opportunities within these economies. Indeed, the idea that start-ups and new businesses create jobs is widely accepted among policymakers (European Commission, 2017; US Census Bureau, 2017). Stel, et al. (2005) explained the relationship between entrepreneurial activity and employment dynamics by the fact that entrepreneurs are seen as drivers of innovation and increased competition in different economic sectors. This can lead to improvements in productivity, which in turn can have a positive impact on employment (Acs, 2006; Doran, et al. 2016).

The debate on the potential effects of entrepreneurial dynamics on employment is not new. Birch's (1979) seminal study of the United States concludes that small businesses are the main engines of job creation in the American economy. At the same time, many studies have been carried out to investigate the effect of entrepreneurship on job creation. Recent empirical research confirms that newly founded enterprises play a large role in the dynamics of job creation and greatly contribute to the absorption of unemployment (Haltiwanger, et al., 2016; Kumar and Raj, 2019; Amoa-Gyarteng and Dhliwayo, 2023). In this context, Baptista, et al. (2008) found, for instance, that between 1982 and 2002, entrepreneurial activity in Portugal, measured by new firm start-ups, had both direct and indirect effects on regional employment dynamics. Examining data from the United States, Henderson and Weiler (2010) showed that entrepreneurship is linked to employment growth and that this relationship intensifies over time. Moreover, Chen (2014) studied the impact of entrepreneurial dynamics on employment in Taiwan by estimating a VAR model using quarterly data from 1987 to 2012. The empirical results confirmed that an increase in new businesses can positively and significantly increase employment rates after 6 years. These results are in line with previous studies, which indicated that the positive effect of entrepreneurship on employment could manifest after a period of 6–8 years. Doran, et al. (2016) examined the impact of regional entrepreneurial activities on employment in several European regions. The empirical analysis showed that entrepreneurial activities, represented by the creation of new businesses, have a positive effect on employment growth. Moreover, Kumar and Raj (2019) concluded that entrepreneurship plays a key role in job creation, innovation, and product improvement in India. Recently, Amoa-Gyarteng and Dhliwayo (2024) empirically confirmed an inverse relationship between entrepreneurship and unemployment in South Africa. The authors stated that it is critical to implement policies that build a robust entrepreneurial environment capable of contributing to growth and unemployment absorption.

Similarly, Ghazi, et al. (2024) showed that entrepreneurial decisions serve as solutions to employment challenges. This study highlighted the importance of aligning entrepreneurial projects with local employment needs. Likewise, Komninos, et al. (2024) underlined the crucial role of entrepreneurship in generating many job opportunities in the European Union. The finding revealed that entrepreneurship plays an important role in improving the employment rate in the European Union, as new start-ups and self-employment contribute significantly to job creation, particularly in service sectors that rely on innovation and technology. The study recommended the necessity of providing sufficient resources that support entrepreneurial activities, given their vital role in festering economic growth and creating employment.

3 The Empirical Estimation

3.1 Econometric Modeling

In this section, we present the model used to estimate the effects of entrepreneurial dynamics on two important economic variables, namely economic growth and employment, in six GCC countries between 2006 and 2019. In accordance with previous studies on the effects of entrepreneurship on economic growth, we introduce a variable measuring entrepreneurship and some control variables (Li, et al., 2012; Kasseeah, 2016; Stoica, et al., 2020; Tahir and Burki, 2023). As control variables, we use employment, openness rate measured by the sum of exports and imports to GDP, foreign direct investment to GDP, public expenditure to GDP, and population. Then, the following model is written (1):

$$GW_t = \alpha_0 + \alpha_1 NBD_t + \alpha_2 EMP_t + \alpha_3 TO + \alpha_4 FDI_t + \alpha_5 GGDP_t + \alpha_6 POP_t + \mu_t \quad (1)$$

Similarly, following the literature dealing with the relationship between employment and entrepreneurship, we model employment dynamics in the GCC region as a function of entrepreneurship. We also introduce other control variables, such as GDP, trade openness to GDP, foreign direct investment to GDP, public expenditure to GDP, and population, which represent other independent variables affecting employment (Chen, 2014; Doran, et al., 2016; Ben-Salha and Zmami, 2021). As a result, the following model is estimated (2):

$$EMP_t = \beta_0 + \beta_1 NBD_t + \beta_2 GW_t + \beta_3 TO + \beta_4 FDI_t + \beta_5 GGDP_t + \beta_6 POP_t + \upsilon_t \quad (2)$$

where GW represents GDP per capita, EMP represents employment, NBD is a proxy for entrepreneurship measured by new business density (new licenses per 1000 people aged 15–64), TO represents trade openness measured by the sum of exports and imports to GDP, FDI is the foreign direct investment to GDP, GGDP represents public expenditure to GDP, and population (POP) is total population. All variables are taken in logarithmic forms.

3.2 The Sample and the Data

Our study focuses on a panel of six GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates). The study period is 2006–2019. Data on the dependent variables (growth and employment) and the independent variables (entrepreneurship, GDP, Trade openness, foreign direct investment, public expenditure, and population) come from different sources. Table 1 presents the different variables as well as their sources.

Table 1. Definitions and sources of the data
(*Source*: Authors' own research)

Variable name	Definition	Source
Economic growth	GDP per capita	Penn World Table
Entrepreneurship	New business density (new licenses per 1000 people aged 15–64)	WDI
Employment	The number of persons engaged	Penn World Table
Trade openness	The sum of exports and imports as a share of GDP	WDI
Foreign direct investment	Foreign direct investment, net inflows (%GDP)	WDI
Government consumption expenditure	Public expenditure to GDP	WDI
Population	Total population	WDI

Notes: WDI: World Development Indicators.

3.3 Estimation Procedure

The relationship between entrepreneurial activity, growth, and employment varies across countries. It is, therefore, important to correctly model the individual heterogeneity of the different countries. We, therefore, use a panel data approach. Indeed, the panel data approach is more relevant than the time series and cross-section frameworks because it allows to account for both dynamics and heterogeneity. In addition, the panel data approach allows to obtain convergent estimators due to the high number of observations. Panel data econometrics allows for the treatment of individual heterogeneity by means of the fixed-effects model and the random-effects model. To distinguish the fixed-effects model from the random-effects model, we use the Hausman test.

4 Empirical Findings and Discussion

4.1 Fixed-effects and Random-effects Estimation Results

We use the fixed-effects model and the random-effects models to quantify the effects of entrepreneurial dynamics on economic growth for the sample of Gulf countries (Saudi Arabia, United Arab Emirates, Qatar Bahrain, Kuwait, and Oman) during the period 2006–2019. The different results are summarized in Table 2.

Table 2. Estimation results of entrepreneurship on economic growth
(*Source*: Authors' own research)

Dependent variable: Economic growth	**Fixed-effects model**	**Random-effects model**
Entrepreneurship	0.032* (0.075)	0.001* (0.079)
Employment	0.843*** (0.000)	0.958*** (0.000)
Trade openness	0.194** (0.025)	0.670*** (0.000)
FDI	0.837** (0.020)	0.077** (0. 040)
Government consumption expenditure	-0.105 (0.113)	-0.576 (0.110)
Population	-0.314 (0.144)	-0.042 (0.0834)
Constant	8.16** (0.000)	2.85 (0.48)
Hausman test: CH2	70.29	
Hausman test: Prob >CH2	0.000	

Notes: ***, **, and * represent the statistical significance at 1%, 5%, and 10%, respectively.

From this table, we note that the results of the fixed-effects model and random-effects model are relatively similar. The Hausman test, which can be found at the bottom of the table, is used to compare the two models. The probability of this test is less than 1%, indicating that the fixed-effects model is recommended over the random-effects model. As a result, we just interpret the results from the fixed-effects model. Overall, we note that the empirical analysis of the growth specification in GCC countries reveals that entrepreneurial dynamics measured by the creation of new businesses has a positive effect on economic growth. This confirms the conclusions of theoretical literature according to which entrepreneurial dynamics represents an important factor in the diversification of goods and services, innovation, and consequently, growth dynamics. It is important to note that these results are also consistent with the empirical conclusions of several previous works that highlighted a positive relationship between entrepreneurship and growth.

Indeed, several authors, such as Pradhan, et al. (2020), Sabra and Shreteh (2021), and Tahir and Burki (2023), have concluded the existence of a positive effect of entrepreneurship on the dynamics of growth in the

Eurozone, MENA, and the BRICS economies, respectively. Moreover, our results are consistent with those of Moneo and Vega (2024) and Chowdhury, et al. (2024), which clearly concluded that entrepreneurship is an important factor for economic growth in Latin America and South Asian countries, respectively.

Regarding the effects of control variables on economic growth, the results show that the effects of employment are positive because employment is considered an essential production factor and therefore affects positively economic growth. Similarly, we observe that trade openness coefficients are notably positive since a high openness rate results in more exports and imports, which positively influences overall supply and demand and hence the equilibrium level of national production and its growth rate. The impact of foreign direct investments is also favorable, as they serve as an important channel for technological transfer and capital movements that are crucial for financing. Finally, the effects of public expenditure and population are not significant.

Regarding the relationship between entrepreneurship and employment dynamics, the results are provided in Table 3. The empirical analysis on the nature of the relationship between entrepreneurship and employment dynamics yields three findings. First, the results obtained under the fixed-effects model were relatively similar to the results of the random-effects model. However, the Hausman tests favor the adoption of the random-effects model. Second, the estimation results suggested that the increase in the number of firms that constitute a proxy of entrepreneurship is associated with the increase in employment in GCC countries. This is explained by the importance of jobs created directly or indirectly by new firms. These results are consistent with the conclusions of several empirical works that have highlighted the existence of a positive relationship between entrepreneurship and the creation of employment in different countries (Baptista, et al. (2008) for Portugal, Chen (2014) for Taiwan, Doran, et al. (2016) for European countries, and Amoa-Gyarteng and Dhliwayo (2024) for South Africa). It is also important to note that our results are also consistent with the findings of other recent studies. For example, Komninos, et al. (2024) found that the new business start-ups and self-employment represent one of the most important solutions to enhance employment in the European Union. Likewise, Adenutsi (2023) argues that entrepreneurship plays a crucial role in the development of job creation and poverty reduction in low-income economies.

Table 3. Estimation results of entrepreneurship on employment
(*Source*: Authors' own research)

Dependent variable: Employment	**Fixed-effects model**	**Random-effects model**
Entrepreneurship	0. 031*** (0.005)	0.110*** (0.000)
GDP per capita	0.331*** (0.000)	0.224*** (0.000)
Trade openness	0.267*** (0.000)	0.113** (0.014)
FDI	0. 036** (0.021)	1.906** (0.011)
Government consumption expenditure	0.036 (0.367)	-0.0892 (0.209)
Population	1. 008 (0.221)	0.736 (0.278)
Constant	3.926*** (0.006)	9.095*** (0.001)
Hausman test: CH2	67.09	
Hausman test: Prob >CH2	0.000	

Notes: See note in Table 2.

Third, regarding the reaction of the dynamics of employment to the other control variables, the estimations showed that coefficient associated with GDP is statistically significant and positive, given that the increase in GDP is often accompanied by the increase in the level of employment. These results are consistent with those of Ben-Salha and Zmami (2021), and Zmami and Ben-Salha (2024) showed that economic growth is a driver of employment in GCC countries. The estimation results also show that trade openness is positively related to employment. The foreign direct investment flows also have a positive effect on employment dynamics, while the public expenditure and population variables are not significant.

4.2 Robustness checks

In order to ensure the robustness of the results, we estimate in this section the rivers of economic growth and employment using alternative techniques. For this purpose, we employ the Ordinary Least Squares (OLS), Feasible Generalized Least Squares (FGLS), and Panel-Corrected Standard Errors (PCSE) techniques. The estimation results of coefficients related to the impacts of entrepreneurship on economic growth and employment are presented in Table 4. The findings show that entrepreneurship positively and significantly affects the dynamics of growth and employment in the GCC region.

Table 4. Robustness check results
(*Source*: Authors' own research)

-	**Dependent variable** ***Economic growth***	**Dependent variable** ***Employment***
Ordinary Least Squares (OLS)	0.014*** (0.000)	0.110*** (0.000)
Feasible Generalized Least Squares (FGLS)	0.056** (0.025)	0.028*** (0.000)
Panel-Corrected Standard Errors (PCSE)	0.013** (0.031)	0.039*** (0.002)

Notes: See note in Table 2.

This supports the earlier findings obtained using the fixed-effects and random-effects models. Our findings indicate that entrepreneurship can be seen as a crucial factor aiming at fostering economic growth and addressing unemployment in the GCC region. Indeed, entrepreneurship and entrepreneurs are considered important drivers of economic growth because they participate in the emergence of new innovations and the creation of new products and contribute directly and indirectly to the creation of new jobs.

5 Conclusions and policy recommendations

The relationship between entrepreneurship, economic growth, and employment has attracted the attention of many researchers and policymakers. This is because entrepreneurship contributes to job generation, reduction of unemployment rates, diversification of products and services, as well as increase in gross domestic product. The purpose of this research is to examine the impact of entrepreneurship on the dynamics of growth and employment in GCC countries. The empirical analysis is based on data covering the six countries of the GCC region between 2006 and 2019. We used a panel data approach based on the estimations of fixed-effects and random-effects models. The empirical results confirmed that entrepreneurship, as represented by the number of firms, has a positive and significant effect on economic growth. In addition, the various estimates made on the employment specification also suggest that entrepreneurship contributes to the creation of new jobs.

Given the empirical findings that have underscored the critical role of entrepreneurship in fostering economic growth and employment, it would be intriguing for decision-makers to prioritize the adoption and implementation of strategies that support entrepreneurial dynamics. Education and training programs play a crucial role in the strategy to promote entrepreneurship. University programs should include a variety of theoretical and practical courses that cover standard entrepreneurship, digital entrepreneurship, and project management. In addition, policymakers should facilitate administrative procedures for starting new

businesses. The development of the pillars of the digital economy is crucial for stimulating entrepreneurial dynamics. The GCC countries should prioritize ongoing reforms that focus on enhancing e-government services. These reforms are crucial for improving service delivery, reducing costs, and fostering the growth of start-ups. Improving the business climate is also becoming a determining factor in promoting entrepreneurship and innovation. GCC countries must implement programs to encourage innovation and entrepreneurship in critical sectors. These initiatives include financial aid, training, and mentoring for start-ups seeking to innovate. The access to microcredit and financing for young business creators must be encouraged and generalized for all start-ups.

Finally, it is important to note that this study examines a key topic for GCC countries, that is, the effects of entrepreneurship on economic growth and employment. It may be important to expand the scope of research and estimate the effects of different types of entrepreneurships, particularly digital entrepreneurship, on economic and social factors in GCC countries. Indeed, digital entrepreneurship has experienced significant growth within the GCC region, driven by governmental strategies that prioritize the development of the digital economy as one of the most important goals of the strategic visions of GCC countries.

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