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Research Papers on knowledge, Innovation and Enterprise

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Research Papers on Knowledge, Innovation and Enterprise

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Research Papers on knowledge, Innovation and Enterprise

CONTENTS

Editorial

As always this seventh volume of the *Research Papers on Knowledge, Innovation and Enterprise* is dedicated to papers submitted to the *International conference on Knowledge, Innovation and Enterprise* which was the held in Dubai, United Arab Emirates, 2-4 September 2019.

Six papers were accepted and published in this edition—covering knowledge-education, creativity and entrepreneurship. The first paper by Nonzukiso Tyilo (South Africa) investigates the phenomenon of HIV and AIDS in South African schools and the schoolchildren opinions on the influence of peers on their learning about HIV and AIDS. The paper concludes—in its recommendations—that school authorities and other policy makers provide student-centred platforms for schoolchildren to 'get opportunities to talk about things that affect them when learning about HIV and AIDS.'

Simon K. Luggya's (South Africa) second paper examines mentorship opportunities and training offered to members of school governors in the Fort Beaufort Education District in South Africa. The paper recommends, in conclusion, that education offices in the District should engage 'financial management specialised personnel to provide mentorship for School Governing Body and budget should be allocated for mentorship.'

Ponella's (USA) third paper on creativity analyses music, musical instrument construction and how the latter relates to 'the development of individual and collaborative creativity'. The paper posits that the 'comparison of music and creativity underscores the value of each individual voice and how the distinct timbres … orchestrates a unique gestalt—whether in a musical ensemble or business boardroom.'

Renaldo A. Scott's (USA) fourth paper presents a study that aims 'to determine the impact of *Please ASK* ['a researcher-created heuristic'] on student comprehension of articles before proper nouns in English.' The study, according to Scott, 'has implications that support using creativity to find solutions to other difficult aspects' of English Language.

Ujah-Ogbuagu & Mankilik (Nigeria) fifth's paper presents a research report on the online presence of Micro, Small and Medium-sized Enterprises in Nigeria in Lagos and the Federal Capital Territory of Abuja. The paper examines major factors affecting internet presence leverage amongst MSMEs and the impact of online presence on business profitability and growth. The results show lack of technical skill and high cost of internet access as among major barriers to online presence. The paper recommends, in conclusion, a number of 'strategies for effective online visibility for the Nigerian MSMEs.'

The sixth paper by Kerry & Jemitola presents a small study which explores the phenomenon of Big Data analytics and the impact on entrepreneurship development in Nigeria. The paper reports a general lack of awareness, and poor use of big data analytics among the participant-businesses. The paper argues that big data analytics 'can contribute significantly to entrepreneurship development and economic growth in Nigeria' if there is deliberate policy focus 'on building entrepreneurs' skills capacity on business intelligence, analytics and decision making'.

James Ogunleye, PhD, FRSA
Chairman, 2019 KIE Conference

RESEARCH PAPERS ON KNOWLEDGE,
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Learning about HIV and AIDS in schools: The voices of adolescents about peer pressure

NONZUKISO TYILO
University of Fort Hare, South Africa

Abstract

HIV and AIDS is a phenomenon that affect every sector of the South African society. This brought about integration of HIV and AIDS in education in schools. In schools, the teaching of HIV and AIDS is mainly done in Life Orientation which is a compulsory subject that was introduced. However, there is nothing that shows whether the knowledge that learners get from school lays the firm foundation to withstand peer pressure. Nothing much is being mentioned about the voices of learners about the factors influencing their learning of HIV and AIDS in schools. This has triggered the researcher's interest to conduct this investigation. The paper created a platform for adolescents in grade 10 to voice out their views about the influence of peer pressure when learning about HIV and AIDS. Social norms theory was the main theory found to be relevant because it understands people's behavior in terms of adapting to group arrays and beliefs. Moreover, people often succumb to societal pressures where their behaviours are often influenced by those around them. Interpretive qualitative research was used to examine the studied phenomenon. Twenty research participants were drawn through purposive sampling from the selected schools. Data were collected through semi-structured interviews and focus group interviews. All ethical considerations have been adhered to. Methodological triangulation enhanced trustworthiness and credibility of this paper. The paper found that some learners often experience problems with peers when learning about HIV and AIDS. Data show that even though learners are educated about HIV and AIDS in school, they have problems maintaining what they have learned when with friends. However, some learners acknowledged the positive influence that their peers. Some participants have blamed their parents' unwillingness to talk to them about HIV and AIDS as this makes them vulnerable to pressure from peers. The paper recommends that the learner-centred platforms be created where learners get opportunities to talk about things that affect them when learning about HIV and AIDS. In addition, inter-sectoral collaboration to empower all stakeholders about HIV and AIDS should be established to ensure that all relevant stakeholders are empowered to take responsibility.

Keywords: HIV and AIDS, Inter-sectoral collaboration, Parental involvement, Peer pressure, Social norms

Introduction

AIDS was first discovered in the United States of America (USA) around 1980's and has spread and intensified worldwide, particularly among marginalised populations (Pellowski et al., 2013). Globally, although there seems to be promising progress with regards to HIV and AIDS, young people are among the populations that continue to be affected by HIV epidemic (UNICEF, 2019). Hence, education is perceived as effective tool in preventing further spread of HIV particularly among adolescents. According to Howarth & Andreouli (2014) integrating HIV and AIDS education in schools can reduce stigma and prevent new infections. In South Africa, the National Policy on HIV and AIDS Education was developed in 1995 to guide schools with HIV and AIDS education (Thaver & Leao, 2012). Hence, Sarma & Oliveras (2013) argue that engaging adolescents when it comes to HIV and AIDS is necessary to develop appropriate and empowering curricula. As learning about HIV and AIDS takes place in schools, this aims to empower adolescents in making informed decisions and withstand any pressure from peers. However, little is said about the experiences of learners when they learn about HIV and AIDS. Francis (2013) argues that the subject of HIV and AIDS has been inundated with cultural taboos where no one wants to talk about it because children have always been perceived as innocent non-sexual beings. However, literature suggests that learning about HIV and AIDS is fundamental in empowering learners with knowledge and skills that would enable them to make informed choices about their sexuality (Brotman, Mensah & Lesko, 2010).

Learners learn about HIV and AIDS in schools. In addition, adolescents need to be empowered with knowledge on how to prevent HIV infection and living a healthy and balanced life. If there is no foundation laid to adolescents be it at school or at home about HIV and AIDS and other sex related matters, they get easily influenced by peers. The pressure from peers enhances sexual risky behaviours because adolescents perceive the opinions of peers as more important than those of adults (Asamle & Yamane, 2012). Another challenge is that adolescents are at a stage they want to experiment and believe in the approval of peers as a result they start engaging in sexual risky behaviors that may contribute to HIV vulnerability as they often practice their friends' behaviours (Kar *et al.*, 2015). This is more common among males in the adolescence stage because they view sexual experiences as a status symbol (Asamle & Yamane, 2012).

There is extensive literature on children and HIV and AIDS (Adekanmbi & Maundeni, 2014). Most studies on HIV and children in schools deal with how gender and sexuality influence their lives (Bhana & Pattman, 2011). Some studies even emphasise risk behaviours, stigma and discrimination. However, there is dearth of literature about adolescents' voices of learning about HIV and AIDS particularly with how peers influence them when learning about HIV and AIDS. Hence, this paper sought to examine influence of peer pressure in adolescents' learning about HIV and AIDS.

Theoretical Framework

This paper was informed by social norms theory by (Perkins & Berkowitz, 1986). Social norms theory is about how behaviour is predominantly influenced by incorrect actions of other people from a particular group. People often express their behaviours to conform to the perceived societal or group norm in order to be accepted by others and gain sense of belonging. From this theory as people do things because they are done by peers or social groups, this often increases the problem behaviours where young people engage in sexual risky behaviours and the healthy behaviours are minimized as everyone strives for sense of belonging. Hence, Miller & McFarland (1991) emphasize that people act against their fundamental values and beliefs only because they want to belong. This has proved to have undesirable repercussions as people display unhealthy and unacceptable behaviors instead of expressing healthy ones (Perkins, 2002). This theory was chosen because young people's actions are to a large extent influenced by their peers and this has nothing to do with the knowledge that they have acquired. In many instances, they do what is done by friends even if it's against their own and family values and beliefs. This is also the case with this paper because even though learners learn and have reasonable knowledge about HIV and AIDS their behaviours are not a reflection of what they have learned.

Aim

This paper explores the voices of adolescents about the influence of peer pressure when learning about HIV and AIDS in schools.

Methodology

This paper adopted interpretive qualitative research where grade 10 learners from the two selected schools were studied. An interpretative paradigm is used where a constructivist view of social reality is assumed. According to Marshall & Rossman (2016), qualitative research is more about the processes where participants are studied without subjecting them to any form of experiments. The study was conducted in the Eastern Cape Province where two high schools were selected. The study was conducted in the Eastern Cape Province as it is the second largest province after KwaZulu Natal Province in terms of number of schools. In addition, the majority of schools in the Eastern Cape Province are quintile 3 schools and non-fee -paying schools and this makes the province to be far behind than others in terms of progress. When the study was conducted, the province had 5569 schools constituting 21.6% of the schools in South Africa. The province has 23 districts, and from the districts, the study focused on the Amathole West District which is divided into the following clusters, namely the Peddie Cluster, Keiskammahoek Cluster, Stutterheim Cluster and Fort Beaufort Cluster. For the purpose of this paper, only schools from the Fort Beaufort Cluster were studied as the cluster was accessible to

the researcher. Research participants were purposively sampled from two high schools to be the participants of the study.

From each school 10 learners were included, that is five boys and five girls. Grade 10 learners were suitable participants for the study as they are still within the adolescent stage characterized by the transition from childhood to adulthood (De Witt, 2016). This transition puts adolescents under enormous stress that often brings about many moral dilemmas due to the changes they go through; like physical, social, emotional, cognitive and moral changes (Kar *et al*., 2015). The data was collected through classroom observation, semi-structured interviews and focus group interviews. The data was analyzed using thematic analysis as it examines, identifies and record themes found in the data (Guest *et at.,* 2012). Various themes emerged from the data. The study aimed to uphold standards of rigour thorough different data collection tools (Lincoln & Guba, 2000). This was aimed to enhance quality by ensuring that credibility, transferability, dependability and confirmability are adhered to. Permission to conduct the study was obtained from the Eastern Cape Department of Education and principals for the selected schools. Research participants were informed about anonymity and confidentiality through written consent forms. In addition, protection from harm was guaranteed should the participants wish to withdraw from the study.

Results

From the data collected through semi-structured interviews, focus group interviews and observations there were similar themes that emerged. The themes are, peer pressure influence, parental involvement, and teacher's attitudes.

Theme 1: Influence of peer pressure

It has emanated from the data collected that learners still succumb to social norms where they often do what their friends do without considering their familial and personal values and beliefs. From the data collected, research participants acknowledge the influence of peers and boys in particular seemed to be ones that are more susceptible to negative peer pressure than girls. For example, Enkosi mentioned that,

> *Peer pressure challenges us when it comes to HIV and AIDS. Even though at school we are taught about HIV and AIDS and how we can prevent ourselves from the infection there are instances when we don't do what we have learned because of our friends' influences.*

What Enkosi has mentioned about being influenced by friends is echoed by Lunje,

> *I also find the same challenge of peer pressure. Some of my friends are not from the same school as mine, we meet after school when we are home. To be honest, we don't always carry condoms when with friends and sometimes while with them it happens that you meet the*

girl while you don't have condom. Although you know the consequences of unprotected sex, that does not matter when you find yourself in that situation.

The influence that peers have on adolescents is enormous, as a result Sobomi just like the previous research participants expounded,

Once you find yourself in Lunje's situation you just can't discredit yourself from friends, but you just decide to engage in unprotected sex. Even the girl will make up stories about you should you decide not to have sex with her. If you don't want to be seen as weak by friends and girls, you just succumb to such situations without thinking.

In addition, Luphawu also echoed what has been said by others when he pointed out that,

If it happens that your friends know that you haven't had sex with your girlfriend, they will laugh at you and tell you that your girlfriend is going to leave you for another boyfriend. This also puts pressure as you don't want to be judged by peers and also don't want to lose your girlfriend.

From the data collected, it is evident that boys are the ones who are more pressured by friends when it comes to engaging in unprotected sex and subjecting them to the risk of HIV infection. The knowledge that they gained in school about HIV and AIDS has nothing to do with their actions when with friends. Some research participants even blame their parents for not being willing to talk to their children about HIV and AIDS.

Theme 2: Parental involvement

Parents are the first people that children interact with even before they start school as they maintain discipline and instill family values. When parents are able to instill some familiar values and beliefs to their children, children can withstand pressure from friends. However, the data collected reveal that among the challenges that children experience is their parents' unwillingness to talk to them about HIV and AIDS. From the data collected, parents' unwillingness to talk to their children about HIV and AIDS was revealed by Lubanzi when he said,

My parents don't talk to me about HIV and AIDS at all. Even though from home my uncle talks to me and even encourages me to ask any questions I have about HIV and AIDS I still want my parents to talk to me about HIV and AIDS not my uncle.

Sesona echoed,

My mother doesn't talk to me about HIV and AIDS even though she's a social worker by profession. I just don't understand my mother because she does talk to other young people about HIV while she finds it difficult to talk to me. Just like Lubanzi, from home my aunt is the one who is more open to me; however, I still want my parent to talk to me.

Luphawu added,

My major challenge when learning about HIV and AIDS is to maintain the family values and what we learn from school. For example, my parents don't talk about HIV and AIDS at all as they are too religious, while from school the teacher talks about it openly. If find myself challenged to bridge the gap between my parents' expectations while at school, I am expected to do as other learners regardless of parents' beliefs.

Although some participants have talked about their dissatisfaction when it comes to their parents and talking to them about HIV and AIDS, some have acknowledged the positive role played by their parents in educating them about HIV and AIDS. Just as Sim mentioned,

My mother is the person who talks to me about HIV and AIDS from home although she does not tell me much about HIV and AIDS. In many instances when she talks to me she always encourages that I delay sex up until a stage where I'm old enough. However, I do not feel too comfortable talking to her about sex.

Sovuyo also explained,

My parents, especially my dad talks to me about HIV and AIDS. My dad often encourages me to be open to him. All the information I know about HIV and AIDS I learned it from him because I can always ask him anything I need to know. My dad even encourages me to use protection when I engage in sex.

Hloza affirmed,

From home, my parents are the ones who have influenced what I know about HIV and AIDS. My parents often share their experiences when home to be empowered and focused in all what we do.

Lunje explained,

From home my mom and uncle are people that talk to me about HIV and AIDS. Although my mom makes efforts of talking to me about everything, I do not feel comfortable talking to her. My uncle is the person that I can freely talk to about HIV and AIDS. I do not talk to my dad about HIV and AIDS from home as he does not talk to me either.

The collected data reveal that although some participants were unhappy with their parent not talking to them about HIV and AIDS, some participants acknowledge the enormous role that their parents play in educating them about HIV and AIDS. From the data collected, it was also revealed that the attitude of teachers is also a challenge.

Theme 3: Teachers' attitude

The research participants have shown their dissatisfaction about the teachers' attitudes when learning about HIV and AIDS. From the data collected, the participants indicated that at school they learn about HIV and AIDS, while on the other hand, the teachers advocate for no sex before marriage. As a result, Sovuyo mentioned,

For me the challenge is with the different messages that we receive about HIV and AIDS. For example, at school they always talk about 'no sex before marriage' while the same school teaches about sex.

In support of what Sovuyo said, Hloza expounded,

I fully agree with Sovuyo because school is sending mixed messages when it comes to HIV and this is really what confuses and challenges us when we learn about HIV and AIDS.

Just as the other previous participants have responded, Enkosi also echoed,

At school, we are told what to do and not to do instead of being prepared to make the right choices.

From the collected data, there is evidence that the attitudes of teachers and learners are a challenge when it comes to learning about HIV and AIDS in class. Furthermore, it is obvious that the boys are the ones who are more dissatisfied with the teachers' attitudes than girls. For example, Sovuyo pointed out that,

From school our teacher's attitude when teaching about HIV and *AIDS is a challenge. She often talks about no sex before marriage while from home my dad often encourages me to use protection each time I engage in sex. Another challenge for us boys is being seen as badly influencing girls into sex. I also feel that we are not being empowered enough on how to live our life productively because the society perceives boys as strong and capable.*

In addition to what Sovuyo mentioned, Hloza said,

Another challenge is with teachers because they often see us as jeopardizing the future of the girls as if as boys we do not have future.

Lunje echoed,

The major challenge is when teachers portray us boys as of bad influence on girls. This makes girls to delay sex.

Sobomi reported,

Some teachers have bad influence and more education is directed to girls rather than all learners in class. Teachers in school influence girls not to have sex. Teachers always regard us lions as they believe that we are the ones who influence girls to have sex.

Phiwo as a girl has come up with a different perspective from boys and she pointed out that,

I have realized that talking about HIV and AIDS in class is more difficult especially with us girls. Sometimes when you have answers to all the questions, teachers and other learners might see you as knowing too much. In many instances, we then choose to be quiet in class. On the other hand, our LO teacher does not allow us to participate in class when teaching certain lessons, she just talks and as learners we are expected to just listen.

From the data collected it is evident that the research participants are not happy with attitudes of teachers during learning about HIV and AIDS. This is caused by the mixed messages conveyed by teachers in schools when learning about HIV and AIDS. In addition, such attitudes at times hinder their participation in class and contribute to peer pressure influence.

Discussion

This section discusses the findings in line with the literature reviewed. This section discusses the findings according to the themes that emerged from the data collected.

Influence of peer pressure

Peer pressure is influential because everyone wants a sense belonging rather than being perceived as not man enough by their male counterparts. This negatively threatens accomplished efforts when learning about HIV and AIDS. As a result, Adeomi *et al*. (2014) are of the view that peer pressure augments sexual risky behaviours as young people often succumb to societal norms. Peers' views are more influential as compared to older people as friends' behaviours are often practiced by their peers (Kar *et al*., 2015). From the data collected, the research participants have shown some negligence as they ignored the knowledge that they have about HIV and AIDS and decided to do as friends did. Literature suggests that when peers engage in risky sexual behaviours no precautionary measures are taken into consideration (Asamle & Yamane, 2012). Therefore, this may increase their HIV vulnerability and undermine the efforts made about HIV and AIDS education. Young people are easily influenced by peer pressure and this is worsened by the absence of parental guidance as there is no proper foundation laid by parents from home.

Parental involvement

Parents are the first people that children are accustomed to and home is where children's sound knowledge of HIV and AIDS should be provided (Barbosa *et al*., 2008). Despite the latter statement, the literature suggests that there are some factors contributing to parents' unwillingness to talk to their children about sex. For example, Breidlid, *et al.* (2015) indicate that some parents are against sex education offered in schools because they believe that it enhances learners' immoral and unacceptable behaviours. Hence, Mũkoma, *et al*. (2009) echo that parents' unwillingness to talk to their children about sex is believed to be encouraging children to engage in risky sexual behaviours.

On the other hand, when parents or family members have laid a solid foundation to their children about HIV and AIDS the information that the children receive from home might empower them to be able to differentiate between right and wrong. When children reach school what they learn from school enhances what home has instilled and this enables them to withstand peer pressure. Pequengnat & Bell (2012) believe that families are recognised as an important structure when it comes to health promotion and prevention initiatives. Families can be champions for learning about HIV and AIDS through advocating for HIV infection and prevention, instill family values to eliminate the risks of HIV infection while at the same time encouraging positive sexual behaviours. Bastien, Kajula & Muhwezi (2011) affirm that poor parent-children communication about sex often affects children's behaviours negatively.

Pequengnat &Bell (2012) are of the view that parents need to fulfill their parental obligation of talking to their children about HIV and AIDS before they get negative influences from peers. This is because, talking to children about HIV and AIDS should not only be mothers' responsibility but fathers also need to be involved, especially when it comes to boys (Angera *et al.,* 2008). Furthermore, Barbosa *et al*., (2008) suggest that even other family members can influence children's behavioural patterns as they express their views more freely than when with parents. Despite the parent's unwillingness to talk to their children about HIV and AIDS, the attitudes of teachers are also of great concern.

Teacher's attitude

The literature reviewed recommends that when learners learn about HIV and AIDS everyone should be catered for as this empowers learners with skills in order to avoid risky sexual behaviours and inculcate positive behaviours (Mũkoma *et al*., 2009). The collected data reveal that research participants have identified teachers' attitudes as problematic when learning about HIV and AIDS. From the collected data participants indicated that teachers often perceive boys as influencing girls when it comes to sex and this negatively influences learners' participation in class. The attitudes of teachers, when teaching about HIV and AIDS, are influenced by their experiences. The study done by Kalmelid (2013) found that learners were harassed and this has also contributed to the attitudes of teachers. On the other hand, the literature reviewed reveals that female teachers have problems discussing sexuality in their classes because girls often become more passive than males (Chege, 2006). Teachers' attitudes are very powerful in determining what should be offered in class and this has nothing to do with curriculum standards set (Howarth & Andreouli, 2014). During HIV and AIDS lessons, learners become anxious and teachers become uncertain about HIV and AIDS integration as they are unsure about whether this encourages sexual activity among learners.

Conclusion

In conclusion, from the data collected it emerged that research participants experience challenges when learning about HIV and AIDS. The enormous pressure that they get from friends has been noted. This enormous pressure has been more evident among boys than girls, however, this does not mean that girls are not pressured but it might be because girls are not open enough when having to talk about sex more especially in the presence of the boys. Parental involvement has been criticized by some research participants while some have commended the enormous role that their parents and family have on them when learning about HIV and AIDS. Literature suggests that if there is no foundation laid on adolescents about HIV and AIDS, this may subject them to the pressure from peers. The attitude of the teacher is also identified as a challenge that contributes to peer pressure because of the mixed messages that they convey when teaching about HIV and AIDS and their inability to create conducive classroom environment where all learners participate without fear of being judged for knowing too much. The recommendations are discussed below.

Recommendations

The paper recommends that HIV and AIDS awareness campaigns be more strengthened through inter-sectoral collaboration to empower all stakeholders about HIV and AIDS. Such collaborations should ensure that the services provided by different organizations and government are properly coordinated to empower adolescents and other societal stakeholders about HIV and AIDS and other related matters. In addition, learner-centred platforms should be prioritized for learners get opportunities where they can talk about things that affect them when learning about HIV and AIDS.

Implications

The findings of this paper imply that teaching about HIV and AIDS in schools needs to be revisited to ensure that teachers execute their teaching responsibilities fully. In addition, teachers need to draw a line between their professional and personal roles. For example, when teaching, teachers should teach about HIV and AIDS without moralizing it. Furthermore, the integration of HIV and AIDS in the curriculum has not achieved what it purported to achieve as the teaching of HIV and AIDS in schools is mostly covered in the responsibility of Life Orientation, a compulsory and non-examinable subject in South African schools. This paper calls for different stakeholders to revisit the HIV and AIDS Policy in schools in consultation with relevant stakeholders to devise mechanisms of ensuring that the policy addresses the challenges encountered in schools. Lastly, this paper implies that schools should not be seen as ivory towers, however, schools as social institutions need to have programs for both school and out of school youth about HIV and AIDS. The aim is to ensure that when learners are out of school, they do not have problems of succumbing to pressures exerted by out of school youth.

Correspondence
Ms Nonzukiso Tyilo
Faculty of Education
University of Fort Hare
Private Bag X1314
King Williams's Town Road
Alice, 5700, South Africa
Email: ptyilo@ufh.ac.za

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Mentorship for School Governors in South Africa

SIMON K. LUGGYA
University of Fort Hare, South Africa

Abstract

The institutionalisation of School-Based Management (SBM) in many countries has brought many responsibilities to School Governors (SGs) and the most challenging of them all being managing school finances because it entails financial accountability at the school level. This study was precipitated by a concern that, despite the training SGs get on financial management, schools continue to face challenges of mismanagement and misappropriation of school funds. These schools continue to operate without proper financial accounting systems in place - school financial policies are not formulated, making their financial situation always in tatters. This paper examined the mentorship provided to School Governing Body (SGB) members after training in the Fort Beaufort Education District. Using a qualitative case study design, the district with three schools, was purposively selected for the study. The study was underpinned by Hudson's Five Factor theoretical model of mentoring. Data were collected using face-to-face interviews and document analysis instrument. The findings revealed that, much as there were systems in place for mentorship at the Education District, effective mentorship did not cascade to the school level. There were no personnel to provide specialised mentorship in financial management to SGBs. Mentoring for SGBs was not prioritised because of the budgetary constraints faced by the Provincial Department of Education. The researcher concludes that mentorship is not effective enough to allow SGBs to improve the skills acquired in the training so as to put effective financial systems in schools. The paper recommends among others, that the Education office should appoint financial management specialised personnel to provide mentorship for SGBs and budget should be allocated for mentorship.

Keywords: Financial Management Systems, Mentorship, School-Based Management, Budget

Introduction

In South Africa, the South African Schools Act (No 84 of 1996), henceforth referred to as (SASA) ushered in School Based Management and in 1997, School Governing Bodies (SGBs) were elected to govern South Africa's public schools (Luggya, 2016). The SGB comprises of the Head of School, parents, teachers and learners. Majority of members are parents who may not have formal education. Due to the specialized nature of some of the new

roles by the SGBs, in this case, school financial management, government provides training to empower SGBs to perform their financial function efficiently. However, despite the training in financial management, many schools are engulfed in misappropriation and mismanagement of school funds (Luggya, 2016; Xaba, 2011; Heystek, 2012). That is why scholars like Maluleka (2010) argue that financial management training cannot be complete without after-training supportive and mentoring mechanisms. The researcher concurs with Maluleka (2010).

Literature Review

SASA (No. 84 of 1996) stipulates that the Head of Department of the Provincial Department of Education must ensure that all necessary support is accorded to the SGBs in the pursuance of their management duties. According to Maluleka (2010), it is not only the training which is important for the smooth functioning of SGBs - mentoring and control are also crucial to ensure that the intended functions are fulfilled. The author advises that in order to ensure that SGBs perform their duties as expected; they need to be appraised or inspected from time to time. Early (2014) defines mentoring as a process in which a more skilled or experience person supports a less experienced person in developing confidence and expertise in a role. Griesel (2016) describes mentoring as a formalized process whereby a more knowledgeable person actuates a supportive role of overseeing and encouraging reflection and learning with a less experienced and knowledgeable person, so as to facilitate that person's career and personal development. Griesel (2014) points out that in commerce, industry and business, mentoring is regarded as a key component of management development and that it has been employed effectively in education as a strategy for training and induction. When mentors are selected, care should be taken to ensure that they have the necessary knowledge and skills, as well as the correct attitude to execute their tasks (Bartell, 2005:77).

McFarlane (2000) mentions, that mentors have a vital role in ensuring that SGBs perfect their expertise in financial management. Mentors have an influence on the transfer of knowledge and the learning of skills. Mentors create learning spaces, within which various and unanticipated and even undetected processes occur (McFarlane, 2000). Nigro (2003) mentions that mentoring could be used as a developmental programme for school governing members that require clarification of new roles and tasks. Mentoring could provide feedback on the SGB performance, highlighting opportunities for greater effectiveness and could provide personal support. Ntseto (2009) suggests that mentoring may offer that support by providing SGBs with someone who can give feedback, question, and share, discuss, challenge, confront and guide them through the learning cycle. Mentors could stimulate the SGB's creative and critical thinking and thus empowering them to make informed financial decisions. Mentoring could extend a learning culture in the school – ensuring that learning continues after training. Financial management policies keep on changing. SGBs will always learn about the new developments in financial management from the mentors (Nigro, 2003).

From the above discussion, it is clear that mentoring systems play an important role in making sure that the objectives of any training are successfully achieved. SGB members cannot be expected to have internalised the knowledge and skills they are expected to have once the training comes to an end. There should be support and mentoring systems in place to continue guiding the SG members in their places of work, in this case, schools, so that they can reach their full potential.

Theoretical Frame work

Models of Mentoring

The study used Hudson' five factor model of mentoring which includes the following: Personal Attributes, System Requirements, Pedagogical Knowledge, Modelling and Feedback (Hudson, 2014; Hudson, Usak & Savran-Gencer, 2008).

Personal Attributes

A mentor's personal attributes involves being supportive to the mentee, listening to the mentee, helping to instill confidence, reflective practice and positive attitudes.

System Requirements

System requirements refer to the mentor's ability to articulate the aims and policies of the relevant legislation required by the education system.

Pedagogical Knowledge

An effective mentor would also articulate issues surrounding teaching and learning to mentees such as planning, learning strategies, content knowledge and skills (Hudson, 2010).

Modelling

The mentor needs to model desirable mentoring traits, mentor-mentee relationship, suitable professional language and respect to the mentee. Mentor-mentee relationship can be a one-on-one relationship or network of multiple mentors (Packard, 2011).

Feedback

Lastly, mentors provide advice and feedback to mentees on teaching and learning environment as well as their evaluations. Literature further identifies three mentoring models: the apprenticeship model, competency model and reflective model (Maynard & Furlong in Fischer & van Andel, 2002). Whereas in the apprenticeship model the mentee observes the mentor and learns, in the competency model, the mentor gives the mentee feedback about performance and progress. In the reflective model, the mentor assists the mentee to become a reflective practitioner.

The relevancy of Hudson's Five Factor Model to this study cannot be overemphasized. From training, SGBs need guidance and support to practice the

knowledge and skills at the schools. SGBs still need appraisal and feedback and role model after training. Hudson's five factor model can address SGBs needs after training.

Problem Statement

Despite the financial management training SGB members get from the government, financial mismanagement and misappropriation of school funds continue unabated. The problem is that training is not enough to ensure the effective transfer of financial management knowledge and skills to the SGBs. Training should be complemented with mentorship so that SGBs can continue to get support in order to carry out their financial function efficiently and effectively. Mentorship ensures that theory from training is effectively put into practice with the support of mentors.

Research Aim

The main research aim is to ensure that SGB members are effectively mentored so that they can practice efficient financial management systems in their schools.

Research Objectives

- To find out how mentorship is implemented by the District Education Office.
- To ascertain the challenges encountered in the implementation of mentorship to the SGBs.
- To make recommendations to improve the implementation of mentorship to the SGBs.

Research Questions

- How is mentorship implemented by the District Education Office?
- What are the challenges encountered in the implementation of mentorship to the SGBs?
- What recommendations can be provided to improve the implementation of mentorship to the SGBs?

Methodology

The study was located in the interpretive paradigm using a case study design. Interpretive paradigm moves from the premise which implies that knowledge can be accessed through participants' interpretation and understanding of their environment (Somekh and Lewin, 2005; Denzin and Lincoln, 2003; Dezin and Lincoln, 2008). The main objective of the study was to examine the implementation of mentorship after the Financial Management Training for School Governing Bodies in the Fort Beaufort Education District. A sample of three (3) schools out of a population of 247 schools in the district (Education Management Information Systems – EMIS (2015); three SGB members – one (1) treasurer, one (1) educator governor and one (1) principal from the three schools; four mentors; and three School Gov-

erning Body Coordinator officials were purposively selected for the study. This is in line with Teddlie & Yu's (2007:77) assertion that purposive sampling is a "selecting units based on specific purposes". In this case, participants were selected as they bore the information on their experiences and perceptions of mentoring. The researcher had in mind four guiding principles for the selection, namely:

I. School financial management performance;
II. Accessibility of the school; and
III. Willingness of the school to participate in the study.

Although all schools in this district fall short in school financial management, there are those which are worse off – and these were targeted to ascertain the kind of mentorship SGB members received. Secondly, the issue of accessibility was also considered. Some schools in the Fort Beaufort Education District are located deep in the rural areas. It is therefore not easy to access them. These schools were not considered. The researcher considered schools which could be easily accessible. The issue of willingness to participate in the study was also considered in selecting the schools. Three schools were therefore purposively selected putting into consideration the three factors mentioned above. The SGBs in the schools selected were therefore in a position to provide their experiences regarding the mentorship they received from the district education office.

Data were collected using semi-structured interviews and document analysis instruments. Using the Tesch's method of open coding, data were analysed to identify the main themes. The study ensured credibility and trustworthiness through 'member-checking, where participants determined the accuracy of the findings (Rangongo, 2011). The multiple data sources used also provided the study with credibility in the sense that triangulation was possible. Ethical issues were addressed by ensuring anonymity for the participants and by keeping their information confidential.

Results

Mentorship from the District Education Office.

The study found that mentoring systems were in place at the district education office, but the implementation thereof was a challenge. This is so, because the district office does not have officials who are specialized in financial management. The SGB coordinator, who was not qualified in financial management, was the one who would visit schools occasionally to listen and try to resolve the challenges SGB members had regarding school financial management. The support by the SGB coordinator was of a general nature not specifically for school financial management. SGB Coordinator official (SBG C2) had this to say in connection with the support and mentorship from the district education office:

> *"Of course support and mentoring systems are in place but the implementation part is a bit challenging….for instance the district office does not have officials who are specialized in financial management…….so that they can visit schools to help out with whatever challenges SGBs are facing and we cannot retain FM trainers after training to carry out support and mentorship*

> *for SGBs……this would have financial implications for the district……it is me from time to time who visits SGB members in their schools to give support and try to resolve the financial challenges they face….but of course this is constrained by the fact that I don't have a background in financial management and the fact that I am alone…….however If the financial position of the district improves, there are plans to get financial management specialists to support and mentor SGBs at their schools"*

SGB member (SGB1) had this to say in response to the question about the visits by the SGB Coordinator:

> *"OK… the SGB coordinator visits the school but he doesn't address the financial management challenges we face during the implementation period…we need people who could guide us… that is why you find us going back to our usual practices even after training….we need … guidance after training…..the SGB coordinator is overwhelmed with the work".*

Another SGB member (SGB3) had the following to say regarding the SGB Coordinator:

> *"I wish after training we can get experienced people in school financial management to guide us in implementing what we are trained on….when you are alone at school it is difficult to put in practice those things…..I myself I forget quickly".*

Out-Sourcing Financial Management Specialists

The study further found that the district office could not out-source financial management specialists to support and mentor SGB members at schools because of budgetary constraints faced by the Provincial Department of Education (PDoE). The SGB Coordinator (SGB C2) had this to say in response to the issues of the education office budget:

> *"I would have loved to extend the training into mentorship by the financial management trainers for the SGBs…..but it is impossible given the budgetary constraints….especially allocation for the training….we cannot stretch it to accommodate mentorship".*

Appointment of Financial Management Trainers

The study further found that the District Education Office did not have a say in the appointment of financial management trainers. The process of appointing the trainers is entirely left to the private partners. Trainers are appointed from various fields and therefore are unable to offer mentorship to the SGBs after training. In response to the question of appointing financial management trainers, the SGB Coordinator had this to say:

> *"Because financial management trainers are contracted to our private partners, the district education office cannot extend their services to offer mentorship to SGBs after training in the*

> *schools……this is outside our control……further, some of them do not have the proper knowledge for mentorship".*

One of the SGB members collaborated the response by SGB coordinator when asked how he would feel if financial trainers were to offer mentorship after training – this is what he had to say:

> *"It would have been good if the trainers came to our schools to mentor us after training…….after training we do not see them …….they always tell us that they offer training only……but some of them claim that they cannot mentor……I do not understand that…..otherwise we would not be experiencing challenges in putting theory of training into practice at school".*

Discussions of the findings

As pointed out in the literature, SASA (No. 84 of 1996) stipulates that the HOD of the Provincial Department of Education must ensure that all necessary support is accorded to the SGBs in the pursuance of their management duties. Maluleka (2010) in support of SASA, posits that it is not only the training which is important for the smooth functioning of SGBs - mentoring and control are also crucial to ensure that the intended functions are fulfilled. The author advises that in order to ensure that SGBs perform their duties as expected; they need to be appraised or inspected from time to time.

Mentorship from the District Education Office

As far as support and mentoring for SGB members by the district office was concerned, the study found that mentoring systems were in place, but the implementation thereof was a challenge. There was no specialized support of mentoring for SGBs after training. This is so because the district office does not have officials who are specialized in financial management. This finding contradicts what SASA stipulates that the HOD of the Provincial Department of Education must ensure that all necessary support is accorded to the SGBs in pursuance of their management duties. The finding is also not in line with Maluleka (2010) who points out that it is not only the training which is important for the smooth functioning of SGBs, but also mentoring and control are crucial to ensure that the intended functions are fulfilled. The author advises that in order to ensure that SGBs perform their duties as expected; they need to be appraised or inspected from time to time. The finding also deviates from Marishane and Botha (2004) who state that simply training school governing members is not enough to bring about the desired improvements in school management. They suggest that supportive efforts are necessary. The finding is further in disagreement with studies conducted in the UK, and the USA which indicated that support and mentoring are quite important to ensure that school governors reach their full potential (Deem et al., 2010; Gann, 2009; and Lindle, 2004). The finding also negates the role of mentoring mentioned by Momany and Cullingford cited by Griesel (2011) - that mentors observe SGBs performing their duties at school, to give them feedback on their performance as well as to assist them with any difficulties they might have experienced during the training.

The contribution by the authors is in line with what Griesel (2011) postulates that mentors can play a crucial role in supporting the SGBs at schools during the process of implementing the knowledge and skills they have acquired from the training. McFarlane (2000), mentions that mentors create learning spaces, within which various and unanticipated and even undetected processes occur. Nigro (2003) also points out that mentoring could be used as a developmental program for SGB members that require clarification of the new roles and tasks – that a mentor through a developmental program observes SGB members performing relevant financial functions and provides suggestions and advice for improved performance where it lacks.

Out-sourcing of Financial Management Specialists

The study found that the district office could not out-source financial management specialists to support and mentor SGB members at schools because of budgetary constraints faced by the Provincial Department of Education (PDoE). This finding confirms what Zinn and Lawrence (2007) posit in their study of the Imbewu Projects in the province which found that the projects lacked the necessary funding by the department of education indicating insufficient budgetary allocation for services such as mentorship for SGBs. The finding however confirms what Karlsson, McPherson and Pampallis (2000) state that insufficient budgetary allocation for training should be regarded as a real danger to school-based management where SGBs have been given considerable powers but in many schools lack the necessary skills to exercise them effectively. Due to the specialized nature of financial management and the pressures on the SGBs as financial managers, there is necessity for mentoring. Ntseto (2009) opines that mentoring may offer support by providing SGBs with someone who can give feedback; question; share; discuss; challenge; confront and guide them through the learning cycle.

Appointment of Financial Management Trainers.

The study found that the District Education Office did not have a say in the appointment of financial management trainers. The process of appointing the trainers is entirely left to the private partners with the district education office. This finding caught the researcher by surprise. All along it was assumed that the District Education Office (DEO) satisfies itself with the qualifications of the trainers and thereafter goes ahead to appoint them. As found, the DEO does not have a say in the appointment of trainers and that trainers are appointed from various fields by the private partners and therefore may not have the necessary financial management skills to train and also to offer mentorship for the SGBs after training. This finding contradicts what Griesel (2014) posits in her study on mentoring - that mentors have to possess the necessary knowledge and skills in order to fulfil their tasks successfully. Cunningham (2005) and Bartell (2005) in agreement with Griesel (2014), suggest that when mentors are selected, care should be taken to ensure that they have the necessary knowledge and skills, as well the correct attitudes to execute their tasks.

Limitations of the study

Using the purposive sampling technique to select participants, the study was unable to cover a wider audience. As mentioned earlier, the researcher was guided among other factors, the accessibility of the school and the willingness of the school to participate in the study. This phenomenon could have affected the generalizability of the findings to other schools in the district. However, being a case study in design, it was not the intention of the researcher to generalise the findings.

Recommendations

Effective mentorship for the SGBs should be implemented for the SGBs by the district education office. The district education office should appoint people who are specialized in financial management to offer effective mentoring as this is crucial in ensuring that SGB members reach their full potential after training. The specialized nature of financial management warrants mentoring after training. In this regard, SGBs would be able to effect efficient financial management systems in their schools. Mentors will be able to guide SGBs for example, in formulating school financial policies, budgets, statements of reconciliation, et cetera.

The budget for mentoring SGBs should be increased. Although, one may argue that South Africa has a myriad of socio challenges which also deserve budgetary attention, making sure that SGBs have the necessary skills to manage public funds would save a lot of taxpayers' money mismanaged at public schools. Mentoring of SGBs would ensure that unauthorized, irregular, wasteful and fruitless expenditure is minimized, thus reducing the need to pump more money into schools. An increase in the budget would allow the SGB coordinator to appoint specialised personnel in financial management to mentor SGB members.

The District Education Office should have a say in the appointment of mentors. The appointment of mentors should not be left to private institutions which work in conjunction with the education office. This will help to ensure that the right mentors with specialised knowledge in financial management are appointed. The process should therefore be collaborative.

Conclusion

The findings confirmed the concerns the researcher had regarding the implementation of mentorship for the SGBs by the department of education. There is no effective mentorship for the SGBs after financial management training. The DEO has systems in place for mentorship but does not have qualified mentors in school financial management. This is explained by the fact that the DEO does not have a say in the appointment of trainers. The implication is that some of the trainers may not be qualified to train financial management let alone mentoring. This is a serious concern because SGBs need qualified people to train them on financial management and to be mentored so that they are guided in putting theory from training into practice at school. As long as the DEO does not take steps to rectify the situation, school financial management in the Fort Beaufort Education District will re-

main in dire stress.

Correspondence
Dr. Simon K. Luggya
Faculty of Education
University of Fort Hare
Private Bag X1314
King Williams's Town Road
Alice, 5700, South Africa
Email: sluggya@ufh.ac.za

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A Cellist's View of Creativity

DEBBI PONELLA
Drexel University, Philadelphia, USA

Abstract

While musicians are generally considered to be creative artists, they are not instinctively creative because they are musicians, but because the discipline and development of creativity parallels that of musical skills; therefore the two go hand in hand. This article considers relevant research and literature, along with observations, interviews, and personal experience as it addresses this theory by analyzing music in relationship to the development of individual and collaborative creativity through the lens of a cellist. Additionally, a study of the construction of the cello itself offers a unique analogy of the structure of a supportive system to foster cultivation of both music and creativity skills. Finally, an examination of a cellist's role within an orchestra or other ensemble provides insight into an individual's role in corporate creativity. Comparison of music and creativity underscores the value of each individual voice and how these distinct timbres can orchestrate a unique gestalt whether in a musical ensemble or business boardroom.

Keywords: creativity, music, musical instruments, collaborative creativity

Introduction

Creativity is a buzzword in business, education, and most other fields. The challenges surrounding creativity are varied, from as basic a question as defining the word "creativity" to understanding and cultivating it. My belief is that creativity is inherent in all humans, and each individual needs an environment where their unique creative voice can be found, nurtured, and embraced. Creativity takes practice which requires time, dedication, acceptance of failure as an impetus to try again, willingness to try things in diverse ways, and intentionality. This process of generating creativity is similar to developing musical skills. The intent of this paper is to use my perspective as a cellist to compare cultivation of creativity and musical skills both individually and collaboratively.

Music and creativity in comparison

As a musician, my profession is generally categorized as one in the fine arts or creative arts; thus I would generally be considered a creative artist. I pose that musicians are not instinctively creative because they are musicians, but because the discipline and development of creativity parallels that of musical skills; therefore the two go hand in hand.

Inherent ability. Creativity and music are often considered to be abilities that only a few fortunate individuals possess. "In reality, creativity is a skill. It's a

skill that can be learned and applied like any other skill" (Tanner & Reisman, 2014, p.45). In a behest to music educators, Markku Kaikkonen declares that "music is a central aspect of humanity and it is the responsibility of educators to honor and support each learner's potential… [by] providing inclusive environments that allow for the learning, experiencing, creating, and sharing of music for all" (2016).

Potential. Beginning with an agreement that all humans are born creative and musical, the discussion turns to developing those skills and potential. "Everyone has the potential to be creative, but not everyone fulfills that potential" (Runco, 2014, p.39). One major influence determining if and how potential is nurtured is environment. There is extensive research on what kinds of environments are optimum versus those that squelch creativity. My goal is to use the lens of a musician to find parallels with developing musical potential.

Practice. What is needed to become or be considered creative? One answer is consistent for creativity, music, or any skill—practice. "Creativity takes practice. Your creativity is there within you, but you must make a habit of using your imagination" (Tanner & Reisman, 2014, p. 28). That idea of making a habit or intentionally doing something is important even within practicing. Intentional practice is necessary not only in terms of scheduling time devoted to working on something, but also with how you proceed once you are in the practice room. Playing something repeatedly does not guarantee improvement; play the wrong notes fifty times, and become an expert at playing those same wrong notes. The key is finding means to approach the musical passage in a variety of ways—slow it down, use alternate rhythmic patterns, find a better fingering; there are several options, some work better in certain circumstances. In other words, analyze the issue, pinpoint the problem, break down the mechanics, and find a solution. This is a prime example of how developing creativity skills can masquerade as developing musical skills. When applying intentional practicing to learning music, you are simultaneously using (and practicing) creativity. This connection is explained in an article about artistic scientists and scientific artists that states, "Learning how to manipulate the creative process in one discipline appears to train the mind to understand the creative process in any discipline" (Root-Bernstein & Root-Bernstein, 2004, p.129).

The phrase 'fail forward' describes the mindset needed—persistence and puzzling it out. Often, a mixture of extrinsic and intrinsic motivation is applied. A child may take lessons because their parent made them or because their friends are playing in band or orchestra. Hopefully, engaging in the process of making music will be fulfilling and will instill a love of music. The catalyst then shifts from trying to please others to intrinsic motivation. Sitting alone in a practice room requires self-discipline and motivation, wherever its source, to persevere and remain focused on the goal.

Interpretation. Anyone can practice, learn the mechanics, and play the notes. Similarly, anyone can read the spreadsheet, follow instructions, and plug themselves into a situation—much greater possibility exists. Each individual has a unique voice, musical or otherwise, and it needs to be explored, expanded, and expressed. Beyond the notes and the statistics, interpretation can take an idea or expression to the next level.

Elaboration fills in details, further develops ideas, and allows more depth, expanding both possibility and relevance. In music, this can include dynamics, articulation, and phrasing. A composer/arranger often indicates their preference, for example the dynamic marking ***mp*** or 'mezzo piano' is defined as "somewhat louder than piano but softer than forte; moderately soft" (dictionary.com). The performer must interpret what that means in context and be a kind of co-creator. How loud is loud? How soft is soft? The result is a combination of individual perspective, the context in which the note(s) is played, acoustics, and relationships with other musicians and the audience. The same can be said for articulation. How short is staccato? How smooth legato? What is the trajectory of a ritardando (slowing down)? The list is endless and applies to every aspect of playing music; beginner to professional merely adds layers. Through this process, symbols on a page become a living, breathing expression of a collaborative creative work conceived by the composer and performed by the musician.

Sometimes interpretation goes beyond the musicality of how a piece is approached and extends to manipulations of source material in the form of arranging or through improvisation. Idea generation and divergent thinking allows the musician a plethora of ideas from which to choose.

Arranging. Arrangements of a piece can include changing keys or instruments, using alternative groups or numbers of instruments, adding ornamentation or a countermelody, changing the accompaniment underneath the solo line, or combining pieces in either a medley/suite or overlapping two entirely different pieces—currently popular in form of 'mash-ups.' "Over the Rainbow" from *The Wizard of Oz* offers an example of the scope of arrangement possibilities. It is impossible to know how many versions have been created. There are arrangements for nearly every instrument and ensemble; they are performed by amateurs and professionals alike, combined with other songs, and sung in every setting imaginable, but just when you might roll your eyes and think, 'not again,' someone devises a totally unique and interesting version.

Improvisation. Improvisation is "the art or act of improvising, or of composing, uttering, executing, or arranging anything without previous preparation" (dictionary.com). As a classically trained cellist, I have always been more comfortable reading the notes on the page than taking a risk with the unknown. Beyond the uncertainty of outcome, there is trepidation related to fear of failing and also with being judged. A non-judgmental environment is particularly important as people share their art. To perform, a musician must allow vulnerability as they express their feelings and inner self. Expression and openness to one's emotions are vital in music and creativity. "The involvement of emotions broadens the process of associations and improves creativity on a variety of creativity measures" (Russ & Fiorelli, 2010, p.237). Yet to expose your true voice, even when it is an extension through a musical instrument, can be intimidating. Receiving judgment and non-constructive criticism can undermine confidence and discourage someone from expressing themselves in the future.

When someone considers improvisation in relation to music, thoughts often go directly to jazz, the genre most known for utilizing the skill. However, improvisation can be found in many other styles—from Baroque to pop or musical

theatre. Scatting and vocal improvisation can allow the performer to add a personal touch, as does the 'riffing' often heard in pop music. A key aspect of musical improvisation is an established structure—a basic melody and/or chord structure and framework within which you can create. As with all kinds of improvisation, an assessment is needed of what is known and established, an understanding of possibilities for change, adjustment, and degree of manipulation acceptable, active listening and interaction, and the impetus to act.

Being comfortable with the unknown and risk-taking are part of the improvisation equation, but they do not have to be intimidating. Improvisation skills can be developed as individuals expand their toolbox of ideas and experiences while remaining open to possibilities—get out of comfort zones, engage curiosity, observe, read, watch movies, play/watch sports, play board games, interact with people and diverse situations to broaden perspectives. For musicians, this specifically entails listening to music and attending performances with a variety of genres and styles. The result is increased potential to make connections and expand the palette of creative colors with which to express unique individuality.

Violoncello

My violoncello (cello) is an extension of myself. Considered the musical instrument most similar to the human voice, a cello is truly my musical voice. The range of emotions that can be expressed is unlimited, as nuanced as any person's voice. Even within a single note, emotions can be communicated through techniques such as straight tone versus vibrato—expressing intensity, tenderness, urgency, and a plethora of other emotions. Each instrument varies as does each musician, thus musical output is unique to each interaction, incorporating the different elements brought to that precise moment.

The cello is a stringed instrument, related to the violin, viola, and double bass. As with any familial relationship, there are shared characteristics—looks, materials, techniques. However, immense diversity in size, shape, timbre, sound production, and range impacts how they function and interact with other instruments. This illustrates how a single idea such as vibrating strings can develop vastly different products and purposes.

Considering comparisons and interactions can provide insight relative to creativity. The larger the instrument, the longer the strings, the lower the pitch. This establishes a logical sequence of musical arrangement and composition—the smaller violins on top with cello/bass on bottom—but fascinating things can happen when norms are not followed. Sometimes if a voice/idea might not fit a particular situation, it remains tacet (silent) or briefly rests before joining a different part of the process/piece. Some moments call for an inner voice to be more or less prominent or the bass/foundation to be stronger. These are all options as the various instruments interact and collaborate.

Stringed instruments, though made of wood, are so called due to sound produced by vibrating strings. Strings made of steel, nylon, or gut each produce a different sound quality (timbre). Sound is primarily made in three ways: by drawing a bow across the string (arco), plucking the string (pizzicato), or striking the

string with the wood of the bow (col legno). When bowing (arco), horse hair thinly coated with a wood sap (rosin) causes friction and starts the string vibrating. Friction can also be the catalyst for creativity when a problem arises, if creative problem solving is engaged. Sometimes the music calls for swift bow strokes back-and-forth; sometimes long, full bows are drawn with smooth changes not heard. Likewise if there is a frustrating issue, it might call for an abrupt change, a gradual adjustment, or back-and-forth. Though drawing sound from the instrument or culling ideas for a creative solution can strike the right chord, merely bowing across a string does not guarantee a sound, certainly not a beautiful one. There are many details of craftsmanship, foundational necessities, vital in determining an instrument's possibilities; analysis provides an analogy for fostering creativity.

Bridge. The bridge holds up strings so they are not laying on the instrument and instead can vibrate freely. The tension of the strings without a bridge would cause them to lie directly on the fingerboard creating a buzzing noise and leaving the cello unable to play music. In the same way, support with creativity can be uplifting, allowing the free flow of ideas. Conversely, pressure and a lack of freedom can squelch creativity. With the bridge in place, the free flow of vibration allows sound to be drawn out of the instrument, reminiscent of the idea of *Flow* conceived by Csikszentmihalyi; an optimal state of consciousness enables all aspects of performance to be heightened, including creative performance. The feeling of freedom is key— freedom to explore, freedom to fail, freedom to create.

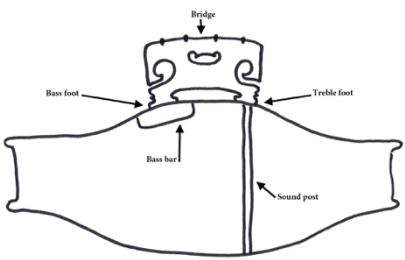

Figure 1. **Diagram of a stringed instrument: bridge, bass bar, and sound post**

Bass bar. Another vital part of each cello is the bass bar. [*Figure 1.*] According to *Strings* magazine "Nothing exemplifies that leap from craft to art more than the bass bar, because it goes to the very heart of the sound of your instrument." (McKean, 2016). When the instrument is assembled, the bass bar is barely visible, yet without the bass bar the top would collapse. A cello top is approximately three millimeters thick and when the strings are tightened to their full pitch, the bridge exerts more than 70 pounds of pressure on the center of the top (McKean, 2016).

The construction of a cello is not merely assembling parts or following instructions. There is a delicate balance with every component vitally important. Sometimes what might seem thin or weak can be the strength that holds everything together. Support is critical. Exploring and developing creativity can be scary with

unknown outcomes. Tension and pressure that sneak into a creative situation can be dissipated (at least in part) by strong and well-designed support. Even unseen support or seemingly unimportant experience or ideas can be at the heart of the sound or creative expression.

Sound post. A cello is hollow, allowing sound waves to vibrate and resonate inside. Under the bridge on the opposite side of the bass bar is the sound post that transfers vibrations from the front to the back piece—a small wooden dowel offering structural support on the treble side of the instrument. [*Figure 1*] The sound post influences the quality of the tone of each individual instrument through its construction: thickness, type of wood, grain orientation, and placement. Wedged in place and not permanently affixed, the sound post gradually moves from vibrations as the instrument is played, slightly changing the timbre of the instrument. String players regularly have sound posts adjusted back into place. With creativity, different types of support are needed; connections must be made. Each person has different strengths and experiences, influencing the tone of their creative voice and output. Creativity is stimulated by connections and free flow of ideas that resonate in a particular situation. Periodically everyone needs a tune up, to make a few adjustments.

Tuning. Before a cello is played, it must be tuned. Strings attached to pegs can be turned, making the string tighter or looser until the desired pitch is achieved. Many stringed instruments also have fine tuners. These small screws, located where the other end of the strings connect just below the bridge, enable the cellist to change the pitch in extremely small increments. Often when hearing a string player tune their instrument the pitch will go back-and-forth, higher-and-lower, until satisfied. With creativity, similar experimenting is needed—a little of this or that, sometimes big changes or total new directions, sometimes just tweaking; the idea is adjusted in search of a satisfactory outcome.

Orchestrating Creativity

Although a cellist spends an extensive amount of time alone developing their individual artistic potential, one of the most rewarding experiences as a musician is creating music with others—collaborating in the form of ensemble or orchestral playing. Orchestras and other ensembles are directly comparable to businesses with many moving parts and individuals bringing unique skills, characteristics, perspectives, motivations, preferences, and experiences, collectively comprising a single organization.

Environment. Environment is key to supporting, enabling, and nurturing creativity and musicality. A successful work atmosphere contributes to a thriving organization by encouraging individual development and collaboration, clear communication and goals, wise use of resources (including rehearsal time), appropriate and interesting challenges, and a judgement-free zone where individuals feel respected and appreciated.

Robinson and Stern's *Corporate Creativity* lists six essential elements: alignment, self-initiated activity, unofficial activity, serendipity, diverse stimuli, within-company communication. Alignment is described as "ensuring that the in-

terests and actions of all employees are directed toward" and support a company's key goals (1998, p. 13). In an orchestra, there may be solos for individuals or sometimes entire sections of instruments, but a balance is still necessary. If everyone wanted only their part to be heard, there would be a cacophony of sound with no cohesion. Successfully performing with any kind of ensemble depends on the performers having a unified vision and goal, bringing all the parts together and blending the musical ideas.

Self-initiated activity for a musician often relates to unofficial learning activity in a practice room. What is presented to each ensemble player may be defined as a puzzle, rather than a problem; individual parts need to fit into the picture. There are many layers to figuring out the solution, but passion to play a chosen instrument and create a musical experience ignites the intrinsic motivation to figure out how to best perform that specific music. Exploration away from the eyes of others offers a safe haven to develop until the musicians/employees feel secure enough to share their creative output—a space to experiment and fail without judgment.

Sometimes orchestral members will be given their music ahead of time to practice individually or rehearse as a group, sometimes not. It is not uncommon for a professional to sight-read a concert; that type of challenge is the most stimulating for many. However, those on-the-spot performances are possible because of practicing skills outside of the particular music and then connecting them in a way not yet experienced by the musician.

Serendipity is explained as a combination of a fortunate accident with keen insight. "Creativity often involves recombining or making connections between things that may seem unconnected" (Robinson & Stern, 1997, p. 14). This reinforces the idea that having diverse interactions and stimuli can inform new perspectives; a variety of experiences enhances music just as it does creativity. Every performance is unique. While musicians, location, and all the elements may be identical, the players bring added experiences to each moment. The beauty of live music is that no two performances are the same. Appeal for audiences is evident in the current trend of live performances accompanying movies—orchestras playing to sold-out crowds watching movies previously viewed multiple times.

The need for clear communication may seem obvious, but is often overlooked. Misunderstandings and missteps can happen when assumptions are made or unclear cues given. Beyond logistics such as having everyone on the same page with music and performance instructions, details such as schedule, dress code, and other expectations must be unambiguous. This comes full circle; being aligned and having the same goals necessitates those goals being made clear.

Then comes my favorite part of communication—the music making; passing the melody between instruments or breathing and moving together to create a perfectly timed entrance. This type of communication occurs through watching, listening, and non-verbal communication.

Creative leadership

In a larger group, there is often a conductor, raising the question of leadership. A good conductor is a good leader. They strive to facilitate getting the best out of each individual musician, resulting in ensemble excellence. Conductors do not play an instrument, rather the orchestra is their instrument, and conductors are vulnerable to what the musicians produce. They are represented by the aggregate of the individual musicians' contribution/production in a very exposed way; an obvious connection between the individual and the whole—every voice is vital to the success of the performance.

In their book *Creative leadership: Skills that drive change,* Puccio, Mance, and Murdock pose a similar theory to my initial statement regarding parallel development of musicality and creativity. They state: "When we teach and train them in creativity theories, models, and strategies, we find that, in very clear and profound ways, we are also developing their leadership skills" (2011, p.xvii) and "Effective leaders embody the spirit of creativity. As a result, they use flexible and adaptive thinking to proactively introduce change and to productively respond to external sources of change. Creative thinking is the fuel that makes leadership work" (p. xiv). Conductors must use flexible and adaptive thinking regularly. For instance, if someone misses an entrance, a conductor has to 'right the ship' in front of a live audience. Or how about conducting in an opera or theatre pit? Anything can happen onstage—lines or verses skipped, entrances missed, set changes taking forever—some of these issues can be anticipated, but many occur unexpectedly. The conductor must make split-second decisions and communicate them instantly to keep things running smoothly.

Challenges that impact the musicians and the product they are capable of producing can occur in a variety of areas. One example results from production demands. What a director wants is not always possible. The music director/conductor needs to walk the fine line of middle management to find a creative way to not only communicate difficulties, but help to find a solution while protecting the interests of the players working under their baton and the integrity of the music. Challenges can also be found in that key word to which I keep returning: *environment*. What about physical environments? As a musician, I play in a variety of venues offering challenges regarding space, acoustics, and other issues. Referring again to pits, there is usually a lack of room. Arranging space to play my cello, see the conductor, and hear is a challenge, but obviously vitally important. The conductor can help facilitate positioning to reduce friction among players wrangling for space.

Even when not in a pit, unreasonable demands can be made—outdoor concerts where the sun, heat, or cold can actually harm an instrument, or demands to play louder when it is not physically possible for the instrument. If these types of situations are allowed, resistance from the musicians and frustration will result; musicality and creativity will be stifled.

There are other ways that leaders can stifle creativity beyond what external situations dictate; a major problem is with micro-management. Micro-

management causes all kinds of negativity. Instead, there needs to be a level of respect, trust, and autonomy. "Leaders must not only rely on their own creativity but must also be adept at facilitating the creative thinking of others, which implies that they possess the ego strength to admit that they do not have all the answers and the open-mindedness to entertain and support others' ideas" (Puccio, Mance, & Murdock, 2011, p.10).

Miriam Burns, conductor of the McLean Orchestra and former cover conductor of the New York Philharmonic, explains how she practices this type of creative leadership:

> Sometimes conductors over-conduct and that can get tiring for the players. Players want to be unleashed to play and that's the best part of conducting—when you have, for example, a group of wind players… where they're so creative, and they're playing, and you just want to sit back, when it's appropriate, and let them take the reins and I love that. And there's nothing more fulfilling. (M. Burns, personal interview, June 1, 2018)

Ego can be a major issue and its impact needs to be diminished. There must be commitment to developing others to their fullest potential, enabling those who follow to go beyond self-interest and achieve extraordinary accomplishments for a collaborative vision. "I believe that creativity in the workplace is kind of like a dance. There's a point where the creative individual will need to lead the dance and time when management needs to take the lead. However, both need to work together in a push and pull and back again relationship" (Reisman, 2017, p. 29). Without this concept, a group will not achieve its ultimate potential. It requires understanding by leaders and those being led not only in music, but in any arena. In an orchestra, connections and communications exist between the conductor and musicians, the musicians themselves, and the conductor/musicians and music.

To create successful connections, it is imperative to listen—not merely play notes. Energy and inspiration come from what is happening around you, rather than the status quo or going through the motions with tunnel vision. With each interaction between conductor, musicians, and music, having the broadest possible understanding of each relationship is vitally important for a musical organization (or any kind) to function and realize the fullest extent of its potential. Each individual has a unique role and needs an opportunity to contribute their approach to both process and product. In his book *When: The Scientific Secrets of Perfect Timing*, Daniel Pink expresses summarily these concepts.

> Human beings rarely go it alone. Much of what we do—at work, at school, and at home—we do in concert with other people. Our ability to survive, even to *live*, depends on our capacity to coordinate with others in and across time… individuals [need] to work in tempo, to synchronize their actions with others, to move to a common beat and toward a common goal... A lone voice can sing a song. But combine a few voices, sometimes lots of voices, and the result transcends the sum of the parts. (Pink, 2018, pp.180-182)

Limitations

This paper focuses on the perspective of a cellist and lessons learned from analysis of the violoncello. Many other parallels with creativity and music have gone unmentioned, including composition, pedagogical practices, a myriad of other musical instruments, and multitude of alternate musical styles. However, the discoveries and analogies presented are universally applicable. While the nuances of an individual instrument or human has depths that cannot be plumbed in a single narrative, this investigation offers insight into the value of developing both music and creativity skills.

Conclusion

Each instrument and individual offers different possibilities. Though potential is inherent in every human, creativity and musicality can be cultivated or squelched. Characteristics of creativity parallel many of those vital in musical development, creating a situation where one may masquerade as the other. Development of individual creativity or musicality allows for constructive collaborative creativity as each individual voice contributes a unique timbre that, when incorporated, can orchestrate a *gestalt* worthy of their efforts.

Correspondence
Debbi Ponella
Drexel University
3141 Chestnut St.
Philadelphia, PA 19104
Email: dponella@gmail.com

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Please ASK: How Creativity Can Foster Improved ESL Student Comprehension of Article Usage Before Proper Nouns

RENALDO A. SCOTT
University of Pennsylvania, USA

Abstract

Please ASK, a researcher-created heuristic influenced by tenets of Torrance's Creative Manifesto, represents a potentially viable way to transfer comprehension of the proper noun article system to English language learners. Current English language field literature yields no clear explanation for usage of *the* or no *the* before proper nouns to learners, beyond guessing and memorization. The pilot study and significant experience exposing students to this heuristic have yielded results that support *Please ASK* as a help to understand this grammar. This qualitative study, which the researcher will conduct in February 2019, will use interviews, a focus group, and a researcher's journal as the methods of data procurement. The aim of this study is to determine the impact of *Please ASK* on student comprehension of articles before proper nouns in English. This research has implications that support using creativity to find solutions to other difficult aspects of English as well.

Keywords: ESL/EFL, creativity, heuristic, English articles, proper nouns, New Science

Introduction

According to the Institute of International Education, foreign student enrollment in the United States has steadily increased from 582,984 in 2006/07 to 1,094,792 in 2017/18 (Fast Facts, 2018). At the same time, global revenue generated from English language learning managed to hit the $11 billion mark each year from 2013 to 2015 (Statista, 2017b). The United States alone was responsible for $4.02 billion of the $11 billion generated during this same period. As of December 2017, English has been the most commonly used language on the internet (Statista, 2017a). These statistics are a reminder of the importance and ubiquity of English as a Second/Foreign Language worldwide. These numbers are also a testament to the continued future role that the English language will hold as a unifying entity in global affairs and life. This role solidifies the need for expedient methods and approaches to effectively teach and learn English.

Grammar. Knowledge of grammar is the foundation of the English language (Zhang, 2009). Grammar constitutes the basic building blocks of the English language system. Mastery of grammar serves as the base for language proficiency and a key to communicative competence (Zhang, 2009). In addition,

knowledge of grammar is not only pertinent to second language learners but is also relevant to native language speakers as well. To communicate, native speakers possess shared grammar knowledge that makes communication possible. This native mental grammar (internal grammar) lies in speakers' minds (Fromkin, Rodman, & Hyams, 2007) and enables them to communicate with one another fluently. Therefore, grammar knowledge exists among all speakers of English, whether as prescriptive grammar knowledge (textbook grammar) or mental grammar knowledge, in the cases of second language speakers and native speakers respectively. Grammar's role as just described underscores its central role in English language communication (Graus & Coppen, 2015; Larsen-Freeman, 2015 May 6; Richards & Rodgers, 1986; Zhang, 2009).

The term *grammar* usually conjures up an image of a set of static, arbitrary rules to the English language. However, this is a misconception. Grammar is a system that is a process, not a finished product or result (Larsen-Freeman, 2003; Zhang, 2009). Connatser (2004) defines grammar as "A system of syntactic, semantic, and phonological rules that govern the use of language" (p. 264). Connatser continues by presenting the difference between grammar acquired as native speakers do and the grammar as taught in school. The former is termed "organic grammar" (p. 264) and the latter is termed prescriptive grammar. In second language pedagogy, instruction based on organic grammar rules is not deemed expedient. Instead, instruction based on prescriptive rules is used to prime learners toward language fluency, the point at which they can use those organic grammar rules naturally, as do native speakers.

Common Nouns and Proper Nouns. This proposed research study entails a look into a specific grammar concerning the article system in the English language. Articles in English are directly connected to nouns. According to English Oxford Living Dictionaries (2019), the most common English word is *the*, the definite article. In the same vein, the sixth most common word in the language is the word *a/an*, the indefinite article. With over two billion words in the Oxford English corpus, correct article usage is important for English language learners.

There are two general categories of nouns—common nouns and proper nouns. A common noun is a noun that designates a person, place, thing, or idea in general (Liljeblad, 2004). Common nouns can also pertain to a specific person, place, thing or idea and can thus also be denoted by placement of the definite article (the) before. Common nouns' generalized status is exemplified by its beginning with a lowercase letter. Proper nouns, on the other hand, are nouns of a particular person, place, or thing, thus always beginning with a capital letter and only taking the definite article or null article (absence of any article whatsoever) prior.

At first, common and proper nouns appear to have no apparent link beyond the obvious occupation of the same part-of-speech category. However, proper nouns are derived from common nouns. In many cases, proper nouns are composed of one or more common nouns that are capitalized because of their proper noun status. Home Depot and the Empire State Building are both examples of proper nouns that are made up of two and three common nouns respectively. In some instances, proper nouns comprise a combination of adjectives and common nouns, as in the case of the Golden Gate Bridge and the United States. Whatever

the combination, a proper noun has within it at least one common noun. This observation is critical. Common nouns have been well researched and English article grammar is considered a well-established topic as evidenced by the abundance of rules on articles in English language textbooks (Hsu, 2008; Leśniewska, 2016).

The same concept regarding an abundance of rules does not hold with respect to proper nouns. Articles-before-proper-noun rules have not been presented in a format suggesting any clarity in patterns on when to use the definite article or null article before proper nouns. Significant research on the article system before common nouns expressly suggests the need for research into the article system before proper nouns (Berezowski, 2001; Butler, 2012; Huebner, 1983; Master, 1990, 1997, 2003; McEldowney, 1977; Pica, 1983). This proposed research attempts to address this apparent inadequacy of article placement rules before proper nouns.

This rule inadequacy can be clarified via an example. Several proper nouns can be considered, especially with respect to definite and null article placement before proper nouns. Kazakhstan is a former Soviet republic located in Eurasia. The country also goes by the name *the Republic of Kazakhstan*. Notice that in the absence of the preceding term *republic*, Kazakhstan requires the null article. Yet, when *republic* is placed before Kazakhstan, placement of the definite article *the* is required. Another example is apparent with the proper noun *the Philippines.* Why is it that this proper noun requires the definite article but not the null article? A further example is with famous natural wonders. Lake Erie, Niagara Falls, Mount Rushmore, and Waikiki Beach require the null article, whereas the Great Lakes, the Appalachian Mountains, the Indian Ocean, and the Grand Canyon require the definite article beforehand. Collectively, these are examples of the mental grammar that native English speakers possess as tacit knowledge (Polanyi, 1966); yet, a logical, metacognitive explanation of this grammar proves extremely difficult. These apparent inconsistencies are what makes this grammar involving articles before proper nouns seemingly illogical.

This proposed research seeks to explore the potential impact of the researcher-created heuristic model, *Please ASK*, on English as a Second Language (ESL) student comprehension of the article system before proper nouns in the English language. Although it is virtually impossible to proceed with this proposed research on article grammar before proper nouns without the use of some linguistics parlance, this paper is not a linguistics-based research study. To say that this is linguistics research would mean that this study rests on a theoretical, positivist, linear worldview, and that is not the case. The specific grammar associated with this proposed study involves mental grammar, a grammar that exists in native English speakers' consciousness and cannot be explained on a metacognitive level (Hinzen, 2016; Nordquist, 2018).

Current grammar rules to explain the article system before proper nouns have limited explanation power (Berezowski, 2001; Butler, 2012; Huebner, 1983; Master, 1990, 1997, 2003; McEldowney, 1977; Pica, 1983). For this reason, this proposed research is based on the argument that current pedagogy in the field makes use of traditional, linear methods in an attempt to explain this mental grammar to students. In the case of the proper noun article system, a positivist approach

to explaining the grammar leads to students' needing to memorize substantial pages of text at best, since no set rules exist to metacognitively address this problem.

Given this quagmire, this proposed study seeks to explore an alternative way to transfer this grammar to students. The resulting heuristic is the researcher's attempt to internalize how native speakers construct meaning as they meet the world, providing insight into interlocutor choice in using the definite or null articles before proper nouns.

Methodology

A qualitative methodology with a transcendental phenomenological design is determined to most appropriately inform this study. Given this design choice, the researcher will collect data using three methods: (1) interviews; (2) focus group; and (3) researcher journal. These three methods will be used to apprehend and clarify (Bevan, 2014) the essence (Merriam & Tisdell, 2016) of student participant lived experiences as they interact with the *Please ASK* heuristic. The essence represents an emic (p. 16) description of *Please ASK* as experienced by student participants. This deep description presents participant experiences of *Please ASK* in a way that allows the reader an intimate understanding of participant experiences (Creswell, 2013; Merriam & Tisdell, 2016). Last, the three noted data procurement methods will represent the researcher's attempt to triangulate the data (Lincoln & Guba, 1985; Merriam & Tisdell, 2016; Patton, 2002, 2015). Triangulation is a means to ensure saturation (Creswell, 2015; Creswell & Poth, 2018; Fusch & Ness, 2015), where no new data present themselves, and the existing data become sufficient to answer the study's research questions (Merriam & Tisdell, 2016; O'Reilly & Parker, 2012).

Significance of the Research

Purpose. The purpose of this study is to determine whether the original, researcher-created heuristic—the *Please ASK* heuristic model— will impact English as a Second Language students' comprehension of the definite and null articles before proper nouns. *Please ASK* (see Figure 1) is an acronym mnemonic where letters signify categories of proper nouns that use the null article before.

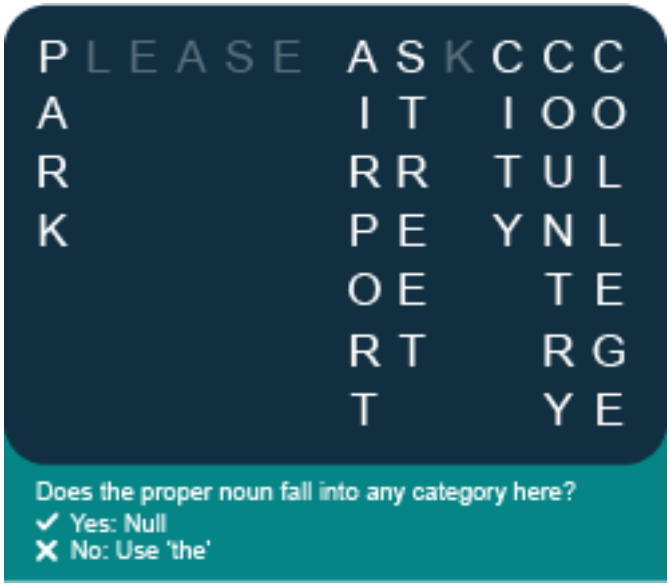

Figure 1. Please ASK heuristic.

Significance. English as a Second/Foreign Language research currently proposes several models to clarify to the learner and the facilitator correct article usage before both common and proper nouns. Huebner's (1983) Semantic Wheel was one of the first attempts to explain English article grammar. His work provided a foundation upon which future studies on grammar consciousness-raising as it applies to the English article system have been built.

Expanding upon previous research, Butler (2012) formulated a heuristic, or a semantic map approach, to correct article usage in English. A semantic map is still a recent phenomenon (Haspelmath, 2003), and as such the term *semantic map* is used synonymously with other terms, including *semantic space* (Cysouw, 2010), *conceptual space* (Croft, 2001), and *cognitive map* (Kortmann, 1997). A semantic map is "a geometrical representation of functions in conceptual/semantic space" (Haspelmath, 2003, p. 213); in other words, it is a heuristic used to clarify the linguistic meaning of some concept. A semantic map's goal is to simplify ambiguity that exists (Cysouw, 2010; Haspelmath, 2003) in some specific linguistic situation, as is the case regarding the use of the definite and null articles before proper nouns. Prior to Butler's research, no study had been conducted using semantic maps to provide a comprehensive model to understand the article system. Butler's work, though comprehensive, expressly recognizes that his semantic map proves "too complicated to be very useful to early-stage learners" and therefore, the viable solution is to attempt understanding by "simply memorizing the articles with the proper names" (Butler, 2012, p. 156) to facilitate learning.

Creative approach. Further significance of this proposed study rests on the *Please ASK* heuristic's attempt to fill this extant gap by providing a readily useful, easy to understand model for English language learners and facilitators

alike. In addition, this study looks to add further credence to the academy of thought that proposes a different, creative view of English as a non-static system that welcomes change and unpredictability as a means to detect patterns (Doll, Jr. et al. (Ed.), 2005; Larsen-Freeman & Cameron, 2008; Senge et al., 2008). This creative view of English espouses a New Science perspective. Welcoming change and unpredictability are central to New Science and this grammar context since solutions to grammar problems may become more readily apparent and understandable from this perspective. Therefore, much of the significance of *Please ASK* rests on the potential of New Science, which encompasses systems thinking, to discover solutions to lingual impasses that could not otherwise be found via traditional means.

Systems thinking is the foundation of New Science. Systems thinking (Capra, 2002; Senge et al., 2008) is an approach that accepts complexity in a situation as a way to see emerging patterns in order to make sense of the situation or problem. Systems thinking rejects the utility of reductionism in finding solutions, where analyzing parts of the whole is the key to comprehension. Rather, systems thinking realizes existence of many different things occurring simultaneously in a seemingly random order, thereby making attempts to analyze and predict almost nil (Doll Jr. et al., 2005; Senge et al., 2008).

New Science can be further explained through systems thinking along two lines: complex adaptive systems and chaos dynamics (Doll Jr., et al., 2005). Each of these originated in the hard sciences, namely, physics, mathematics, and biology (Holland, 2006; Hubler et al., 2007; Larsen-Freeman & Cameron, 2008). With the emergence of New Science, these forms of systems thinking have come to be applied in the humanities as well, e.g., in the English language realm.

New Science is a way to make sense out of what seems like disorder. In weather, biological, and English systems, disorder manifests itself as complex, chaotic tendencies through which organized patterns can exhibit themselves. Complexity means that there exist a large number of components at work in which a minute change in one component leads to the whole system evolving in a different, unpredictable way (Doll Jr., et al., 2005; Larsen-Freeman, 1997, 2015; Larsen-Freeman & Cameron, 2008). Chaos refers to the unpredictability and randomness present in a system that makes it challenging to see things with clarity from a reductionist perspective (Larsen-Freeman, 1997, 2015). Systems do exhibit regular patterns of behavior, but only up until a certain point, after which chaos sets in. New Science as applied to the English language realm thus presents itself as a means to successfully deal with change. It allows perception of English as a complex, chaotic system that grows and organizes itself organically.

Torrance's manifesto. Deeper significance of this proposed research stems from the researcher's employing creativity to find a solution to the problem. For this reason, this proposed study that at first seems linguistics-based is in fact based on creative foundations. These creative foundations that drive this study directly come from tenets put forth by Torrance (Tanner & Reisman, 2014; Torrance, 1983). Although Torrance's work is formally entitled *Manifesto for Children,* Torrance and the field of creativity recognize its applicability to individuals of all ages (Connors, 2018). As such, the Manifesto's influence on the researcher's

proposed study involving a heuristic model to explain the article system before proper nouns in English is important.

In line with tenets of the *Manifesto for Children* (Torrance, 1983), this proposed research on the *Please ASK* heuristic took form. First, the researcher acknowledged the importance of his passion for English language pedagogy that has fuelled a genuine fervor for grammar teaching. This passion has driven the creative journey to finding a solution to the article-system-before-proper-noun quagmire. Second, as the researcher embarked on finding a proposed solution, it became apparent that traditional explanations to the grammar were insufficient. So, an alternative means to an answer would take root, a means that involved a New Science perspective of English as a complex entity. This new perspective resulted in *Please ASK*, a model that lies outside the "expectations" (Tanner & Reisman, 2014, p. 18) and traditional linguistic answers to the problem. Third, the researcher approached this problem by viewing students as individuals, not as one homogeneous group. By seeing students as individual, interdependent entities in the classroom, the researcher was able to embark on finding a solution that can be of assistance to students in understanding the grammar, irrespective of student age, previous knowledge of the grammar, or demographic.

Please ASK Heuristic Model Mechanics

This section presents the *Please ASK* heuristic, which has for roots a New Science perspective of the English language. *Please ASK* is a researcher-developed heuristic that attempts to clarify the article system that comes before proper nouns in English. This heuristic came into fruition from the researcher's use of an alternative, creative way to explain this grammar. This resultant creative way is the product of a creative problem-solving process.

Creative problem-solving process. Creative Problem-Solving (Osborn, 1953) can be defined as a process used to find an effective solution to some problem in a new and relevant way (Noller, 1979, p. 4). This process served as a backdrop to the actual formulation of the Please ASK heuristic. Creative Problem-Solving (henceforth CPS) can be viewed as consisting of four general levels (Isaksen et al., 2011, p. 30). Understanding the Challenge, Generating Ideas, Preparing for Action, and Planning Your Approach. It is important to add that adherence to any strict order in levels is not necessary, since "natural problem-solving is not always the same" (Isaksen et al., 2011, p. 30). These levels are relevant in the formation of Please ASK phenomenologically. It is important to note that the researcher, in developing an explanation for this mental grammar, maintained a constructivist outlook on the world. This social constructivist Archimedean point (Scharmer, 2016), or starting point, in the process is what drives the heuristic phenomenologically and philosophically.

At the Understanding-the-Challenge level of CPS, the researcher took the time to understand the essence of the problem. English as a Second Language students did not fully understand the grammar because literature solely presented explanations from a post-positivist viewpoint. That is, explanations were presented in the form of a loose grouping of rules. However, these rules are not steadfast since they are based upon grammar that has no logical explanation.

This is where the true problem lies—coming up with a logical explanation to grammar that defies logic. At the Preparing-for-Action and Planning-Your-Approach levels, the researcher acknowledged post-positivist limits in explaining the proper noun article system and the need for a constructivist foundation to reach an appropriate grammar explanation. Traditional, rule-based attempts to explain the grammar represent an obsolete, "old normal" (Worley & Mohrman, 2014, p. 214) approach to finding an answer to change and complexities in the language. Rather, "new normal" (p. 2014) approaches to dealing with such language perturbations become relevant and serve to enable perception of self-organization and patterns that emerge in the midst of the chaos and complexity (Doll et al., 2005; Larsen-Freeman & Cameron, 2008; Worley & Mohrman, 2014). In this way, the researcher thought it best to plan for a solution with the "new normal" and New Science in mind while focusing on how native English speakers in the United States construct meaning as they reference proper nouns in everyday life.

At this point, the researcher employed a phenomenological perspective to find an answer. This answer encompassed realizing that native speaker use of articles before proper nouns is a part of their reality, a reality that is constructed through language. As native speakers interact with one another and the proper nouns in the world, meaning is created, including the meaning why native speakers use the definite and null articles before proper nouns. This perspective constitutes an ontological, Heideggerian phenomenology. That is, this perspective acknowledges that native speakers create an intended meaning through being (dasïn) in the world and use of the English language (Vagle, 2014, p. 39).

To take things a step further, the researcher understood that the previous ontological explanation would not be sufficient in formulating an answer to this grammar question. Learners could eventually come to understand the grammar if they immersed themselves in the native speaker world, where learners could experience the grammar first-hand. However, this would take time. Therefore, some explanation was needed to supply learners with a means to know *how* native English speakers use the grammar. At this juncture, the researcher shifted perspectives from the ontological to the epistemological to find an answer. That is, the researcher modified perspectives from an ontological, Heideggerian view to an epistemological, Husserlian view (Moustakas, 1994; Vagle, 2014) to somehow supply language learners with a perception of how native English speakers see the world. This perspective does not take into account native speaker interaction; rather, the focus changes to how native English speakers use consciousness to look out at the world and construct proper noun meanings.

From the Husserlian point of view, intended meanings of objects in the world are a phenomenological synthesis of "noema" and "noesis" (Moustakas, 1994, p. 29). Noema constitutes the perception of objects in the world, in this case proper nouns. Noesis represents the meaning and feelings associated with the objects in the world. Together, these two characteristics frame the meaning of proper nouns in the world. Thus, the researcher used a blend of phenomenological perspectives to proceed on to the next level involving the actual fostering of ideas to answer the grammar question.

At the Generating-Ideas level, the seemingly illogical nature of when to use the definite and null articles before proper nouns gave way to trends and patterns. These patterns segued to divergence (Isaksen et al., 2011; Puccio, 2011; Tanner & Reisman, 2014) of ideas as answers to the grammar problem. When deciding to converge on a single answer, the researcher chose *Please ASK* to represent the best solution to the grammar problem. Some divergent ideas included several acronyms and phrases. However, *Please ASK* was deemed the best choice as this answer was a mnemonic that was structured in sentence form. The researcher realized that a substantial number of learners, irrespective of language level, would be familiar with the literal meaning of the sentence. This familiarity strongly substantiated the choice of *Please ASK* as a suitable mnemonic to explain the difficult grammar. Dual Coding Theory (Boers et al., 2007; Paivio, 1971, 1986) supports the use of figurative mnemonic aids in increasing the likelihood of material retention. In this proposed study, *Please ASK* represents a metaphoric, figurative mnemonic that increases the chances of learner retention of proper noun categories that call for the use of the null article.

Please ask heuristic mechanics. *Please ASK* is a heuristic that can potentially give English language learners better comprehension of the article system before proper nouns. The workings of this model give learners a look into how native speakers of English naturally choose the definite or null articles (and sometimes both articles) before proper nouns. Pl*ease ASK* is a mnemonic aid consisting of six proper noun categories before which the null article is used. Each of the six categories is named and explained below. In short, if a proper noun falls into any of the model categories, the null article is used. Likewise, if a proper noun does not fall into any of the prescribed categories, the definite article is used.

In *Please ASK*, the first category before which no article is used is denoted by the letter 'P', which represents *Park* (see Figure 2). *Park* in this model not only represents the common idea of spaces for recreation but also represents constructivist manifestations of parks. This model argues that native English speakers do not use the definite article in front of parks. *Park* as a category represents parks, stadiums, arenas, fields, squares, plazas, and malls. In other words, *Please ASK* posits that native speakers construct the meaning of parks and the other six offshoots of parks the same. All offshoots of parks are what English speakers noetically (Moustakas, 1994, p. 29) construct under the collective *Park*, conveying the influence of the Husserlian "noema-noesis relationship" (p. 31) in the model itself.

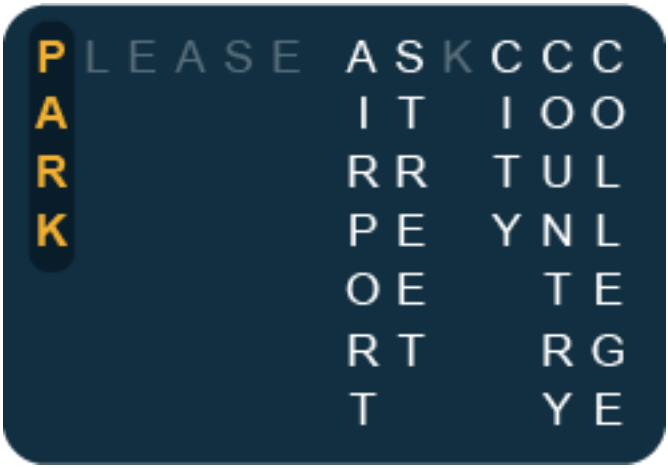

Figure 2. Please ASK 'Park' category.

The next letters—*l-e-a-s-e*—in the model do not denote categories. Rather, they are used to occupy space after the initial categorization letter 'P'. The researcher, for reasons expressed in the previous section, preferred to include extra letters to formulate an English word in the model. Without the extra letters, the model would be called the *PASK* model, which would prove more difficult for English language learners to retain and recall when needed. Therefore, the researcher considered it best to addend these letters to form well-known words and an equally well-known sentence in English: *Please ASK*.

The second category in the model, before which no article is used, is denoted by the letter 'A', representing *Airport* (see Figure 3). This is an example of a category in the model that presents itself from a purely post-positivist viewpoint in that there are no further constructed meanings of this category. *Airport* means the venue that accommodates air traffic.

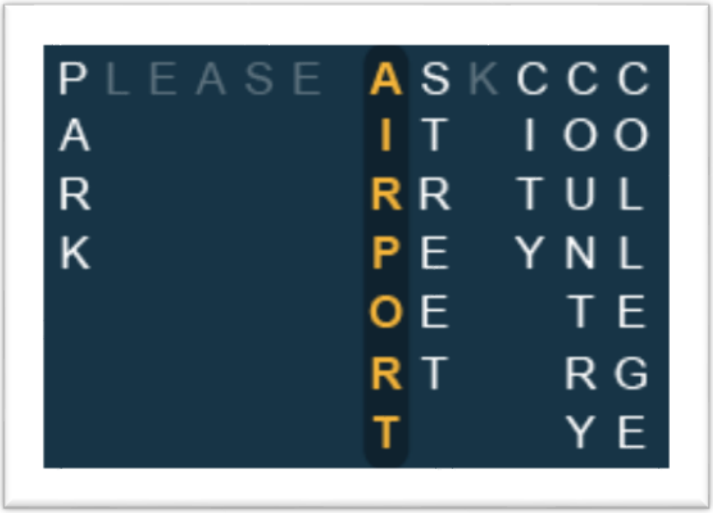

Figure 3. Please ASK 'Airport' category.

The third category in the model denoted by the letter 'S' represents *Street* (see Figure 4). This category indicates the use of the null article before any proper nouns denoting streets, including streets, avenues, boulevards, roads (e.g., Old Country Rd.), drives, and places (e.g., Nichols Pl.). Again, the researcher notes the native English speaker post-positivist outlook into the world that directly informs this category.

Figure 4. Please ASK 'Street' category.

The fourth category in the model denoted by the letter 'K' is transformed into a letter 'C' written three times (see Figure 5). Since the letter 'K' and the letter 'C' are pronounced the same (exception 's' sound when followed by the letters *e*, *i*, and *y*), the letter 'C' written three times can creatively replace the 'K'. Therefore, the fourth category becomes three categories in the model. The letter 'C' written three times corresponds to the categories *City*, *Country*, and *College* respectively. The categories for city and country are self-explanatory. However, the final category denoting *College* has a socially constructed meaning in this heuristic model. *College* connotes universities, colleges, schools (primary, secondary, trade, et cetera), institutes, businesses/organizations (specifically private-sector, not public sector), and churches/buildings of worship.

Figure 5. Please ASK 'City', 'Country', 'College' categories.

Please ASK exceptions. There are exceptions to the *Please ASK* heuristic. The first exception depicted in Table 2 concerns proper nouns in nature. Many proper nouns denoting nature employ the definite article before. A grouping of proper noun categories of nature exists that calls for the use of the null article. Again, making use of a creative mindset, the researcher formulated another mnemonic to help in retaining and recalling these proper noun categories.

Table 1: Exceptions to *Please ASK*, proper nouns in nature.

	A tree limb falls.
L	Lake
I	Island
M	Mountain
B	Beach
Falls	Falls

The researcher begins by constructing the following sentence: A tree limb falls. The final two words of this sentence—LIMB Falls—constitute the proper noun categories of nature to which the null article is applied. The first letter, 'L', stands for *Lake*. The second letter, 'I', stands for *Island*. The third letter, 'M', indicates *Mountain*. The fourth letter, 'B', denotes *Beach*. The final letter 'F' represents *Falls* as written. Thus, all proper nouns denoting any of the preceding categories call for the use of the null article before. Note that only the final category *Falls* is pluralized, since a singular form of this proper noun does not exist in the language. The preceding four categories are singular and take the null article before. Should these categories be pluralized, the definite article will be used. This situation does not apply to the category *Beach* as pluralization of this proper noun category is nonexistent in the English language as well.

The second exception involves proper nouns that include the preposition *of*. When dealing with proper nouns, the preposition *of* characterizes the proper noun as containing a "descriptive *of*-phrase" (Master, 1990, p. 471), meaning that the words after the preposition *of* describe the noun before the preposition *of*. For example, *the King of England* is a proper noun that contains the descriptive *of*-phrase "of England", which describes the previous noun *King*. In these cases, proper nouns containing descriptive *of*-phrases call for the use of the definite article, as can be seen in the preceding example given.

In sum, *Please ASK* is the result of a New Science perspective of the English language that attempts to find a viable explanation to the article grammar before proper nouns. New Science can be viewed as a creative approach to viewing English and this creative approach resulted in this heuristic, upon which this research is based.

English as a creative entity connects to this research in two major ways. First, English is not a static system. Rather, it is a system that comprises systems that are all complex and chaotic, at times making it challenging to explain these language complexities and chaos using traditional methods. For this study, complexity and chaos present themselves in the article system before proper nouns in a way that exudes no apparent clear pattern. Second, language and reality exist as one monistic entity (Wittgenstein, 2009). For native speakers of English, English is the lens through which reality is viewed. Whether on a conscious or subconscious level, English serves as a buffer between native speakers and the world, and represents the medium through which native speakers meet the world. The resulting *Please ASK* heuristic is a representation of how native English speakers unconsciously construct meanings of proper nouns in the world, thus warranting the use of varying mixes of definite and null article placement before proper nouns.

A New Science approach to this grammatical difficulty resulted in the emergence and organization of patterns that allowed for the creation of *Please ASK*. Through this heuristic, transfer of this native mental grammar to English language learners is hoped. The study will look at the lived experiences of the students engaging with this heuristic to ascertain their sentiment regarding comprehension of the article system before proper nouns. Although this approach melding New Science and English language is still in its nascent stage, the researcher hopes that this research can add support to this new outlook on the language and field.

Implications

This research has implications that not only include a proposed creative explanation to the article system grammar before proper nouns but also potential solutions to other facets of English that have no explanation beyond guessing and memorization. Given English's status as the lingua franca (Mufwene, 2010), this research has the potential to widely affect English language pedagogy and learning. To place these implications into perspective, the following subsections on grammar, common nouns, and proper nouns are included.

Conclusion

Current English language pedagogical literature does not yield a succinct, clarified explanation for the article system before proper nouns. The researcher, in an attempt to fill this gap, formulated a heuristic model—*Please ASK*—based on creativity. The ensuing research looks to ascertain from a phenomenological perspective student lived experiences as they engage with the *Please ASK* heuristic. This proposed research aims to add to the current academy of thought supporting systems thinking and New Science as alternative, creative tools to make sense of complex situations. In this way, creativity serves as the core of this proposed research, with certain creative tenets as put forth by Torrance (1983) serving as catalysts in the creative process in route to the formation of *Please ASK*. This theoretical paper lays the foundation for the forthcoming doctoral research that the researcher will conduct in February 2019 that will evaluate the *Please ASK* heuristic model.

Correspondence
Dr Renaldo A. Scott
University of Pennsylvania
110 Fisher-Bennet Hall
3340 Walnut Street
Philadelphia, PA 19104-6274
Email: srenaldo@sas.upenn.edu

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Factors Affecting Online Presence Leverage by the Nigerian MSMEs: A Case Study of Abuja and Lagos

BRIDGET C. UJAH-OGBUAGU
University of Ilorin &
National Defence College Abuja, Nigeria

ISAAC M. MANKILIK
National Defence College Abuja, Nigeria

Abstract

Micro, Small and Medium-sized Enterprises (MSMEs) are key agents of a nation's economic growth and a corner stone of economic sustainability. In Nigeria, MSMEs contribute almost 50% of the total GDP and employ over 90 million people. Quite often in Nigeria, MSMEs are established in essentially to create employment, fight hunger and poverty. The irony is that majority of the enterprises do not survive up to one year after their establishment no matter how good the quality of their products and/or services may be. Research reveals that one of the major stumbling blocks for business sustainability in Nigeria the present era of the Internet of Things is poor visibility of MSMEs to local and global markets. While the Nigerian internet population continues to grow, online presence by the Nigerian MSMEs remains poor. This paper examines major factors affecting internet presence leverage amongst MSMEs in Abuja and Lagos Nigeria—as well as the impact of online presence on MSMEs profitability and growth. Quantitative research was adopted in the study using questionnaires to gauge responses from MSMEs in the two states. The responses were analyzed using statistical software package (SPSS); the results show lack of technical skill, high cost of internet access fees, poor power supply, and poor internet infrastructure, as major barriers to online presence of MSMEs in Abuja and Lagos. The paper recommends strategies for effective online visibility for the Nigerian MSMEs.

Keywords: Micro, Small and Medium-sized Enterprises (MSMEs), Leverage, Online Presence, Internet Presence, E-business, Growth and Profitability

Introduction

Globally, Micro, Small and Medium-sized Enterprises are key agents of national economic growth, development and stability (Ekanem et al., 2018; Akanbi 2016; NBS/SMEDAN 2013; WTO 2013). The MSMEs play vital economic role such as employment creation, income generation; drivers of innovations, poverty allevia-

tion, wealth generation and distribution, development and industrialization driver, skill generation; a tool for overcoming national insecurity challenges, among many others (Ekanem et al., 2018). In other words, the MSMEs are global drivers of socio-economic development (Eze & Obike, 2017). The World Trade Organization (WTO) (2013), noted that MSMEs are so important in every economy that no country can possibly thrive economically without them. It is not an overstatement that the MSMEs, globally, are integral to socio-economic development and accelerated industrialization. Nigeria is not an exemption.

According to the National Bureau of Statistics and the Small and Medium Enterprises Development Agency (NBS/SMEDAN, 2013), MSMEs constituted 90% of all registered enterprises in Nigeria in 2010. The MSME sector contributed 48.47% to the Nigerian Gross Domestic Products (GDP) in the 2012 (SMEDAN, 2013); it employed 59.7 million in 2010, out of a total population of about 154 million (NBS/SMEDAN 2013). The National Bureau of Statistics (NBS, 2016; 2017) recorded that the MSMEs played a critical role in lifting the Nigerian economy out of the recession of the late 2015 and early 2016.

Globally, there is no standard consensus on the categorization of businesses into Micro, Small and Medium-sized Enterprises, according to Osakwe & Chevancova, (2016). However, the Small and Medium Enterprise Development Agency of Nigeria (SMEDAN, 2007) categorized enterprises with less than 200 employees as MSMEs—as follows:

a. Micro enterprise: An enterprise that employs less than 10 people, in other words, enterprises that employ 0-9 people
b. Small enterprise: The category of enterprise that employs 10-49 people or enterprise employing more than 10 but less than 50 people.
c. Medium enterprise: This category of enterprise employs 50-199 people.

In Nigeria, the MSMEs struggle with many challenges that hinder their growth and sustainability (Osakwe et al., 2016). Amongst those challenges are poor or inadequate infrastructure, lack of access to credit facilities, and fierce competition from more established enterprises especially in the global markets (Oyelaran-Oyeyinka, 2010). Consequently, growth and sustainability of the MSMEs in Nigeria will to a large extent depend on how well they are able to strategically position their businesses to maximize and leverage online presence Oyelaran-Oyeyinka, 2010)—or maximize the benefits and opportunities that the Internet of Things offered—especially the exposure to the global market.

Online presence, its adoption and necessity for MSMEs

The term online—or internet—presence is the combined use of internet channels such website, social media, blogging site, e-commerce, social media, among others, to promote a brand, product, person or organization to local and global audience (Constantinides, 2014). Online presence is a means through which an enterprise gains local and global visibility and recognition; it is an important catalyst for business growth (Cagliano & Caniato, 2013). As technology continues to advance especially the Internet of Things, the challenge for businesses is how to continually

align business decisions to the fast-moving technological revolution to achieve sustainable business growth and sustainability (see also Osakwe et al., 2015).

A typical example of how a country's economy and development are impacted through the leverage of online presence by its enterprises is demonstrated, for example, by United State of America where the internet took off. For instance, a company like Amazon, Ebay, Walmart leveraged the capabilities of online presence to propel their enterprises to global conglomerates, drawing customers from every part of the world (Selyukh, 2018). In most developed countries, access to the internet is a basic necessity which is adequately provided by the government and has been the major enabler of MSMEs internet leverage for entrepreneurship development in a country like USA (Selyukh, 2018). In China, nearly all the small businesses have very strong internet presence especially through social media and website channels (Tanner, 2012). MSMEs in China fully leverage online presence which has tremendously imparted business growth and sustainability through global visibility and recognition (Hongxiu & Reima 2006; Zhang & Okoroafo, 2014). It is undoubtedly not a surprise to point out that online presence is a major force for the Chinese explosive exports through its MSMEs. The Chinese strong strategic brand visibility in the global market place has been paying off on the country's GDP (Zhang & Okoroafo, 2014). According to the International Monitory Fund (IMF) World Economic Outlook report (2018), the top-two countries with the highest GDP are Unites States and China. Also, the projected ranking of the world largest economy from the year 2019 to 2023 still remains United States followed by China.

Currently in Nigeria, the popular internet platform use by most MSMEs is social media—specifically Facebook, Instagram, WhatsApp, among others; a few MSMEs adopt both website and social media presence (Akintola et al., 2011). However, social media presence alone is still insufficient to adequately deliver online presence of enterprise (Akintola et al., 2011). The leverage on online presence by many Nigerian MSMEs is low owing to some factors such as lack of awareness, lack of technical requisite skill, high cost of internet access fees, poor power supply, poor internet infrastructure, among others (Omotayo, 2018).

One of the major reasons why the Nigerian MSMEs' total export is low is that many businesses lack global visibility offered by internet presence. According to the NBS/SMEDAN (2013), the total export accounted for the MSMEs in the country as at 2013 was only 7.2%. This only implies that almost all the products and services provided by the Nigeria MSMEs are only consumed within the boundary of the country, with very little or no external patronage. This economic 'backwardness' could mainly be attributed to lack of global visibility and recognition of the Nigerian MSMEs. The latter situation, for example, can be compared to a country like China whose internet penetration is delivering benefits to its economic growth (Zhang & Okoroafo, 2014).

Internet Penetration in Nigeria

Smart phone explosion in Nigeria brought about by the expansion of the telecommunication industry has accentuated internet penetration in Nigeria (NCC, 2018).

Nigeria currently has the highest internet penetration in Africa and occupies the 7th position in the world internet penetration. According to the 2019 Internet Statistics, Nigeria has an internet population of over 111.6 million, this number accounts for 55.8% of the entire population (World Internet Statistics, 2019). There is a tremendous penetration increase on daily basis. Findings revealed that an average Nigerian internet user spends over 4 hours on the internet on daily basis to conduct most day-to-day activities (Adepetun, 2018). The huge internet population is a great asset that could boost the national economy through its full leverage by the MSMEs. Unfortunately, it has been discovered that the Nigerian internet presence is rather instrumental in promoting foreign economies rather than boosting her own economy (Hakeenah, 2018). Research also shows that Nigerian online shoppers are the highest consumers of foreign products and services in Africa, as well as most parts of the world. While on the contrary, internet leverage by the MSMEs are not measuring up to the country's huge internet penetration. Little wonder most micro and small enterprises struggle to survive in Nigeria no matter how wonderful their product or services may be.

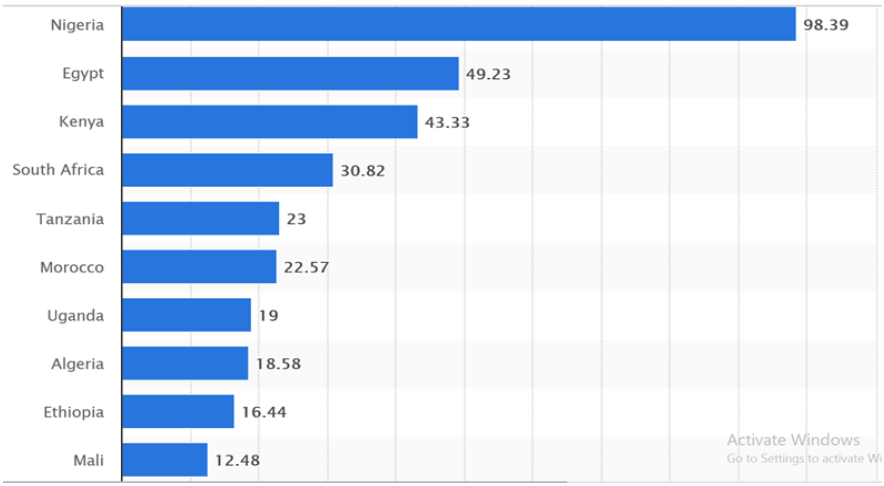

Figure 1: Top ten Internet users in Africa. Source: (World Internet Statistics, 2019)

Barriers to Online Presence Leverage by the Nigerian MSMS

Experts have attributed the non-internet presence leverage by the MSMEs to a number of barriers such as:

1. Lack of technical skill
2. Lack of awareness
3. Inadequate education
4. High cost of internet access fees
5. Poor internet infrastructure
6. Enterprise peculiar factors, among others (Akanbi, 2016; Agwu, 2014)

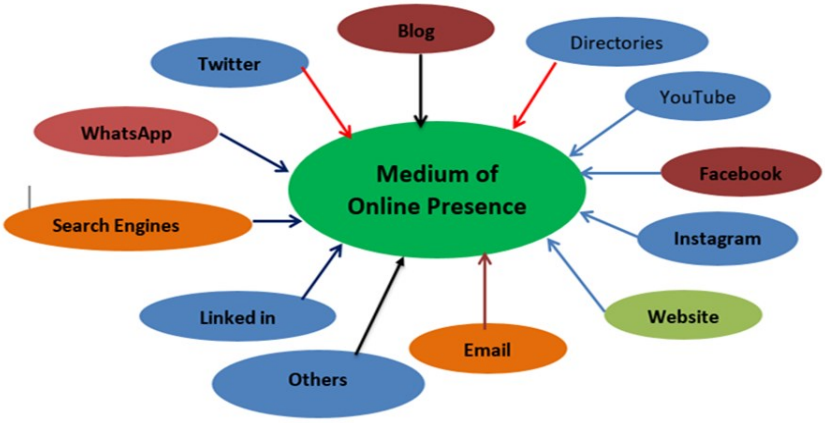

Figure 2: Some channels of online presence

The Significance of Online Presence

Owing to the technological evolution in the present times, for a business to achieve recognition and make a good impact, online presence is a must be present (Hongxiu & Reimay 2006). As shown in figure 2 above, there are various channels through which an enterprise can acquire online presence, but the major ones include social media and website medium. In affirmation with Suominen (2017), for an enterprise to achieve a reasonably good online presence, the following are the most necessitated online medium that must be present:

1. An official email address.
2. Strong social media presence.
3. An interactive website that is both mobile and desktop compatible website.
4. Electronic commerce adoption and among others.

The present highly connected global world necessitates enterprises to leverage the internet to support their growth and sustainability (Adegbuji et al., 2015). Online presence is very crucial to aid the survival and growth of small businesses. The internet revolution in the 21st Century presents huge opportunities for enterprises to leverage for their growth (Adegbuje et al., 2015). It avails enterprises the opportunity to connect with customers, partners, clients, suppliers, among others for the purpose of building broaden knowledge of entrepreneurs, relationship or partnerships that is beneficial for all the involved parties. In addition, online presence enables enterprises understand the needs of their customers. MSMEs must therefore ensure that their businesses are visible online in order gain the recognition of many audiences as possible. According to Osakwe et al. (2015), an enterprise can achieve online presence through strong social media presence, website adoption, web mobility and search engine optimization, among others.

Social Media and Online Presence

Nowadays, social media is becoming increasingly important in consumers purchasing decisions; this is because social media amplify the world-of-mouth. Social media clearly shows consumer's perception of a business, product or service, as well as shows whether a consumer is satisfied or otherwise. Suominen, (2017) outlined the numerous advantages for the MSMEs through social media online presence to include building rapport between enterprises customers, business overhead and cost reduction, boundless reach, greater profitability, among others. Suominen (2017) however pointed out that most small enterprises in Nigeria are still struggling so hard to access their customers. Findings show that most micro and small enterprises in Nigeria heavily rely on word-of-mouth to promote their businesses. While this medium may be useful, it is limited in the sense that only a number of customers can be reached via this method, at the same time all other aforementioned benefits are defeated when enterprises rely only on traditional medium to showcase their businesses. Small businesses require more than traditional business promotional medium such as online presence in order to survive and compete effectively in the present-day business terrain (Akanbi, 2016)

Literature Review

The Origin of Online Presence in the Nigerian MSMEs

As noted by Eze and Obike (2017), online presence was first witnessed in the Nigerian MSME sector in the form of email. The first experience was witnessed in the financial sector in the year 1990 by a very large organization. That year also marked the very first time Nigeria connected to the Internet. Around early 2000, a few big enterprises started adopting electronic business medium. In late 2000, more few large enterprises joined the league of internet adoption in their businesses (Tan et al., 2010). Studies recorded that the presence of the internet in the Nigerian enterprises around late 2000 was still big corporation affair, with very little or no participation by the small and micro enterprises (Osakwe et al., 2015). The type of internet presence in most Nigerian enterprises around a decade ago was mainly through non transactional simple website and email account. Interestingly, in the recent times, the explosion in social media has helped many MSMEs to bring their businesses to lime light even though there are still limiting barriers its maximum leverage (Constantinides, 2014). Researchers affirm that the online presence in an enterprise has a significant positive impact on their overall performance, growth and sustainability, hence paramount to MSMEs survivability since the 21-century economy has been revolutionized by the internet technology (Eze and Obike, 2017).

Online presence facilitates MSMEs Internet leverage to create brand awareness; it [internet presence] offers faster business promotion, provide opportunity for interaction between enterprise and customers, provide information about product and services rendered, as well as enhance customer's engagement in an enterprise (Eze and Obike, 2017). Hence MSMEs online presence transforms an

enterprise to an electronic business that relies on internet presence for promoting growth and sustainability of an enterprise (Eze and Lin, 2010).

Poor Online Leverage by Nigerian MSMEs and Export

Sadiq-Mabeko (2016) revealed that Nigeria is the highest e-commerce users in the whole of the African continent. according to Sadiq-Mebeko, Nigeria spent N327 billion shopping online outside of Nigeria in 2016. Nigeria was also ranked by pay as the 3rd mobile shopping nation worldwide in 2016. In 2015, it was reported that Nigerians spent and 610 million using online shopping through paypal alone. While the country is busy promoting foreign MSMEs, the local MSMEs in the country are lagging behind. The low patriotism by the Nigerians masses towards most local MSMEs could be attributed to the non-internet leverage by the MSMEs for effective business positioning. To further buttress the implication of poor internet leverage by the Nigerian MSMEs, (NBS/SMEDN 2013) revealed that MSME's only contributed 7.2 % to the entire countries export. This low percentage of export could be attributed to poor performance of the Nigerian MSMEs especially in international business interaction. Studies revealed that over one third of consumers worldwide prefer to approach enterprises which offer services and products online rather than the brick and mortar traditional stores. It is no doubt that the major objective of establishing an enterprise is not far-fetched from making profit and to outperform competitors, hence innovation is a vehicle which must be cultivated in order to continually change business strategies and models to reflect the rapid evolving world in the 21st Century (Ekanem & Abiade, 2018).

Challenges of Nigerian MSMEs Online Leverage and Implications

Olatokun (2011) has pointed out that one of the major challenges facing MSMEs in Nigeria is lack of online presence, which affects brand visibility, effective marketing strategies, among others. It is quite ridiculous that many small enterprises are equating entrepreneurship to just selling of products or service, they totally lack basic knowledge of what entrepreneurship is all about in terms of entrepreneurial research, marketing research and market segmentation, planning and control. The huge consequence of such misconception are poor product quality, poor distribution, poor packaging, poor pricing method, lack of competition awareness, or lack of publicity, and so on (Akanbi, 2016). The author also identified lack of online orientation and poor utilization of the internet as a major business growth limiting factor for most Nigerian MSMEs.

As argued by Odimayo (2018), in a highly connected global world of today, it is very difficult for an enterprise to compete and grow effectively without internet presence. This is the major reason businesses that adopt online presence enjoy having great resources to employ in running their business more effectively (Goldstuck, 2017). It is unfortunate that the ease of doing business is terribly low in the country owing to inadequate infrastructure, very high operating internet cost, internet fraudsters, cybercrime in Nigeria, among many other bureaucracies. The Present the need for entrepreneurship development is at the highest level and has never been so high in the history of the country (Odimayo, 2018). Notwithstanding the increasing need of entrepreneurship development in the country, doing business

in Nigeria still requires much deliberate efforts to make it worthwhile. Although entrepreneurship in the country is presently receiving attention more than ever before by the government to improve it, it is still facing enormous challenges hindering its growth and sustainability.

Since the inception of internet, many smart enterprises especially in the developed world realized the importance of internet presence for business growth. For example, more than a decade ago, Amazon and Ebay understood the capacity of the internet in business development in terms of accessing a huge global customer base. These enterprises have tested business success and have still remained successful enterprises owing to a strong online visibility (Ekanem & Abiade, 2018). These smart enterprises maximize the huge resources presented by the internet to launch their enterprise to an enviable realm. Online presence is a vital tool that could cut down overhead especially for micro and small enterprises with limited resources. It enables them to minimize operating cost by overcoming logistical overhead. This would translate into higher profit and growth. It is rather unfortunate that most small enterprises in Nigeria have not understood the importance of internet presence for their business growth, talk more of adopting it (Ekanem and Abiade, 2018). This non-acceptance is not unrelated to many challenges ranging from internal and external factors, to limited infrastructure, to lack of funds, to high rate of inflation, to lack of awareness among others.

A study conducted by (Olatokun & Bankole, 2011) suggests that small enterprises constitute problems for themselves through their ignorance. In the same view, a study conducted by the WTO in 2013 discovered that most of the challenges facing small enterprises internet adoption are from the business owners themselves or the managers, as a result not having the requisite skill for leveraging online presence to booster business growth. The WTO (2013) revealed that MSMEs which do not maximize the use of online presence in their businesses may experience low profitability as well low productivity, meanwhile enterprises that fully integrate online presence in their business will grow more quickly as well as have large customer base.

According (WTO, 2013), one of the major challenges of leverage online presence by the MSMEs in Nigeria stems from the inefficient ICT infrastructure in Nigeria which is almost the same for most African nations. Limited internet infrastructure impedes rendering any form of service through the internet. Notwithstanding the high internet penetration in country, the reverse is the case in most parts of the country owing to very poor and unstable internet or a complete non-existence of the internet in such places. This internet none availability would seriously hinder online presence of MSMEs in those areas to take advantage of its benefits (Olatokun & Bankole, 2011). Another barrier of internet adoption by the MSMEs has to do with the fact that internet providers charge very exorbitant internet access fees. The high internet charges discourage many small enterprises from subscribing to internet presence for business purpose (Tan et al., 2010).

In the same view, none implementation of absence or internet protection laws in Nigeria is a huge impediment to online business transaction in Nigeria, both enterprises and customers entertain fear of being attacked online in the process of conducting business transaction online. This fear stems from the fact that

the country has not implemented effective cyber laws to protect businesses and customers in online transaction. There is still high risk associated with online transactions in Nigeria (Ekanem & Abiade, 2018). Other additional factors affecting online presence leverage by MSMEs in Nigeria include poor infrastructure, multiple taxation, piracy issues, high cost of shipping, poor government policies among others.

Online Presence and E-commerce

Khan & Uwemi (2018) affirm that the adoption of internet presence by an enterprise could be the only means through which an enterprise can enjoy the benefits of internet resources. One of the remarkable breakthrough internet revolution brought to the 21st Century is e-commerce (Khan & Uwemi 2018). E-commerce is undoubtedly noted for the its cost-effective means of reaching global consumers as well as gaining huge market shares. This is however achieved through the streamlining of a wide spectrum of business processes utilizing internet communications to gain competitive advantage while improving business relationship networks (Agwu & Murray, 2015). The internal and external online presence in a business gives an it an advantage of improving communications especially with the presence of skilled staff (Tan et al., 2010). The internal advantages reflect on how MSMEs purchase and sell on the web alongside other internal operations; whereas the external benefit have to do with activities that increases efforts towards understanding of consumers, suppliers, partners, competitors and so on (Tan et al; 2010). E-commerce can be categorized into two categories, namely, selling of goods and services electronically and online financial services and transactions.

Other related work on online presence

Many scholars have conducted studies on the use and adoption of internet leverage in the business domain. Empirical and theoretical number of literature have struck up a debate on internet presence adoption by the SMEs in Nigeria. Olise et al. (2014) conducted a study to examine the determinants of ICT adoption for improved MSMEs performance using Enugu in Southeast Nigeria as a case study. The study provided an empirical evidence on adoption patterns of ICT facilities and level of awareness. It also evaluated the factors influencing ICT adoption in the SMEs sectors and also evaluated the impact of ICT adoption and SMEs performance. The study utilized Standard Deviation, Simple Percentage, Mean, tTest statistics and Regression Analysis to conduct various analysis. Findings showed that there is a significant difference in awareness level and adoption pattern of ICT facilities among SMEs. Additionally, the study showed that turn over, capital base, and asset value of business had significant influence in ICT adoption. Also, enterprise owners' capital input and experience had positive significant relationship with the enterprise output performance.

Tan et al. (2010) investigated the demographics characteristics of small and medium enterprises (SMEs) in terms of their patterns of internet-based ICT adoption, while considering of the dimensions of benefits of ICT, their barriers and adoption intension. The study however spotted differences between manufacturing and service SMEs in terms of their demographics and their internet-based ICT

adoption, benefits, intention and barriers. Result also showed that service-based SMEs had greater intention of adoption than the product-based SMEs.

Ekanem & Abiade (2018) assessed the factors influencing e-business adoption by Nigerian small enterprises. The study adopted a qualitative methodology involving an in-depth, semi-structured interviews, and direct observation to investigate why e-business is adopted and how the Nigerian economic condition influences the system. The study findings suggest that the main factors and motivation of e-business by SMEs in Nigeria is reduction and expansion of market.

In their study, Kaln & Uweni (2018) investigated the extent of the impact of e-business utilization. In the study, the opinion of e-business adopters and customers were sought through a primary data-based study. Both opinions were on impact of e-business strategies on the level of e-business utilization. They designed questionnaire and distributed to 225 customers through Google link. They however contacted the operators directly for data collections. Since they made use of only ten numbers operators. Their result suggested that policy makers need to design and implement policies to arise the growing needs e-business and their customers.

A study by Agwu & Murray (2018) was concerned about the analysis of the impact of the internet presence across firms and industries, which was done in order to separate hype from reality. The study was conducted in Enugu, Abuja and Lagos, with the use of interviews to collect relevant data. Their finding revealed that SMEs online presence is at best unknown. The study shows that the most common online business applications used mainly by SMEs include among others the use of emails for the purpose of communication, simple websites for basic product information, which information contained in them are usually out of date owing to lack of website update and lack of skill. Findings also revealed that absence of a regulatory framework on e-business security in addition to technical skill and in adequate infrastructure were some of the barriers to internet–based business adoption.

Agwu (2014) conducted a study to investigate the influencers of e-business adoption and commercial website maintenance in Nigeria. In his study, he noted that retailers have not actively responded to the global growth of online retailing. A case study approach was adopted for the qualitative study to unveil the factors influencing the adoption and maintenance of commercial website in Nigeria. His finding revealed that most company's websites are not maintained as a result of lack of skill by employees, lack of continuous internet connection. The study also reveals a greater understanding of as the factors influencing website adoption and its maintenance with developing economies.

In the study done by Olatokun (2011), an examination of the adoption of e-business technology by SMEs in Ibadan Southwest Nigeria was conducted with the aim of finding factors that promote and hinder the adoptions of online presence. The study also investigates the type of e-business adopted, their extent of use and challenges in adopting internet technology. The study adopted a descriptive survey design using structured questionnaires to collect data from both adopters and none adopters of internet technology. Frequency and percentage distribution t-test and multiple regression were used to analyze the data. Result showed that majority of the business had only 0-9 employees with about 1-5 years of establishment. Per-

ceived benefit was a major factor of internet adoption and low capital base was the major challenge of none adopters.

In another study conducted by Osakwe et al. (2015), an evaluation of micro enterprise leverage on cooperate website adoption to booster their brand visibility was done. The study focuses on the developing world using Nigeria as a case study. Their findings suggest that the decision maker demographics plays a significant role in adoption of corporate website by an enterprise as well as technology organization environment (TOE)

Statement of Problem

According to the World Internet Statistics (2019) and the Nigerian Communications Commission (NCC Subscribers Data, 2018), the Nigerian internet presence grows at a very high rate, placing Nigeria the highest internet population in Africa and 7th in the world. However, internet presence leverage by the Nigerian MSMEs is still at a low ebb (Akanbi 2016; Eze & Obike 2018; Ajao et al 2018). The low leverage of internet presence in most Nigerian MSMEs is a huge drawback to business growth, profitability and sustainability of most MSMEs in Nigeria (Osakwe et al 2016; WTO 2013). Although a review of literature has been employed to identify some factors hindering the adoption of online presence by the Nigerian MSMEs. However, studies did not show the extent of limitation experienced as a result of the identified factors. Research is needed to examine the extent to which the factors affect online presence leverage by the Nigeria MSMEs. Additionally, studies revealed that the decision to leverage online presence by most MSMEs still borders on the perceived benefits of internet presence to the enterprises, hence there is a need for research to evaluate the impact of online presence of an enterprise on its growth and profitability. Additionally, previous studies have only focused on internet usage by Small and Medium Enterprises (SMEs) alone and have never considered that the majority of the enterprises in the country are micro enterprises employing only under 10 people. In the same vein, previous studies have also concentrated only on influential external factors that determines SMEs internet adoption without considering the internal enterprise factors. Also, studies have failed to show a clear evidence of the impact of internet presence in an enterprise on their profitability and growth. Hence the relationship between online presence leverage of SMEs and their profitability and growth is still not clear. The study intends to fill the identified knowledge gaps through a quantitative research methodology approach.

Research Aim and Objectives

This research aims to evaluate the factors affecting online presence leverage by the Nigeria MSMEs and the extent to which the factors hinder online presence of the MSMEs in Nigeria. The specific objectives are to:

1. Identify and evaluate factors hindering Nigerian MSMEs' capacity to leverage online presence.

2. Evaluate the extent to which those factors hinder MSMEs from leveraging online presence.
3. Evaluate the impact of online leverage by the Nigerian MSMEs on the enterprise growth and sustainability
4. Recommend strategies for leveraging internet presence by the Nigeria MSMEs

Methodology

In this study, the researchers employed both primary and secondary sources to gather data. The primary sources involved the use of unstructured interviews and structured questionnaire to collect responses from MSMEs in Abuja and Lagos. Additionally, interviews were used to collect data from some key stakeholders and internet operators such as National Communication Commission (NCC), Small and Medium Scale Enterprise Development Agency (SMEDAN), National Bureau of Statistics (NBS), National Information Technology Development Agency (NITDA). Secondary sources involved the use of published materials such as journals, conference proceedings, books, websites, magazines, media, among others to gauge relevant literature on the study.

Questionnaire Design and Distribution

The questionnaire was designed to capture six dominant categories of MSMEs in Nigeria—namely Manufacturing, Whole Sale/Retail, Education/Training, Agro Business, Health/Medical and Others (the "Others" category includes any other category that doesn't fall into the listed five categories, such as service-based MSMEs). The questionnaires were distributed to the above-named categories of MSMEs in Lagos and Abuja Nigeria. In Lagos, the survey was conducted in 3 local governments namely: Lagos Island, Ikeja and Oshodi-Isolo, while in Abuja the questionnaires were administered to MSMEs in Bwari Area Council and Abuja Municipal Area Council (AMAC). Each of the enterprise categories received a total of 30 questionnaires except the "Other" category that received a total of 40 questionnaires. A total of 220 questionnaires were distributed but only 157 were recovered, which implies a return rate of 71.36%.

Analysis

The data was analyzed using SPSS version 22. The study employed both descriptive and inferential statistics in analysis of the result. Descriptive statistics enables clear and pictorial view of the response to the question while the inferential statistics was used in testing the set hypothesis. The inferential statistics adopted in the study is Multinomial Logistics Regression.

Hypothesis

A hypothesis set up to evaluate the factors that affect online presence adoption my MSMEs particularly within an enterprise, we set up a hypothesis to be tested using multinomial logistics regression. The hypothesis is as follows:

H0: Enterprise factor and decision maker demographics (EFDMD) will likely influence the decision to adopt online presence.

The EFDMD include: Business type, Position of the decision maker, Age, Educational Qualification, and Sex. The above hypothesis is tested at the level of significance of 0.05 Decision rule is thus: Accept hypothesis if H0 < 0.05 and Reject if >0.05

Results

From the result summary shown in table 1 below, majority of the enterprises have no internet presence. Although result shows that 46.5% of the enterprises have one form of internet presence or the other but only 28 out of the 73 MSMEs actually have a good or recognizable internet presence. Majority of the enterprises only use social media platforms such as WhatsApp, Facebook, Instagram, Twitter, YouTube and so on as the only online medium for promoting their businesses. Majority of the enterprises are managed by the business owners themselves, which means that majority of the enterprises are mainly micro enterprises or one-man businesses.

Case Processing Summary

		N	Marginal Percentage
Online presence	No	84	53.5%
	Yes	73	46.5%
Enterprise type	Manufacturing	27	17.2%
	Retail/Wholesale	28	17.8%
	Agro business	20	12.7%
	Training/Education	24	15.3%
	Health/Medical	24	15.3%
	others	34	21.7%
Position	CEO/Manager	73	46.5%
	Business Owner	84	53.5%
Respondent Age	18-30	19	12.1%
	31-40	65	41.4%
	41-50	46	29.3%
	50+	27	17.2%
Education	Primary Education	4	2.5%
	Secondary Education	13	8.3%
	SSCE/OND	23	14.6%
	BSc/HND	77	49.0%
	Others	40	25.5%
Sex	Female	68	43.3%
	Male	89	56.7%
Valid		157	100.0%
Missing		0	
Total		157	
Subpopulation		104[a]	

Table 1: Result summary of MSMEs responses

From the result shown in table 2 in the appendix, the hypothesis, H0, is significant at 0.015; we therefore accept the hypothesis that enterprise factor and decision maker demographics (EFDMD) may likely influence enterprise decision to adopt online presence.

Also in the appendix, table 3 shows 145 enterprises out the total number of 157 enterprises are micro enterprises with less than 10 employees. The remaining 12 are small and medium enterprises, which suggests that the majority the participant-organisations in the two states were micro enterprises. In terms of business online presence, table 4 reveals that 91% of the participant-organisations said adequate Internet presence—i.e. strong social media presence, good website that is mobile platform enabled, and e-business participation—would positively impact their business growth and profitability; only 9% said those factors would be of no impact to their businesses.

To examine the extent to which the known factors affect Internet presence, we used descriptive statistics to show a pictorial view of the responses. We ask the following question: rate the extent to which the following barriers hinder online presence of your enterprise from 1 to 3 (1=Not much, 2= Affects, 3=A lot). Table 5 below, 58% of the respondents affirmed that the high cost of internet access fee affects their online presence 'a lot', which is a major barrier to MSMEs' ability to leverage online presence; 40.8% the participant-organisations said high cost of internet access does 'affect' their online presence; 2 enterprises reported no-affect.

Other results in tables 6 to 10 in the appendix, show a general lack of awareness of the use and the benefits of online presence leverage for promoting MSMEs accounts among the participant-organisations. 57.3% of the participant-organisations are of the view that lack of awareness hinders them 'a lot', while 42.7% said it 'affects' them. Similarly, lack of requisite technical skill affects the MSMEs online presence 'a lot' while 155 out of the 157 MSMEs in the survey reported that power supply is a major hindrance to effective online presence leverage. Almost all the MSMEs expressed that cyber insecurity in Nigeria a major impediment to effective electronic business adoption in Nigeria; while 'poor internet infrastructure' was reported as a major barrier to online presence leverage as 91% of the participant-organisations said it 'affects' them or 'a lot', while 0.6% of the respondents said that it doesn't affect their ability to leverage online leverage 'much'.

Summary of findings

The research reported in this paper is on-going and only a summary of the findings will be made – as follows:

a) enterprise internal factor (such as the type of enterprise) influences the decision of online presence adoption by an enterprise; b) an enterprise decision maker demographics, such as educational qualification, age, gender, and so on, have shown to influence online presence by an enterprise; c) the factors affecting online presence leverage by MSMEs in Nigeria are to a very large extent constituting barriers to efficient internet presence of MSMEs; d) Six major factors were identified as the biggest barriers to internet leverage by MSMEs in Nigeria. The major factors include: lack of requisite technical skills, lack of awareness, poor power supply, high cost of internet access fees, poor internet infrastructure, cyber-attacks; and e) the

study also discovered that online presence leverage impacts MSMEs growth, profitability and business sustainability to a very large extent.

Recommendations

The study makes the following recommendations: a) The government of Nigeria should make internet infrastructure available in every part of the country in order to enhance its accessibility for both rural and urban MSMEs; b) the government should critically strive to provide adequate power supply in the country because power is the bedrock of innovation, without which, industrialization will remain at a very low ebb in Nigeria; c) the government should improve the telecommunication infrastructure in the country especially in most rural areas to encourage firms in those areas to have access to the internet and to tap from its unlimited resources for their business development; d) government to implement the cyber protection laws as soon as possible—to protect businesses online and also encourage local and international consumers to conduct transactions with the Nigerian MSMEs; e) the government should subsidize the cost of internet equipment for the small enterprises so as to enable easy acquisition and maximization of internet presence in conducting business; f) the government should empower small and medium enterprise development agency (SMEDAN) to collaborate with relevant agencies for the purpose of training the MSMEs on the benefits of internet presence in businesses and how it can be leveraged; g) the SMEDAN should collaborate with other relevant agencies to champion the awareness creation, as well as organizing periodic training for the MSMEs on the benefits of internet presence leverage to boost business growth and sustainability; h) the government should strive to inculcate ICT skills in the schools, specifically the ICT skills that apply to electronic business management; i) the government should create enabling environment for electronic businesses and also invest in local start-up ecosystems; j) the government should improve internet connectivity since most Nigerians go online using mobile phones and the Nigerian's mobile and smartphone adoption rates have increased significantly over a decade; k) the government should remove market access and regulatory barriers to, as well as review market access and customs bottlenecks to online business; and l) the government should review export promotion policy to meet the needs of online businesses.

Conclusion

The study adopted the approach of quantitative research methodology to establish that online presence leverage by MSMEs impacts the growth and profitability of an enterprise. The study also X-rayed the factors affecting online presence leverage by the Nigerian MSMEs, as well as the extent of their limitations on online leverage by MSMEs. In the study, the major factors limiting online presence leverages, as well as the extent of limitations by the MSMEs were identified. Also, the impact of online leverage on profitability and growth of MSMEs was investigated. The implications of the study findings to SME policy include the provision of an empirical tool that cuts across all the relevant actors in the electronic business ecosystem

in Nigeria. Since it is an established fact that MSMEs are the backbone of every economy, especially the developing economies, this evidence-based study has extensively drawn rich recommendations which should be adequately leveraged by the Nigerian SME policy makers, MSMEs, and other relevant stakeholders to strengthen MSMEs internet presence leverage in order to strengthen their operations in Nigeria and globally. This will facilitate the promotion of the Nigerian MSMEs in the local and global market arena, which will in turn enhance growth and sustainability of the MSMEs in Nigeria while boosting the national economy.

Limitation of the study

The study is limited in the sense that only 2 states representing 2 geo-political zones in the country were studied, hence the findings may not be used to generalize the situation in the rest of the country.

Further Research

In the future, the researchers plan to conduct the study in all the 6 geopolitical zones of the country in order to have a better representation of the situation of MSMEs online leverage in all the parts of the country.

Correspondence
Bridget C. Ujah-Ogbuagu
University of Ilorin &
National Defence College Abuja
Nigeria
Email: bridgechi20002@yahoo.com;

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Appendix

Table 2: Hypothesis Result for EFDMD

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	178.432			
Final	150.649	27.783	14	.015

Table 3: No. of employees

No of employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-100	145	92.4	92.4	92.4
	101-200	12	7.6	7.6	100.0
	Total	157	100.0	100.0	

Figure 3: No. of employees

Table 4: Online Presence Impact

Online Presence Impact

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Impact	15	9.6	9.6	9.6
	Fairly Impactful	61	38.9	38.9	48.4
	Impactful	67	42.7	42.7	91.1
	Highly Impactful	14	8.9	8.9	100.0
	Total	157	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not much	2	1.3	1.3	1.3
	Affects	64	40.8	40.8	42.0
	A lot	91	58.0	58.0	100.0
	Total	157	100.0	100.0	

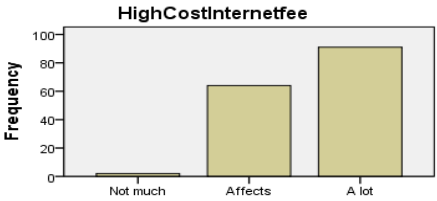


Table 6: Lack of awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Affects	67	42.7	42.7	42.7
	A lot	90	57.3	57.3	100.0
	Total	157	100.0	100.0	

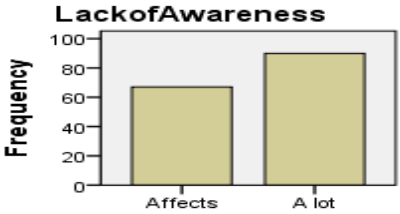
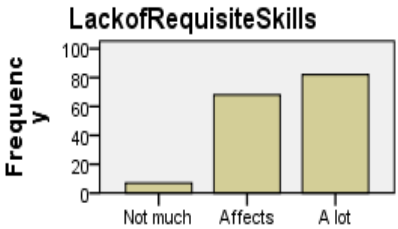


Table 7: Lack of requisite technical skill

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not much	7	4.5	4.5	4.5
	Affects	68	43.3	43.3	47.8
	A lot	82	52.2	52.2	100.0
	Total	157	100.0	100.0	



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The Impact of Big Data Analytics on Entrepreneurship Development in Nigeria

HAPPINESS POWEI KERRY & PAUL JEMITOLA
National Defence College Abuja, Nigeria

Abstract

Nigeria has business and investment potentials. However, no business can strive without the use of data to gain real understanding of business operations and, especially, insights into the behaviour of its customers for strategic decision-making. The process of decision making in business requires an examination of large data sets to understand trends and patterns in business growth and big data analytics offer solution to entrepreneurship development. This paper examines the phenomenon of big data and the impact of big data analytics on new and existing businesses in Nigeria. The research adopts mixed research methods, using a combination of questionnaire, observation, telephone and face-to-face interviews, focus group discussion among entrepreneurs, telecommunication firms, local business owners, and SMEDAN, the government agency responsible for promoting small and medium-sized businesses in Nigeria. The results indicate that 90 per cent of the local business owners in Nigeria were not aware of the concept of big data. The study argues that big data analytics can contribute significantly to entrepreneurship development and economic growth in Nigeria—especially if the Nigerian government focuses on building entrepreneurs' skills capacity on business intelligence, analytics and decision making.

Keywords: Big Data Analytics, Big Data, Entrepreneurship, Business Development

Introduction

The world today is built on the foundations of data as lives are impacted daily by the ability of organizations to gather, interrogate, manage and utilize data. One of such platforms for data gathering is the internet. The internet has become a huge information-gathering platform as data are added at every second to social media, online services and businesses (Ularu, 2012). The ability to transform data collected from the social media platform, for example, into value-for-economic gain is an act of enterprise, something that is expected of an entrepreneur. Suffice it to state that the real data lies not only in creating actionable insight but also applying this insight into strategic decision-making in businesses. In recent times, entrepreneurs using Big Data analytics effectively are gaining competitive advantage, while also achieving huge returns on investment. The need therefore to create business models, improve business processes and reduce costs and risks, lies in the analytical and execution capabilities of Big Data analytics. The process of improving skill set,

as well as the knowledge of the entrepreneurs, through structured training for the purpose of increasing the entrepreneurial acumen is what entrepreneurship development entails. In some developing economies like Nigeria, entrepreneurs in small and medium enterprises lacks inclusive data keeping techniques which cover the remotest of regions and rural areas.

Big Data analytics helps in reaching even those not so easily accessible place and compile data which can be added to the collated dataset through connected devices. This in turn, helps in taking the initiative to improve decision making. Big Data analytics can identify growth opportunities in new and existing businesses, anticipate customers behaviour and help make better decisions round suitable markets in order to make strategic objectives. As a system that is optimized for acquiring, organizing, and loading unstructured data into databases, Big Data analytics possesses the ability to turn data into value, process and review the way data are being managed for better decision making to the advantage of any business. The idea of the "Big Data" phenomena emerged in order to manage the giant volume of unstructured data stored. At first, Big Data was seen as a means to reduce the costs of data management; lately, entrepreneurs now focus on the value creation potential in order to benefit from additional insight gained.

The use of Big Data analytics tools like Hadoop, makes analysis of data easier and quicker, thereby reducing the cost of storage. This, in turn, leads to faster decision-making and further increases the efficiency of business. With this latest analytics tool, entrepreneurs can now have a better understanding of their customer base, which helps them deliver better risk assessments and optimize their actual practices in their decision-making process. The impact of Big Data on entrepreneurship development cannot be over-emphasized. This explains why governments in the world, who know the value of entrepreneur, have made it a point of duty to include entrepreneurship development as part of the Programme of activities in their administrations. For instance, the Small Business Innovation Research (SBIR) program established in America increased the survival and growth rates of Small and Medium Enterprises SMEs in the region. Folashade & Oluwabunmi (2018). In Europe, the Department for Trade and Industry (DTI) develop policies to promote entrepreneurial activities and encourage SMEs to trade internationally. (ibid). In developing countries also policies have been implemented to promote entrepreneurial activities.

The case of Nigeria establishing structures and programmes such as Small and Medium Enterprise Development Agency (SMEDAN) cannot be left out. This is in a bid to enhance the knowledge, skill, behaviour and attitudes of individual and groups to assume the role of entrepreneurs. The Statistically, the United States (US) is the world's leader when it comes to financing new businesses. This is according to the 2018 Global Entrepreneurship Index, which shows the US as the leading country with 83.61 per cent followed by Switzerland with 80.45 per cent; Canada 79.25 percent; the United Kingdom with 77.75 per cent; and that of Australia with 75.45 per cent. Global Entrepreneurship Index (2018).

In Africa, the 2018 Entrepreneurship Index indicates Tunisia as leading the continent with 42.4 per cent, followed by Botswana with 35 per cent, South Africa - 33 per cent; while Namibia ranks fourth with 31 per cent Global Entrepre-

neurship Index (2018). Other African countries are: Morocco with 29 per cent; Egypt, 26 per cent; Gabon, 25 per cent; Algeria, 24 per cent; Swaziland, 24 per cent; Rwanda, 21 per cent; Ghana, 21 per cent; Nigeria, 20 per cent; and Zambia with 20 per cent. (Ibid). This is basically the value placed by African leaders on entrepreneurship development. Global Entrepreneurship Index (2018). The Global Entrepreneurship and Development Institute (GEDI) in 2018, ranks Nigeria 101 out of 137 countries with 19.7 GEI score, making it the 12th in Africa. GEDI Report (2018). This ranking is poor and could be improved if Nigeria utilizes the Big Data analytics tool to enhance her ranking in order to be among the world leading giants in developing entrepreneurs. The Federal Government has adopted several strategies and policies towards entrepreneurial development in Nigeria, such as the establishment of institutions and agencies, which provide variety of support services to entrepreneurs. Suffice it to state, entrepreneurs cannot work in isolation; they need the right environment, tools to thrive. Big Data analytics tools can be used by entrepreneurs to identify business patterns and provide useful information needed for business decisions.

Entrepreneurs have the potentials to transform the economic standing of a developing country – a category to which Nigeria belongs. Although, the Nigerian economy is the biggest economy in the African Region. PricewaterhouseCoopers (2019). In spite of this, during an interview granted to the Punch (2018), Mrs. Patience the Director-General, Debt Management Office, however, stated that Nigeria's total debt profile as at December 2018 stands at N24.387 trillion. Allwell Okpi (2018) stated that Nigeria's population has risen to 201million, while the oil and gas sector still accounts for 90 per cent of the economy. At the current rate of population growth, therefore, strategic and targeted intervention is needed for the nation's economy to move forward.

The Federal Government of Nigeria initiated the Nigeria Strategic Economic Growth Agenda also known as the Economic Recovery and Growth Plan (ERGP) 2017-2020. Sani (2017) reported that the document articulates government's roadmap for security improvement, war against corruption, and economic revitalization. One major key to economic revitalization is entrepreneurship development and the only way entrepreneurs can drive the economy of Nigeria is through innovation.

Big Data analytic tools that can be used to drive innovation and growth because it enables informed decision making in businesses and can help provide new and existing businesses with unprecedented insight. Companies, business owners, farmers etc. become more informed and can make better decisions and wiser investments through Big Data analytics tools. These data are taken from a variety of applications and platforms. In Nigeria, the office of the National Bureau of Statistics, the Small and Medium Enterprise Agency of Nigeria, the Corporate Affairs Commission amongst others are sources of data collection for new and emerging businesses.

Nigeria is said to be blessed with numerous businesses and investments potentials due to its abundant, vibrant and dynamic human and natural resources. Tapping these resources requires entrepreneurs, who can identify potentially useful and economically viable fields of endeavors. Incidentally, Big Data analytics has

the potential to transform development and accelerate social and economic progress around the world. A typical example of Nigerians who through entrepreneurship development have made it big is Linda Ikeja - a Nigerian blogger who is a social media entrepreneur. She uses data collected through various platform and channels it to valuable information creating traffic in her website. Today she is a multi-millionaire and as an entrepreneur, she has been able to impact her world positively.

In business today, the volume of acquired data is instrumental to the determination of the preferences of consumers and their future demands, based on previous trends in demand. On the other hand, it enables entrepreneurs to identify new business opportunities or future markets, based on household consumption profiles. Ohlhorst (2013) stated that the basic reason why organizations implement Big Data solutions is that it is gaining competitive advantage and optimization of business processes. Three States in Nigeria known to be the biggest commercial hubs in the country (Lagos, Kano and Abia States) were selected to find out the impact of Big Data on entrepreneurship development in Nigeria. The survey data shows that the small enterprise in the three commercial hubs in the country are not aware of the term "Big Data" or it importance to entrepreneurship development, while 80 per cent of medium enterprises are just hearing the term for the first time. Researcher Field report (2019).

The aim of the paper therefore, is to discuss the role of Big Data analytics in entrepreneurship development in Nigeria, using extensive review to identify different challenges and issues faced by entrepreneurs in Nigeria. The paper shall cover conceptual discourse, a literature review of Big Data Analytics on Entrepreneurial Developments and a comprehensive analysis of the role of 3Vs on entrepreneurship development. Others include the issues and challenges affecting big data analytics on entrepreneurship development in Nigeria, presentation and analysis of data, the way forward before finally making recommendations.

Theoretical Underpinnings

Concepts of Entrepreneurship

The word "Entrepreneurship" is comes from the word "entrepreneur", which means a person who innovates, creates new ideas for a business, taking up financial risks in the hope of profits and bearing all the losses if the need arises, while entrepreneurship is seen as the creation and running of one's own business. Salazar and Acino (1996 p. 251**)** conceptualized entrepreneurship "as the capacities of individuals to supply, produce, create, and receive or opportunity-making in proper time and place or by proper persons and prices". Schumpeter (1983) defined entrepreneurship as the process of change where innovation is the most vital function of the entrepreneur. UNIDO (1990) defined entrepreneurship as the process of using initiative to transform business concept to new venture, diversity existing venture or enterprise to high growing venture potentials. These definitions points to the fact that entrepreneurship involves innovation, converting opportunities to marketable ideas, value and bearing the risk involved. The concept of entrepreneurship devel-

opment has been defined by various scholars with meaning pointing to helping the entrepreneur develop their skills through training and application of that training.

Ndechukwu (2001) defined entrepreneurship development as the productive transformation of an entrepreneur, a single thread runs through all of them: the ability to identify business opportunities, the ability to be able to harness the necessary resources to use opportunities identified, the ability and willingness to initiate and sustain appropriate actions towards the actualization of business objectives.

Osemeke (2012) defined entrepreneurship development as the process of enhancing entrepreneurial skills and knowledge through structured training and institution-building programmes. The whole idea is to enlarge the base of entrepreneurs in order to hasten the pace at which new ventures are created. This accelerates employment generations and economic development. Entrepreneurial development focuses on the individual who wishes to start or expand a business concentrating more on growth potential and innovation. Essentially this means the acquisition of skills that will enable an entrepreneur to function appropriately and adequately.

The paper adopts Osemeke's (2012) definition of Entrepreneurship development which gives individuals flexibility for developing their skills in a systematic manner using tools available for decision making including big data analytics.

Big Data

There are different definitions of Big Data offered by scholars. Laney (2001) defined Big Data, as having volume, velocity and variety as its primary characteristics. Francis (2012, p. 8) conceptualized Big Data as explosive growth of data. He stated, "Recently much good science, whether physical, biological, or social, has been forced to confront and has often benefited from the Big Data phenomenon." O' Reilly (2012) defined Big Data as a huge amount of data that traditional data management techniques cannot manage and process due to the complexity and size of this data. Big Data refers to the explosion in the quantity (and sometimes, quality) of available and potentially relevant data, largely the result of recent and unprecedented advancements in data recording and storage technology. Gartner's IT Glossary (2017) definition of Big Data is as high volume, velocity and variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight, decision making and process automation.

Big Data relates to an analysis of all the aspects of huge volumes of data which can be also conducted in a real time. Ohlhorst (2012) opined that the concept of Big Data has evolved to include not only the size of data sets but also the data management processes. This was stated by Bi & Cochran (2014) who argued that the concept of Big Data is about the characteristics of the datasets and the methodologies to process data. These scholars in different articles felt that despite the recent interest in Big Data, little is known about what encompasses the concept of Big Data. The paper adopted the definition of Gartner's IT Glossary whose explanation of Big Data is in line with the goal of an entrepreneur that is cost-effective, and enhanced insight for better decision making.

Big Data Analytics and Entrepreneurship Development

Big Data analytics is the methodology to process data, solving problems, discerning patterns, and identifying opportunities, which relates with the analytic part of the term. Big Data analytics is the complete process of collecting, gathering and examining huge and varied data sets to identify hidden patterns, unknown correlations, market trends and customer preferences that can help organizations make informed business decisions.

The relationship between Big Data Analytics and entrepreneurship development cannot be overemphasized. Big Data analytics has an immense potential for generating values for businesses, especially when correctly aligned with business processes and learning needs. It can lead to significant improvement in performance and the quality of the decisions the entrepreneur can make. Big data analytics gives valuable insights that can aid decision-making, especially in identifying patterns and exploiting new algorithms, creating growth opportunity for entrepreneurs and how they can handle the challenges of Big Data, while preparing them to capture, analyze, store and manage large amounts of available data. Most aspiring entrepreneurs may not have knowledge of the field of business to venture into when starting up a business. However, with Big Data analytics data, they can effectively review and analyze their preferences with a view to enhancing their entrepreneurship development. More so, business owners use Big Data analytics to discover flaws in their services and products, suppliers and buyers, as well as consumer intent and preferences so they can create newer and better products.

Hiba et al. (2017) in their paper, "The Impact of Big Data Analytics on Business Competitiveness" explained how big data analytics can lead organisations to data driven decisions, which can benefit businesses to achieve competitive advantages by helping firms to make decision in real time. The paper gave examples of companies like Amazon, eBay and Google that have ventured into the trend to guide a revolutionary transformation. Furthermore, the paper mentioned how Brick and Mortar companies use Big Data for rigid testing and the capability to advise customer data by gathering transactional data from millions of customers, using a loyalty card. The information collected is used to analyze new opportunities. For instance, information is collected by Southwest Airlines, Ford Motor and Pepsico, by analyzing consumers' posts in social media; Facebook and Twitter. They use such information to examine consumers opinions about their products. Big data is seen as fundamental factor of making decision which need new capability which most firms are far away from accessing all data resources. The authors (Hiba et al., 2017) reviewed how Big Data analytics can help organisations predict the unpredictable things and upgrade the process of performance by cost reduction, best operations plan, lower inventory levels, best organizational labour force and eliminate wasteful resources. Big Data analytics also influence improvements in operations efficiency. Suffice it to state that same big data analytics tools which is applied to organisation, can be applied to entrepreneurs in Nigeria to achieve similar results.

Maryam et al. (2015) in their paper "Impacts of Big Data Analytics on Organizations: A Resource Fit Perspective" analyzed how big data analytics can be used to improve organizational performance. The authors integrated the Resource-

Based View (RBV) of the firm with the Person Environment (P-E) fit perspective. The RBV explains how IT resources, such as Big Data analytics, can improve a firm's performance, while the P-E fit perspective explains under what conditions this will happen. Specifically, it explains why the fit between resources and needs is important. The authors predicted that potential value could be created using data analytics and it is one of the key motivations why firms are making significant investments in those technologies. Again, the authors (Hiba et al., 2017) in this paper predicted the value of using big data analytics on organizational performance. The big data analytics tools can also be applied in developing entrepreneurs in Nigeria in a similar manner for the businesses to have value for performance.

Dorota (2017) in her paper "Big Data Analytics in the Management of Business" explained how Big Data analytics can be deployed in decision making in managing a company. The author gave an analysis of the research carried out by EMC Forum in 2013 which indicated that 39 percent of entrepreneurs believe that Big Data aid business success, 19 percent of entrepreneurs are of the opinion that with Big Data they have achieved a competitive advantage, while 36 percent of entrepreneurs believe that the introduction of Big Data will increase safety and security of their data. The paper further stated how Big Data analytics are used in manufacturing for enterprise performance by helping to identify the product demands, productivity and performance via diverse business objectives. For production, Big Data makes it possible to detect the right facility, causing product flaws. In enterprise management, Big Data transforms key organizational business processes that is strategic decision support, identification of the most cost-effective suppliers in delivering business processes, strategic decision support, identification of the most cost-effective supplier in delivering product on time, product development, among others.

The 3Vs of Big Data and their role in Entrepreneurship Development

Bhandar (2013) noted in his presentation at the Big Data Innovation Summit in Boston that beyond the 3Vs which include Volume, Variety and Velocity, there are additional Vs that IT, business and data scientists need to be concerned with – most notably big data Veracity, validity, and volatility. George (2017) wrote about the additional 7Vs in big data. Now we have additional two Vs of Big data analytic which are Venue and Vocabulary. However, this paper will concentrate on the 3Vs – Volume, Variety, Velocity.

Volume: Volume in big data connotes largeness of data. In this era where data is generated by machines, networks and human interaction on systems like social media, the volume of data to be analyzed has become massive. IDC (2014) In its report predicted that the digital universe is expected to reach 44 zettabytes by 2020. What this means is that there are 40 times more bytes than there are stars in the universe. Kalev (2019) stated that social media statistics shows that on a daily basis; about 500million tweets are sent, 294 million emails, 4 petabytes of data are created on Facebook, Facebook stores roughly 250 billion images, 4 terabytes of data are created from each connected cars, 65 billion messages are sent on WhatsApp and 5 billion searches are made. Ominicore (2019) recorded that the

total number of monthly active YouTube users as at September 2018 was 1.9 billion people, estimated paying YouTube subscribers are 300 thousand, number of videos shared till date is about 5 billion plus, number of videos watched per day is 5 billion, number of YouTube views per day is 500million, about 300hrs of videos uploaded per minute. These statistics were put together by Salman Aslam in early 2019.

Internet Word Statistics (2019), estimated that over 474,120,563 people use the internet in Africa. Ogunfuwa (2019), using the Nigerian Communication Commission data reported that the volume of internet users in Nigeria as at January 2019 hit 113.9 million – compared to Inemist's (2019) figure of 98.39 million internet users in Nigeria. How does Volume in Big Data play an effective role in Entrepreneurship Development? In this era of social media influencer, small business relied heavily on Instagram, Facebook, Twitter etc. for their social media marketing and brand building because of the volume of users. What these suggests is that Nigerians are increasingly using the internet for commercial activities more than ever before. The volume therefore plays a positive role in entrepreneurship development in Nigeria – for the large amount of information especially from social media platforms can help new and existing businesses plan and make better decisions. Thus, the higher the volume of data acquired, the higher the increase in entrepreneurship development in Nigeria.

Velocity: Velocity refers to the speed at which data is being generated, produced, created, or refreshed. It deals with the pace at which data flows; the measure of how fast the data is coming in from sources such as business processes, machines, networks and human interaction with things like social media sites, mobile devices, among others. The latter has made the flow of data very massive and continuously sorted. An entrepreneur who is running a marketing campaign on social media and wants to know the opinion of the masses patronizing its brand in order to stay relevant. The company can license some data acquired by Twitter data to grab a constant stream of tweets, and subject them to sentiment analysis. This feedback of Twitter data can assist any new and existing businesses to make the right choices for its brand because of the flow of so much data produced in form of tweets. The quicker the data is gathered, the easier it is to make decisions that will aid in the development of entrepreneur.

Variety: Variety refers to the many sources and types of data i.e. structured, semi-structured and unstructured data. Structured data resides in a fixed field within a record or file that can be easily entered, stored, queried and analyzed. Examples include data type that are numeric, currency, alphabetic, name, data, address etc. Semi-structured data though structured but lacks the strict data model structure. For example, word processing software can include metadata showing the author's name and the date created, with the bulk of document just being unstructured text. Unstructured data cannot be easily classified and fit into a neat box that is photos and graphic images, videos, streaming instrument data, webpages, PDF files, PowerPoint presentations, emails, blog entries, wikis and word processing documents. Variety in data plays a salient role in entrepreneurship development by making it easier for entrepreneurs to sort the sources from where the data is coming from and the type of data needed at every given point. For example, the

variety of unstructured data, a business company (new and existing businesses) gets via emails comes with address of the sender, destination, plus a time-stamp. These emails may come with attachments like photos, videos, audio recording, documents etc. exposing where the data is coming from and the type of data. The unstructured data, semi-structured and structured data is what makes up the variety vector of Big Data which can influence decision making. However, while appreciating it usefulness, one need to put into consideration the time span of the data to be analyzed because some of the data collected need to be performed very frequent in order to determine how fast the changes occur in the business environment. A data that was collected in 2018 may have outlived its usefulness if not properly harnessed.

Key Factors Affecting Big Data Analytics on Entrepreneurship Development in Nigeria

Data Management: One of the challenges affecting Big Data in Nigeria, especially when it comes to businesses, is the practical issue of management of all the data. Data is the life wire of every business as such, running applications, maintaining high traffic websites, backing up documents, databases or emails each process needs a lot of storage. Most importantly, in ground storage repository, backing up data is a complex process. As a business grows, there will be a need for some increase in data storage, and more staff to manage the complex IT structure especially employment of data scientists and business analysts to undertake tasks such as predictive analytics (see below).

Insufficient Skills: Survey carried out in Lagos, Kano and Abia States (as part of this study) shows that 90 per cent of entrepreneurs both local and 'supposed' educated business men and women lacks the analytical know-how and cannot introduce it in their businesses. It takes a full set of hard and soft skills in order to be a successful data scientist. One option for businesses at this stage is to develop their own data professionals.

Methodology

The paper adopted mixed research methodology – a combination of observation, questionnaire, telephone and face-to-face interviews, focus group discussion among entrepreneurs, telecommunication giants, local business owners, and Statisticians, and SMEDAN, the government agency for promoting small and medium-sized businesses. The population of the study comprises all stakeholders in entrepreneurship development operating in Abuja FCT. The choice of FCT as the sample population was borne out of the fact FCT is the capital city of Nigeria and small and medium enterprises are known to be interested in opening up businesses in the city.

About 200 copies of the questionnaire were distributed across the sample States; 50 each for Kano, Lagos and Abia States as well as the FCT. Out of these number, only 120 copies of the questionnaire were returned. The number of re-

turned copies of the questionnaire from FCT was 38 (32%), while Lagos returned 32 (27%), Abia 21 (17%), Kano 30 (25%).

Summary of Results

Participants' Conceptions of Big Data and its relevant to entrepreneurship development in Nigeria

The research population was based on small and medium-sized enterprises who supposedly should have some idea about the concept of Big Data (see tables in the appendix). Out of the 120 that responded to the question about participants' conception of Big Data, 1.6% participant-organisations (medium-size enterprises) were 'very aware' of the concept. 13% respondents 'were aware' of the concept while 18% were not sure what it means. It is clear that the participants' relatively poor conceptions of Big Data present a challenge to policy makers who are keen on developing knowledge–based and data-driven entrepreneurs for Nigeria's economic prospects and development.

When the participant-organisation whether Big Data analytics provide entrepreneurs with the needed tools for decision making, 57% answered in affirmation—that Big Data provided entrepreneurs with the needed tools for decision making—while 43% were not sure. In terms of the amount of data used in participant-organisations, 18% micro enterprises use 'small' volume of data; small-sized enterprises use large volume of data; while medium enterprise used very large volume of data. Relative and uneven small data usage indicate less uses of Big Data analytics for entrepreneurship development in Nigeria. In terms of the data generated by the participant-organisations, 63% used semi structured data, 22.5% used unstructured, while 14% are not sure.

It is clear from the foregoing that Big Data analytics is still not widely known among or used in entrepreneurship in Nigeria—because the concept is vague to most entrepreneurs or at best still trying to come to terms with it.

Concluding Remarks

The findings from the research show that small and micro enterprises who are supposedly experience with deep knowledge of their markets have vague idea about or poor awareness of the concept of Big Data analytics and its usefulness to entrepreneurship development in Nigeria. Even though Big Data analytics is a relatively known subject to entrepreneurs in Nigeria, it is the technological tool Nigeria needs to unlock her economic value for entrepreneurs to strive effectively. Nigerian business owners can benefit immensely from Big data analytical tools; like Apache Hadoop for instance, which can help in effective storage of huge amounts of data in a storage place known as a cluster. The special feature of Apache Hadoop runs in parallel on a cluster and has the ability to process huge data across all nodes. Nigeria has 36 states and the Federal Capital Territory, with about 774 local governments. Each state can have a Hadoop Distributed File System (a storage system in Hadoop which helps to split the large volume of data and distribute across many nodes present in a cluster, performs the replication process of data in a

cluster, hence providing high availability and recovery from failure which increases the fault tolerance). This tool can be used to store and analyze current, trusted and accurate data gotten various sectors of the economy. This data gotten from local government can be put in each state's website, which can be easily accessible and retrievable to the world only by payment. Nigeria stands to gain economically from this method and entrepreneurs can have access to data for easy decision making. The implication is that, the move can boost the states' internal revenue, thereby enhancing economic growth.

New entrepreneurs, investors can have a clear idea of what business to venture into by just checking data at the Corporate Affairs Commission's (CAC) portal to feel the pulse of the economy. The Bank Verification Number (BVN) exercise by the Central Bank of Nigeria (CBN) aimed to help citizens keep bank accounts safe can also be used as a channel to access information that can help develop the economy. This data can help entrepreneurs to be more strategic and, enhance economic efficiency. The information gotten by entrepreneurs can turn into valuable knowledge which can be used to solve problems, increase profits and productivity.

With the help of Big Data analytics, entrepreneur can predict consumer behavior, develop and improve marketing strategies and sales planning. Bigger small and medium enterprises can benefit from knowing their customers, what they need and what they think to make better marketing decisions and predict or react to upcoming trends. With the help of Big Data analytics, Federal Government's poverty alleviation schemes like SMEDAN, Bureau of Statistics, NDE, NAPEP, NSIP etc. that collect and store different data can improve productivity and efficiency through transparency and open information access to citizens. In the area of public information, the Federal Government of Nigeria can create information by collecting data from citizens and institutions, which may later be used for its own decision-making or for informing citizens and institutions.

An entrepreneur can develop a business with smart phone application to improve data infrastructure and services in the nation's capital. Citizens using the application can give up-to-date recommendations and suggestion; by reporting on broken trash cans or streetlights around the city for instance. The Nigerian Railway Service system can benefit immensely from the information provided by big data if the government authorities can utilize information from a smartphone application that uses real-time data provided by transit authorities to tell individuals train arrival and departure schedules. While there are certain benefits that can be derived using big data analytics on entrepreneurship development however, there are certain challenges as well.

Recommendations

It is recommended that Federal Government of Nigeria should: a) channel its efforts on Big Data Analytic program. The government should invite experts on prescriptive analytics, clinical risk intervention and predictive analytics for a round

table discussion with the Presidency and look for measures that will add value to the already existing policies on science, technology and innovation; b) invest more on training entrepreneurs to acquire the requisite skills on Big Data analytics by creating a network for teaching data analytics mindset to under-resourced youth, c) encourage entrepreneurs to utilize the Special Economic Zone e.g. industrial parks, free trade zones, export processing zones, etc.; d) verify all information before sending it to the official websites and also ensure the public can accessed such data through validated channel; e) employ data experts that can create a channel of communication for those who may have difficulties in accessing information on the official website.

Correspondence
Happiness Powei Kerry
National Defence College Abuja, Nigeria
Email: powei.kerry@gmail.com

Appendices

Figure 1: Do you understand the Concept of Big Data?

States	Respond-ents	Yes	Very well	Not Sure	No
FCT	38	5	0	12	21
KANO	30	2	0	3	25
LAGOS	32	8	2	4	18
ABIA	20	1	0	2	17
TOTAL	120	16	2	21	81

Figure 2: Is Big Data a relevant subject on entrepreneurship development in Nigeria?

States	Respond-ents	Yes	Very well	Not Sure	No
FCT	38	15	0	27	0
KANO	30	9	0	13	0
LAGOS	32	11	0	20	0
ABIA	20	10	0	15	0
TOTAL	120	45	0	75	0

Figure 3: Does Big Data Analytics provide entrepreneurs with the needed tools for decision making?

States	Respond-ents	Yes	Very well	Not Sure	No
FCT	38	26	0	15	0
KANO	30	7	0	9	0
LAGOS	32	27	0	20	0
ABIA	20	8	0	8	0
TOTAL	120	68	0	52	0

Figure 4: What is the amount of Data used in your Business /Organisation?

States	Respond-ents	Small	Large	Very Large	Extremely Large
FCT	38	7	0	5	0
KANO	30	5	0	3	0
LAGOS	32	6	0	8	0
ABIA	20	4	0	2	0
TOTAL	120	22	0	18	80

Figure 5: What type of Data do you generate in your organisation?

States	Respond-ents	Struc-tured	Semi-Structured	Unstruc-tured	Not Sure
FCT	38	0	22	12	4
KANO	30	0	18	4	3
LAGOS	32	0	24	8	7
ABIA	20	0	12	3	3
TOTAL	120	0	76	27	17

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