Learning and innovation in youth-owned small businesses

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Abstract

Purpose – The birth and survival rate of youth-owned businesses has been a major concern for policymakers, industry and academics alike. Learning and innovation play important roles and more critical is the mediating factors and how it impacts the enterprise competitiveness of youth-owned businesses and hence worth studying. Therefore, this study aims to examine the impact of mediating factors such as government support, informal network society and external knowledge infrastructure on learning and innovation in youth-owned small businesses in Lagos, Nigeria, from a cross-sectional perspective.

Design/methodology/approach – Leveraging the sectoral system of innovation theory, we use a primary research method and data obtained from a structured questionnaire administered among a sample of 1,000 registered youth-owned small businesses in Lagos, while 30 in-depth interviews were also conducted. The exploratory factor analysis was used for data examination.

Findings – The findings show that even though government support, informal network society and external knowledge all have a positive relationship with learning and innovation in youth-owned small businesses, government support has the most impactful impact. The informal network society via a trade association, professional network and social media are also critical in knowledge transfer in youth-owned businesses.

Originality/value – The significance of learning and innovation is more important as many small businesses do not have the privilege of standard human resource management (HRM) systems. This paper looks at the mediating factors affecting the introduction of innovative practices in youth-owned and managed small businesses and how productivity is enabled in a developing county context.

Keywords Innovation, Learning, Youth, Small business, Sectoral systems innovation

Paper type Research paper

JEL classification – D80, D83, O30, 031, 038

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1. Introduction

At present, Africa is at the center of global discussions. It is the world's youngest continent with an average age of 19 years and an estimated fertility rate of 4.66 (see Worldometer). With international projections that by 2050, the youth population in Africa will be doubled, global policymakers express concerns over the mismatch between young Africans entering the labor force and the number of new jobs being created across the continent. (Fox *et al.*, 2016; Yeboah and Jayne, 2018). This may not be far-fetched. After all, 50% of Africa's 420 million youths (15–35 years) are only aspiring to make meaningful contributions to the African economy (Legas, 2015; Banks, 2016). As such, several young Africans find solace in creating own-small businesses, whether in the formal or informal settings, leveraging limited or inexperienced human resource management (HRM) capabilities. Interestingly, however, these young Africans have confidence in their abilities to take up the entrepreneurial challenge irrespective of the chosen settings' prevailing circumstances (Madzivhandila and Dlamini, 2015; Tony, 2016).

Two factors have contributed to the growing popularity of youth-owned enterprises in Nigeria: the recognition that entrepreneurship is key to realizing Nigerian's dream of an industrialized nation and the low contributions of youth-owned enterprises, among other small and medium enterprises (SMEs) to value addition activities. Evidence from a series of the Global Entrepreneurship Monitors' (GEM) publications affirms that many of the youth-owned enterprises in Africa, including Nigeria, are necessity-driven. These enterprises are scattered across retail trade, restaurants, fast foods, agriculture and other services sectors. Scholarly evidence support claims that these enterprises can hardly drive Africa's innovation and structural transformation agenda. As such, calls for the study of learning and innovation in youth-owned enterprises have become recurrent (Femalds, 1988; Tell, 2000; Galende, 2004; Moreno, 2015; Rehman, 2017).

Literature has identified the roles internal organizational characteristics have played in driving learning and innovation in firms (Prange and Pinho, 2017; Martínez-Román and Romero, 2017). For example, Peter Senge identified five drivers, i.e. systems thinking, personal mastery, mental models, building shared vision and team learning, as key to enhance the convergence of innovative learning organizations (Senge, 1990). Scholars have also distinguished between learning opportunities and learning behaviors and related them with several entrepreneurial outcomes, reinforcing the theoretical point that individual learning is the outcome of the personal and situational driver (Van Gelderen *et al.*, 2005). The significance of learning and innovation is more important as many small businesses in Nigeria do not have the privilege of standard HRM systems. Yet insufficient or inexperienced human resources are a key barrier to innovation in small businesses (Strobel and Kratzer, 2017). By introducing innovation practices, youth-owned and managed small businesses can turn their human capital into productivity enablers (Curado, 2018).

In response to the growing calls for enhanced understanding of learning and innovation in businesses (Malerba, 2002; Lee and Trimi, 2016), this paper examines the role of mediating factors on learning and innovation in youth-owned enterprises in selected sectors within the context of a developing country such as Nigeria. Specifically, this paper seeks to establish whether government support, informal networks and knowledge infrastructure have significant effects on learning and innovation in youth-owned enterprises within the context of a developing country. This paper contributes to knowledge:

- Perspectives into challenges of youth-owned business.
- Importance of knowledge in youth-owned businesses.

- Provides further insights into the role of government support, external knowledge and informal networks.
- Policy and industry recommendations for enhancing youth-owned business.

The paper is further divided into four sections. Section 2 describes the literature review. Next, Sections 3 and 4 presents the research methods and the presentation of results. Finally, Section 5 concludes the paper.

2. Literature review

2.1 The socio-economic characteristics of the youth owned small business in Nigeria

Youths are eager to attain independence and earn a living by themselves and even support their family. After their education, they either seek gainful employment or set up entrepreneurial ventures (Barsoum, 2016; Arend, 2019). Entering into the business world is a daunting task for youths who are up against fierce competition from established players in their domain. The youths typically come up with novel ideas and innovative approaches to businesses. This forces the established players to adapt their strategies and muzzle the youth's own businesses with their financial might (Schaefer, 2018; Biney, 2019). This means a key strategy for youth-owned business survival is continuous learning and innovation. The youths are agile and nimble. They have access to technology and social media platforms from which they access information on the go, network with potential partners and customers, and learn some business intelligence from across the globe (Akaeze and Akaeze, 2017; Huang and Han, 2019).

The process and procedures to formalize businesses are still fraught with bureaucracies, and youths find it difficult to register. This in itself possesses limitations on the types of businesses they can access with other corporate and government support in grants, loans and informational services (Ishengoma, 2018; Feilhauer and Hahn, 2019). Informal networks play a key role in bridging the information, funding, sourcing and prospecting gap. The intention to set out into business also varies. Many youths venture into business as a temporary stopgap. They hope that formal employment will come up (Bhandari, 2016; Lin *et al.*, 2017). Subsequently, they do not put their very best or seek all the help and information they require. This double mindset does not allow them to become completely aware of all the possibilities and capabilities to learn and innovate in their business (Giniuniene and Jurksiene, 2015; Teece, 2018).

However, some entrepreneurs go full fledge into setting up ventures despite mouthwatering offers from formal Blue-Chip companies. This set of business owners typically go for relevant training and programs and pursue mentorship and networks early to help set them up in their businesses. Youth can be found in different sectors ranging from technology to agriculture, manufacturing to services, trading and distribution (Brixiová *et al.*, 2015; Yeboah and Jayne, 2018). The business terrain in Lagos, Nigeria, is undoubtedly tough. Issues such as multiple taxation, area boys and cartels abound. There are both informal and formal things around the business that has to be learned. They are both formal and informal learning techniques to adopt to get information and knowledge to develop the business (Nguyen *et al.*, 2015; Trieu, 2017). Some information is picked by observation, apprenticeship, attending a formal training session, customers, suppliers and partners, submission to mentorship, etc. (Chan, 2017; Pryor, 2019).

For informal learning, youths need to earn the trust of people for them to share. Older people tend to be more conservative and secretive with business trade secrets (Ren and Wang, 2017; Mesiti, 2019). It also does not help as many of them do not actually document their processes and methods and do not apply formal HRM practices to their business.

Joining trade associations and professional platforms allow youths to develop networks, both formal and informal, and open channels to glean knowledge and convert to innovation in the business (Shamir and Shin, 2018; Aladejebi, 2020). Networks also help to bridge the information asymmetry with respect to external knowledge infrastructure, including government programs.

Due to the limitations and resource constraints, youths have to be innovative in all areas including, processes, marketing, product and service development, etc.

2.2 The sectoral system of innovation

The sectoral system of innovation as a framework explores the determinants of innovation in sectors of the economy. It supports the assertion that innovation differences may exist across the sectors; it is characterized by interactive learning. This framework comprises three building blocks:

(1) knowledge domains and boundaries;

(2) actors and networks; and

(3) institutions.

2.2.1 Sectoral innovation system and the significance of knowledge. The sectoral systems of innovation approach, unlike technological systems, pay little attention to technology in all ramification – acquisition, diffusion, utilization and its impact on societal transformation. Instead, it recognizes the uniqueness of knowledge and its direct and indirect implications for learning. It recognizes that sectors are not equally endowed. As such, the knowledge base of each sector varies according to their respective innovation activities. Even though actors within the sectors have the potentials to initiate varying innovation activities, the SIS posits that they are not equally endowed with resources and opportunities to identify potentials areas of learning and innovation. This explains why the time required to acquire, develop and accumulate requisite knowledge base and build competencies for learning and innovation varies from one sector to another. In short, learning and innovation are cumulative (Geels, 2004) and both are developed on an existing "not-too-rigid" knowledge base; the role of education is important in ensuring a knowledge base society (Olajire, 2013).

2.2.2 Sectoral innovation system and the significance of networks. Network building is an integral aspect of an innovation system and the sectoral system of innovation posits that learning and innovation is an interactive process (Malerba, 2005; Ghiasi and Larivière, 2015; Huijbens *et al.*, 2017). Network in sectoral innovation system connotes a group of heterogenous organizations (i.e. formal and informal) and individuals (i.e. consumers, suppliers, entrepreneurs, scientists, etc.) with mutual interdependencies. Both organizations and individuals share similar innovation processes, whether in terms of interaction and cooperation or in terms of competition and selection (Geels, 2004; Ingram, 2015). They also interact with one another to strengthen their respective learning experiences. Despite existing autonomy, specific identities and dynamic specializations, both the organizations and individuals share systematic market and non-market relationships (Edquist and Johnson, 1997; Lander, 2013). Interestingly, these relationships vary from one sector to the other, irrespective of the status of economic development (Malerba, 2005; Intarakumnerd and Chaoroenporn, 2013), but they enhance the generation and exchange of knowledge. These, in turn, foster the building of learning and innovation competencies among the sector players.

2.2.3 Sectoral innovation system and the significance of institutions. Many years ago, Walton Hamilton described the institution as the way of thought and/or actions embedded

in the way of life of a group of people within a given setting. This implies that the relationships among agents and any other existing stakeholders within a system are subject to institutions' presence. These institutions perform specific tasks, which influence the actions and interactions among agents within the sectors (Geels, 2004; Malerba, 2005; Galliano and Nadel, 2015). In recent times, however, Douglas North, institutions are simply the rules of the game predicting the basis of human interactions. They mold the social norms, establish common practices, formulate necessary rules and laws and ensure that all stakeholders abide by the set standards (Edquist and Johnson, 1997; Edquist, 2013).

In learning and innovation in small business settings, the institutional set-up matters and institutions affect innovation (Edquist and Johnson, 1997; Spielman, 2005; Bathelt and Henn, 2017). This implies that the institution is not a unit standing aloof. Instead, it represents a set of institutional actors working in harmony to foster firms' innovative performances with the sectors (Nelson, 1992; Weidenfeld and Hall, 2014). The business entity is the basis of all institutions and two reasons account for why they take more responsibilities for their respective innovative effort:

(1) business entities have an in-depth understanding of their own strength and weaknesses; and

(2) they all desire to maximize profit (Nelson, 1992).

The universities and other institutes of research and development, and the government are part of the institutional structures required for existing businesses to be competitive and innovative (Yarime and Karlsson, 2017).

2.3 Profiling youth-owned businesses in Africa

In this section, this article provides an x-ray of youth-owned businesses in selected countries across sub-Saharan Africa.

2.3.1 The confidence level of young business owners in Africa. Since the year 2013, the GEM has consistently argued that young Africans' entrepreneurial intention is relatively high compared with their peers in other continents of the world. This assertion motivated the Omidyar Network Africa to explore the state of entrepreneurship in Africa. Consequently, it launched a multi-phase research project in 2012, with the theme: "Accelerating Entrepreneurship in Africa Initiative." This project includes a structured survey with 582 entrepreneurs across six selected African countries, 72 in-depth interviews. The findings are benchmarked against 19 global peers inclusive of China, Denmark, Russia and Singapore.

Findings from the multi-phase project reveal that very few Afro-entrepreneurs across Africa have self-confidence in the abilities of young people to start and manage a new business successfully: 19% in Ethiopia, 14% in Ghana, 23% in Kenya, 14% in Nigeria, 9% in South Africa and 22% in Tanzania (Figure 1). The stakeholders interviewed identified potential factors limiting young peoples' ability to start and manage their own businesses successfully. Notable among the factors is limited exposure to hands-on learning and creative problem-solving challenges in African colleges and high schools. Consequently, many young people transit into the informal sector with a lack of basic business innovation culture.

2.3.2 Informal entrepreneurism among young people in Africa. Evidence abounds that a very large number of young people in Africa take solace in the informal sector. Generally, many African countries still depend on the export of primary commodities. South Africa remains an exception. On the one hand, the statistics of growth are positive, but on the other hand, Development experts are worried that growth in Africa is not "quality growth." Data

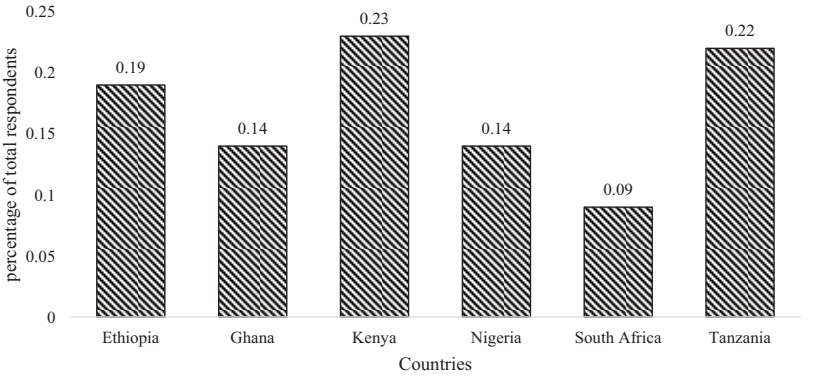


Figure 1.
Perceived self-confidence in young Africans' ability to launch own-businesses

Source: Omidyar Network Africa (2013)

from the International Labor Organization show that young people in Africa are more subject to vulnerable employment than adults. Unemployment rates among young people surpass that of adults in Africa (Figure 2). For example, in Nigeria, the youth unemployment rate is 13.7%, while adults' unemployment rate is 5.7%. The disparity is very glaring in Botswana, Namibia and South Africa.

Due to the prevalence of youth employment challenges, many young people are pushed into self-employment in informal settings across the continent. They start small and very few make it big years after. Evidence from the GEM (2014) report, with the theme: "Africa's young entrepreneurs: unlocking the potentials for a brighter future," show that young-owned businesses in Africa are generally small-scale and informal in outlook. These businesses are enshrined in low-growth expectations, low productivity and limited patience for learning and innovation. As such, the ideology of sustainable entrepreneurial activities remains strange to the clusters of young-owned businesses scattered across the continent of Africa.

2.3.3 Establishing young business owners in Africa. Increasing calls pervade the continent of Africa that young people's population will be more than double its present state

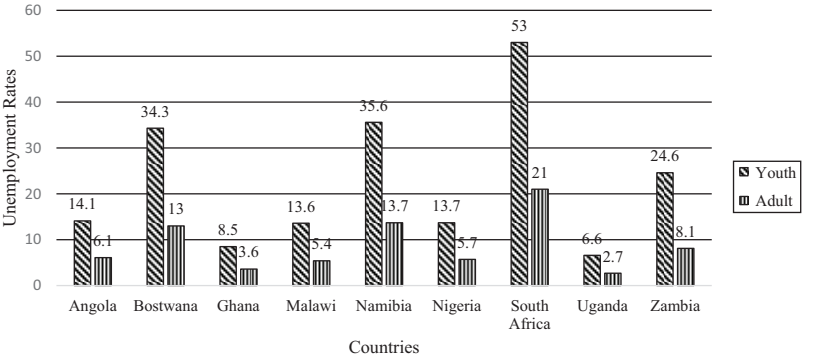


Figure 2.
Unemployment rates in selected African countries

Source: ILO www.ilo.org/legacy/english/get/2014/GET_UR.xlsx

by 2050. Specifically, the world population data sheet shows that Africa's young working force will be the largest in the world by 2040. This implies that Africans need to take young-owned businesses seriously and ensure that they are properly established, efficiently nurtured and effectively managed to achieve job creations, as enshrined in Agenda 2063. Currently, available data shows that Africa has a good stock of potential young business owners (Figure 3). Besides South Africa, the selected African countries have a good stock of potential entrepreneurs: 41% in Ghana, 53% in Nigeria, 56% in Uganda and 53% in Zambia.

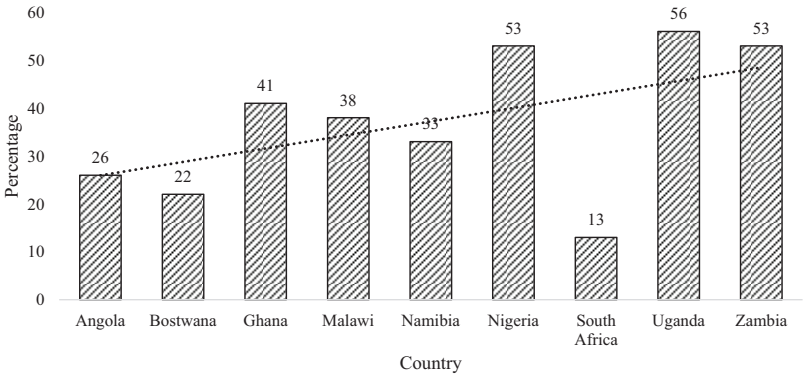
Unfortunately, only a few of these potentials make it to the established stage. In other words, very few youth-owned businesses survive beyond 42 months after the initial date of commencement of business (GEM, 2014). A notable attribute of youth-owned businesses in this regard is the inherent lack of patience among young people to nurture their businesses through the laid-out growth process of small businesses. Rather than learning patiently the philosophy that guides their chosen path in business, evidence shows that typical young Africans are quick at establishing new business lines (GEM Africa, 2015). Established youth-owned businesses play significant roles in ensuring the sustainability of entrepreneurship:

- they make meaningful economic contributions;
- they promote stability in employment; and
- they strengthen the depth of growth potentials in the domestic economies.

Unfortunately, the rate of established youth-owned businesses across the continent is still very low relative to the number of potential young entrepreneurs.

3. Research method

The mixed-method was adopted, i.e. a combination of quantitative and qualitative techniques better to understand learning and innovation in youth-owned businesses through triangulation. The study was a cross-sectional research design. Using a purposive sampling technique to select the study population and study location. Specifically, the article obtains primary data using a structured questionnaire administered among a sample of 1,000 registered youth-owned small businesses in Lagos metropolis randomly, targeting



Source: GEM (2014)

Figure 3. Percentage of youth business owners in selected African countries, 2013

wholesale and retail services, manufacturing and the agricultural sectors. The questionnaire was targeted at their level of innovation and learning and their interaction with various learning sources, focusing on the mediating factors such as government support, informal network society and external knowledge variables. A total of 28 questions measuring learning and innovation was asked. The study follows youth classification as stated by the National Bureau of Statistics, which classifies youth as 18–35 years. We also interviewed 30 of the respondents.

The primary data collection lasted for three weeks (i.e. the 1st to 3rd weeks) in July 2019. These businesses are also within one to five years of establishment. All the participants consented to participate voluntarily. In addition to the two researchers, four research assistants who were properly trained assisted in the administration of the questionnaires to the target audience. The exploratory factor analysis (EFA) (Watkins, 2018) was used to identify the underlying relationships between measured variables i.e. the mediating factors such as government support, informal network society and external knowledge used to develop a scale and identify a set of latent constructs underlying the importance of measured variables.

To validate the questions, we used Cronbach's alpha (Taber, 2018). We used a five-Likert Scale (Mircioiu and Atkinson, 2017) in the questionnaire for easy codification and analysis. Also, we used tools such as the Kaiser-Meyer-Olkin (KMO) (Ong and Puteh, 2017) to measure sampling adequacy, Bartlett's test of sphericity for statistical significance and also Scree plot (Howard, 2016.). To optimize the factor solutions, principal component analysis (PCA) was used to extract the desirable factors. Therefore, the study applied the Promax with Kaiser Normalization (Haig, 2018) to obtain the rotated component matrix. SPSS statistical software tool was used for the analysis. The sectors covered by the survey include the wholesale and retail services, manufacturing, and agricultural sectors. These sectors were considered because they rank first, second and third to contribute to the national gross domestic product besides the oil sector. The research prefers Lagos state because of its peculiarities among other states in the Federation. Lagos's state is home to more than eleven thousand SMEs and over 3.2 million microenterprises (Bowale and Ilesanmi, 2014).

4. Presentation and discussion of results

4.1 Reasons for learning and innovation in small businesses

Findings from the administered questionnaires show that 67% of the respondents engage in learning and innovative functions related to new product development.

Table 1 presents a summary of the responses to the question: "in the past two years, to what extent do you think the following reasons for learning and innovative

Table 1.
Selected reasons for learning and innovations

Reasons for learning and Innovative outcomes	Rate of importance		
	Not important (%)	Moderately important (%)	Very important (%)
Increase range of goods or services	5.3	45.5	59.3
Replace outdated products or processes	18.6	33.1	48.3
Enter new markets	15.2	23.4	61.4
Increase market share	5.5	30.2	64.3
Improve quality of goods or services	9.1	30.2	60.7

Source: Authors computation (2019)

Types of sources	Degree of importance		
	High (%)	Medium (%)	Low (%)
Internal sources			
Origins in the business or business group	69.5	25.3	5.2
Market resources			
Suppliers of machinery, resources and software parts	56.6	39.3	4.1
Clients or customers	75.7	23.2	1.1
Business rivals or businesses in the enterprise's field	60.4	38.4	2.2
Specialists, business labs or private R&D institutes	58.3	38.5	3.2
Institutional sources			
Universities or other higher education institutions	45.4	35.1	20.5
Government or public research institutes	69.7	27.2	3.1
Other sources			
Conferences, trade fairs, exhibitions	67.5	30.2	2.3
Scientific journal records and trade/technical publications prints	66.1	28.5	5.4
Professional and industry associations	72.6	25.1	2.3

Source: Authors computation (2019)

Table 2.
The importance of varying sources of learning and innovation

outcomes in small business is important?" In total, 59% of the respondents feel that increasing the range of products is very important for learning and innovation. In total, 48.3% feel that replacing outdated products and processes is very important for learning and innovation. In total, 61.4% of the respondents feel that entering a new market is very important for learning and innovation. In total, 64.3% of the respondents feel that increasing market share is very important for learning and innovation. Also, 60.7% of the respondents feel that improving the quality of goods and services is very important for learning and innovation.

4.2 The importance of knowledge sources in small businesses

Table 2 presents a summary of the responses to the question:

Q1. In the past two years, to what extent do you think the following sources are important for learning and innovative outcomes in small businesses?

The findings reveal that linkages with other sectors and being a member of an association is beneficial to an enterprise than being a standalone one. However, the university needs to do more to champion the learning process and innovation. There was evidence of the impact of government support on learning and innovation on small businesses in Lagos, Nigeria. Also, the informal network relationships and causality on the learning and innovation were ascertained. Furthermore, new positive insight was gained on the relevance of external knowledge infrastructure on learning and innovation. It is observed that the ease of learning is more visible within firms that operate within clusters than standalone firms. Business owners pool funds together to crack issues through R and D and result in more innovative solutions. Enterprises may involve in fundamental studies that possess high spillover resulting from rapidly using innovations.

When a business desires to acquire knowledge uncorrelated to its current functions, it will not simply engage with other businesses or purchase the technology. Rather, the business will be ready to spend internally using its assimilation ability,

which will allow for effective utility. Also, there is a high turnover of staff within clusters, which also helps transfer knowledge and learning and increase innovation. Firms in sectors with a high level of interactions, i.e. unions, cooperatives and other social engagements, experience greater learning and get more innovations. They can also engage with government institutions as a group better than as individuals and other actors within the National Innovation Systems.

4.3 The exploratory factor analysis

The study randomly selected 1,000 youth respondents who are small business owners in Lagos state Nigeria, with 75% being male population as against 25% female, who are active in the trade, agriculture, manufacturing, services, health and others sector of the economy. The study follows youth classification as stated by the National Bureau of Statistics, which classifies youth as 18–35 years. The sample comprises the majority from the age bracket 31–35 years, representing 57% of the sample. Results are further presented in Figure 3 (Table 3).

This study identifies three important areas that have a huge effect on learning and innovation in Lagos state Nigeria (mediating factors in learning and innovation, external knowledge infrastructure and government support initiatives) and develops questions around it to determine their contribution to learning and innovation in youth-owned small businesses. The respondents' responses were based on the five-Likert Scale (1 = *not significant, [. . .],* 5 = *very significant*).

The scree plot in Figure 4 is a plot of all eigenvalues associated with all the questions (principal component/variables) that the respondents were asked. The scree plot helps in determining the number of variables to use when conducting a factor analysis. Statistical programs always use an eigenvalue of =>1 in retaining variables. This is because of a variable with an eigenvalue of 1 account for as much variance as a single variable. Another rule of thumb suggested that factors up to where an elbow is formed on the curve should be generated for the analysis.

Table 3.
Demographic and sectorial characteristics of the sample

	n	(%)
Gender		
Male	753	75
Female	247	25
Age Group		
22 years and below	76	8
23–30 years	354	35
31–35 years	570	57
Sector		
Trade	111	11
Agriculture	141	14
Manufacturing	36	4
Services	550	55
Health	19	2
Others	143	14

Source: Authors computation (2019)

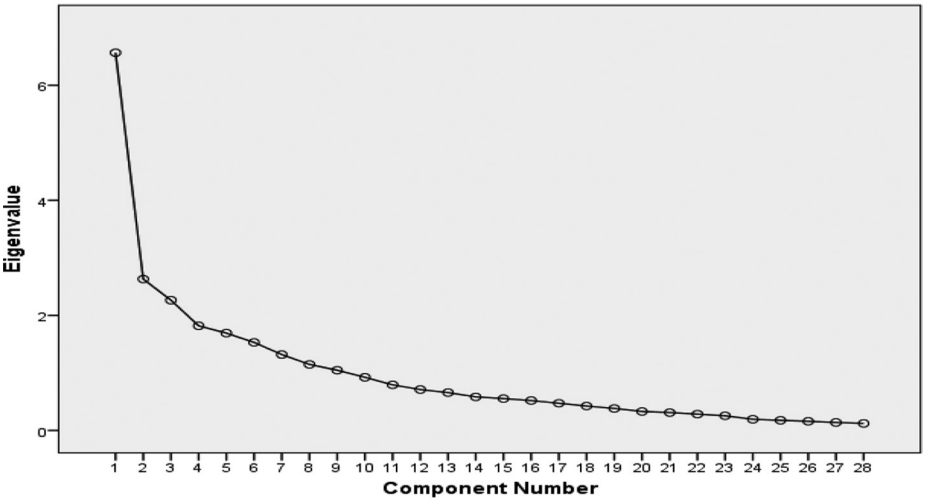


Figure 4.
Scree Plot

Source: Authors computation 2019

From our analysis, the initial result (i.e. when eigenvalue is >1) suggested that nine factors should be generated. However, further reliability tests reduced the factors generated to four, allowing us to narrow our variables to significant mediating factors in learning and innovation in youth-owned small businesses and perceived source of learning and innovations in small businesses in Lagos State. The mean, standard deviation, minimum, maximum and Cronbach's alpha for each question and factor are presented in Table 4, while Figure 5 shows the factor analysis.

We used the EFA as presented in Table 4 to determine the dimensions of innovations and learning in small businesses as a construct in this study. The KMO measure of sampling adequacy at 0.773 (i.e. KMO > 0.5) confirms that the sample size ($n = 1000$) is adequate for the factor analysis. Bartlett's test of sphericity at $p = 0.000$ is statistically significant. This indicates that at least one correlation among the 28 questions measuring learning and innovation in small businesses in Lagos. With the sampling conditions met, the study examined the total factor explained and the scree plot, respectively. The scree plot indicated that out of the nine factors obtained, only four can be retained, which explained 68.2% of the total variance. To optimize the factor solutions, PCA was used to extract the desirable factors. The component correlation matrix, with a correlation coefficient of 0.68, indicates that the component matrix is oblique. Therefore, the study applied the Promax with Kaiser Normalization to obtain the rotated component matrix.

From the data observed in Figure 5, there is a strong relationship between the factors and learning and innovation among youth-owned small businesses in Lagos, Nigeria. Knowledge infrastructure for learning and innovation is key to small business, with Cronbach's alpha contribution of 0.85, this is followed by government support for learning and innovation with Cronbach's alpha contribution of 0.81. This shows that government activities have a great impact on small businesses. The free trade zone, the creation of innovative agencies and centers and the budget on science

	N	Mean	SD	Min	Max	Cronbach's alpha
Significance of external knowledge infrastructure on learning and innovation in small businesses in Lagos state						
Government or public research institutes	1,000	3.94	0.87	1	5	
Universities or other higher education institutions	1,000	3.89	1.01	1	5	
Scientific journals and technical publications	1,000	3.87	0.84	1	5	
Consultants, commercial labs or private R&D institutes	1,000	4.10	0.91	1	5	
Conferences, trade fairs, exhibitions	1,000	4.36	0.70	1	5	
Professional and industry associations	1,000	4.24	0.82	1	5	0.816
Perceived source of learning and innovations in small businesses in Lagos state						
Clients or customers	1,000	4.58	0.62	1	5	
Suppliers of equipment, materials, components or software	1,000	4.27	0.72	1	5	
Professional and industry associations	1,000	4.24	0.82	1	5	
Free trade zones	1,000	4.18	0.82	1	5	
Sources within your enterprise or enterprise group	1,000	4.34	0.68	1	5	
Tax holiday	1,000	3.97	0.91	1	5	0.766
Significance of government support initiatives on learning and innovation in small businesses in Lagos state						
Conferences, trade fairs and exhibitions	1,000	4.36	0.70	1	5	
Free trade zones	1,000	4.18	0.82	1	5	
Creation of innovative agencies and centers	1,000	4.34	0.81	1	5	
Budget on science and technology	1,000	4.09	0.93	1	5	
Grant	1,000	4.54	0.71	1	5	
Seminars/workshop	1,000	4.30	0.73	1	5	0.744
Significance of mediating factors learning and innovation in small business						
Improve quality of goods or service	1,000	4.58	0.61	1	5	
Improve flexibility for producing goods or services	1,000	4.49	0.61	1	5	
Increase range of goods or services	1,000	4.33	0.68	1	5	
Increase market share	1,000	4.28	0.74	1	5	0.740
Mediating factors in learning and innovation in small business						
Process innovation	1,000	4.55	0.63	1	5	
Market innovation	1,000	4.54	0.62	1	5	
Increase market share	1,000	4.28	0.74	1	5	0.715

Source: Authors computation (2019)

Table 4.
Results of the reliability tests

	Factor	Cronbach's Alpha	
Scientific journals and trade/technical publications	0.787	0.85	Factor 1: knowledge infrastructure for learning and innovation
Government or public research institutes	0.774		
Universities or other higher education institutions	0.731		
Consultants, commercial labs or private R&D institutes	0.730		
Conferences, trade fairs, exhibitions	0.583		
Suppliers of equipment, materials, components or software	0.481		
Professional and industry associations	0.544		
Sources within your enterprise or enterprise group	0.479		
Seminars/ workshop.	0.476		
Consultants, commercial labs or private R&D institutes	0.403	0.80	Factor 2: Sources of learning and innovation
Suppliers of equipment, materials, components or software	0.781		
Clients or customers	0.757		
Professional and industry associations	0.714		
Free trade zones	0.588		
Sources within your enterprise or enterprise group	0.546		
Seminars Workshop	0.463		
Tax holiday	0.484		
Free trade zones	0.543	0.81	Factor 3: Government support for learning and Innovation
Creation of innovative agencies and centers	0.780		
Budget on science and technology	0.738		
Seminars Workshop	0.518		
Grant	0.575		
Tax holiday	0.402		
Improve quality of goods or services	0.722	0.74	Factor 4: Output of learning and innovation
Improve flexibility for producing goods or services	0.570		
Increase range of goods or services	0.678		
Increase market share	0.734		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.773		
df	68.23		
Bartlett's test of sphericity	*p = 0*.00		

Source: Authors computation 2019

Figure 5.
Factor analysis of learning and innovations in small business in Lagos state Nigeria

and technology greatly contribute to small businesses' learning and innovation processes. Followed closely is the source of learning and innovation with Cronbach's alpha contribution of 0.80. Sources such as consultants, commercial labs or private R&D institutes, suppliers of equipment, materials, components or software, clients or customers, sources within your enterprise or enterprise group and seminars and workshops are a great source of learning and innovation for small businesses.

4.4 Notable quotes from respondents

> [. . .] As a youth looking to innovate, there is a need to combine output from academic research with the real-life situation [. . .]
>
> [. . .] If the government can invest more in key R&D activities targeting SMEs, there will be a large diffusion of knowledge than will improve the learning and innovative capacity of SMEs in the country [. . .]
>
> [. . .] Academic institution of learning need to inculcate the spirit of entrepreneurship into youths when in school so that those who want to have a youth-owned business can start the learning process before graduating from school". . .
>
> [. . .] The cost of learning and innovation sometimes outweigh its benefit, imitation of ideas often wear off the benefits [. . .]
>
> [. . .] Due to the informal nature of the small businesses, accessing loans and grants for learning and innovation is low. However, the high labor mobility in the sector allows for knowledge sharing [. . .]

5. Conclusion and recommendation

The paper looked at learning and innovation in youth-owned small businesses and the impact of mediation factors. The findings have both policy, practical, pragmatic managerial implications for promoting learning and innovation in youth-owned small businesses in Lagos. The findings show that even though government support, informal network society and external knowledge all have a positive relationship with learning and innovation in youth-owned small businesses, government support has the most impactful impact. The informal network society via a trade association, professional network and social media are also critical in knowledge transfer in youth-owned businesses. On the part of the government, they need to support the creation of accelerators/incubator hubs to support SMEs with industry experience, funding, partnership mentorship and networking opportunities. Furthermore, some innovation and learning require the government to improve infrastructure at all levels to carry out learning and innovative activities.

In line with our findings, the government should provide free trade zone, create innovative agencies and centers, improve the budget on science and technology, legislation and bills focused on developing small-scale businesses should be enacted. Also, fiscal and monetary policies favor small businesses, i.e. the provision of tax breaks, grants, incentives and affordable interest rates to encourage lending for learning and innovation. It may also be appropriate to consider appropriate trade protection, especially for newly introduced products that result from innovative processes. Infrastructure such as electricity, broadband internet, etc., should also be made available especially to business clusters and sectoral basis as it enhances communication, a key driver of knowledge exchange and learning.

Informal network society and external knowledge. The informal network society via a trade association, professional network and social media is also critical in knowledge transfer in youth-owned businesses. Learning can be identified as a compensable factor and hence trade associations should pay more attention to it as it has the potentials to improve the earning capabilities of the member organizations and employees in particular. Youth-owned businesses must actively pursue collaboration even with their business competitors to get to access knowledge cheaper if they reach out as a mass than as individual entities. Chambers of Commerce and

industry and other relevant developmental agencies who provide support for small businesses need to broaden their reach and adopt learning interventions that appeal to youths and meet their learning needs. This will enhance their innovative capabilities and competitiveness in the global market space.

On the part of the enterprise's management, they should develop a good relationship with customers, suppliers of equipment, machines, encourage workers to participate in seminars and workshops, provide a benefits system to retain employees to minimize loss of knowledge and enhance innovation. SMEs need to budget for more learning programs and R&D. Participating in professional associations on an active basis, including social events that allow for more collaboration, is key and be encouraged among employees.

There should be increased cooperation between the industry and higher institutions learning. Internship and industrial trainees should be challenged with real industry problems to provide support and feedback for the academic instructors. Finally, it is recommended that the Nigerian Government should rejig the National Innovation system to encourage youth-owned small businesses to thrive, not only in Lagos but also throughout the Nation.

This study found the sectoral innovation theory to hold in Nigerian youth-owned SMEs. The result found a relationship between the institutions of learnings, which serve as a domain of knowledge. The government plays an important role as actors in support of learning and innovation as found in the study, enabling institutions to interact and share knowledge capable of driving innovation in youth-owned business.

This study only considers the impact of identified factors on the learning and innovation of youth-owned businesses but did not consider the impact of this learning and innovation on the output of these youth-owned businesses. Therefore, future studies can consider the impact of learning and innovation on the output of youth-owned businesses in Nigeria. Further study can also explore if there are gender dimensions related to the mediating factors on learning and innovation in the youth-owned business segment.

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