

ARTICLE

ENHANCING INNOVATION THROUGH VENTURE CAPITAL: LESSONS FROM ASIA FOR NIGERIA

Enwushe, Kelvin Buque

National Centre for Technology Management, PMB 012, Obafemi Awolowo University, Ile-Ife, Nigeria/ Federal University of Technology, PMB 65, Minna, Nigeria.

Email Address: b.k.enwushe@gmail.com

BIOGRAPHICAL NOTES

Enwushe, Kelvin Buque is a Business and Innovation Project Management Consultant. He holds a master's degree in Technology Management from Federal University of Technology, Minna Nigeria in conjunction with National Centre for Technology Management. He is also a researcher and has published articles on some top journals. And also contribute occasionally in top business blogs on areas of innovation management.

ABSTRACT

Innovation is viewed as the main determinant of nations' economic growth and competitiveness in the modern economy. And the important role played by venture capital in financing innovation has been widely documented. This paper attempts to discuss how Nigeria can leverage venture capital to drive innovation by building an efficient venture capital industry drawing lessons from the experience of China, Hong Kong, and South Korea respectively. Findings from our study revealed government intervention through policy initiation, support funds and programs; strong innovation and entrepreneurial ecosystem; favourable tax policies, vibrant stock markets; and active venture capital associations as key success factors. We concluded that for Nigeria to build a flourishing venture capital industry, specific focus should be placed on improving the standard of education, enhancement of the innovation ecosystem, improving the environment for venture capitalist exit, strengthening the regulatory framework through sound fiscal policy (taxation), and the intensification of government support for innovative high risk venture projects (small innovative business).

KEYWORDS: Innovation, Venture capital, Venture capital industry, venture capital firm, R & D

1. INTRODUCTION

In the new paradigm (knowledge-based economy), innovation has become a necessity. This is increasingly so because it is not only a driving force for growth, but also the basis of competition (Porter, 1990; OAS, 2005; Oyelaran-Oyeyinka and Sampath, 2007; Snieska and Venckuviene, 2009; Akinwale *et al.*, 2012). Innovation entails building new competencies, new capabilities, and new knowledge (Egbetokun *et al.*, 2010), which is a costly process that requires significant and sustained financial investment over time.

One very important finance source for funding innovation is venture capital. It is a formal, structured, and cheap external source of finance. It plays an essential role in financing innovation by supporting small innovative firms without credit history (OECD, 2007). Kenney *et al.* (2004) noted that innovation is an increasingly knowledge-intensive activity, and the link between such activity, small firms with high growth potential, and their funding through venture capital has been vividly established during the recent technological boom. Venture capital influences innovation not only through financial investment, but also through the improvement of human capital, technical competencies, as well as, the provision of infrastructure development and an enabling environment that supports innovation through knowledge diffusion. This has been reinforced by several studies (Bygrave and Timmons 1992; Puri and Hellman, 2000; Kortum and Lerner, 2000; Gomper and Lerner, 2002; Bewonder and Mani, 2002; Rodriguez, 2003; Porter *et al.*, 2004; Snieska and Venckuviene, 2009; Gonzalez-Uribe, 2012; Kelly and Hankook, 2013; Kang and Sohn, 2015; Savaneviciene *et al.*, 2015; Hua *et al.*, 2016).

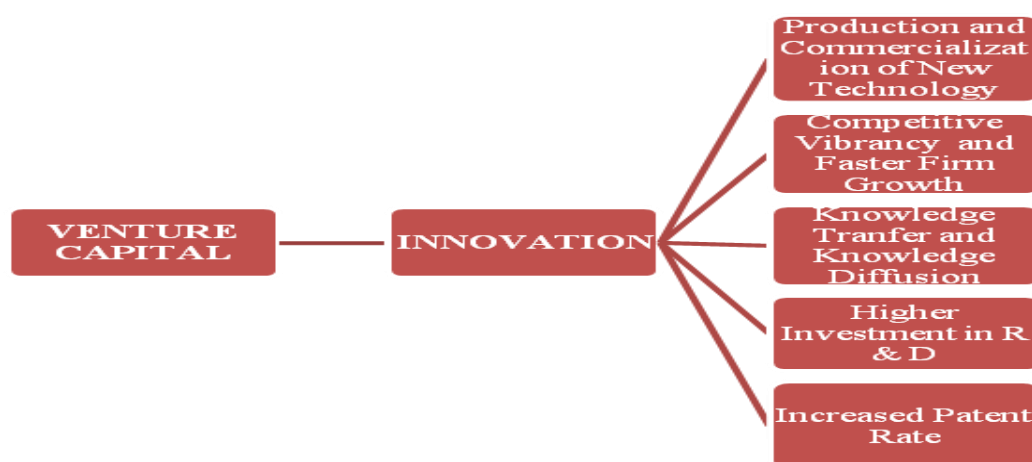


Figure 1.1: Venture Capital Impact on Innovation

Source: Author

Several nations of the world are leveraging venture capital to enhance their innovative capabilities through building an efficient venture capital industry, because the presence of a deeper and more efficient venture capital industry and more efficient venture capital markets and easier access to external finance encourages investment in innovation (OECD, 2007; UNSTT, 2015). However, building an efficient venture capital industry is not easy, and requires high rate of investment opportunities, talent pool, currency convertibility, high entrepreneur upside potential, and a predictable and favourable regulatory system (Zider, 1998; Kenney *et al.*, 2004).

Small entrepreneurial firms in Nigeria which serves as an important vehicle of innovation have not really benefited from venture capital funding compared to their counterparts in other parts of the world. This study attempts to discuss how Nigeria can leverage venture capital to drive innovation by building an efficient venture capital industry drawing lessons from China, Hong Kong, and South Korea with well-developed venture capital industries.

This paper is structured as follows: In section 2, an overview of innovation and venture capital is presented. In section 3, the challenges of innovation and the venture capital industry in Nigeria was discussed. In section 4, lessons from the studies nations for Nigeria is presented. In section 5 and 6, conclusions and recommendations are discussed respectively.

2. LITERATURE REVIEW: CONCEPTUAL FRAMEWORK

2.1. Innovation Overview

Innovation has gained increased attention in the past decade and governments across the world are using innovation as a means to boost economic growth and social development (Sida, 2015). The concept “Innovation” is no longer new, as it has been widely defined by different scholars. Schumpeter (1934) defined innovation as carrying out of new combinations which he divided in to: (i) the introduction of a new good; (ii) introduction of a new method of production; (iii) opening of a new market; (iv) opening of a new source of supply; (v) carrying out of a new organization of any industry, such as the creation or breach of a monopoly position. Fagerberg (2003) defined innovation as a combination of existing ideas, capabilities, skills and resources. Abroskin and Kotsemir (2013) view innovation as beyond the creation of “something new” but also the panacea for the solution of broad range of problems. The “Oslo Manual” which serves as the reference guide to many researchers defined innovation as the implementation of a new or significantly improved product (good/service), or process, a new marketing method, or a new organization method in business practices, workplace organizations, or external relations (OECD, 2005).

Innovation was initially understood to be linear process- knowledge and technologies are produced in the research institutions through basic, applied research and development, and ends with production and diffusion (Godin, 2006). However, studies have shown that it is a complex system that involves interactions and collaborations amongst several actors in the innovation network.

Innovation is a process that occurs in phases. Stanton *et al.* (1994) as cited by (Egbetokun *et al.*, 2010) provided seven phases of the innovation process: (i) idea generation; (ii) screening of ideas; (iii) business analysis; (iv) prototype development; (v) test marketing; (vi) commercialization

There are different classifications of innovation. On innovation object, “Oslo Manual” categorized innovation in to:

- a. **Product innovation** - the introduction of a new or significantly improved product (OECD, 2005).
- b. **Process innovation** – the introduction of a new or significantly improved method of production or operations.
- c. **Marketing innovation** - the implementation of a new or significantly improved designs or sales methods to increase the appeal of goods/services or to enter new markets (OECD, 2005).
- d. **Organisation innovation** - involves changes in firm structure and management methods that are intended to improve the firms use of knowledge, quality of goods/service, and efficiency of workflows.

On the degree of newness (novelty), Tushman and Anderson (1986) categorised innovation in to incremental (modification of the already existing product or process), and breakthrough (new innovations that serve an undiscovered market); Christensen (1997) distinguish between sustaining innovation (innovations that allow organizations to continue to approach the market the same way), and disruptive innovation (innovations that overtakes existing market or product category and create a new one).

Innovation sources include: internal sources (marketing department, top management, internal R & D, manufacturing department, co-workers); and external sources (user/customer, consultants, professional journals, competitor, suppliers, universities/research institutions).

2.2 Venture Capital Overview

Venture capital is an attractive and appropriate form of finance for the development of small entrepreneurial firms with high growth potential (OECD, 2007; Okpala, 2012; Au and Smith, 2014; Ahlstrom *et al.*, 2007). It is widely considered as having an important role in financing promising ventures (Snieska and Venckuviene, 2009). The goal of venture capital is to help more business achieve their ambition for growth by providing them with finance, strategic advice, and information at critical stages of development (ECVA, 2007). Venture capital has its origin in the United States (USA) (Hellman and Puri, 1999; Christofidis and Debande, 2001; Dossani and Kenney, 2002; Kenney *et al.*, 2004; Snieska and Venckuviene, 2009). It differs from other forms of financing in the following ways: (i) it is a risk capital that is used to finance long term risky projects; (ii) there is no interest on capital invested by investors (venture capitalist); (iii) venture capitalist are part owners of the business, and are involved in the management; (iv) investors (venture capitalist) exit the business when it becomes successful; (v) in the advent of failed business, the entrepreneur is not liable to any repayment plan.

Kumar (2005) outlined the following venture capital process: (i) deal origination; (ii) initial screening; (iii) due diligence; (iv) deal structuring/ negotiations; (v) post-investment opportunities; (vi) exit

ECVA (2007) categorized venture capital financing in to; (i) Seed stage (ii) Start-up (iii) Post-creation (iv) Expansion/development (v) Transfer/succession

3. INNOVATION AND THE VENTURE CAPITAL INDUSTRY IN NIGERIA

3.1 Innovation in Nigeria

Innovation in Nigeria is still at its 'infancy' phase. Egbetokun *et al.* (2010) noted that a significant paradigm in successful innovation is the development of competencies and capabilities for ultimate practical application of new or combined knowledge through value creation. In other words, innovation needs skilled human capital, finance (for investments in physical structures and R & D), and effective linkage among actors in the National Innovation System (NIS) amongst other things. Even with the Science, Technology, and Innovation (STI) policy in place, with the objective to "building a strong Science, Technology, and Innovation capability and capacity needed to evolve a modern economy", innovation in Nigeria has not improved significantly.

This can best be understood by taking a look at her position in the Global Innovation index (GII) and Global Competitive Index (GCI). See Appendix

Onwualu (2006) identified the following factors below as the major challenges to innovation in Nigeria.

- i. Inadequate infrastructure
- ii. Poor technological entrepreneurial culture
- iii. Inadequate patent education and ineffectual enforcement of intellectual property rights

- iv. Preference for foreign technology
- v. Absence of effective linkage between research institutions and industries
- vi. Inadequate motivation for the commercialization of inventions/research results
- vii. Non-availability of information on commercialisable inventions and R&D results to the intended user industries
- viii. Inadequate research orientation where by more than 75% of research projects executed in the educational institutions/research institutes are not demand-driven
- ix. Lack of funding and efficient funding structure for innovation

Of these factors, funding has been the most challenging because it is a key driver of innovation. According to OECD (2007), finance availability (internal and external) increases R & D intensity and innovation. Unfortunately, Nigeria's gross expenditure on R & D (GERD) is low compared to countries in the developed world as it represents only 0.02% of GDP as of 2007 (AIO, 2010). This is further weakened by shallow financial markets and limited venture capitalist. The traditional banking system dominates the private equity space, and thus, finds it difficult to finance small innovative firms without credit history.

3.2 The Venture Capital Industry in Nigeria

The Nigerian venture capital industry is one of the least developed in the world. There are no reliable official statistics on Nigeria venture capital industry; number of venture capital firms (foreign and domestic), their portfolios, investment deals, and preferable exit type for venture capitalist. According to Daramola (2012), the Nigeria venture capital industry is nascent with her association, the venture capital association of Nigeria (VCAN) moribund. Oyekanmi (2005) classified the evolution of the Nigeria venture capital industry in to three eras: (i) **Pre-1997**- this era marked the first evolution of venture capital in Nigeria, as well as the emergence of development financial institutions (DFIs). National risk fund (NRF) and Venture and Trust Company were the only two (2) venture capital companies present in Nigeria at this time; (ii) **1998-2002**- this era saw the liberalization of the telecommunication industries, privatizations of government-owned industries and the involvement of more venture capital players in the industry; (iii) **2003 till date**- noticeable features were the consolidation of banks and the integration of venture capital in the Nigerian financial sector.

The conditions to developing a flourishing venture capital industry in Nigeria are clearly lacking, and this is due to:

- (i) Government lackadaisical attitude towards small innovative business development. According to Lerner (2002), government contribution to venture capital should fill the investment gap in the venture capital market and foster entrepreneurial activity. Lin (2015) posit that government funds are advantageous and have an "add on effect" on raising capital as investors are willing to invest in such funds once government investors have taken the lead.
- (ii) A weak innovation ecosystem has also limited the successful development of the venture capital industry. According to Jones (2015), the development of venture capital industry cannot proceed more rapidly than the creation of attractive projects.
- (iii) Unfavourable tax policies. Venture capitalist wants huge upside (returns) on their investments, and tends to invest more in countries with favourable tax policies. Venture capital-

ist hardly stays beyond 10 years in a company before exiting. Shane (2015) reported an average time of 6.8 years, while Bowden (2017) reported that the median time of exit for venture capitalist in US is 8.2 years for IPOs and 5 years for acquisitions. The implication for Nigeria is that a 75% CGT on investment between 6 to 10 is high and unfavourable to venture capital investing.

(iv) Venture capital industry tends to be stronger and efficient in a stock market-centered system than in a bank centered system (Black and Gilson, 1998). Unfortunately, the Nigeria financial environment is bank-centered rather than stock-centered. The conditions to listing a company in the Nigerian stock exchange (NSE) are cumbersome and does not favour small venture project. This discourages VCs because of the difficulty in asset liquidation.

4. LESSONS FROM ASIA

4.1 The Chinese Example

(i) Government Intervention through Policies and Support Programs

Analysis of development of the Chinese venture capital industry demonstrate the importance of government in driving change through thoughtful planning, good policy formulation, and effective implementation and monitoring in the achievement of national objectives. The Chinese venture capital industry did not evolved by chance; it was deliberately and strategically planned by the government. Rieschel (2017) noted that the Chinese government dictates the technological direction through policies and programs, and all players (state-owned enterprises and private companies) are expected to align to the strategy. Some of the policies/programs initiated by Chinese government to strengthen its venture capital industry to achieve a higher level of maturity and sophistication are:

1. The introduction of QFLP (qualified foreign limited partners program)- this was geared towards retaining experience foreign general partners (GP) by relaxation of legal and infra-structural barriers;
2. FIVCIE (foreign-invested enterprise) policy-strictly focused on high-tech investment, and offers benefits such as, freedom from foreign currency, ease of repatriation of initial capital and upside conversion, tax transparency, and no government approval is required for investment.

(ii) Exit Environment

The health of the Chinese stock market influences the amount of Venture capital raised in China (Lin, 2017). With the understanding that the exit environment is key to the development of the venture capital industry, the Chinese government has made serious efforts in easing the exit process through strengthening of the stock-market. In 2009, ChiNext- a NASDAQ-style stock exchange (National Association of Security Dealers Automated Quotation) was launched to provide an easy and reliable exit environment for divestment within the country. According to Lin (2017), IPO exit is contingent upon the presence and vitality of the stock market. He also added that within the span of five years, 519 IPOs were made through ChiNEXT with a market return of 743.4Billion RMB (Renmibi).

(iii) Innovation Ecosystem

The Chinese government has shown continuous commitment in the development and integration of the Chinese innovation ecosystem. It has proved useful in the development of their venture capital industry. This is reflected in the consistent increase in investments in R & D. GERD (Gross Expenditure on Research and Development) increased significantly from 0.98% in 2000 to 1.31% in 2005 and 2.07% in 2017 (Randolph *et al.*, 2017). Other efforts

were the proliferation of government-initiated Incubators, accelerators and R & D research centers. This has resulted in the improvement of the innovative capacity of its citizenry and the development of many innovative start-ups, consequently attracting more venture capital firms and investments.

(iv) Brain Circulation

Another important factor that aided the development of the Chinese venture capital industry was the attraction of highly skilled Chinese citizens from overseas by the government through the development of over 260 start-up parks to accommodate those (Randolph *et al.*, 2017). Wang (2003) reported that 57% of the businesses started by returnees are in scientific fields with 44% holding patents.

4.2. The Hong Kongese Example

(i) Government Intervention through Investments in Indigenous Capability

Development

As observed in the People's Republic of China (PRC), the development of the Hong Kong venture capital industry was also the direct result of government's concerted efforts towards acting as an enabler through appropriate reforms and policies. Hong Kong has an educated population and this has been made possible by the government commitment in building the innovative capability (human capital) of its citizenry through sustained investments in innovation and technology.

(ii) Exit Environment

The Hong Kong economy is stock-centered rather than Bank-centered. Hong Kong has one of the most active IPOs in the world according to John Levack, the vice chairman of HKVCA (Hong Kong Venture Capital and Private Equity Association). Its stock exchange has grown to be the 6th largest industry in the world in 2006 with total market capitalization of over HK\$22 Trillion or USD\$2.84 Trillion (Au and White, 2009). Thus, providing investors an easy exit route for divestment.

(iii) Favourable Fiscal Policies

Hong Kong has no withholding tax, no capital gains tax, no foreign currency regulation control, and no investment approval directed specifically towards foreign investors (Deloitte, 2016).

4.3 The South Korean Example

(i) Government Involvement through Entrepreneurship Development

Government intervention has been a vital element that sustained venture capital ecosystem in Korea from the very beginning (Lee and Jung, 2017). Due to the government supportive policies, the Korean venture capital industry grew in size and quantity (Baygan, 2003).

The Korean government initiated policies that encouraged entrepreneurship, innovation and technological development like allowing professors and researchers to go on temporary leave to small venture firms in order to develop manpower, provision of financial support to start-ups and SMEs, as well as, encouraging public service workers who are interested in entrepreneurship to pursue their innovative idea with the protection to come back to public service within 3 years if the venture fails (Chung, 2013).

(ii) Favourable Fiscal Policies

Fiscal policies, especially taxation is one of the most important determinants to building a successful venture capital industry. Over the years, the government has tried to ensure a favourable tax environment that will attract more venture capitalist and subsequent investments. South Korea has a somewhat favourable tax policy. The tax system in Korea is progressive, which is, the higher the profits, the more the tax. However, foreign companies that have less than 25% of outstanding shares in a listed company for 5 years were exempted from capital gain tax (Deloitte, 2017). Private complexes that houses venture firms were also exempted from tax, development fees and overcrowding fees (Chung, 2013).

(iii) Exit Environment

The strength of the South Korean stock market is also a key factor to their venture capital industry development. The Korean government has consistently tried to offer investors protection for their investments. In 2013, KONEX (Korea new Stock Exchange) was launched to facilitate small innovative business listing and asset liquidation by investors. This was in addition to KOSDAQ (Korean securities dealers’ automated quotation) that was initially launched in 1996.

5. CONCLUSION

Competitiveness and economic growth of nations in the new world order is no longer based on natural resources but on innovation, and venture capital has emerged as an important source for financing innovation. It is a risk free capital that offers both financial and non-financial benefits (knowledge transfer, managerial expertise, credibility, and connections).

Nations around the world especially in Asia have significantly increased their innovation output by leveraging venture capital. Thus, if Nigeria is to become a knowledge-based economy driven by innovation, the need to build a flourishing venture capital industry is non-negotiable. This is because it essential to the development of a vibrant technology ecosystem by alleviating the capital challenges faced by small innovative firms. Experiences from China, Hong Kong, and South Korea reveal that government intervention through policy initiation and support programs for small venture projects, sustained investment in education, strong innovation ecosystem, reliable stock markets and favourable tax policies were responsible for the successful development of their respective venture capital industries.

It is therefore apparent that for Nigeria to close the funding challenge that have plagued innovation growth, specific focus should be placed on improving the standard of education, intensification of government support for high risk innovative venture projects, strengthening the regulatory framework through sound fiscal policy (taxation), improving the exit environment (strengthening the stock market), and strengthening the innovation ecosystem.

This study contribute theoretically to reinforcing several previous studies on the increasing importance of venture capital in enhancing innovation and how it can be attracted. And also have significant policy implications by providing valuable recommendations for nations such as Nigeria with low venture capital investments on how to increase flow.

This study is limited to just a specific country (Nigeria). And thus, cannot be applied to other countries or regions. However, it can be further extended. Prospective research areas is ‘Attracting Venture Capital Investments in Nigeria through Intellectual Property Assets’.

6. RECOMMENDATIONS

6.1. The Development of Innovation Ecosystem

- i. Government-initiated incubators and accelerators should be established to harness talents and help facilitate the development of technology-based enterprises.
- ii. Tax reduction/breaks should be offered to private incubators and accelerators operators to encourage more entrants.
- iii. Innovation (start-up) hubs should be created in all universities/research institutions, especially, technology-based ones with strong collaborations with industry to explore brilliant scientific and engineering ideas.
- iv. More funding should be directed towards the development of skilled manpower in the areas of science and engineering.
- v. The intellectual property laws should be strengthened as it represents an important source of value creation in technology-based enterprise.

6.2. Government should be more pro-active in driving innovation. Specific areas of innovation interest should be determined and appropriate plans drafted stating the innovation objectives, goals and timeline respectively.

6.3. The exit environment for venture capitalist divestment should be improved by creating more exit channels, and relaxation of the requirements for company listing in the Nigerian Stock Exchange (NSE) for small innovative start-ups, or alternatively creating a special stock market for small innovative start-ups as seen China, and South Korea.

6.4. Regulatory framework should be relaxed to attract more venture capitalist (both local and foreign) by offering tax exemption to venture capital venture capital firms that have significant percentage of equity in a venture business for some specified number of years.

6.5. Government support for small innovative business should be intensified by establishing government-owned venture capital fund and key partnerships be forged with experienced venture capitalist (private fund managers) to effectively and efficiently manage the allocation of budgeted funds.

ACKNOWLEDGEMENTS

The author is grateful to reviewer, Dr Abiodun Egbetokun for helpful comments and suggestions. The Author also acknowledges that this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

REFERENCES

- Abroskin, A., and Kotsemir, M. (2013). Innovation Concepts and Typology- An Evolutionary Discussion. Higher School of Economics, National Research University. Working Paper Series: Science, Technology, and Innovation, WP BRP 05/STI/2013.
<https://wp.hse.ru/data/2013/04/12/1297246623/10STI2013.pdf>
- African Innovation Outlook (2010), 'Research and Experimental Development.' Pretoria, Johannesburg, South Africa. www.nepadst.org
- Ahlstrom, D. Bruton, G.D. and Yeh, K.S. (2007) 'Venture Capital in China: Past, Present,

and Future.’ *Asia Pacific Journal of Management*, 24, 247-268 [online]
https://www.researchgate.net/profile/David_Ahlstrom2/publication/5143673_Venture_Capital_in_China_Past_Present_and_Future/links/00b7d529ee041ae65000000/Venture-Capital-in-China-Past-Present-and-Future.pdf?origin=publication_detail (Accessed 15 June 2019)

Akinwale, Y.O., Oluwadare, A., Dada, D., Jesuleye, O.A., and Siyanbola, W (2012) ‘Understanding the Nexus Between R & D, Innovation, and Economic Growth in Nigeria.’ *International Business Research*, 5(11), 187-196 [online] DOI:
<http://dx.doi.org/10.5539/ibr.v5n11p187> (accessed on 10 April, 2019)

Au, K., and White, S. (2009). Hong Kong Venture Capital System and the Commercialization of New Technology. Pp. 1-32.
<https://Entrepreneurship.bschools.cuhk.edu.hk/sites/default/files/project/informal-investment/auwhitevcinhongkongmarch2009final.pdf>

Baygan, G. (2003) Venture Capital Policies in Korea? OECD Science, Technology, and Industry Working Papers. <http://www.sourceoecd.org/10.1787/248000716362>

Bewonder, B., and Mani, S. (2002). Venture Capital and Innovation: The Indian Experience. A Paper on Financial System, Corporate Investment in Innovation and Venture Capital Jointly prepared by United Nations University/Institute for New Technologies (UNU/INTECH), November 7-8, Brussels. Retrieved at <http://www.insme.org/files/148>

Black, B., and Gilson, R.J. (1998) ‘Venture Capital and the Structure of Capital Markets: Banks Vs Stock Markets.’ *Journal of Financial Economics*, vol. 47, 243- 246 [online].
<http://www.sciencedirect.com/science/article/B6VBX-35X82RY-2/2/9203FC03bb817d3bd30C161ed08feb40> (accessed on 20 March, 2019)

Bowden, A. (2017). Venture Capital Investing Still Strong Even as Median Time to Exit Reaches 8.2 Years. <http://venturebeat.com/2017/05/19/vc-still-strong-even-as-median-time-of-exit-reaches-8-2-years/>

Bygrave, W.D., and Timmons, J.A. (1992) *Venture Capital at the Crossroad* [online]. Boston, M.A: Havard Business Press.

Christensen, C. M. (1997) *The Innovators Dilemma* [online]. Boston, M.A: Havard Business Press.
http://pmonline.org.ua/pluginfile.php/202/mod_data/content/1124/Clayton%20M.%20Christensen%20-%20The%20Innovators%20Dilemma.pdf (accessed on 5 March, 2019)

Christofidis, C., and Debande, O.(2001) ‘Financing Innovative Firms through Venture Capital.’ *EIB Paper Series, European Investment Bank*,
<http://www.eib.org/attachments/pj/vencap.pdf>

Daramola, A. (2012) ‘New Technology-Based Firms and Venture Capital Policy in Nigeria.’ *Journal of Innovation Economics and Management*, 1(9), pp. 163-181 [online]
DOI:10.3917/Jin.009.0163. Retrieved at <https://www.cairn.info/revue-journal-of-innovation-economics-2012-1-page-163.htm> (accessed on 10 April, 2019)

Deloitte (2016) Taxation and Investment in Hong Kong.
<https://www.2.deloitte.com/content/dam/Deloitte/global/document/Tax/dttl-tax-hongkongguide-2016.pdf>

Dossani, R., and Kenney, M. (2002) 'Creating an Environment for Venture Capital in India.' *World Development*, 30(2), pp. 227-253 [online]

<https://pdfs.semanticscholar.org/07f9/afbe6543f76187765a7fbb859ea4d87724dd.pdf> (accessed on 17 April, 2019)

ECVA (2007). A Guide on Private Equity and Venture Capitalist for Entrepreneurs. *An ECVA Special Paper*, <https://www.investeurope.eu/media/78722/guide-on-private-equity-and-venture-capital-2007.pdf>

Egbetokun, A. A., Siyanbola, W., and Adeniyi, A. (2010) 'Indigenous Innovation Capability in Sub-Saharan Africa: A Review of the Nigerian Situation.' *Munich Personal RePEc Archive (MPRA)* [online] <https://mpra.ub.uni-muenchen.de/25345/> (accessed on 17 April, 2019)

Fagerberg, J. (2003), 'Innovation: The Guide to the Literature.' October, 12, 2003: Centre for Technology, Innovation, and Culture, University of Oslo, http://smartech.gatech.edu/bitsream/handle/1853/43180/JanFagerberg_1.pdg

Global Innovation Index (2017)

https://www.globalinnovationindex.org/UploadFiles/Indepths/Files/Indepth_9db22f7962064f1282db29c9aec30365.PDF

Godin, B. (2006) 'The Linear Model of Innovation: A Historical Construction of an Analytical Framework.' *Science, Technology and Human Values*, *Sage Journal*. DOI:10.1177/0162243906291865

Gonzalez-Uribe, J. (2013) *Venture Capital and Innovation*. Unpublished Ph.D thesis, Columbia University, United States https://www.8.gsb.columbia.edu/programs/files/abstracts/Junita_dissertation.pdf

Hellman, T, and Puri, M. (2000) 'The Interaction between Product Market and Financial Strategy: The Role of Venture Capital.' *Review of Financial Studies*, vol. 13, 959-984 [online]

https://immagic.com/eLibrary/ARCHIVES/GENERAL/JOURNALS/Stanford_Role%20of%20venture%20SSRN-id173655_NoRestriction.pdf (accessed on 17 April, 2019)

Hua, X., Wang, Y., and Wang, M.(2016) 'The Innovation and Performance Impact of Venture Capital Investment in China's Small and Medium-sized Enterprises.' *China Economic Journal*, 9(2), 167-185 [online] <https://doi.org/10.1080/17538963.2016.1165541> (accessed on 10 April, 2019)

Jones, R. (2015), 'Spurring the Development of Venture Capital in Korea.' *The Korea's Economy*, 30, 55-63 [online]

http://www.keia.org/sites/default/files/Publications/kei_koreaseconomy_jones.pdf (accessed on 5 March, 2019)

Kang, K.-N., and Sohn, B.K. (2015) 'The Role of Venture Capital on innovation in the Korean Biotechnology Industry.' *International Journal on Trade, Economics and Finance*, vol 6(3), 181-185 [online]

https://www.researchgate.net/profile/kyung_Nam_Kang/publication/282400077_Korean_Bio_technology_Industry/links/56807b8d08ae1975838b0a6d/The-Role-of-Venture-Capital-on-Innovation-in-the-Korean-Biotechnology-Industry.pdf (accessed on 10 April, 2019)

- Kelly, R., and Hankook, K. (2013) 'Venture Capitalist as a Catalyst for Higher Growth. Ottawa: *Industry Canada*. http://www.ic.gc.ca/eic/site/eas-aes.nsf/eng/h_r902218.html (accessed on 5 April, 2019)
- Kenney, M., Han, K., and Tanaka, S. (2004). Venture Capital Industries in East Asia. *Global Change and East Asia Policy Initiative*, Oxford: Oxford University Press, 391-427. Retrieved at <https://pdfs.semanticscholars.org/aad/6251ba71cfb0124e8ea9e301098807ba3b90.pdf>
- Kortum, S., and Lerner, J. (2000) 'Assessing the Contribution of Venture Capital to Innovation. *Rand Journal of Economics*, vol 31(4), pp. 674-692 [online] http://home.uchicago.edu/~kortum/papers/rje_2000.pdf (accessed on 2 April, 2019)
- Kumar, A. (2005) Venture Capital Fund in India. <http://www.Indiamba.com>
- Lee, J., and Jung, T. (2017) 'Policy-Driven Expansion of Venture Capital Industry: An Empirical Examination of Context, Factors and Effect Behind the Recent Surge of the Korean Venture Capital Industry.' *Academy of Entrepreneurship Journal*, 23(1), 11-23 [online] <https://www.abacademies.org/articles/policy-driven-expansion-of-venture-capital-industry-and-empirical-examination-of-context-factors-and-effects-1528-2686-2-3-1-102.pdf> (accessed on 10 April, 2019)
- Lerner, J. (2002) When Bureaucrats Meets Entrepreneurs: The Design of Effective "Public" Venture Capital Program. https://mitpress-request.mit.edu/sites/default/files/titles/content/9780262083294_sch_0001.pdf
- Levack, J. (2014). HKEx Consultation on Weighted Voting Rights. A Letter to the Chief Regulatory Officer and Head of Listing of the Stock Exchange of Hong Kong Limited by the HKVCA, 28Nov. Retrieved at https://www.hkex.com.hk/-/media/HKEX-Market/News/Market-Consultations/2011-to-2015/August-2014-Weighted-Voting-Rights/Responses/CP2014082r_IN18.pdf?la=en
- Lin, L. (2015), 'Re-engineering a Venture Capital Market: The Case of China.' Center for Law and Business Working Paper 15/04. National University of Singapore (NUS). Retrieved at http://law.nus.edu.sg/wps/pdfs/007_2015_Lin%20Lin.pdf
- Nigeria Stock Exchange (n.d). Listing Requirement: The Green Book. Retrieved at [http://www.nse.com.ng/regulationsite/IssuersRules/Listing%20Requirement%20\(The%20Green%20Book\).pdf](http://www.nse.com.ng/regulationsite/IssuersRules/Listing%20Requirement%20(The%20Green%20Book).pdf)
- OAS (2015) Science, Technology, Engineering, and Innovation for Development. [online] A Vision for the Americas in the 21st Century. Organization of American States, pp. 33. <http://portal.oas.org/linkClick.aspx?fileticket=jtgVkdL9yLG%3D&tabid=586>
- OECD (2007) *Innovation and Growth. Rational for Innovation Strategy*. <https://oecd.org/sti/inno/39374789.pdf>
- Okpala, K.E. (2012) 'Venture Capital and the Emergence and Development of Entrepreneurship: A Focus on Employment Generation and Poverty Alleviation in Lagos State.' *International Business and Management*, 5(2), 134-141[online] DOI:<http://dx.doi.org/10.3968/j.ibm.1923842820120502.1050> (accessed on 10 April, 2019)
- Onwualu, P. A. (2006), 'Innovative Science and Technology for Raw Materials Development and Utilization in Nigeria: A Challenge for Industrial Development.' 10-13th October, 2006:

Proceedings of the Second Conference on Science and National Development, Abuja, Nigeria. <http://journal.unaab.edu.ng/index.php/COLNAS/article/download/157/160>

Oyekanmi, O. (2005), 'Venture Capital in Nigeria- The Story So Far.' Nov 9, 2005: A Paper Presented at the African Venture Capital Association Conference in Mombasa, Kenya, <https://www.slideshare.net/Freddy56/venture-capital-in-nigeria> (accessed on 5 March, 2019)

Oyelaran-Oyeyinka, B., and Sampath, P. G. (2007), 'Innovation in African Development. Case Studies of Uganda, Tanzania, and Kenya.' *A World Bank Study*, 1-56. <http://citeseerx.ist.psu/viewdoc/download?doi=10.1.1.630.5770&rep1&type=pdf> (accessed on 10 April, 2019)

Porter, M., Ketels, H.M., and Miller, K. (2004). Competitiveness in Rural US Region. *Learning and Research Agenda*. http://www.eda.gov/Imagecache/EDAPublic/documents/PDF docs/eda_5frural_5region.pdf (accessed on 15 February, 2019)

Porter, M. (1990). The Competitive Advantage of Nations. *Harvard Business Review*. March-April Issue. Retrieved at <https://hbr.org/1990/03/the-competitive-advantage-of-nations>

Randolph, S., Bishop, A., and Hamirani, S. (2017), 'Chinese Innovation- China's Technology Future and What it means for Silicon Valley.' *BayArea Council Economic Institute*. <http://www.bayareaconomy.org/files/pdf/ChineseInnovationNov2017Web.pdf> (accessed 10 April 2019)

Rieschel, G. (2017) Driving Innovation in China: A Venture Capital Perspective.' *Qiming Venture Partners*. <http://apboconference.com/2017/wecontent/Uploads/2017/04/Driving-Innovation-in-China-A-Venture-Capital-Perspective-Gary-Rieschel.pdf> (accessed 10 April 2019)

Rodriguez, B.M.M. (2003). 'A New Insight in to Valuation of Start-ups: Bridging the Intellectual Capital Gap in Venture Capital Appraisals.' *Electronic Journal of Knowledge Management*, 1(2), 125-138 [online] <http://www.ejkm.com/issue/download.html?idArticle=26> (accessed on 10 April, 2019)

Savaneviciene, A., Venckuviene, V., and Girdauskiene, L. (2015) 'Venture Capital a Catalyst for Start-ups to Overcome the "Valley of Death": Lithuanian Case.' *Procedia Economics and Finance*, 26, 1052-1059 [online] <https://pdfs.semanticscholar.org/25f3/e015745147ebeb30cf4ef22e74ba5054a8f.pdf> (accessed on 7 April, 2019)

Schumpeter, J.A. (1934) 'The Theory of Economic Development: An Inquiry in to the Profits, Capital, Credits, Interest, and the Business Cycle.' *Harvard Economic Studies*, vol, 46 [online] Harvard College, Cambridge, M.A.

Shane, S. 2015) What Slow Exits Mean to Startup Investors. <https://www.entrepreneur.com/article/253459> (accessed 5 April 2019)

Sida (2015), 'Support to Innovation and Innovation System.' Innovation Working Group, Unit for Research Cooperation at Department of Partnership and Innovation.

https://www.sida.se/globalassets/sida/eng/publications/position_paper_support_to_innovation.pdf (accessed on 10 April, 2019)

Snieska, V., and Venckuviene, V. (2009) ‘Venture Capital Impact on the Region’s Competitiveness. *Economics and Management* [online] <https://researchgate.net/publication/251761945> (accessed on 10 April, 2019)

Staton, WJ. Etzel, MJ. and Walker, BJ. (1994). *Fundamentals of Marketing*, 10th ed., New York: USA. McGraw Hill, Inc.,

Wang, H. (2013) ‘China’s Return, Migration, and its Impact on Home Development.’ *United Nations Chronicle*, vol 1(3) [online] <https://unchronicle.un.org/article/chinas-return-migration-and-its-impact-home-Development> (accessed on 10 April, 2019)

World Economic Forum (2017) Global Competitive Index. <http://reports.weforum.org/africa-competitiveness-report-2017/Files/2017/05/Nigeria.pdf> (accessed on 12 March, 2019)

APPENDIX A: Global Innovation Index Ranking

COUNTRY/ECONOMY	SCORE (0-100)	RANK
Switzerland	67.69	1
Sweden	63.82	2
Netherlands	63.36	3
United States of America	61.40	4
United Kingdom	60.89	5
Korea Republic	57.70	11
Hong Kong	53.88	16
China	52.54	22
Nigeria	21.92	119

Source: Adapted from Global Innovation Index (2017)

APPENDIX B: 2016-2017 Global Competitiveness Index Ranking

SUBINDEXES

OVERALL INDEX BR EE I&SF

COUN- TRY/ECONOM Y	RAN K	SCOR E	RAN K	SCOR E	RAN K	SCOR E	RAN K	SCOR E
Switzerland	1	5.81	2	6.29	3	5.62	1	5.80
Singapore	2	5.72	1	6.37	2	5.73	12	5.25
United States	3	5.70	27	5.43	1	5.85	2	5.63
Netherlands	4	5.57	4	6.12	9	5.38	6	5.52
Germany	5	5.57	10	5.94	7	5.40	3	5.61
Hong Kong	9	5.48	3	6.23	4	5.58	23	4.80
Korea Republic	26	5.03	19	5.71	26	4.88	22	4.81
China	28	4.95	30	5.34	30	4.79	29	4.22
Nigeria	127	3.39	136	3.06	85	3.88	110	3.26

Source: Adapted from World Economic Forum (2017)

KEY

BR: Basic Requirements

EE: Efficiency Enhancers

I & SF: Innovation and Sophistication Factor