International Entrepreneurship Review

2022, Vol. 8, No. 1

10.15678/IER.2022.0801.02

Entrepreneurial ecosystem and start-ups in Sub-Saharan Africa: Empirical evidence based on Global Entrepreneurship Monitor database

Timinepere Ogele Court, Obaima Ateibueri Arikekpar

ABSTRACT

Objective: The aim of the study is to examine the nexus between entrepreneurial ecosystem and nascent entrepreneurship in sub-Saharan Africa.

Research Design & Methods: The study employed a quantitative methodology and consequently, the variables and data were drawn from the Global Entrepreneurship Monitor (GEM) survey ranging from 2004-2019. The sample observations of the study were eight countries across sub-Saharan Africa. The country-level data were analyzed through the application of least square regression to determine the nexus between the financing environment, government support policy, physical and service infrastructure and entrepreneurial start-ups.

Findings: The study findings demonstrate that entrepreneurial financing had positive effect on nascent entrepreneurship; government support policy had positive effect on entrepreneurial start-ups; infrastructure had positive effect on early entrepreneurial activity.

Implications & Recommendations: The paper recommends that there should be a renewed commitment on the part of governments to support and initiate intervention programmes to build entrepreneurial ecosystem and promote entrepreneurial activity but such programme design and implementation should look into contextual specifics and consider the COVID-19 related factors.

Contribution & Value Added: In this paper, we have offered significant contribution to the existing body of scholarship in small business management and entrepreneurship from the prisms of global health emergency and that building a friendly entrepreneurial ecosystem stimulates prevalence and sustainability of nascent entrepreneurship in countries.

Article type:	research article
Keywords:	entrepreneurial ecosystem; early entrepreneurial activity; start-ups; economic recession and Africa
JEL codes:	L26, R11, G38

Received: 13 October 2021 Revised: 6 January 2022 Accepted: 20 January, 2022

Suggested citation:
Court, T.O., & Arikekpar, O.A. (2022). Entrepreneurial ecosystem and start-ups in sub-Saharan Africa: Empirical evidence based on Global Entrepreneurship Monitor database. *International Entrepreneurship Review,* 8(1), 23-33. https://doi.org/10.15678/ IER.2022.0801.02

INTRODUCTION

There is overwhelming empirical evidence that entrepreneurship is the engine of economic growth and job creation across economies of the globe (Adusei, 2016; Gittell, *et al.*, 2014; Kumar & Raj, 2019; McMullen, 2011; Peprah& Adekoya, 2020). As such, governments all over the world focus on entrepreneurial policy, institutional frameworks and activities to grow developed and developing economies (Baumol & Strom, 2007; Holcombe, 1998; Valliere & Peterson, 2009).

However, the outbreak of Coronavirus (COVID-19) and the lockdown of social and economic life resulted in a recession of primary, secondary and tertiary sectors of the world economy (Nicola *et al.*, 2020). Fernandes (2020) asserted that full-scale lockdown of sectors of economies led to a decrease in

consumption and stoppage of production, stating that the global supply chain was truncated. From the statistics of IFM and OECD, the global economy plummeted by 2.4% and economic growth slowdown at 0.1 percentage point.

Furthermore, it is documented that due to the disruption of societies, businesses and economies, about 10,0000 participants in a survey of which 50 per cent of individuals experienced colossal losses of USD5,293 and USD33,482 of income and wealth respectively while aggregate consumption expenditure nosedived by 31 log percentage point in the U.S (Coibion *et al.*, 2020).

Although the immediate health impact of COVID-19 is evolving, the African continent is not the worst hit of the pandemic as most African countries recorded fewer than 50,000 cases (Worldometer, 2020). From the economic perspective, microeconomic units and macroeconomic aggregates have been affected in connection with income loss, productivity losses, GDP, unemployment and inflation rates. In specific terms, Africa incurred a loss of US$400m from African airlines only (Ataguba, 2020; Ozili, 2020). Considering unprecedented exogenous shocks of society, economies of Africa in particular and the world arising from the COVID-19 pandemic, governments across the world need to build friendly entrepreneurial ecosystems to stimulate entrepreneurial start-ups (Kuckertz *et al.*, 2020). From the Australian and global spectrum, Maritz *et al.* (2020) also underscored entrepreneurship as the means to salvage and rebound the economy from crisis due to the COVID-19 pandemic. They asserted that the health emergency has a devastating impact on the entrepreneurial ecosystem emanating from social distancing and lockdown of sectors of the economy and that the economy is currently under recession. In their view also, there is need to build friendly entrepreneurial ecosystems for opportunity-focused and necessity-based entrepreneurs to engage in start-ups and the creation of entrepreneurial ventures. In support of the aforementioned debate, Johnson *et al.* (2006), argue that nascent entrepreneurship is consequential for economic buoyancy.

Nascent entrepreneur "is somebody who is alone or with others currently trying to start a new business, expect to be an owner or a part-owner of a new firm and have been trying a new firm for 12 months" (Johnson *et al.*, 2006, p.1). Thus, nascent entrepreneurship refers to an early entrepreneurial activity or start-up and is the propensity to start a new business or early venture creation and existence of a new venture for one year. Further, start-ups are referred to as baby and infant firms that offer novel products and services with recent cutting edge technologies in the market space (Korpysa, 2019). As recorded in past crisis events like the September 11 attack and the present COVID-19 global health crisis with attendant sudden structural change in operational activities of businesses, Ketchen and Craighead (2020) assert that young entrepreneurial firms and entrepreneurs undergo turbulent times to acquire goods, distribute supplies, render services due to preventive protocols. Accordingly, we contend that this circumstance requires adequate funding, policy directions and entrepreneur-based infrastructural support to ease burdens associated with entrepreneurial start-ups immediately after the pandemic.

Early entrepreneurial activity differs across African countries, developed economies, individual entrepreneurs and the variation is accounted for by several factors (Alon *et al.*, 2016) and one of such factors that affect entrepreneurial start-up, new venture creation is the entrepreneurial ecosystem (EE). EE is conceptualized as the interplay of entrepreneurial mechanisms that influence early entrepreneurial activity and firm creation in regions and countries. The EE consists of institutional, economic, political and cultural factors that hamper or foster nascent entrepreneurship. EE focuses on generic system-based entrepreneurial support rather than a firm-specific approach and external business environment (Mack & Mayer, 2016; Nicotra *et al.*, 2018).

The objective of the study is to explore the relationship between entrepreneurial ecosystem and start-up in sub-Sharan Africa, applying data set from GEM. The examination of predictors to entrepreneurial start-ups has been a fundamental and recurring theme in extant literature. Empirical evidence of previous studies devoted scholarly attention to factors leading to venture creation (Davidsson & Honig, 2003; Stuetzer *et al.*, 2014). In addition, some scholars evaluated the unemployment of individuals (Nikiforou *et al.*, 2019) and availability of opportunities (Edelman & Yli-Renko, 2010) and psychological factors as determinants of entrepreneurial activity (Laguna, 2013).

A few studies investigate EE and early entrepreneurial activity (EEA). Sussan and Acs (2017) explored the digital ecosystem. In building a conceptual framework, attempts were made to distinguish the digital

economy from an entrepreneurial ecosystem and integrated the two constructs as a digital entrepreneurial ecosystem in their review. In applying a conceptual model, Acs *et al.* (2017) examine the actors and factors that make up the environment of entrepreneurs and entrepreneurship, which affect the performance of entrepreneurial firms and start-ups in a particular region. In concluding, the scholars proposed frameworks for measuring and testing causal links between eco-factors and eco-outputs.

In another related study, Hechavarria and Ingram (2019) assessed entrepreneurial ecosystem conditions and gendered-entrepreneurial activity from a country-level context. The findings of the study demonstrated that the predominance of women entrepreneurship arose from the entrepreneurial ecosystem with a low level of barriers, government support policy among several factors. The empirical evidence from prior studies in entrepreneurship scholarship germane to start-ups and the entrepreneurial ecosystem remain underexplored. The aforementioned studies reviewed only possible measures without empirical examination for EE except for the study of Hechavarria and others. Accordingly, we attempt to fill the knowledge vacuum.

The remainder of this paper is structured as follows. The first section focuses on conceptual clarification of entrepreneurial ecosystem and start-up. Secondly, we review literature for theory and hypothesis development. The third section is to explain the methodology employed. The fourth section centres on data analysis. The fifth part is to discuss the results and the final section presented limitations and directions for further studies.

LITERATURE REVIEW (AND HYPOTHESES DEVELOPMENT)

With the lockdown measures to contain the spread of COVID-19, business start-ups have been adversely affected by the stoppage of cash inflows (Kuckertz, *et al.*, 2020). Consequently, governments and nations need to ease the burden on entrepreneurial start-ups by building the ecosystem to alleviate the pressure and stimulate early entrepreneurial activity. The entrepreneurial ecosystem refers to communities of actors and factors that influence the friendly external environment of business for the survival and growth of entrepreneurial start-ups (Hechavarría & Ingram 2019; Kuckertz, *et al.*, 2020).

The concept of ecosystem originated from biology which means elements and their natural environment. An ecosystem consists of all living organisms and the physical environment which function interdependently. From the management and business dimension, Moore (1993), Iansiti and Levien (2004) state that business ecosystem refers to the role of actions and interactions of their collective properties. From this definition, OECD conceptualizes entrepreneurial ecosystem as consisting of regulatory frameworks, market condition, and access to finance among other factors. In the view of Hechavarría and Ingram (2019), an entrepreneurial ecosystem is made up of factors such as entrepreneurial finance, government support policies, legal and commercial infrastructure and others. Early entrepreneurial activity of countries is a function of an entrepreneurial ecosystem. As supported by World Bank (2017), ecosystem means environment and by extension, an entrepreneurial ecosystem consists of environmental factors of government policy, access to finance, culture, human capital and infrastructural support and these variables are presented in our framework for the review of the literature. In consideration of entrepreneurial ecosystem factors and the start-ups, relevant literature is reviewed for the development of hypotheses.

Access to finance and entrepreneurial start-ups

Access to entrepreneurial finance is a key to business startups (Brown *et al.*, 2020). A good number of entrepreneurs are encumbered with the challenge of accessibility to finance leading to the inability to succeed and survive (Block *et al.*, 2018). Following the COVID-19 pandemic, many start-ups are struggling due to the associated costs of the lockdown and preventive measures (Kuckertz *et al.*, 2020). In addition, Brown *et al.* (2020) from their research evidence asserted that the market for entrepreneurial finance, activity and nascent entrepreneurial start-ups have been disrupted following the lockdown as a consequence of the COVID-19 health crisis around the world. Therefore, governments in the different nations across Africa need to re-engineer their financial architecture

to promote accessibility to finance for a resurgence of entrepreneurial start-ups and activity to compensate for the short-run and long-run shocks of the pandemic.

Research has shown that:

> policymaker attention has inevitably, and quite understandably, centred on the immediate effects the COVID-19 crisis has for existing small and medium-sized enterprises (SMEs) in terms of their ability to maintain staffing levels, avoid cash-flow problems and prevent widespread bankruptcies in the wake of the lockdown (Organization for Economic Co-operation and Development (OECD), 2020). Empirical work from around the world shows that as many as half of all small firms have temporarily ceased trading since the lockdown and as many as 60% of SMEs are at risk of running out of their cash reserves. (Brown *et al.*, 2020, p.1)

Naude *et al.* (2008) explained regional determinants of entrepreneurial start-ups in developing countries. The report from their study indicates that access to formal bank finance among others as a key determinant of the rate of regional start-ups. In a related study, Paulson and Townsand (2004) investigated constraints associated with entrepreneurial activity in Thailand. Their investigation shows that financial constraints play an important role in shaping the pattern of nascent entrepreneurship and the likelihood of households to start business and become confronted with a few economic hardships. This accounts for creating an enabling financial environment to stimulate nascent entrepreneurial start-ups to face the challenges of the COVID-19 pandemic.

In assessing government policy towards entrepreneurial finance, cumming (2007) stated that the innovation investment fund programme of the Australian government facilitated investments in start-ups, early-stage air high tech firms. By extension, the research evidence underscores the need for governments in Africa to fashion out unique financial policy frameworks to stimulate entrepreneurial start-ups and promote economic growth. The issue of obstacles to accessing finance and start-up decision making among women was investigated by Roper and Scott (2009) and their findings indicated that a stronger perception of financial barriers affected the start-up decision of women in the UK to establish businesses. Given the argumentations arising from the literature review, we hypothesize that

H1: Financial environment positively affects early entrepreneurial activity.

Government policy support and entrepreneurial startups

Cumming (2007) explains that governments at all levels come up with entrepreneurial support programmes to promote entrepreneurial activity. The current COVID-19 crisis requires programmes in the Sub-Saharan region to resuscitate early-stage entrepreneurial firms and foster the formation of new ventures. Sternberg (2014) examined the ecosystem in a regional context and regional government support programmes. From the study, regional characteristics had more impact on start-ups than government support programmes for early entrepreneurial activity. This calls to question of providing government support programmes in line with unique regional characteristics and factors to influence start-ups. In assessing the effectiveness of government entrepreneurial support programmes towards start-ups, Yusuf (2010) in his study demonstrated that entrepreneurs' assistance programmes of governments were effective using data from the U.S. panel study of entrepreneurial dynamics. The study demonstrated the features of nascent entrepreneurs' support needs and the value attached to such programmes. Innovation is a key to entrepreneurial success, Buffart *et al.* (2020) wrote on how government entrepreneurial programmes support innovation ventures. The study evaluated the benefits of such government programmes to innovative entrepreneurial ventures. From the results, the scholars demonstrated that government-sponsored programmes in the US become beneficial depending on the challenge of participants to learn in collaboration and socialization of the entrepreneurs' growth objectives with business advisors. Following the literature development, we hypothesize that

H2: Government support programmes are positively associated with entrepreneurial start-ups.

Physical and service infrastructure and entrepreneurial start-ups

Early entrepreneurial activity and start-up formation to a large extent depend on the availability of infrastructural facilities of regions and countries. Most nascent entrepreneurs with new ventures face a huge challenge of utility cost due to a lack of adequate infrastructure to support their business (Tan *et al.*, 2000). Infrastructure refers to a set of facilities that are critical in helping individuals and organizations and such facilities are universities, research institutes, telecommunication technologies that stimulate entrepreneurial activity (Bliemel *et al.*, 2019). Bliemel *et al.* (2019) in their argument, stated that the start-ups' infrastructural development process is endogenous or a scenario consisting of several actors in entrepreneurial clusters.

In addition, Agboli and Ukaegbu (2006) in their study of the business environment and entrepreneurial activity, argue that physical infrastructure of roads, electricity supply, telecommunications, cost of security and transport services can inhibit or facilitate the entrepreneurial activity of a nation depending on the state of infrastructure at a given period. The research evidence from the Southeast of Nigeria by the report of the authors provided that small business owners and managers included inadequate infrastructural facilities as one major obstacle to successful entrepreneurial activity. In line with the literature review, we hypothesize that

H3: Physical and service infrastructure is positively associated with entrepreneurial start-ups.

RESEARCH METHODOLOGY

This research adopts a survey design in line with a sample and data of eight African countries drawn from the Global Entrepreneurship Monitor (GEM) survey of the National Expert Survey (NES) and Adult Population.

Based on earlier works done on the subject, a model was drawn up for this study. The model helps to verify the relationship between entrepreneurial ecosystem and entrepreneurial start-up in eight (8) Sub Sahara African countries. Limitations in data collection, as well as missing data, restricted our sample from all the sub-Sahara African countries to eight countries which include: Egypt, Morocco, Sudan, Senegal, Uganda, Ghana, Nigeria and Ethiopia. We compile these eight countries level data from the GEM database, which comprises 48 observations over the years 2004-2019 (see Table 1).

Table 1. Summarized Data Set for 2004-2019

s/n	Countries	Years	Entrepreneurial finance	Governmental support and policies	Physical and services infrastructure	Total early-stage Entrepreneurial Activity (TEA)	The Population of the Labour Force	GDP in US dollar
1	**Egypt**	**8**	2.43	2.43	3.77	13.79	30828413	3.03E+11
2	**Morocco**	**5**	2.26	2.3	3.93	14.18	12067484	1.19E+11
3	**Senegal**	**2**	2.1	2.65	4.2	14.18	4255475	23578084052
4	**Ghana**	**3**	2.34	2.55	3.01	35.39	12917053	66983634224
5	**Nigeria**	**3**	2.07	1.93	2.91	22.66	59873566	4.48E+11
6	**Sudan**	**1**	2.33	1.66	2.99	22.17	12410692	1.89E+10
7	**Ethiopia**	**1**	24	3.54	3.33	36.52	53195214	9.61E+10
8	**Uganda**	**6**	2.31	2.44	3.31	24.94	16658774	3.44E+10

Source: Global Entrepreneurship Monitor 2019 (Averaged Scores) and World Bank.

Dependent variable

Entrepreneurial start-up (Total early entrepreneurial activity). The measure is a percentage of the adult working-age of 18-64 and to identify individuals who were about to start a business. The respondents were asked whether they are alone or with others or currently trying to start a business or have started a business for the past 24 months. This includes self-employment.

Independent variables

We captured the entrepreneurial ecosystem using some variables: (1) financial environment (access to entrepreneurial finance); (2) government policy and support (government support and policies for entrepreneurship); (3) physical and services infrastructure.

Control Variables

(1) Population of the labour force and (2) Gross domestic product (GDP) are our control variables which we capture from World Bank. The percentage of the labour force is within the age bracket of 18-64 years while GDP is measured in current US dollar per capita. These variables are standardized scales based on responses to multiple items in the NES as listed in the Appendix.

Data Analysis

In the method of data analysis, descriptive and inferential test statistics were used for the analysis of the data gathered. For the descriptive analysis, we use mean and standard deviation while multiple linear regressions of ordinary least squares (OLS) were used for the inferential statistics. The hypotheses formulated were tested. The data analysis was aided with STATA software version 13.

Model Specification

The objective of this section is to formulate models that assist in achieving our stated hypotheses. The econometric technique is used to establish a model of the entrepreneurial ecosystem and entrepreneurial start-up in eight (8) Sub Sahara African countries.

The Gross Domestic Product (GDP) which captures the outputs level of these selected countries in the stated period and the variables which represents the entrepreneurial ecosystem could be represented as follows:

$$SU = f(ENF, GSP, PSI, PLF, GDP) \quad (1)$$

The OLS linear regression equation based on the above functional relation is:

$$SU = \beta_1 ENF_t + \beta_2 GSP_t + \beta_3 PSI_t + \beta_4 GDP_t + \beta_5 PLF_t + \mu_i \quad (2)$$

where:

Dependent Variable

SU - Entrepreneurial start-up (Total Early Entrepreneurial Activity);
ENF - financial environment (access to entrepreneurial finance);
GSP - government policy and support (government support and policies for entrepreneurship);
PSI - physical and services infrastructure;
GDP - Gross Domestic Product measured in terms of economic growth in USD;
PLF - Population of the labour force;
$\beta_1 - \beta_5$ - Parameters
μ - Error term.

RESULTS AND DISCUSSION

The data analysis begins with a preliminary presentation of descriptive statistics of means, standard deviations and intercorrelation of the variables of the study. The second part is regression analysis to determine the effect of explanatory variables on the dependent variable.

Table 2 presented the descriptive statistics of means, standard deviations and intercorrelations. The results show that business start-ups positively related to entrepreneurial finance, government support policy, infrastructure, labour force and gross domestic product with the corresponding mean and standard deviations.

Table 2. Means, Standard Deviations and intercorrelation Matrix of the variablesstudied

s/n	*Variables*	*1*	*2*	*3*	*4*	*5*	*6*
1	*Start-ups (SU)*	*1.00*					
2	*Finance(ENF)*	*0.61*	*1.00*				
3	*Policy(GSP)*	*0.46*	*0.80*	*1.00*			
4	*Infrastructure(PSI)*	*0.66*	*-0.09*	*0.29*	*1.00*		
5	*Labour (PLF)*	*0.35*	*0.53*	*0.24*	*0.43*	*1.00*	
6	*Gross Domestic Product(GDP)*	*0.20*	*0.12*	*0.24*	*0.19*	*0.23*	*1.00*
	Mean	***22.97***	***4.93***	***2.44***	***3.43***	***2.53***	***1.39***
	Standard deviations	***9.11***	***7.71***	***0.56***	***0.48***	***2.08***	***1.55***

Source: Stata computed output presented by the authors, 2020.

Table 3 above presents the results of the regression analysis. Results indicated that the R square of 0.94 suggests that 94% variation in entrepreneurial activity is accounted for by a friendly entrepreneurial ecosystem and the model is a good predictor (F 25.89, $p < 0.03$). Further, the predictors indicated that (1) access to entrepreneurial finance had positive but no significant relationship with entrepreneurial start-up ($\beta = 0.10$, $p > 0.819$) (2) government support policy had significant positive relationship with early-stage entrepreneurial activity ($\beta = 0.83$, $p < 0.047$) (3) physical and service infrastructure had significant positive relationship with entrepreneurial start-up ($\beta = 1.07$, $p < 0.021$).

Table 3. Regression output for an entrepreneurial start-up with other predictor variables

Model 1: Dependent Variable is Entrepreneurial Start-up(SU) R2 = 0.98, Ra2 = 0.94, F = 25.89, P>F 0.037					
Variables	**Coefficients**				
	Unstandardized (B)	**Standardized (β)**	**S. E**	**T**	**P>/t/**
Constant	62.48	–	10.91	5.72	0.029
Finance(ENF)	0.12	0.10	0.46	0.26	0.819
Policy(GSP)	13.63	0.83	3.06	4.45	0.047
Infrastructure(PSI)	20.20	1.07	2.97	6.80	0.021
Labour force(PLF)	-0.00	-0.45	0.00	-0.83	0.494
Gross Domestic Product(GDP)	0.00	0.12	0.00	0.29	0.799

Source: Stata computed Output presented by authors, 2020; Reject H0: if p value < 0.05, Accept H0: if p value ≥ 0.05.

The main aim of the study was to examine the nexus between an entrepreneurial ecosystem and start-ups in Sub-Saharan Africa with particular emphasis from the lens of the COVID-19 health emergency. We have offered important contributions to small business and entrepreneurship literature from our study. We asserted that several factors account for entrepreneurial start-ups and new venture creation such as psychological factors, human capital and availability of opportunities (Davidsson & Honig, 2003; Edelman & Yli-Renko, 2010, Lagunna, 2013) but in the light of our findings, building friendly entrepreneurial ecosystem stimulates prevalence and sustainability of nascent entrepreneurship in countries. Given the economic conditions across African countries due to the COVID-19 pandemic, many Africans are thrown out of jobs and will become necessity-based nascent entrepreneurs and engage in new entrepreneurial activity for survival. This is why building friendly entrepreneurial ecosystem factors of government support policies, access to finance and infrastructure is crucial for promoting early-stage entrepreneurial activity and new venture creation for self-employment and employment generation for others in Africa.

The result from hypothesis one (H1) indicated that financial environment had positive but no significant effect on entrepreneurial start-up. Thus, hypothesis was rejected. Financial inaccessibility has been the bane of entrepreneurial start-ups and new venture creation. The finding was not in agreement with the prior study of Hechavarría & Ingram (2019) who demonstrated that financial environment had negative effect on total early entrepreneurial activity. The reason for the variance of the findings could be accounted for the passage of time, coverage and gendered focus as against start-up activities of both male and female entrepreneurs. Our finding suggests that the financial environment needs to be overhauled as finance was not a significant predictor of new venture creation and this has the implication that most start-ups in Sub Saharan Africa still struggle with the challenge of inaccessibility to sufficient funds (Denis, 2004). In view of losses suffered by microeconomic units and start-ups from the pandemic, there is an absolute need for a policy framework to retooling the financial environment and come up with programmes at country and regional levels by financial stakeholders, intermediaries and institutions to cushion the effects of loss and promote new venture creation to boost the economy.

The result from hypothesis two (H2) demonstrated that government support programmes were positively associated with entrepreneurial start-up. Accordingly, the hypothesis was supported. In other words, our empirical evidence supported the postulation that government support policy programmes impacted positively on new venture creation. The finding is consistent with the work of Hechavarría & Ingram (2019) which indicated that government policy and programmes had positive effect on total early entrepreneurial activity. This means that there should be a renewed commitment on the part of governments. More of such support and intervention programmes should be initiated and executed to promote entrepreneurial activity and economic development but such programme design and implementation should look into contextual specifics and consider the COVID-19 related factors (Hechavarria & Ingram, 2019).

The result from hypothesis three (H3) was supported that physical and service infrastructure was positively associated with entrepreneurial start-ups. From the empirical evidence, physical and service infrastructural facilities had a significant effect on early-stage entrepreneurial activity in Africa. On account of the findings of the study, we thus recommend that various stakeholders in the public and the business policy sectors should provide entrepreneurial service infrastructure to promote entrepreneurial activities among nascent entrepreneurs in the African economy.

CONCLUSIONS

From the findings of the study, we conclude that building a friendly ecosystem is consequential to stimulating nascent entrepreneurship in the economies of sub-Saharan Africa. In specific terms, financial access, government support policy and physical and the provision of entrepreneurship-centric infrastructure serve as a catalyst to early entrepreneurial activity in emerging economies. We recommend that there should be policy and institutional frameworks for the financial environment, government support programmes and physical facilities at country and regional levels to foster and promote new venture creation to boost the economy. Although the study made significant contributions to the entrepreneurship literature and ecosystem studies, there are shortcomings. The entrepreneurial ecosystem is made up of a large number of actors and factors which could not be captured in a single study. Furthermore, the study was confined to Africa as an emerging economy. Accordingly, caution is required in making generalisations to advanced economies in the world. In line with the limitations of the study, future studies should focus on other variables left out in this paper.

REFERENCES

Acs, Z. J., Stam, E., Audretsch, D. B., & O'Connor, A. (2017). The linkages of the entrepreneurial ecosystem approach. *Small Business Economics*, *49*(1), 1-10 https://doi.org/10.1007/s11187-017-9864-8

Adusei, M. (2016). Does entrepreneurship promote economic growth in Africa? *African Development Review*, *28*(2), 201-214. https://doi.org/10.1111/1467-8268.12190

Agboli, M., &Ukaegbu, C. C. (2006). Business environment and entrepreneurial activity in Nigeria: implications for industrial development. *Journal of Modern African Studies*, *44*(1), 1-30. https://doi.org/10.1017/S0022278X05001394

Alon, I., Lerner, M., &Shoham, A. (2016). Cross-national cultural values and nascent entrepreneurship: Factual versus normative values. *International Journal of Cross Cultural Management*, *16*(3), 321-340. https://doi.org/10.1177/1470595816674744

Ataguba, J. E. (2020). COVID-19 pandemic, a war to be won: understanding its economic implications for Africa. *Applied Health Economics and Health Policy,* 18, 325-328 https://doi.org/10.1007/s40258-020-00580-x

Baumol, W. J., & Strom, R. J. (2007). Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal*, *1*(3-4), 233-237. https://doi.org/10.1002/sej.26

Bliemel, M., Flores, R., De Klerk, S., & Miles, M. P. (2019). Accelerators as start-up infrastructure for entrepreneurial clusters. *Entrepreneurship & Regional Development*, *31*(1-2), 133-149. https://doi.org/10.1080/08985626.2018.1537152

Block, J. H., Colombo, M. G., Cumming, D. J., & Vismara, S. (2018). New players in entrepreneurial finance and why they are there. *Small Business Economics*, *50*(2), 239-250. https://doi.org/10.1007/s11187-016-9826-6

Brown, R., Rocha, A., & Cowling, M. (2020). Financing entrepreneurship in times of crisis: Exploring the impact of COVID-19 on the market for entrepreneurial finance in the United Kingdom. *International Small Business Journal*, *38*(5), 380-390. https://doi.org/10.1177/0266242620937464

Buffart, M., Croidieu, G., Kim, P. H., & Bowman, R. (2020). Even winners need to learn: How government entrepreneurship programs can support innovative ventures. *Research Policy*, *49*(10), 1-19 https://doi.org/10.1016/j.respol.2020.104052

World Bank (2017). *Innovation and entrepreneurship ecosystem diagnostic,* The World Bank Working Paper Series No. 120865, pp. 1-60.

Coibion, O., Gorodnichenko, Y., & Weber, M. (2020). *The cost of the covid-19 crisis: Lockdowns, macroeconomic expectations, and consumer spending*, National Bureau of Economic Research (NBER) Working Paper Series w27141 https://www.nber.org/papers/w27141

Cumming, D. (2007). Government policy towards entrepreneurial finance: Innovation investment funds. *Journal of Business Venturing*, *22*(2), 193-235. https://doi.org/10.1016/j.jbusvent.2005.12.002

Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of business venturing*, *18*(3), 301-331.https://doi.org/10.1016/S0883-9026(02)00097-6

Denis, D. J. (2004). Entrepreneurial finance: an overview of the issues and evidence. *Journal of corporate finance*, *10*(2), 301-326.https://doi.org/10.1016/S0929-1199(03)00059-2

Edelman, L., & Yli-Renko, H. (2010). The impact of environment and entrepreneurial perceptions on venture-creation efforts: Bridging the discovery and creation views of entrepreneurship. *Entrepreneurship Theory and Practice*, *34*(5), 833-856. https://doi.org/10.1111/j.1540-6520.2010.00395.x

Fernandes, N. (2020). Economic effects of coronavirus outbreak (COVID-19) on the world economy. 1,1-26 IESE Business School Working Paper No. WP-1240-E, http://dx.doi.org/10.2139/ssrn.3557504

Hechavarría, D. M., & Ingram, A. E. (2019). Entrepreneurial ecosystem conditions and gendered national-level entrepreneurial activity: a 14-year panel study of GEM. *Small Business Economics*, *53*(2), 431-458. https://doi.org/10.1007/s11187-018-9994-7

Holcombe, R. G. (1998). Entrepreneurship and economic growth. *The Quarterly Journal of Austrian Economics*, *1*(2), 45-62.

Gittell, R., Sohl, J., & Tebaldi, E. (2014). Do Entrepreneurship and High-Tech Concentration Create Jobs? Exploring the Growth in Employment in U.S. Metropolitan Areas From 1991 to 2007.*EconomicDevelopmentQuarterly*,*28*(3),244-253. https://doi.org/10.1177/0891242414530467

Iansiti, M., &Levien, R. (2004). Keystones and dominators: Framing operating and technology strategy in a business ecosystem. *Harvard Business School, Boston*, (03-061), 1-82.

Johnson, P. S., Parker, S. C., &Wijbenga, F. (2006). Nascent entrepreneurship research: achievements and opportunities. *Small Business Economics*, *27*(1), 1-4. https://doi.org/10.1007/s11187-006-9004-3

Ketchen Jr, D. J., & Craighead, C. W. (2020). Research at the intersection of entrepreneurship, supply chain management, and strategic management: opportunities highlighted by COVID-19. *Journal of Management*, *46*(8), 1330-1341. https://doi.org/10.1177%2F0149206320945028

Korpysa, J. (2019). Enterpreneurial orientation of startups: Research results. *International Entrepreneurship Review* (previously published as *International Entrepreneurship | Przedsiębiorczość Międzynarodowa*), 5(2), 37-51. https://doi.org/10.15678/IER.2019.0502.03

Kuckertz, A., Brändle, L., Gaudig, A., Hinderer, S., Reyes, C. A. M., Prochotta, A., ... & Berger, E. S. (2020). Startups in times of crisis-A rapid response to the COVID-19 pandemic. *Journal of Business Venturing Insights*, 13, 1-13 https://doi.org/10.1016/j.jbvi.2020.e00169Ge

Kumar, R., & Raj, T. (2019). Role of Entrepreneurship in Boosting Economic Growth and Employment in India. *SEDME (Small Enterprises Development, Management & Extension Journal)*, *46*(4), 273-281. https://doi.org/10.1177/0970846419894750

Laguna, M. (2013). Self-efficacy, self-esteem, and entrepreneurship among the unemployed. *Journal of Applied Social Psychology*, *43*(2), 253-262. https://doi.org/10.1111/j.1559- 1816.2012.00994.x

Mack, E., & Mayer, H. (2016). The evolutionary dynamics of entrepreneurial ecosystems. *Urban Studies*, *53*(10), 2118-2133. https://doi.org/10.1177/0042098015586547

Maritz, A., Perenyi, A., de Waal, G., & Buck, C. (2020). Entrepreneurship as the unsung hero during the Current COVID-19 economic crisis: Australian perspectives. *Sustainability*, *12*(11), 1-9 https://doi.org/10.3390/su12114612

McMullen, J. S. (2011). Delineating the Domain of Development Entrepreneurship: A Market-Based Approach to Facilitating Inclusive Economic Growth. *Entrepreneurship Theory and Practice*, *35*(1), 185-215. https://doi.org/10.1111/j.1540-6520.2010.00428.x

Moore, J.F., (1993). Predators and prey: a new ecology of competition. *Harvard Business Review, 71* (3),75-86.

Naude, W., Gries, T., Wood, E., &Meintjies, A. (2008). Regional determinants of entrepreneurial start-ups in a developing country. *Entrepreneurship and regional development*, *20*(2), 111-124. https://doi.org/10.1080/08985620701631498

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., & Agha, R. (2020). The socio-economic implications of the coronavirus and COVID-19 pandemic: A review. *International Journal of Surgery*. 78. 185-193 https://doi.org/10.1016/j.ijsu.2020.04.018

Nicotra, M., Romano, M., Del Giudice, M., & Schillaci, C. E. (2018). The causal relation between entrepreneurial ecosystem and productive entrepreneurship: A measurement framework. *The Journal of Technology Transfer*, *43*(3), 640-673.

Nikiforou, A., Dencker, J. C., & Gruber, M. (2019). Necessity entrepreneurship and industry choice in new firm creation. *Strategic Management Journal*, *40*(13), 2165-2190. https://doi.org/10.1002/smj.3075

Ozili, P. K. (2020). COVID-19 in Africa: socioeconomic impact, policy response and opportunities. *Policy Response and Opportunities (April 13, 2020)* https://doi.org/10.1108/IJSSP-05-2020-0171

Paulson, A. L., & Townsend, R. (2004). Entrepreneurship and financial constraints in Thailand. *Journal of Corporate Finance*, *10*(2), 229-262. https://doi.org/10.1016/S0929-1199(03)00056-7

Peprah, A. A., & Adekoya, A. F. (2020). Entrepreneurship and economic growth in developing countries: Evidence from Africa. *Business Strategy & Development*, *3*(3), 388-394. https://doi.org/10.1002/bsd2.104

Roper, S., & Scott, J. M. (2009). Perceived financial barriers and the start-up decision: An econometric analysis of gender differences using GEM data. *International Small Business Journal*, *27*(2), 149-171. https://doi.org/10.1177%2F0266242608100488

Sternberg, R. (2014). Success factors of university spin-offs: Regional government support programs versus regional environment. *Technovation*, *34*(3), 137-148.https://doi.org/10.1016/j.technovation.2013.11.003

Stuetzer, M., Obschonka, M., Brixy, U., Sternberg, R., & Cantner, U. (2014). Regional characteristics, opportunity perception and entrepreneurial activities. *Small Business Economics*, *42*(2), 221-244.

Sussan, F., &Acs, Z. J. (2017). The digital entrepreneurial ecosystem. *Small Business Economics*, *49*(1), 55-73 https://doi.org/10.1007/s11187-017-9867-5

Tan, T.-M., Tan, W.-L., & Young, J. E. (2000). Entrepreneurial Infrastructure in Singapore: Developing a model and mapping participation. *The Journal of Entrepreneurship*, *9*(1),1-33. https://doi.org/10.1177/097135570000900101

Valliere, D & Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emergingand developed countries, *Entrepreneurship and Regional Development, 21*(5/6), 459-480. https://doi.org/10.1080/08985620802332723

Worldometer(2020).COVID19coronaviruspandemic.Availableat:https://www.worldometers.i nfo/corona virus/.Accessed August 10 2020

Yusuf, J. E. (2010). Meeting entrepreneurs' support needs: Are assistance programs effective? *Journal of Small Business and Enterprise Development*. *17*(2),294-307. https://doi.org/10.1108/14626001011041283

Authors

The contribution share of Timinepere Ogele Courtis 60% and the contribution share of Arikekpar, Obaima Ateibueri is 40%.

Timinepere Ogele Court

PhD in Management, he is a Senior lecturer in the Department of Business Administration, University of Africa, Toru-Orua, Bayelsa State, Nigeria. He has research interest in Organisational Behaviour, Human Resource Management and Entrepreneurship.

Correspondence to: Dr Timinepere Ogele Court, Department of Business Administration, Faculty of Social and Management Sciences, University of Africa, Toru-Orua, Bayelsa State, Nigeria, e-mail: timi2k2002@gmail.com; timinepere.court@uat.edu.ng phone +234,8066933764

ORCID http://orcid.org/0000-0001-8731-2047

Obaima Ateibueri Arikekpar

Principal lecturer in the Department of Business Education, Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria. She is a PhD student/scholar with the Niger Delta University, Wilberforce HighLand, Bayelsa State and researches in corporate finance and entrepreneurship.

Correspondence to: Ms. Obaima Ateibueri Arikekpar, Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria, e-mail: obaimaa@yahoo.com

ORCID http://orcid.org/0000-0002-4617-6840

Acknowledgements and Financial Disclosure

We sincerely appreciate the authors whose works were consulted and Global Entrepreneurship Monitor Consortium for their data for this study.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright and License

Published by Cracow University of Economics – Krakow, Poland