





Policy Brief

Should an inventor/innovator necessarily be an entrepreneur?



n a fast-changing world, innovation is a key driver of economic and social development, especially in fast-growing regions like Africa. The inventor or innovator therefore plays a leading role in this process, by creating new solutions to meet individual and collective needs and challenges. Cameroon is thus a good example of this economic model in transition with the ambitions of achieving emergence (by 2035). The country is full of inventions/innovations, and the promoters - mostly youths from schools and incubators created by the government or operating as "free-lance" - are engaged in a contest of creativity. Many prizes have been awarded on the occasion of exhibitions and trade fairs organized during special events, etc.

However, official statistics on business demographics point in the opposite direction. These innovations struggle to make their mark over time and space, outside these moments of exhibition and public events. They are hardly visible in mainstream retail outlets or in everyday use, reflecting mass consumption. One of the reasons given for this is often lack of funding. Of course not! Our post-investigation analysis raises the ontological question of two pathways: that of the inventor/innovator and that of the entrepreneur: can an inventor be-or should he necessarily be - an entrepreneur?

In other words, for an innovation to be profitable and sustainable, must the innovator necessarily become an entrepreneur? There is a clear paradox between the high number inventions and innovations declared by Cameroonian startups and the delay in economic take-off, both at the industrial and technological levels. in Cameroon, a dynamic country full of creative talents, innovators are proliferating in various areas - including technology, handicrafts, and visual arts. Although most local innovations are promising and showcased through trade fairs, forums, symposiums, and exhibitions, they are often struggling to become viable enterprises and, are barely or not involved in the economic development of the country according to official statistical indicators (NIS). This transition from invention to entrepreneurship is not obvious, as it requires skills, funding, and networks that innovators do not always possess.

This economic policy brief that derives from the recent study carried out by CAMERCAP-PARC on "the needs, capacities and constraints of the private sector in the sustainable development area with a focus on the job market in Cameroon and in the DRC" explores the problem raised by analyzing the links existing between innovation/invention and entrepreneurship in the African context, with a special emphasis on Cameroon. It is a reflection on the role that public and private decisionmakers can play in sustaining talents and creating a favourable environment in which innovation and entrepreneurship can coexist and prosper.



I. CONTEXTUALIZING INNOVATION AND ENTREPRENEURSHIP IN AFRICA.

To grasp the dynamics of innovation and entrepreneurship in Africa and Cameroon, it is worth taking into account the African region's economic, cultural, and institutional peculiarities.

Innovation is the introduction of new ideas, products, or methods/processes that create value and meet the needs of individuals or communities. It may take various forms, from creating technological solutions to artisanal and artistic innovations that enhance the local cultural heritage.

Entrepreneurship is the process by which an individual or a group develops and manages an economic activity in view of creating and capturing added value. This requires skills in management, strategy, and finance as well as risktaking to develop and market a product or a new service. Although innovators are the forerunners of new ideas, they do not necessarily have the skills and resources to transform ideas into lucrative businesses. Entrepreneurship requires management skills and access to funding, distribution, and risk-management networks. Contrary to innovators, entrepreneurs focus on the development and the economic sustainability of innovation and not the scientific or technological result that should make them proud. These are two separate objectives that must not be mistaken. The "Global innovation Index 2024", which ranks the results of innovation in 133 countries and economies across the world, shows that in 2024, Cameroon occupies the 123rd position, meanwhile, in 2023 it ranked 119th. The index shows that in the area of infrastructures (energy, logistical performance, access and use of ICT...) Cameroon occupies the 129th position and in the area of institutions (institutional environment, government performance, and operational stability of enterprises...) the country rather occupies the 98th position.





Cameroon

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C	Output rank	Input rank	Incom	e	Regio	n	Population (mn)	GDP, PPP\$ (bn)	GDP p	er capi	ta, PPP\$
	120	120	Lower mi	ddle	SSA		28.4	133.3		4,661	I
				Score/ Value	Rank					Score/ Value	Rank
m	Institutions			33.5	98	÷	Business sophistic	cation		24.6	74 •
1.1 1.1.1 1.1.2 1.2 1.2.1 1.2.2 1.3 1.3.1	Institutional en Operational stab Government effe Regulatory env Regulatory quali Rule of law* Business enviro Policy stability fo Entrepreneurshi	ility for businesses* ectiveness* ironment ty*	€	30.8 40.7 21.0 16.0 18.2 13.9 53.7 44.4	113 110 119 122	5.1 5.1.1 5.1.2 5.1.3 5.1.4 5.1.5 5.2 5.2.1 5.2.2 5.2.3 5.2.4 5.2.5	Knowledge workers Knowledge-intensive et Firms offering formal tr GERD performed by bus GERD financed by busir Females employed w/a Innovation linkages Public research-industr University-industry R& State of cluster develop Joint venture/strategic Patent families/bn PPP:	mployment, % raining, % siness, % GDP ness, % dvanced degrees, % ry co-publications, % D collaboration [†] ment [†] s alliance deals/bn PPP\$ G	⊙ ⊙	31.4 27.2 37.6 n/a n/a 2.0 19.2 0.7 47.6 39.9 0.0	[69] 53 ◆ ◆ 43 n/a n/a 112 87 104 57 ◆ 83 113 95
2.1 2.1.1 2.1.2 2.1.3 2.1.4 2.1.5	School life expec	ding/pupil, secondary, % (tancy, years ading, maths and science tio, secondary	GDP/cap ∈	2.6 n/a	[89] 110 n/a 91 n/a 89 118 ♦	5.3.2 5.3.3 5.3.4	Knowledge absorptio Intellectual property pa High-tech imports, % to ICT services imports, % FDI net inflows, % GDP Research talent, % in bu	ayments, % total trade otal trade total trade usinesses	0	23.1 0.1 5.0 2.0 1.9 n/a	77 ● 101 109 31 ●◆ 77 ● n/a
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3.1 3.1.1 3.1.2 3.1.3 3.1.4 3.2 3.2.1 3.2.2	ICT access* ICT use* Government's or E-participation* General infrast: Electricity output Logistics perforn	communication technolo nline service* ructure t, GWh/mn pop. nance*	gies (ICTs) ©	29.2 39.9 17.3 32.8 26.7 4.7 291.9 0.0	131 ○ ◇ 116 110 ○ ◇	6.2.2 6.2.3 6.2.4 6.3 6.3.1 6.3.2 6.3.3 6.3.4	Labor productivity grov Unicorn valuation, % GI Software spending, % G High-tech manufacturii Knowledge diffusion Intellectual property re Production and export High-tech exports, % to ICT services exports, % ISO 9001 quality/bn PP	DP 5DP ng, % -ceipts, % total trade complexity otal trade total trade	0	0.0 0.0 0.1 n/a 2.4 0.0 0.0 0.1 0.8 1.6	94 49 $\diamond \diamond$ 90 n/a 127 \diamond 74 120 $\diamond \diamond$ 124 91 101
3.3 3.3.1 3.3.2 3.3.3	Low-carbon ener ISO 14001 enviro	ninability gy use		18.2 21.5 9.4 36.2 0.4	62 ● 81 22 ●	7.1 7.1.1 7.1.2 7.1.3	Global brand value, top	on PPP\$ GDP 5,000, % GDP		6.7 1.6 n/a 5.2 0.0	117 123
iii	Market soph	istication		10.5	130 👓		Industrial designs by or			0.2	101 [104]
	Domestic credit t Loans from micro	ups and scaleups [†] to private sector, % GDP ofinance institutions, % GI	6 OP 6	14.7	77 • 33 123 30 •	7.2.2 7.2.3	National feature films/r	ervices exports, % total tra mn pop. 15–69 dia market/th pop. 15–69	de ⊙	0.3 n/a n/a 0.0	[104] 70 n/a n/a 126 ○
4.2.2 4.2.3 4.2.4	VC recipients, de VC received, valu	VC) investors, deals/bn PP als/bn PPP\$ GDP e, % GDP		3.1 n/a 0.0 0.0 0.0	98 n/a 83 82 82		Online creativity Top-level domains (TLD GitHub commits/mn po Mobile app creation/bn	p. 15-69	0	19.2 0.5 1.4 55.8	102 105 111 95
			€	5.6 11.6 n/a 133.3	133 ○ ♦ 128 ○ ♦ n/a 84						

NOTES:

indicates a strength;

a weakness;

an income group strength;

an income group weakness;

an index;

a survey question;

indicates that the economy's data is outdated. Square brackets [] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level;
n/a represents missing values; a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.

Source: Global innovation index 2024

Environment of the Innovation/Entrepreneurship Mix





Africa is undoubtedly experiencing strong demographic and economic growth that increases the demand for innovative solutions adapted to local needs. In many African countries, developing new products and services is often led by individual or collective initiatives to address specific needs such as access to energy, healthcare, or financial services. These initiatives have fostered the emergence of several centers for the development and technical support of technological innovations including technological centers (hub tech), coding boot camps, incubators, and accelerators. The recent publications by the «African Tech Schools (ATS)» (the catalog of higher schools and technological universities, incubators, accelerators, innovation centers, coding boot camps and co-working centers in Africa) reveals that in 2024, regarding centers for development and technological support to innovation, West Africa occupies the 1st position with 453 support structures, North Africa comes 2nd with 356 support structures. Below is the ranking by sub-region:

<u>Table 2:</u> Number of technical support structures by subregion in Africa

Number	Sub-Region	Number of structures
1	West Africa	453
2	North Afric	356
3	East Africa	331
4	Southern African Region	276
5	Central Africa	105

Source: African Tech School (ATS)

The classification of the first 10 African countries according to the number of support structures reveals that Cameroon occupies¹ the 8th position.

<u>Table 3:</u> Classification of the 10 first African countries according to the number of technological innovation support structures

Number	Country	Number of structures
1	Nigeria	184
2	South Africa	134
3	Egypt	114
4	Ghana	97
5	Kenya	93
6	Могоссо	77
7	Tunisia	64
8	Cameroon	57
9	Uganda	54
10	Tanzania	51

Source: African Tech School (ATS)

In the Central African sub-region, Cameroon occupies the 1st position with 16 technological university institutions, 17 incubators and public and private accelerators, 13 co-working centers, 8 coding boot camps, 2 tech hubs, and 1 engineering software development institute.

Although innovation may be possible without entrepreneurship, and vice versa, both concepts are mutually supportive in create a dynamic of economic and social development. In a world where competition is increasingly geared towards innovation, the capacity to transform innovative ideas into viable enterprises is a major asset.

However in Africa, the transition from innovation to entrepreneurship encounters major challenges.

Thus, like emerging economies, Cameroon has launched policies, programmes, and complete

^{1.}https://www.africatechschools.com

ecosystems of incubators to ease this transition. Despite this, the transition from innovation to entrepreneurship further relies on individual resourcefulness and the informal support of community networks.

II. OPPORTUNITIES AND CHALLENGES FOR INNOVATION AND ENTREPRENEURSHIP IN CAMEROON

To carry out a comparative assessment of opportunities and challenges for innovation and entrepreneurship, let us refer to the following two parameters: technological developments in areas such as artificial intelligence (AI), the development of mobile telecommunication and Internet in Cameroon which has created new possibilities for digital entrepreneurship amongst youths. In fact, according to the latest projections by BUCREP (2019), youths in Cameroon are estimated at over 60%. This is a reservoir of potential entrepreneurs, including in sectors such as technology, agriculture, digital services and finance. This class of the active population is an opportunity to drive innovation.

Is it worth concluding that one implies the other because these two parameters are seemingly interconnected?

Our study has revealed the fact that youths encounter a lot of challenges during the development of technological and environmental innovation, especially lack of funding.





The main challenges encountered are:

Funding needs

Equipment and infrastructures needs

Technical support needs

Human resources needs

<u>Table 4:</u> Classification of start-ups according to their judgment of the funding for the production of technological and environmental innovations

(%)	Startups	SMEs	
Very adequate	10,3	1,8	
Adequate	2,2	5,3	
Inadequate	24,3	31	
Very inadequate	46,3	46,9	
NSP	16,9	15	

Source: CAMERCAP-PARC, IFDD study 2023

Over 7 operators out of 10 believe that the funding received (from various sources) is inadequate to develop their technological and environmental innovation project. Considering the cost associated with the development of innovation, it therefore seems obvious that innovators will find it hard to migrate towards entrepreneurship.

In this regard, the cost simulation of a simple innovation (micro project) in Cameroon, such as a mobile application that enables small local enterprises (traders, artisans, etc) to better manage their accounts, stock and sales, is presented in the table below: The purpose is to create a solution that is simple, accessible and practical to meet the needs of local entrepreneurs, including those who are not trained in business management. Such a project falls under simple in²novation in the area of information and communication technologies (ICT), according to the stages of technological development:

^{2.} In the face of this glass ceiling of seeing Cameroonian innovators/inventors becoming champions of industries, we have considered proposing an alternative reflection. The segmentation strategy with each category on its own path.

<u>Table 5:</u> simulation of the cost of launching a mobile application support structures

Phase	Estimated cost (in FCFA)
Research and Development	6 000 000
Beta Version (test phase)	1 300 000
Production and online publication	1 600 000
Marketing and launching	1 300 000
Maintenance and updates	3 600 000
Total	13 800 000

Source: Our estimates after meeting innovators

This cost does not factor in the expenses for developing an enterprise (fixed costs, variable costs, furniture...) and is equally high for a young entrepreneur. Despite the wide scope of possibilities offered by the institutional environment, funding is still a dire challenge for the innovator/entrepreneur mix

The old principle of subsidiarity: each in his lane

One of the criteria used for the assessment and classification of Universities across the world is the number of research publications/articles, therefore of lecturers-researchers. The common statement therein is that he who does not research ceases to learn and, therefore, becomes obsolete. It is not said nor recommended that only researchers can develop and popularize research results. It is not their responsibility. This activity falls under the purview of industrialists, marketers, and traders/distributors. That is the connection between Knowledge and Power. The 3rd mission of higher learning in Cameroon is to support development after Research and teaching.

An issue of performance indicator...

In logical planning, the performance of a researcher/innovator/inventor is measured through his outputs (deliverables) and the outcomes (obtained from the deliverables). The performance of an industrialist is assessed through the number of solutions brought forth to solve problems or the needs of citizens of the community. Each strives to do what he does best. But for both to be performing, they must work together, in a spirit of complementarity and not of competitiveness.

In football, a striker (Samuel Eto'o) scores goals because he gets good passes from the midfielder who dispatches balls received from the defence line and the goalkeeper. Each plays proficiently to make the team succeed.

As for Cameroonian innovations, beyond words and rhetoric, the real connection between the research world and the industry world is not yet effective. The tendency of politicians to make rhetoric on youth entrepreneurship must be rectified and adjusted. The researcher is not made to become a businessman because he will cease «researching» and innovating (or lose resources) and will have less chance of succeeding (he would not have allowed others to work). We therefore advocate a secured intellectual propriety rights market.

The danger is trying to transform (forcefully and at all costs) an innovator/inventor into an entrepreneur. This may be the reason for the high failure rate, whereas one can and must make it a full-fledged profession (restricted to this segment).

Eg. The case of music...there is a musical art...and film market with various professional corps that cohabit and complete each other.

A3s conclusion, we find it very necessary and timely to create a meeting platform between innovators (holders of knowledge) and entrepreneurs (those who have a sense of business) associated with other partners who can provide support (funding, institutional, etc)

Products that will be exchanged in this market are patents and licences, prototypes and models, authors' rights, etc.)

The innovation/invention industry can be organized (in clusters) according to the level of innovation: processes, products (prototypes or samples) mass production, packaging, marketing and distribution, etc.

To do this, the patents and authors' rights system must be reinforced: The Government could ease the processes for patents and authors' right registration for innovators, by reducing the costs and administrative datelines. A better protection of the intellectual property rights will serve as incentive to innovators to share their creations without fear of being copied.

 Promoting innovative funding models such as venture capital funds, micro-credit and crowfunding which are adapted to the needs of young enterprises. The creation of publicprivate investment funds, dedicated to technological, artisanal and artistic innovation will further encourage the development of innovative projects

³ In the face of this glass ceiling of seeing Cameroonian innovators/inventors becoming champions of industries, we have considered proposing an alternative reflection. The segmentation strategy with each category on its own path.

- Encouraging the creation of business angels in Cameroon will help connect innovators with private investors ready to fund the first stage of projects. This type of funding is necessary for young enterprises because it is often accompanied by strategic mentoring, which can help innovators to structure their enterprises and better manage their growth;
- Sustaining women innovators: women face specific challenges in entrepreneurship because of cultural and socio-economic barriers. It would be profitable to create special programmes for women innovators, by offering them training, funding, and tailored-made support to enable them to overcome these challenges

CONCLUSION:

Proposing a vertical integration in the light of the success stories observed elsewhere

Almost all theories and development approaches have extolled integration and partnership. It is up to countries to train major groups (EU, AU and their Regional Economic Communities (REC), MERCOSUR, ASEAN, etc.) and enterprises to carry out economies of scale with the constitution of major national or international firms.

By assimilation effect, it is trivial that (Cameroonian) inventors/innovators have every interest to coalesce amongst themselves or with more reputable ones already in activity. The benefits are manifold and obvious, in terms of establishment, knowledge/coverage of the market, risk-sharing, etc.

The history of economy suggests that from its creation in 1975 to 2024, MICROSFT has taken over and absorbed (vertical integration) more than 230 start-ups and SMEs (2021) to be what it is today. Many of these SMEs would not have survived as of today for various reasons related to competition and management.

Microsoft also holds membership shares in hundreds of enterprises as a shareholder. Other major companies in the world have been established following the same acquisition/absorption/membership model. In plain terms, one cannot grow by working alone in the business world. Only prudent businessmen can understand it, not innovators/inventors. Each has its field.

Introducing this philosophy approach will help create an environment that is more favourable for innovation and entrepreneurship in Cameroon. By encouraging partners, improving access to funding, training innovators, and easing their access to the product and services market of intellectual property, Cameroon could become a dynamic innovation hub in Africa. These measures would not only contribute to economic development but also social inclusion and the improvement of the Cameroonian cultural heritage, by transforming innovation into a driver of growth and prosperity for future generations. This is our belief.

DARE-DREAM-INNOVATE

REPUBLIC OF CAMEROON





DEMOCRATIC REPUBLIC FROM THE CONGO



STUDIES ON THE NEEDS, CAPACITIES AND CONSTRAINTS OF THE PRIVATE SECTOR IN THE SUSTAINABLE DEVELOPMENT SECTOR WITH A FOCUS ON THE JOB MARKET:

CASE OF CAMEROON AND THE DEMOCRATIC REPUBLIC OF CONGO (DRC)

KEY MESSAGES OF THE STUDY CAMEROON COMPONENT

MESSAGE 1: From innovation to industrialization for mass consumption

In other words: from knowledge to power, what are the key capacities and skills that must be developed to structurally transform the economies (African) of Cameroon and the DRC?

Recap: how can we move from technological and environmental innovations to mass consumption products? Beside exhibitions and trade fairs, how can we enable the consumer to easily find ITE products?

MESSAGE 2: An inventor or an innovator is not necessarily an entrepreneur

((very few can become one). It is important to create a permanent market (physical and/or online) for invention and innovation products (to enable business connections between inventors/innovators and entrepreneurs). The risk is in trying to turn an innovator/inventor (by force or at all cost) into an entrepreneur, which explains the high failure rate. It can be turned into a fullfledge profession (limited to this segment)

Example in the case of music

an author (writes the text), a composer (conceives the melody with notes), an arranger harmonizes the sound, an interpr ter puts in the voice, a director, a producer, a broadcaster, a rights administrator, etc. complete the picture.

And there is, of course, a musical...and film industry market.

CONCLUSION 1

In addition to trade fairs and exhibitions, we believe that it would be useful to create a permanent meeting place for inventors (holders of knowledge) and entrepreneurs (those with sense and spirit), in association with other partners who can provide support (funding, institutional, etc.).

Products to trade on this market

- Patents and licences
- Prototypes and models
- Authors' rights, etc.

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The innovation/invention sector can beorganized (in cluster) according to the innovation level: processes, product (prototype or sample), mass production, conditioning, marketing, distribution, etc.

Requirement

A legal supervision by an institution in charge of managing author's and intellectual property rights. Such a role is played by AIPO.

MESSAGE 3: R&D-I in Cameroonian companies

It has been demonstrated for a long time that R&D-I is the driver of growth in modern economies. This explains the place of this sector in the budget of States and companies in the developed and emergent world. In this regard, what is the amount of efforts dedicated to R&D-I in Cameroon and in the DRC? How many big and medium-sized enterprises in Cameroon have a R&D-I departments? Results are not encouraging beyond words. The results, effects and impacts are still to be proven in Cameroon and in the DRC, as well as in the rest of sub-Saharan Africa (aside South Africa).

Proposal 1

We dare think and dream of creating a fund to finance the R&D-I by the private sector (employers' union) and which will be managed by the private sector or a foundation (OSC). And going back to MESSAGE.

MESSAGE 4: Intermediation seems to dominate ICT start-ups in Cameroon.

Most start-ups touted and advertised in the ICT field in Cameroon operate in applications development. Yet, an application is by definition and by design an intermediation service that links a transmitter (producer) and a receiver (client). Intermediation can only be possible if the two entry and exit links are ready to perform the transaction (existence of a real offer and a demand that is expressed and feasible).

Proposal 2

Intermediation start-ups therefore need to fit into a sector, an existing or yet to be created cluster, to develop their potential and grow.

MESSAGE 5: THINK BIG!

In principle, not all applications are destined to develop independently and sustainably over time and space. History shows that in this digital era, large firms absorb small ones that have potential (for growth and/or development). This is the case of Microsoft3 which has built its strategy on buying out and absorbing its competitors in various sectors of the computer and electronic games industry. Hewlet Packard (HP) has done the same in office equipment and supplies.

Proposal 3

Encourage the integration of start-ups belonging to a sector or industry to create a company with signif cant critical mass, rather than supporting small, isolated development efforts. One word: THINK BIG!

CONCLUSION 2.

Advantages to start-ups should therefore be time-limited.

Le secteur privé (dans une moindre mesure The private sector (to a lesser extent with the support of the state in terms of legislation and regulation) should be able to give a boost, to create a champion who can integrate the start-ups. By definition, a start-up must be limited in time. A start-up is not a life endeavour. Either it is developed into an SME/GE, or it is merged and integrated into a larger, long-term business.

MESSAGE 6: Develop the young entrepreneur's guides

In order to anticipate the constraints and difficulties identified by young SME and start-up promoters, we thought it would be a good idea to revisit (update) and design manuals, booklets and memos for young promoters by sector, activity, product or service. A collection of solutions to FAQs and other recurring challenges overcome by those who have succeeded (mentoring).

MESSAGE 7: Socio-cultural anchorage of R&D-I products

Encourage the central or local public administration and the private sector to take ownership and capitalise on the ITEs. A competition at local and/or national level on the number of innovations/inventions that have been the subject of productive capitalisation per year can be organised and awarded.

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