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Audiovisual translation as a tool for teaching English Language to French-speaking students in Cameroon

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The process by which people acquire the capacity to perceive and comprehend language as well as to produce and use words and sentences to communicate is known as language learning. The present study aimed at assessing whether intralingual subtitling can be used to effectively improve on the learning of English language by French speaking Cameroonian students in the country. It involved exposing French speaking students to a film without subtitles over a period of two weeks during which they viewed the film six times and subsequently to the same film with English intralingual subtitles over the same period and length of time. Prior to the exercise the students underwent a diagnostic test which was aimed at evaluating their level of the English language which was an essential component in the subtitling of the film. The students then underwent pre and post tests after viewing the film without and with the subtitles respectively. Analysis of the results of these tests using statistical methods (t-test and ANOVA) showed an improvement in their language elements namely: comprehension, vocabulary, word formation, sentence structure, sound speech, meaning, and usage depending on the context. The improvement average mark increased from 9.5/20 in the pre-test to 12.0/20 in the post-test, thereby confirming the fact that students can effectively improve on language learning through the use of intralingual subtitling which can therefore be considered as an important tool of audiovisual translation.

Key words: Audiovisual translation, linguistic elements, language learning, language teaching, French speaking students.

INTRODUCTION

The term audiovisual translation (AVT) is defined by Agost (1999) as 'a type of specialized translation based on texts conceived for cinema, television as well as video and multimedia products'. This term which appeared in the academic circle in the 1980s and late 1990s, is widely used today and has witnessed a variation in appellation. This goes to buttress the assertion of Cintas and Remael (2007) that ‘AVT, despite its popularity, is not the only term used as some scholars prefer other terms such as “film translation”, “screen translation” or “cinema translation”’. However, AVT is the most common of the terms used.

AVT in general and subtitling in particular is therefore a branch of translation study which has been neglected...
by translation scholars until very recently (Nfor, 2011). There has however, been some improvement recently owing particularly to the contributions of the European Association for Studies in Screen Translation. Gambier (1996) stated that ‘AVT has benefited from the rapid development of research interest and of institutional commitment, even though the field remains essentially European’. This is no longer the case today since much work has been carried out in AVT in Africa in general and Cameroon in particular (Obia, 2010; Nfor, 2011; Ako, 2013; Ayonghe, 2014). In Cameroon nowadays as well as anywhere in the world, the audiovisual media is becoming part of everyday life. We live in an era where AVT is establishing itself and offering the opportunity of reaching out to larger audiences. In the multimedia world (television, radio, internet, etc.), and in Cameroon in particular, changes are evident in the quantity and quality of audiovisual media productions, thus making information and entertainment readily and widely accessible to many people (Obia, 2010; Nfor, 2011; Ako, 2013).

Cameroon is a multilingual country, comprising 281 indigenous languages (Ethnologue, 2013), one lingua franca (Cameroon Pidgin English) and two official languages (English and French) with people from diverse cultural backgrounds (Echu, 2004). There is therefore need to render information accessible to as many people as possible no matter their educational and societal status. Accessibility being the key word in screen translation (Gambier, 2000), many television stations and other film production houses in Cameroon are making use of various audiovisual modes like dubbing, subtitling and voice-over in order to reach these different groups of people. AVT, besides helping the audience to better understand a movie, documentary, the culture of other nations, etc., may also help viewers to learn a new language.

According to Karamitroglou (2000), AVT is a communicative mode in which the acoustic channel and the visual channel are used simultaneously. It could therefore be seen as any language and cultural transfer which aims at translating the original dialogues of any acoustic or visual product. The combination of the acoustic and the visual channel together with the verbal and non-verbal elements result in four basic components making up the audiovisual text: the acoustic-verbal (dialogue), the acoustic-nonverbal (score, sounds), the visual-nonverbal (image) and the visual-verbal component (subtitles) (Stavroula, 2006).

AVT generally encompasses subtitling, dubbing and voice-over. Subtitles in any language are a wonderful way to let people enjoy films from other cultures and countries, but for language learners, subtitles might offer a new path to language learning and comprehension. According to Cintas and Remael (2007), subtitling may be defined as a ‘translation practice that consists of presenting a written text, generally on the lower part of the screen, that endeavours to recount the original dialogue of the speakers, as well as the discursive elements that appear in the image (letters, inserts, graffiti, inscriptions, placards, and the like), and the information that is contained on the soundtrack (songs, voices off)’. Subtitling includes all modes of translation dealing with sounds and images such as movies, documentaries, TV shows, advertisements, video games, instructional or educational videos, interactive software, and theatre translation, among others.

It is not always easy to exactly state the various modes of AVT and subtitling because scholars have never agreed on all the modes. According to Bartolomé and Cabrera (2004), Chaume (2004), Gambier (2003), Chaves (2000), Agost (1999), De Linde and Kay (1999), Luyken et al. (1991), 16 modes of AVT so far have been identified. Serban (2004) divides AVT into two groups: intralingual and interlingual. With intralingual translation, the source language is the same as the target language. Gottlieb (1997) categorises two main classes of subtitles from a linguistic perspective: intralingual (within same language) and interlingual (between two languages). Language learning is the process by which humans acquire the capacity to perceive and comprehend language as well as to produce and use words and sentences to communicate (Acosta, 2012). It could also refer to the scientific discipline devoted to studying that process.

Subtitling is accordingly one of the tools that can be used for language acquisition. This scientific discipline focuses on the cognitive science, which is the interdisciplinary scientific study of the mind and its processes (Cognitive Science Program, Indiana University, 2012). Each foreign language student has a unique intelligence profile and a unique way of approaching learning. Consequently, a pluralized teaching approach is needed to tap into a wide range of learners’ needs and preferences. As concerns the linguistic factor, the learner needs to learn elements dealing with sound speech (phonetics), sentence structure (syntax), vocabulary (lexicon), word formation (morphology), meaning (semantics), and usage (pragmatics). All these elements involve four basic skills of language learning which are: reading, speaking, listening and writing.

Learning a language is linked to the learning environment which also plays a vital role in the language acquisition. It is believed that many people communicate basic information through a conversation in the target language, and Cameroon being a bilingual country with two official languages (English and French) presents a good opportunity for the French speaking students to learn English since they are exposed to that language. Thus, with the help of intralingual subtitling which enables the learner to visualize how words are spelled and to listen to how they are pronounced, such
exposure to subtitles will eventually result in productive language skills.

Bird and Williams (2002) established from experiments that same language subtitling can qualitatively change the phonological representation of the word in the student’s mind that is the text serves to improve the recognition of that auditorily presented word, even when the text is not present in later presentations. Similarly, Caimi (2006) proved that subtitling could be used as an accessibility aid for a target audience which is deaf or as a didactic aid for those who are not familiar with the language spoken in the audio-visual text. Ayonghe (2014) equally investigated the impact of audio-visual translation (subtitling) on the academic language proficiency of English speaking university level students. Her results showed higher improvement in the academic language proficiency of those who watched the film with subtitles. However, no such work has been done on the French speaking students in Cameroon who are all striving the learn the English language which is more universal than French.

The objectives of this article were therefore to (i) assess whether exposure to intralingual subtitled films can be used to improve on the learning of English language by French speaking students; and (ii) determine those linguistic elements such as lexicon, morphology, syntax, phonetics, semantics and pragmatics that can be learnt via subtitling.

**RESEARCH METHODS AND PROCEDURES**

The research methods adopted in this study were experimental and descriptive. We first subtitled a Cameroonian English movie titled *Troubled Kingdom* (Neba, 2012) into the same language via the intralingual translation mode. The constraints of subtitling require that the choice of subjects be done based on their level of education and this was taken into consideration during the subtitling of the film. Fifteen French speaking students aged between 17 and 31 from the University of Yaounde 1 and the Higher Institute of Translation and Interpretation, Yaunde were selected based on their linguistic backgrounds for the experiment.

The subjects (9 females and 6 males) viewed the video twelve times over for a period of one month (3 times a week for 10 min) before the final assessment. The pre and post tests which were specially tailored for the study were prepared by the authors and approved by the authorities of the two Institutions.

These students’ levels of English were tested before the start of the experiment. The methods used were the diagnostic, formative and summative assessments (Dumit, 2012). The diagnostic assessment (also known as pre-assessment) is that which is often undertaken at the beginning of a study to assess the skills, abilities, interests, experiences, levels of achievement or difficulties of a person or a group. This involved reading a text and asking them to reproduce orally what was said in order to assess their listening reading and speaking skills. This was then followed by a dictation to test their writing skills all aimed at knowing what they would have learned at the end of the exercise.

The formative assessment refers to the practice of building a cumulative record of learners’ achievement and it usually takes place during day to day learning and involves observations throughout the period of study. Here, the teachers and the researchers viewed the video with the learners and from time to time paused the film to see if the learners were really following up. This was done especially when difficult words were identified in order to ease the learners’ understanding. The learners all had notebooks in which they had to jot down all those words they found difficult for them to understand. This was to enable them carry out research on the words in question and to see in what contexts such words are used. It is known that words can change mean depending on the context.

Summative assessment was used to bring out results at the end of the learning period. This was to assist the teachers in their view or decision about learners’ achievements at certain relevant points in the learning process. This assessment consisted of exposing the learners to the subtitled film and analysing their reading speed, and how they could associate it with images while listening to the dialogue at the same time. The results of those assessments of the two sets of data (the pre and the post tests) were analysed using statistical (t-tests and ANOVA) methods.

In order to know whether this improvement was as a result of watching the subtitled movie or it was by chance, the data were analysed using descriptive and inferential statistical methods. According to DeCaro, (2011), the descriptive statistics provides a mean which describes the data by showing a difference in meaning but one just can’t be too sure that it is reliable, given that the results may change if the group of learners is also changed.

**FINDINGS AND INTERPRETATIONS**

The pre-test is the diagnostic test and as its name indicates, was done at the beginning of the exercise to know the language level of participants. The learners were evaluated on aspects such as vocabulary, grammar and reading comprehension and the results of each of them graded on 20 (Table 1)

The post-test, also known as the summative assessment, was aimed at evaluating the learners to see what they must have acquired at the end of the exercise. This was to check if subtitling had any effect or not on the language learning of the viewers. The results (Table 1) showed an overall improvement though not in all cases. There was a drop in the results of three learners (subjects No 3, 7, and 13) out of the fifteen. This drop could possibly be associated to the fact that these subjects showed little interest in the exercise and as a result did not improve their performance after viewing the film with subtitles while the others who produced positive results must have shown much interest by being attentive and concentrated throughout the exercise. The increase in the results of the majority of the learners could also be due to the fact that they viewed the movie over a period of one month, and the repeated exposure to the film automatically led to this improvement in language acquisition. The percentage improvement from pre to post-test is shown in Figure 1.

The inferential statistics on the other hand, are statistics, such as t-tests and ANOVA that allow one to make inferences about the population beyond the data.
In order to proceed with this analysis, the definition of the hypothesis was given. In this case, the null hypothesis which refers to a default position, states that the two means are not significantly different and the alternate hypothesis which states that the two means are significantly different.

In order to accept or reject a hypothesis, one needs to use the probability (p) value which measures the strength of evidence against the null hypothesis. Generally the p value is always placed at 90, 95 or 99% interval of confidence (p= 0.01, 0.05, 0.1 respectively) but what is mostly used is the 95% interval of confidence (p=0.05) as in the case in this study. If the p value is less than or equal to 0.05, then the null hypothesis is rejected. But when the p value is greater than 0.05, then the alternate hypothesis is accepted. For the mean to be statistically significant, one needs to use the t-test which is a statistic test that checks if two means are reliably different from each other.

Since one test is never used alone, ANOVA which checks two or more means was used to actually confirm the results obtained in the t-test. Microsoft excel software was used to obtain the p-value. The t-test critical is a value which is proportional to a particular probability and in this study the probability was 0.05 while the t-test critical was 2.16 and the t-test calculated was 3.96 (Table 2).

The calculated t (P) is always compared to the critical
Based on word learning and word recognition. The subjects involved were 16 native speakers of English and 16 non-native speakers of English (12 Spanish and four Italians). The researchers concluded that same language subtitling improves listening comprehension and facilitates word learning and comprehension and that simultaneous presentation of soundtrack and written text improves recognition memory for spoken words and can aid novel word learning as assessed by explicit and implicit memory tests.

Even though the present study is similar to, and adds to previous studies, it is however different in that it took place in the Cameroonian context which is composed of 247 indigenous languages, two lingua franca (Cameroon Pidgin English and Camfranglais), and two official languages (English and French). Consequently the subjects who took part in the study come from diverse cultural backgrounds and accordingly speak at least one of the indigenous languages, one of the Lingua Franca, and French which, in this case, is their second or third language. Therefore, the English language was their third or fourth language.

Caimi (2006) carried out a study on fifteen pre-intermediate university students of English on intralingual subtitled videos. The general analysis of their answers showed that positive results are achieved only if the quality of the product (intralingual subtitles) is linguistically loyal to the source dialogue and appropriately tailored to the semantic and pragmatic markedness of the plot, speed of images and scenes. Ayonghe (2009) demonstrated that subtitles can be used to acquire Cameroon’s local languages in a bilingual/multilingual context.

A considerable number of studies from Vanderplank (1988; 1990), Huang and Eskey (2000), Markham and Peter (2003), Bird and Williams (2002), Caimi (2006), and Ayonghe (2009), based on observations and feedback from students of English as a foreign language, showed the positive effect in language acquisition of monolingual subtitles on viewer-learners. According to Caimi (2006) “every act of understanding involves an act of translation of one kind or another, and monolingual subtitling used for learning purposes represents one of the many ways through which second language learners are helped to overcome the challenges of listening comprehension”. In an intentional learning context, this type of screen translation helps

### Table 2. T-test (dependent t-test) from the inferential statistical method.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>t-test calculated</th>
<th>t-test critical</th>
<th>Interval of confidence of mean</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower bound</td>
<td>Upper bound</td>
</tr>
<tr>
<td>Pre-test</td>
<td>9.50</td>
<td>3.96</td>
<td>2.16</td>
<td>6.85</td>
<td>12.15</td>
</tr>
<tr>
<td>Post-test</td>
<td>12.03</td>
<td>3.96</td>
<td>2.16</td>
<td>9.09</td>
<td>14.98</td>
</tr>
</tbody>
</table>

### Table 3. Results from analysis using the ANOVA test.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>F calculated (p&lt;0.05)</th>
<th>F critical (p=0.05)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test</td>
<td>9.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post test</td>
<td>12.03</td>
<td>6.67</td>
<td>4.20</td>
<td>.002</td>
</tr>
</tbody>
</table>

The interval of confidence of mean (average) for the lower and upper bound simply states that if any student’s mark falls between 6.85 and 12.15 during the pre-test, and 9.09 and 14.98 during the post-test, then the student can actually learn English via subtitling. Looking at both the pre and post test result tables, it is noticed that more than 95% of subjects’ marks fall within that range thus confirming with a 95% degree of confidence that English can be learned via subtitling. To make the work more interesting and convincing, another test (ANOVA test) was made still with the use of Microsoft excel software (Table 3).

Contrary to the t-test which depends on the T ratio, ANOVA depends on the F ratio. Just as explained above, if the F calculated is greater than the F critical, then the null hypothesis should be rejected. Table 3 shows that the F calculated is worth a value of 6.67 and the F critical is 4.20; once again the alternate hypothesis which states that subtitling brings a significant difference in language learning is accepted but if both Fs were equal, an alternative test would have been required.

### DISCUSSION

The results of the present study are similar to those of Bird and Williams (2002) who conducted a similar study
viewer-learners in the language acquisition process by providing them with comprehensible written input, which adds confidence and security, thus creating a low affective filter (Krashen 1982). This motivates them to continue watching subtitled films and documentaries and encourages them to extend their intake of the language which is the raison d’être of the present study.

Huang and Eskey (2000) also revealed that subtitled television improved the English as a second language (ESL) students’ general comprehension, vocabulary acquisition and listening comprehension. Markham and Peter (2003) equally assessed the effect of subtitles and captions on 169 students’ video comprehension and revealed that captions had a significant effect on improving comprehension. The results equally showed that students watching the film with English or Spanish subtitles achieved significantly better results than the group that watched the video without subtitles, with the English (native language) subtitle group achieving the best results.

However, according to Danan, (2004), one has to be cautious because subtitling may hinder the development of receptive skills if not well administered. Therefore, audiovisual material used for learning should be introduced based on the linguistic level of the learner. In the present study, the learners were from the tertiary level of the educational system of the country and this was taken into consideration during the subtitling of the video. In the same vein, Vanderplank (1988, 1990) adds that learner’s exposure to subtitled programmes may be insufficient for language acquisition and suggests that paying attention to the language used in programmes through note-taking could be implemented in combination with subtitling to obtain the desired results.

Kvitnes (2013) explored the use of subtitles in second language acquisition for Norwegian learners of English and found that subtitles aided comprehension of plot in the initial round of testing in addition to the participants’ vocabulary size, which was established through the use of a simple comprehension questionnaire. Long term effects of learning were also tested by using a word definition task and a lexical decision task and it was discovered that the subtitles were not predictors of performance. According to Martello (2015), “subtitles in any language are a wonderful way to let people enjoy films from other cultures and countries, but for language learners, subtitles might offer a new path to language comprehension. And paying attention to subtitles can boost language learning, if you know how to use them”.

Mbele (2010) focused on the role of subtitling in local language learning and stated that subtitling is crucial for language learning and the promotion of Cameroonians languages. She used a sample population of Bamoun-speakers to prove and confirm that subtitles were effective for language learning. Ayonghe (2014) demonstrated that AVT played an important role in the enhancement and promotion of the English language in Cameroon.

All these studies show that subtitling which is also a mode of translation, is vital for language learning, and that there are many applications for their use depending on the context of the learners themselves which in turn calls for creativity and adaptation.

Conclusion

The main problem this study sought to investigate was to find out if and how intralingual subtitling could improve on the English language skills of French speaking students in Cameroon. It has therefore been established that constant exposure to intralingual subtitling will help French speaking students in Cameroon to improve on their reading, listening, speaking and writing skills, word recognition and vocabulary acquisition in English.

It is evident from these results that subtitling had a significant positive impact on these learners but one has to consider note taking by the learners while watching the film, the context, and background of the learners. Given that the inferential analysis of the results does not only deal with the present but also with the future, and since it has to do with probability which is the best statistical method so far, it is evident and conclusive from the results of this study that the exposure of the learners to the subtitled video actually helped in their improvement of language learning.

Thus, in addition to the fact that subtitling is a translation mode, this study has clearly demonstrated that it is also an important tool for learning/teaching the English language to French speaking students in Cameroon.

Conflict of Interests

The author has not declared any conflict of interests.

REFERENCES

Ayonghe LS (2009). “Subtitling as a Tool for the Promotion of Bilingualism/Multilingualism” in Tanda A. Vincent, Jick K. Henry and


Neba LA (2012). "Troubled Kingdom, Cam Movies Backstage (Cameroon), A Cameroon film Produced by Fred Keyant & Mairo Sanda and Directed by Neba Lawrence.


Technology production: A challenge for economic growth and development in Africa

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Africa has recently become the world second fastest growing region, but still, poverty has not improved accordingly. The paper makes the case that in order to further boost economic growth and promote development, African economies need to go beyond imitation and technology transfer and start producing technology. Some of the arguments are: innovation generates stronger growth gains than imitation and copying; stronger international patent protection contributes to hinder the imitation process; technology tends to be purpose-driven and can be inappropriate. Drawing on the determinants of two features of world research and development distribution, that is, concentration over half of the world countries and underinvestment, the paper goes on to suggest ways in which Africa may go about spending significantly on R&D and discuss the corresponding challenges they will face.

Key words: Technology, innovation, imitation, Sub-Saharan Africa, growth, development.

JEL classification codes: O31; O34; O43.

INTRODUCTION

GROWTH AND DEVELOPMENT PROFILE IN AFRICA

After several decades of a dismal economic performance that many in the economic literature dubbed "the economic tragedy of the twenty-first century" (Artadi and Sala-i-Martin, 2003), African economies have embraced the new century with a totally different growth pattern. In effect, from the 1990s to the 2000s, the (unweighted) average growth rate of gross domestic product (GDP) across the Sub-Sahara African region has sharply risen from 2.98 percent to 4.67 percent. GDP per capita growth rate has also shot up from a mere 0.38 percent to 2.19 percent, which amounts to more than 5-fold increase over that time span. Both internal factors of the likes of better macroeconomic management, high domestic demand and more stable political environment as well as external factors such as favorable commodity prices, stronger ties with emerging economies and higher official development assistance since 2000 have contributed to make the continent the second fastest growing region in the world (UNCTAD, 2014; UNDP, 2013).

With the strong economic growth performance, living standards have also improved throughout the region. In effect, extreme poverty has declined, with an accelerated pace after 2005. The proportion of people living under US$1.25 a day has gone from 56.5 percent in 1990 to
48.5 percent in 2010. This improvement is mainly due to significant economic growth elasticity of poverty (although lower than the rest of the developing world), successful policies to combat extreme poverty and a somewhat remarkable resilience that helps the continent weather the recent economic shocks and rising food and oil prices (Chen and Ravallion, 2010).

However, on another account, the pace of economic growth appears to be not sufficient enough to generate significant benefits to Africans. One of the United Nations’ Millennium Development Goals (MDGs) is to reduce extreme poverty by half of its 1990’s level by 2015. An 8-point decrease over two decades has set the rate at 20.25 percentage points above the target. This indicates that the continent is well on its way to miss the target. At the same time, other parts of the developing countries have performed quite well by removing scores of individuals out of extreme poverty. For instance, the faster pace of extreme poverty reduction in South Asia has meant that the region is just 4.1 percentage point to go in to halve the proportion of extremely poor.

It is believed that greater economic performance in terms of growth would ultimately contribute to faster poverty reduction (Dollar and Kraay, 2001; Chen and Ravallion, 2003). As a consequence, to better improve living standards and promote economic development, African countries need to boost their economic performance, by almost doubling their growth rates to the 7 percent mark, in line with the MDGs.

A key strategy in growth promotion in Africa could be technology development. The economic growth literature places technology at the core of economic dynamics. In effect, in the Solow-Swan model, the rate of growth is simply the rate at which technology advances (Solow, 1956; Swan, 1956). However, the latter is viewed as an exogenous process, and it gives little flexibility for countries to improve their growth profile. The new growth theories developed in the late 1980s and early 1990s also insisted on technology as one of the key drivers of economic growth, but this segment of the literature took a different stance by endogenizing the process of technology production (Romer, 1990; Aghion and Howitt, 1992; Grossman and Helpman, 1991a, 1991b). By setting the incentives right to innovate, to imitate, or to even absorb foreign technology, through for instance a viable R&D sector, a country could reap significant growth benefits.

A clear trend in Sub-Saharan Africa (SSA) is that the continent is not very much involved in technology production. To the extent that some countries are, it appears to not significantly invest in R&D that would make the technology sector a viable one (Seck, 2012a). In effect, a lack of public investment has always been a major challenge. A mere 0.3 percent of GDP is devoted to R&D across the continent, which amounts to seven times less than that spent by developed countries, and far less than investment in defense, education or health.

South Africa appears to be the leader. In 2007, it spent some 0.94 percent of its GDP on R&D (close to the 1 percent mark), and it accounted for 46.4 percent of the continent’s scientific publication, ahead of Nigeria (11.4 percent) and Kenya (6.6 percent). More telling of the large cross-country disparities, only 17 countries could count for more than 100 articles recorded in the Science Citation Index in 2008 (UNESCO, 2010).

In addition, many of the countries’ characteristics such as the low literacy rate and poor quality of education, the large extent of brain drain, the unfriendly institutional setting, as well as a lack of effective political will to develop science and technology have been translated into even low absorptive capabilities of international technology, which could further be worsened by a relative strengthening of international intellectual property rights (IPRs).

Accelerating the pace of economic growth would ultimately require the continent to significantly engage in the production of technology that would better espouse its economic structure and its desired growth profile. To this end, it is useful to consider the following questions:

1. Why producing technology may be a better growth and development option for Africa than imitating?
2. What are the challenges that Africa has to overcome on its way to developing an R&D sector?
3. How African countries would go about developing a strong R&D sector?

This paper makes the case that Africa needs to develop a viable R&D sector, and the resulting benefits would be a faster pace of economic growth and a significant improvement of living standards for its populations.

The remainder of the paper unfolds as follows. Section 2 offers some reasons why acquiring technology through innovation or invention might be a better growth and development option than just imitation or relying on foreign technology spillovers. Section 3 draws some lessons from the literature on the determinants of R&D spending and suggests how Africa would go about developing a viable R&D sector. Section 4 discusses some economic and social implications for the emergence of an innovative Africa. Finally, section 5 draws some concluding remarks.

Why produce technology?

Technology comes in various forms and shapes. A far as production is concerned, it is represented by the “A” factor in a typical neoclassical production function, often referred to as multi-factor productivity or total factor productivity. It reflects the ability of a firm or a nation as a whole to produce an increased amount of goods and services with a given set of inputs. In its basic form, technology encompasses two fundamental elements.
First the techniques used in the production process: for instance, whether machine is used in a farming activity or horse power or some archaic tools. Second, technology refers to the organization of the production process. It is not sufficient to use state-of-the-art techniques or tools in producing goods. A better organization can be related to, for instance, the sequencing of the production process, the degree of specialization of workers in the different tasks, or the incentives workers face to produce.

A change in technology could bring two advantages to the corresponding unit of production. For a given level of inputs, it will translate into increased output volume. In other words, it is translated into increased productivity, or an expansion of the technical efficiency space. Alternatively, technological advances would make a production process more efficient in an allocative sense, that is, it would allow firms to reach the same amount of output at a reduced input cost.

Production units that are very much involved in technology development are hence more prone to enjoy greater efficiency than those that are not. At an aggregate level, it could explain why poor economies may not be catching up with advanced ones. One of the insights of the neoclassical growth model is that technology, even when produced by a given country or a given firm, can almost instantaneously and freely be available to other countries or firms. This stems largely from the specific nature of this public good. In effect, any additional user will not reduce the extent to which others are using it; that is, the marginal cost is (next to) zero. This is referred to the property of non-rivalry. In addition, one user of technology is not able to prevent others from using it. This is the non-excludability property. To the extent that both properties hold, there is no room for technological differences, at least over the long run, between technologically advanced countries and lagging ones. Ultimately, as the process of technology diffusion fully plays out, poor countries would end up catching up with rich countries. This is one of the main insights of the neoclassical model.

The empirical literature clearly indicates that such an absolute convergence is in fact not taking place. This contributes to question the instantaneous diffusion of knowledge across countries. This process can indeed be relatively slow, if the non-excludability property of technology becomes loose. This is the case for instance if some laws provides strong protection of property rights to innovators and inventors, through patenting for instance, rendering the imitation or copying of technology quite impossible. Another channel through which technology can be excludable is to be found in the nature of technology itself. In effect, copying or imitating foreign technology more often require some skills. To the extent that the education system or the learning-by-doing process is not efficient enough to equip the country or domestic firms with the appropriate set of skills, cross-country diffusion would hardly take place.

The new growth theories suggest that growth in a given country that invests in technology development or acquisition can enjoy positive and lasting economic growth. Its R&D effort could contribute to maintaining or even deepening the development gap with a country that is not engaged in such an activity. This further weakens the absolute convergence process between rich and R&D performing countries on one hand, and their poor, lagging counterparts on the other. The alternative notion of conditional convergence adds the possibility that each economy will converge to its own equilibrium path, leading to what is known as club convergence.

Strong technology development is therefore needed to bring about the necessary structural transformation that would deeply change the fundamentals governing the growth trajectory in African economies. As a result, such an effort would propel those countries into different clubs, leading to catching up with more advanced economies.

There are basically two ways through which an economy can benefits from technology. First it can rely on foreign R&D activities and benefit from any spillover gains. There is a large body of literature that suggests that the economic gains could be quite substantial. The pioneering work of Coe and Helpman (1995) focusing on developing countries suggests that technology developed in one country generate a rate of return of 30 percent for their trading partners. Seck (2012b) shows that the benefits to developing countries from technology developed in advanced countries are also significant in terms of increased aggregate productivity, although less than the benefits among developed countries. This shows the relatively weak absorptive capabilities of developing countries as far as international technology spillovers are concerned. A key element that shapes countries’ ability to absorb foreign technology has to do with whether there is a viable R&D sector or, in other words, whether the country is allocating sufficient amount of national resources to R&D. In fact, it can reasonably be argued that knowledge is the most important input in the production of knowledge. Therefore, a thriving R&D sector is more conducive to greater absorption of foreign technology.

The second way through which technology can be obtained is through direct production. The empirical literature suggests that this option could be more rewarding than just imitation or copying. For instance, Coe and Helpman (1995) suggested that R&D investment generate a rate of returns of 120 percent to performing countries, which is four times higher than the gains that spill over to foreigner countries. Ultimately, countries wanting to boost the pace of its economic growth will have to actually develop an R&D sector. This will both contribute to direct knowledge production as well as reinforcing its absorption capabilities of foreign knowledge.

However, a country could find more rewarding to imitate rather than directly produce technology. In effect,
R&D investment is all the more uncertain, and it does not always guarantee an outcome in a timely manner, if any. Although the return may be high to investors, risk and uncertainty could be such that the adjusted rewards could make resource allocation to innovation less optimal than other alternatives, such as imitation. Furthermore, imitation, as opposed to innovation, involves significantly lower spending, and the likelihood to come up with an outcome is also greater. In addition, imitation, such as reverse engineering, often requires fewer skills than innovation which consists of the initial engineering work. As such, those lower skills could be relatively more easily developed in a country than the more complex skills associated with innovation. The latter would require for instance greater investment in education. Cost-benefit-wise, countries and firms facing financial and other resources’ scarcity, as the ones in Africa, could be more tempted to engage in imitation and copying rather than in innovation.

However, even if a country opts for imitation rather than innovation, it could ultimately end up innovating. Strong imitating countries are also those that are more likely to become innovating countries than countries that imitate less. In effect, the process of imitation would gather a sufficiently large knowledge base in the country. Because knowledge is produced mainly through knowledge, the availability of a large stock of such an input is associated with strong incentives to actually start producing knowledge. The production process could take the form of improving over existing technology, or tropicalizing foreign technology.

Furthermore, technology developed in one country is often purpose-oriented and tends to be specific to the set of conditions in that country. For instance, a new technique of harvesting a crop could be specific to the nature of the cultivated soil or particular combinations of inputs. This causes the marginal benefit of such an innovation lower in a different context, even rendering it inappropriate. One of the insights from the vast literature on the appropriateness of technology is that the diffusion of technology may be very slow and significant technology gaps could be persistent among countries (Basu and Weil, 1998).

Another argument that makes the option to imitate less affordable puts forth the strength of international property rights protection. Stronger protection spells lower pace of imitation or copying of others’ technology. Such a proposition is formalized in a model developed by Krugman (1979). The technology gap, and consequently the income gap between innovating countries (typically in the North) and imitating countries (the South), depends on the rates of innovation in the former and imitation in the latter. All else equal, greater innovation outcome in the North would make the latter richer than the South, and lower imitation effort in the South would make these countries relatively poorer. This is where IPRs enter into play. By providing stronger protection to innovators in the North, the legal system of property rights contributes to lower the imitation of technology in the South. As a result, economic growth will slow down in Southern countries and the income gap will widen.

There is a clear trend towards stronger protection of intellectual property rights (Park, 2008). Although the adoption of stronger patent laws and the composition of patent rights vary across countries, the general pattern is towards strengthening of IPR protection. To the extent that countries are still on such a path to provide greater protection, imitation would get harder and the domestic gains from foreign technology will be lowered.

### Producing technology in Africa

As argued previously, technology production is associated with greater returns in terms of economic growth than imitation. Domestic innovation produces outcomes that tend to be appropriate to the specificities of the country. In addition, it is less likely to be hindered by international protection of property rights.

However, technology production is a complex activity. Unlike regular production of a final consumption good, the process of producing new knowledge is all the more uncertain in terms of how a given combination of inputs is translated into an actual output and how valuable the latter will be. This uncertainty and the associated risks undoubtedly play a significant role in explaining the distribution profile of world R&D activity. Two main features clearly stand out: concentration and underinvestment. In effect, only a little over half of countries around the world (53.0 percent) are significantly engaged in technology production as of 2010, and of those R&D performing countries, countries that make up the Organization for Economic Cooperation and Development (OECD) accounted for 86 percent of the total R&D spending (Seck, 2012b).

The second important feature of world R&D activity is the low level of investment. It is far from matching the potential level that is in line with the remarkably high returns. For instance, Link and Siegel (2009) suggest that the rate of returns on R&D investment could be as high as 230 percent, and the benefit-to-cost ratio could reach an astonishing 5,500-to-1. As it is the case with goods that generate positive externalities, social returns are typically higher than private returns. As a consequence, with no adequate public policies that would favorably modify the incentive structure, innovators will have a tendency to underinvest, by accounting only for their own private returns. On the aggregate, the country will invest less than the optimal amount, that is, the one that would generate the full returns to the society. Some studies have compared the potential R&D spending that stems from the high social returns and the actual spending that accounts for private returns, as well as other dis-incentives associated with various sources of uncertainty
of the innovation process. A clear result is that aggregate R&D spending in performing countries is far below its potential level. For instance, Jones and Williams (1998) suggest that the level of spending that the social rate of returns would command is at least four times larger than the actual spending.

African countries definitely enter into this statistical profile of world R&D activity in a non-positive way; “as usual” one might add. In effect, of the 52 countries accounted for by the UNESCO survey data on R&D, only one in five is significantly involved in R&D spending over the period of 2005-2012. In addition, R&D activity across the region tends to be very concentrated around a handful of countries. Only four countries, namely South Africa, Egypt, Morocco, and Algeria accounted for more than 92 percent of total R&D spending in Africa.

A clear understanding of the incentive structure faced by innovators and inventors as well as the potential role of public policies could help spur a dynamic R&D sector across Africa. Various theoretical attempts have sought to model the process of technology production. A basic knowledge production function would relate new outcomes to human capital and the stock of previously accumulated knowledge (Romer, 1990). A country needs to “save” its human resources in the sense that part of the labor force is not used in the current production of goods and services. In the process, current revenue is forgone. These resources are then used in research activities, and the outcome will contribute to increase future revenue. More specifically, a country has to invest in scientific education that would later bring into the labor markets scientists from various fields. An important question regarding is how far African countries would be willing and able to forego present revenue, consumption or growth for brighter future prospective. It might be that the opportunity cost is relatively large in the face of tight financial constraints and poor living standards.

A second important input to R&D sector production is the technological capital. In effect, the amount of accumulated knowledge is an important ingredient in the generation of new knowledge. In other words, knowledge produces knowledge. A country is then more likely to spend a significant share of its resources to R&D the greater the technological capital. The latter can basically be accumulated through two channels. First there is the domestic one. An indigenous R&D sector that generates outcomes will add to the existing stock. This could set the country into a virtuous circle of technology production: the more it produces technology, the larger the accumulated stock, and the easier it gets to further produce technology, and so on. There may be, however, some threshold effect in this virtuous cycle mechanism. In effect, the stock has to reach some critical level to place in the hands of innovators a significantly large pool of knowledge input to be translated into new technology. Nearly half of the countries around the world, and more than 61 percent of African countries that are not significantly engaged in technology production, may not have reached that critical threshold.

Furthermore, a country can develop its knowledge stock through international technology spillover. It then has to strengthen its absorptive capabilities. All the ingredients that go into countries’ ability to absorb foreign knowledge are quite the same as those that enter its innovation capabilities. As before, education is one of those key ingredients, as well as an accumulated stock of knowledge. Foreign technology acting as an incentive to develop a domestic R&D sector is often referred to as “standing-on-shoulders” effect: past research outcomes benefit present and future research activities.

But the literature has also suggested that foreign technology could in some ways hinder domestic R&D sector. In effect, foreign discoveries contribute to further push out the definition of “new” knowledge, making current and future research activities relatively harder. This is known as “raising-the-bar” effect, or “fishing-out” effect, which stipulates that prior discoveries are easier than the latest ones. As a consequence, late comers in the worldwide technology arena would have greater difficulties developing a dynamic domestic R&D sector, because of that increased marginal cost to generate a research outcome.

Weighing between these two series of arguments has been a subject of a large empirical research. Porter and Stern (2000) have developed an “ideas” production function that relates alternatively the patents’ count and aggregate productivity as an indication of R&D outcomes to human capital and the R&D capital stock. The results clearly indicated a strong positive effect of the latter variable. Seck (2012a) went further by breaking down the R&D capital stock into its domestic and foreign sources. His results indicate that foreign technology gained mostly through international trade and foreign direct investment act as an important discriminant between countries that significantly spend on R&D and those that do not. In addition, to the extent that the country is significantly engaged in technology production, the greater the foreign stock it accumulates, the more it spends on R&D.

Other factors that matter to the likelihood that a country starts producing technology are education and the quality of its institutional settings. As stated before, education provides the R&D sector with a valuable input, that is, scientists, engineers and other innovators and inventors. But so far, the continent has not been successful at designing a well-functioning education system and a right set of incentives to researchers and innovators. Adult literacy rate of 62 percent is still very low, and in about a quarter of African countries, enrolment rate did not exceed 4 percent in 2008 (UNESCO, 2010). The large extent of brain drain, mainly due to poor legislation regarding intellectual property rights and low salaries, has meant that Africa is not reaping all the returns to its investment in education. For instance, in 2009, it is estimated that at least a third of African scientists or those with engineering degrees were living and working in developed countries, and in one of the ten most affected countries (Uganda),
some 36 percent of university graduates, doctors and leading researchers were living abroad in 2007 (UNESCO, 2010).

Institutions play an important role, basically through the channel of property rights protection. The public good nature of technology is synonymous with innovators not always being able to capture the full returns of their innovation. An innovative firm would spend significant amount of resources, be they financial or human, with an opportunity cost of forgone production or revenue, but in the end, other will reap the benefits associated with the outcome. Without a proper system of patenting, competition will hinder innovative activities, the private returns being far below the incurred costs. What a patent aims to achieve is to give innovators some monopoly power over a given period of time. By preventing imitation or copying and retarding the emergence of another innovation that would improve over the initial innovation, the protection would provide sufficient time for innovators to break-even and get the most out of their investment. This could result in a relatively higher benefit-to-cost ratio, which then acts as a powerful incentive to innovate and invent.

However, knowledge is the main ingredient in knowledge production, and too strong a protection could have a negative effect on innovation, thereby reducing the pace of overall discoveries. In effect, such a protection will prevent the use of initial blue-prints in other innovative activities. For instance, Seck (2012a) suggests in a modelling of the determinants of R&D spending that the strength of property rights protection is indeed a significant determinant of innovation. Using data on patent protection, the author shows that there is a non-linearity in the relationship between how much of the national resources a country allocate to R&D and how strong the protection system is. In particular, patent protection is a key discriminant between countries that significantly spend on R&D and those with no viable R&D sector. In effect, the stronger the protection, the more likely a country will develop an R&D sector. For R&D performing countries, the results indicate that the patent index is a negative determinant of R&D spending. This suggests that those countries, mostly advanced ones, have a patent system that offers protection to innovators that goes beyond the critical level. As a consequence, some levels of protection guaranteeing some market power and high returns to innovators is important to start and develop an R&D sector. But down the line, too strong a protection could result in reducing the pace of innovation.

Institutions also act through a different channel to shape the incentives that innovators face. By changing the rewards structure, they can affect the allocation of talents in the economy. A corrupt incentive scheme often materializes in distorted price mechanisms. As a result, highly valuable skills, both socially and economically, may be underpriced compared to less valuable skills. As such, individuals with relatively high potentials could choose to invest less in developing particular skills or could be tempted to allocate their skills to the wrong sector. This is the case for instance when bright minds engage in activities with relatively high rents instead of those where their skills and know-how would mostly benefit the economy and the society (Murphy et al., 1990; Acemoglu, 1994).

One of the components of the institutions that can greatly distort the rewards structure is corruption. Viewed as a tax, it contributes to change relative prices, thereby sending wrong signals to individuals with various talents. These signals, when incorporated into their decision framework, could lead to choices that are less optimal. Therefore, improved institutional quality would contribute to a better functioning of markets and more efficient allocation of talents. This would lead to greater supply of human capital to an R&D sector.

Implications for African growth and development

African countries have been far from the world technology frontier, compared to other fast growing economies. This could explain in a great deal why growth is a relatively recent phenomenon in Africa. It could also explain why, despite becoming the second fastest growing region in the world, the pace of growth does not allow for a fast reduction in extreme poverty, setting most countries to not achieve the first MDGs.

Boosting growth performance would certainly require technology development. So far, Africa has been mostly relying on foreign technology. Because of the public good nature of it, the associated spillover effect has meant that African countries have somewhat benefitted from foreign technology, mainly through trade and foreign direct investment. However, these benefits seem to be smaller than those that accrued to emerging economies, because Africa’s absorptive capabilities of foreign knowledge are relatively weaker. This shows in factors that shape such absorptive capabilities, such as education, institutional quality, or the existence of a viable R&D sector. In all of these dimensions, African countries appear to perform poorly.

Even with strong absorption of foreign technology, and to the extent that foreign technology is appropriate and there are no such barriers as IPRs, the corresponding gains in terms of growth would be lower than the gains from actually producing technology. Therefore, a more voluntary option that would deliver a faster pace of economic growth would be to actually allocate a sufficient share of national resources to the development of a vibrant R&D sector.

Such a growth and development strategy has the benefits to produce technology that is appropriate to the structural profile of production activities as well as their particular needs. In addition, it would make growth
dynamics less exogenous by depending less on foreign technology. Furthermore, it is a way of acquiring new technology that is more immune to barriers such as increased international protection of property rights compared to imitation or copying.

Once the benefits of such a growth and development option are well understood, the next challenge is how to go about developing a dynamic R&D sector. What makes this challenge quite formidable is the relatively large opportunity cost of spending on R&D. In effect, the latter requires investing in particular skills through the education system as well as foregoing current production in exchange of future returns that comprise a great deal of uncertainty. This option may not be very attractive to policymakers facing tight financial constraints and under the political pressure to deliver on their commitment to improving living standard in the short and medium run.

But African governments should make bold policy commitment to doing what it takes to develop an R&D sector. After all, investment is the key to growth, be it on technological capital, human capital, or physical capital. As such, it involves foregoing (relatively small) present gains in exchange for (relatively large) future gains. Educational reforms that would put emphasis on science and technology as well as institutional reforms that would get the reward structure to various talents rights are the kind of public strategies that would provide Africa with a strong R&D sector. To the extent that a tide lifts all boats, including those of the extremely poor, the corresponding economic growth will lead to improved living standards across the continent.

**Conclusion**

The growth literature suggests that technology is a key component to growth dynamics. Growth in Africa seems not to fully benefit from technology, because of relatively weak absorptive capabilities of technology developed abroad, and because of a weak, even non-existent, domestic R&D sector. To the extent that foreign technology may not always be appropriate on the one hand, and increased strength of patent protection would prevent imitation on the other hand, innovation appears to be a viable option for technology acquisition in order to boost the pace of economic growth and improve living conditions in Africa.

History seems to provide evidence for a linear process of technology development, going from imitation and copying to innovation. The literature on technology and growth and development suggests that as an economy moves along this technology ladder, it reaps increasing gains. The somewhat low pace of economic growth and development in Africa and the urgency to bring about the necessary structural transformation would therefore require fastening the transition from imitation to innovation.

It is known that different sectors have different potentials for economic growth and living standards improvement. As a result, how R&D spending is to be encouraged across various sectors will have various economic consequences. A sector in which R&D promotion would greatly benefit Africa is agriculture. For most counties, it employs a great deal of the labor force, and provides livelihoods directly and indirectly to more than half of the population. The development of the sector could also have a profound effect on the rest of the economy, through its strong linkages with the other sectors.

The emergence of a viable R&D sector would require, among others, setting the incentives right to innovation and invention, as well as reforming the educational system to put a great emphasis on science and technology. In addition, some support mechanisms may be considered, mostly in terms of international scientific collaboration as well as financial incentives. Various policies and strategies would have to be fully implemented, such as the Second Decade for Education in Africa (2006-2015) and the Africa’s Science and Technology Consolidated Plan of Action which call for both the development of inputs and an increase in the output of the science and technology and innovation sectors.

**Conflict of Interests**

The author has not declared any conflict of interests.

**REFERENCES**

The author has not declared any conflict of interests.

REFERENCES

Murphy KM, Shleifer A, Vishny RW (1990). The Allocation of Talents:
Implications for Growth, NBER Working Paper 3530, Cambridge, MA.


1 Source: Author’s calculations, from World Development Indicators Online.
The impact of cross carpeting and multiplicity of political parties in Nigerian democratic process

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The return to democracy in 1999 has ushered unprecedented hope on democratic process in Nigeria and, thus, heralded another opportunity for the country to launch a new strategy towards democracy, after many years of lost opportunities under a prolonged period of authoritarian rule. Indeed, the emergence of multiparty system in Nigerian Fourth Republic can be seen as a major breakthrough in the democratic process. The journey so far since 1999 raises a lot of concern and apprehension, chief among them is the multiplicity of political parties and most troublesome is the cross-carpeting of party’s members. Their structure, operations, funding and general activities can make or mar the democratic process. The way political parties in Nigeria have gone and going, does not, however, portend good tidings for her democratic process especially the selfish desires of candidates jumping from one party to the other. It is on these grounds, this study investigates factors responsible for proliferation of political parties, decampment of parties’ members; and how healthy are these activities to democratic process in Nigeria. In achieving this objective, the study relies on primary data and analysis would be done through basic statistical tools.

Key words: Political party, cross-carpeting, multiplicity of political party, democratic process.

INTRODUCTION

One of the healthy activities on democratic development appears to fall within the realm of internal party democracy and adherence to electoral laws. Issues in nomination, selection and election of candidates, executives and flag bearers are core reforming instruments on democratic consolidation and these have raise a lot of concern in most developing democracies. In Nigeria, recognition of candidate for nomination and selection for primary elections are anchored on the strength of the candidate in area of economic power, political power (incumbency), etc, and without any due regard on the integrity and capability of the candidate (Jinadu, 2014). This form of political permutation has created political crises leading to individuals forming their own political party, decampment of parties’ big wigs and in general voters’ apathy in the ongoing democratic
process in Nigeria. The current wave that has created confusion and debate among academicians and voters in general is what different analysts have described as canoe jumping, floor-crossing, party-hopping, high jumping, frog jumping, party switching, decampment, cross-carpeting, crossover, prostitution, etc. This political attitude has eroded the country's democratic pace (www.africapractice.com).

In Nigerian polity, most candidates seem to decamp based on primordial interest and egoistic hedonism. Personalities like Ahaji Atiku Abubaka, Mallam Nurudeen Ribadu, Sen. Bukola Saraki, etc decamped from Peoples' Democratic Party to other party and made a U-turn directly or indirectly back to PDP and again to another party. This form of political oscillation calls for a lot of explanations and raises a lot of political questions. Decampment can only be healthy to the political system and democracy when it is built on the choice of ideology and it will be inimical to democratic process if it is the function of primordial and egoistic interest. Right from inception of the Nigerian Fourth Republic 1999, the political system has witnessed a great surge of proliferation of mushroom political parties and decampment saga, and all these displays seem to be associated with the dissatisfaction of some candidates in respect of administration and decision of the party's executives in area of choosing candidate to represent the party. This dispensation has celebrated over one hundred decampment of members arising from parties' lack of internal democracy, and selfish desires of members (Dike, 2003).

Most researchers such as Augustine Ikelegbe (2014) assessed it from the perspective of "Political Parties and Violence" and recommended that the issues of illegal arms importation, proliferation of arms and ammunitions and the existence of armed groups, cult and thugs have to be curtailed and the rules and procedures that govern electoral behaviour and conduct need to be applied and enforced. Ibrahim (2014) assessed it based on "engaging Political Parties for Democratic Development" where he discovered that the Nigerian political parties have not yet attempted to build national, data-rich, and computerised membership and ward party offices, and partly due to the political manipulations of party membership used by party candidates to exclude their opponents within the party, etc. Egwu (2014) also viewed it from the angle of "Internal Democracy in Nigerian Political Parties" and concluded that there is so much frustration falling back on the power of regulation conferred on INEC by 1999 constitution. And while in other text, Omodia and Egwemi (2011) saw it from the angle of "Party politics and the challenge of political representation in Nigeria; Eme and Ogbochie (2014), on the "the legal/constitution basis of political party deflection in Nigeria" concluded and recommended that there is a need for new policy perspectives and a reform agenda (Egwu and Ibrahim, 2014). Hence this study undergoes an empirical investigation to cross-examine cross-carpeting of candidates and factors responsible for multiplicity of political party at the inception of Nigerian Fourth Republic with the aid of the following questions: (a) What are the factors responsible for the multiplicity of political parties and cross-carpeting in Nigeria? (b) To what extent do the federal government financial grants to political parties encourage the multiplicity of the political parties in Nigeria? (c) What are the implications of cross-carpeting and multiplicity of political parties for the democratic process in Nigeria? Further these questions will also lead to hypothesis formulation that would guide the investigations: (1) Government financial grants to political parties are responsible for multiplicity of political parties (2) Cross-carpeting of members and multiplicity of political parties obstruct the emergence of a viable opposition to the ruling party and further erode democratic consolidation.

RESEARCH METHODOLOGY

This study used primary and secondary data. The primary data were collected through questionnaire. A total number of 150 respondents were purposively selected from three states and Federal Capital Territory (FCT). They are as follows: Lagos State, selected from the West; Enugu State, selected from the East; Kaduna State, selected from the North; and FCT being the centre of political activities in the country. The target population consisted of the national and state officials of the selected political parties, officials of the Independent National Electoral Commission (INEC) and the general public. The distribution of the sampling size was as follows: 5 INEC officials in each of the locations; 22 officials from the then ruling People’s Democratic Party (5 from each state and 7 from FCT); 12 officials from each of the four leading opposition parties (ANPP, APGA, ACN and CPC, that is 3 each from each location; 60 respondents from the general public (15 from each location). Secondary data were collected from relevant books, journals, magazines, articles, newspapers and materials from the internet. Data collected were analyzed using statistical tools such as percentages, histogram and pie charts.

CONCEPTUAL CLARIFICATION

Multi-party system

Multi-party system means the existence of many political parties, big and small, in a country. It is a situation where there are more than two political parties that contest for elections, leading to multiple choices before the electorates and which always encourages coalition of government and defections of members. The alternation of power appears to takes place between two major parties. It has been argued that multiplicity of parties often encourages further fragmentation and it discourages alternation of power whereby the ruling party gets more strength and public appeals (Kuenzi and Lambright, 2001).

The phrase political party deflection is used to refer to the departure of a member(s) from a political party to join another different political party, normally because of dissatisfaction in his existing party. A review by Eme and Ogbochie (2014) gives succinct reason(s) for decampment or defection of political actors, saying the trend results from personality clash, power tussles, contradictory
views on the operations of a political party's philosophy, crisis or division within a given political party, disagreement on party's position on an issue, realisation of one's personal political ambition and party leaders reneging on agreed issues of the political party probably on power sharing formula. However in world politics, Winston Churchill has been regarded as one of the famous political "defectors" who first entered Parliament as a Conservative in 1901, defected to the Liberals in 1904, and defected back to the Conservatives in 1925 (Wikipedia, the Free Encyclopedia, 2014 cited in Emo and Ogbochie, 2014). In Nigeria for example, formal Vice President Alhaji Atiku Abubakar appears to be the most defector: he moved out from PDP to then ACN and made a U-turn back to PDP and currently he is in APC.

Democracy is the institutional permutation for arriving at political goals in which political actors acquire the power to decide by means of a competitive struggle for the people's vote. It is the government of the people, by the people, and for the people. In other words, the vital stage in democratic process in any growing democracy is the involvement of the masses through political socialization, education and the recruitment of capable hands into the political system anchored on a systematic procedures and policies for selecting individuals. Political parties are collections of men and women, integrated, for promoting, by their joint endeavours the national interest upon some particular principles in which all agreed aim at contesting, winning and controlling government. They are groups of people that are organized for the purpose of gaining formal representation or winning governmental power by electoral process. Parties are organized bodies with a card carrying membership. This distinguishes them from broader and more diffuse social movements (ikelegbe, 2014; jinadu, 2014).

**SOME CASES OF PARTIES' MEMBERS DECAMPMENT AS AT 1999 TO DATE**

Below are some political parties that have served as opposition parties but they have not be able to form an alternate process against People's Democratic Party (PDP) from 1999 to 2011 which has swept all the general elections since 1999 at the central level: Congress for Progressive Change (CPC), the Action Congress of Nigeria (ACN), the All Nigeria People's Party (ANPP) and the All Progressives Grand Alliance (APGA) the South East for APGA; the North for the CPC; the South West for the ACN. The sudden arrival on Nigerian political scene of the All Progressive Congress (APC) and how it has gathered momentum and public appeals, gives hope of alternative party (ikelegbe, 2014; Ibrahim, 2014).

However, APC as a formidable national party was created in early 2013 when three major opposition parties CPC, ACN and ANPP came together with a faction of APGA in a broad coalition, bringing roughly a third of the current state governors and national legislators together in single opposition party. The APC has since undertaken an aggressive membership drive which has been rewarded by mass defections from an already crisis-ridden PDP. The state governors of Sokoto, Kano, Kwara, Adamawa and Rivers State – five of the seven governors in the self-styled PDP splinter group, the new PDP - joined the APC in November, 2014. Barely a month later, 37 members of the House of Representatives left the PDP for the APC, thereby giving the latter a majority, albeit a slim one, in the lower chamber. In the upper house, 22 senators had indicated their interest in formally crossing over to the APC but only 11 have now done so formally presenting a defection letter to the Senate President (www.africappractice.com) (Table 1).

Extrapolating from the above decampment drama, it seems that the failure of the various political parties to control their members made decampment and fraud difficult to control. Poverty as economic variable contributes to this phenomenon, because with monetary inducements, political parties and politicians employ the unemployed and poor youths as thugs. These classes of people are used to carry out dirty political assassinations, thereby exacerbating the insecurity issue in the society (Dike, 2003). It is unacceptable that political parties and politicians in the society represent nothing other than bribery and corruption. It is a political jungle out there, a political minefield – a kind of the ‘survival of the fittest.’ Any person who could eliminate his or her political opponents, unfortunately, wins an election. Some of the politicians that run around hiring political mercenaries to kill their political opponents are not the types of political leaders Nigerians want. As it has been noted, their sole purpose is to eliminate credible political opponents, so as to hold on to power. Thus, they cannot bring about the transformation or development the nation needs so badly because they are motivated by money and power nothing else (Egwu and Ibrahim, 2014; Ikelegbe, 2014).

**PRESENTATION AND ANALYSIS OF DATA**

**Demographic characteristic of the research population**

This section presents the demographic characteristics of the respondents selected for the purpose of this research. These include age, sex, marital status, level of education, occupation, etc. One cannot over-emphasize the importance of obtaining such basic information about the respondents for better analysis and their understanding of the impact of multiplicity of political parties on the democratic process in Nigeria. This is done by employing simple percentage distribution.

**Characteristics of the party sample**

There were sixty-three political parties in Nigeria after the deregistration of political parties by the Independent National Electoral Commission (INEC) and that finally put their numbers into twenty-six. However, only five of the parties are dominant and have national coverage. From these political parties, People’s Democratic Party (PDP) is selected, being the then ruling party. Four major opposition parties were also selected, namely: the defunct Action Congress of Nigeria (ACN), the defunct Congress for Progressive Change (CPC), All Nigerians People’s Party (ANPP) and All Progressive Grand Alliance (APGA).

Table 2 shows that 21.4 % of the respondents are between the ages of 18-30 years, 32.9 % are within the age group of 31- 40 years, 20% are within the 41-50 years, while 15.7% fall within the age group of 51 – 60 years. The remaining 10% are over 61 years. The age distribution of the party officials shows that those between the ages of 31 – 40 years constitute the highest percentage of the sample from the party officials, which represents 32.9%.

Table 3 shows that male respondents dominate the sample with 84.3%, while females constitute 15.7% of the
Table 1. A brief history of political defections.

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population. This wide gap in the sex distribution of the population can be explained on the basis of menfolk’s active involvement in the Nigeria’s politics compared to the womenfolk.

Table 4 shows the respondents who are Diploma, certificates or equivalent holders are 10%, while 32.9 % of the party officials are HND holders. 41.4% of the party officials constitute Bachelor degree holders. The remaining 15.7% are Master’s degree holders. From the data distributions, it is evident that the Bachelor degree holders constitute the highest respondents among the party officials.

Respondents who are politicians by occupation constitute 44.3% of the sampled population (Table 5). The respondents who are either traders or businessmen/ women represent 31.4%. Artisans constitute 11.4% of the sample. The percentages of the respondents that were students, farmers and retirees are very insignificant, constituting 4.3, 5.7 and 2.9%, respectively.

The percentage of the respondents between the age group of 18-30 years constitutes 15%, 38.3% of the respondents fall within the age group of 31-40 years. Those within the ages of 41-50 are 23.3% of the sample, while 18.3% constitute those within the ages of 51-60 years. The remaining 5% which is very insignificant represents 61 years and above.

Similarly, 81.7% of the respondents are males and 18.3% are females (Table 6). The data also show that 23.3% of the respondents did not indicate their educational level and 15% had only primary education. Slightly over twenty-eight percent (28.3 %) have secondary school education. Those with the Higher National Diploma constitute 15%, while those with Bachelor’s degree represent 13.3 %. Furthermore, the remaining 5% of the respondents have masters’ degree. The data further show the occupational distribution of the respondents. 43.3% of the respondents are civil servants and 13.3% are students. 15% of the respondents indicated politicians as their occupations; 6.7% are traders. Another 18.3 are unemployed while the remaining

**Table 1. Contd.**

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5% of the respondents did not specify their occupational status. The data also show that 55% of the respondents belong to a political party while 45% did not belong to any of the political parties.

Demographic characteristics of the respondents (INEC officials)

The percentage of the respondents between the ages of 18-30 years constitutes 15%, while those within the ages of 31-40 constitute the highest percentage of 60%. Those within the ages of 41-50 years represent 20%. The remaining 5% are those within 51-60 years. The gender distribution of Independent National Electoral Commission (INEC) officials is as follows: males represent 70%, while females represent 30%. It is evident
from the data that 55% of the respondents are Bachelor's degree holders, while the HND and Master's degree holders constitute 30 and 15%, respectively.

**Suitability of 63 or more political parties for Nigerian democratic process**

In order to know the opinion of the respondents on the suitability of a large number of political parties for an enduring democratic process in Nigeria, the respondents were asked to indicate either "yes" or "no". From their responses, 89% indicated "yes", supporting the view that the existence of 63 political parties or more is not suitable for Nigerian democratic process, while the remaining 11% of the respondents are of the opinion that the presence of 63 or more political parties is suitable for Nigerian democratic process.

**Deregistration of political parties by Independent National Electoral Commission (INEC)**

In order to provide basis for the functional political parties in the country, the electoral law specifies among other measures in the part v section 78(7) ii of the Electoral Act 2011, that INEC shall have the power to deregister political parties on the grounds of failure to win a seat in the National or State Assembly elections. On the above issue, 68.7% of the respondents share similar view that the Independent National Electoral Commission (INEC) should deregister political parties that fail to secure a legislative seat in either National or State Assembly. The remaining 31.3% of the respondents were of the view that political parties should be allowed to exist, either they win any legislative seat or not.

**Imposition of statutory check on the proliferation of political parties**

In order to know the perception of the respondents on whether there should be a law to restrict party proliferation in the country, they were asked the extent to which they agree or disagree over a statutory check on political parties.

Figure 1 shows that 64.7% of the respondents strongly agree that a statutory check should be imposed on the proliferation of political parties. 10% of the respondents agree, 21.3% of the respondents disagree with the statutory check, while the remaining 4% of the respondents strongly disagree.

**Deregistration of the political parties without national outlook**

The respondents were asked whether they support that political parties without a national outlook should be deregistered. The data show that majority of the respondents supported the de-registration of political parties that have no national coverage. An overwhelming proportion of the respondents representing 81.3% is of the view that the political parties that do not have offices in all the states of the federation should be deregistered. In contrast, 18.7% of the respondents are of the view that political parties without a national outlook should be allowed to exist. This has shown that the 18.7% of the respondents are of the opinion that political parties may exist at a local government level or even at ward level.
Figure 2. Graphical representation of the respondents views on the appropriate number of political parties for Nigeria’s democracy (Source: fieldwork 2011).

Number of political parties appropriate for Nigeria's democracy

In order to know the perception of the respondents on the number of political parties appropriate for Nigerian democracy, the respondents were asked to state the number of political parties they considered appropriate for Nigeria.

Figure 2 shows that a large proportion of the representing 55.3% were in support of two political parties, while 27.3% were in support of many political parties. The remaining 17.4% were of the view that three political parties are appropriate for the Nigerian democracy. This has shown that on the average, the view of the survey respondents is that two-party system is the best for the country.

Deepening of democratic culture and practices

In order to know the views of the respondents on the current number of political parties and deepening of democratic culture and practices, the respondents were asked whether the current number of political parties in the country will deepen democratic culture and practices. From the data collected, 68.7% of the respondents were of the view that the current number of political parties in the country will enhance and deepen democratic culture and practices, while the remaining 31.3% of the respondents were of the contrary opinion.

Legislation on the number of political parties

The respondents were asked whether it will be undemocratic to legislate on the number of political parties that should be in operation in the country. 66% of the respondents answered in the affirmative that it will be undemocratic, while 34% did not accept it as undemocratic. The implication is that the minority perceived that once it is legislation, it must be democratic and also be in accordance with established procedures (Source: fieldwork 2011).

Cross carpeting and multiplicity of political parties responsible for “void votes”

In order to know whether the multiplicity of political parties is responsible for multiple void votes during the last general election, the respondents view were surveyed.

Figure 3 shows that an overwhelming percentage, that is, 70.6% of the respondents, strongly agreed that cross carpeting and multiplicity of political parties accounted for multiple void votes during the 2011 general elections. 15.3% of the respondents agreed in the same manner. The percentages of the respondents that strongly disagreed, disagreed and did not know were very insignificant (7.3, 5.3 and 1.3% respectively).

Factors responsible for cross carpeting and multiplicity of political parties in Nigeria

In order to identify the factors responsible for the
multiplicity of political parties in Nigeria, the respondents were asked to rank likely factors from the list of factors. Figure 4 has revealed that four principal factors responsible for multiplicity of political parties in Nigeria are; government financial grants to political parties, politicians making themselves relevant in the political process, “get-rich-quick” syndrome by party elites and unresolved differences among party members with 88.1, 77.8, 66.4 and 65.2% respectively. Also, the data show three other factors scoring more than fifty percent; they are multi-ethnicity, lack of internal democracy (interest-based movement of party members) and ideological differences with 57, 54.8 and 54.1% respectively. Another factor which is lack of party discipline (decampment) also contributes to multiplicity of political parties in Nigeria. Thus, there are various factors responsible for multiplicity of political parties in Nigeria.

Implications of cross carpeting and multiplicity of political parties on the democratic process

The respondents were asked to rate some listed implications of multiplicity of political parties in Nigeria.
Figure 5 shows the respondents’ view on the rating of the implications of the cross carpeting and multiplicity of political parties in Nigeria. The figure shows that “obstruction to a viable opposition” tops the rating with 72.1%. This is followed by “one dominant political party” which is rated as 67.5%. Closely rated with this is the “confusion among voters” which is rated 61.3%. Another implication which is waste of public funds is rated 53.7%. The remaining implications which are; one party dominating the parliament, local and sectional interests prevailing over the general interest and fragmentation of public opinion are rated 46.3, 35. and 27.2% respectively.

Benefits of multiplicity of political parties and cross carpeting

In order to know the perception of the respondents on the benefits of the multiplicity of political parties, the respondents were asked to rate the following: ample choice to voters, adequate representation of numerous interests and choices of ideologies.

Figure 6 shows that “adequate representation of numerous interests” is rated the highest benefit of multiplicity of political parties and cross carpeting 71.3% in the rating. This is followed by ample choice to voters with 66.1% in the rating. The remaining benefit which is choices of ideologies takes 53.1%. Therefore, each of these benefits is of high significance since each of them scores above 50%.

Testing of hypotheses

Hypothesis 1

Government financial grant to political parties is responsible for the multiplicity of political parties in the country

From Figure 7, respondents’ view on the issue that “government financial grant to political parties is responsible for multiplicity of political parties” is supported by 84.7% of the respondents, while the remaining 15.3% opposed it. It is pertinent to state that testing the above hypothesis is based on the contributions of the respondents. Therefore, based on the data collected, the hypothesis is validated to be true. This is also supported by the data in Figure 4 with government financial grants to political parties topping the list with 88.1% in the rating of factors responsible for cross carpeting and multiplicity of political parties among other factors.

Hypothesis 2

Cross carpeting and multiplicity of political parties obstructs the emergence of a viable opposition to the ruling party

From Figure 8, respondents’ views on the hypothesis that cross carpeting and multiplicity of political parties
obstructs the emergence of a viable opposition to the ruling party show that a larger percentage of the respondents, constituting 74% agreed to it. 20.7% of the respondents disagreed with it while the remaining 5.30% did not know. This shows that, on the average, the views of the respondents have validated the hypothesis that “cross carpeting and multiplicity of political parties obstructs the emergence of a viable opposition to the ruling party”.

Concluding remarks

This research has generated information from the
respondents on impact of cross carpeting and multiplicity of political parties on democratic process in Nigeria. Arising from the data generated and analysed, six key findings can be delineated. First, large number of political parties, such as the sixty-three political parties that existed earlier in the Fourth Republic in Nigeria, was not suitable for Nigeria’s democratic process. Contingent on this point is that large number of political parties will not deepen democratic cultures and values.

Likewise, cross carpeting and multiplicity of political parties, according to the outcome of this study, is responsible for the multiple void votes during elections in Nigeria. Also the trend of cross carpeting right from 1999 to date shows that Nigerian politicians possess no democratic values, credentials and the political system is awash with professional politicians and “entrepreneurs” who are devoid of modern political ideology and issue driven politics. In general, majority of the respondents agreed that a statutory check should be imposed on the proliferation of political parties. An overwhelming number of the respondents supported the deregistration of political parties by Independent National Electoral Commission should deregister the political parties without national outlook and parties that fail to win at least a legislative seat either in the National Assembly or State Assembly.

Secondly, there are numbers of factors identified in this study to be responsible for cross carpeting and multiplicity of political parties. They are as follows (a) government financial grants to parties, (b) politicians making themselves relevant in the political process, (c) “get-rich-quick” syndrome by party elites, (d) unresolved differences among party members (e) multi-ethnicity of the country, (f) lack of internal democracy.

As the data clearly show, the factors a, b, c and f constitute the major factors.

Finally, cross carpeting and multiplicity of political parties is not without its benefits; here are some of the benefits: (a) it gives ample choices to the voters during an election, (b) it enables adequate representation of various interests in the country, (c) it provides the voters and candidates with choice of ideology. The study makes a number of recommendations for effective functioning of the democratic process in Nigeria. Some of the recommendations include the need for political parties to cooperate with one another in mutual trust and in good faith to foster cordial relations and amicable consultations among them, practising internal democracy within parties, financial support for registered parties and organizations, an institutionalized framework for inter-party consultations, and enforcement of code of conduct for political parties. Furthermore, the study recommends that for pluralism to take root, civil society organisations in partnership with the media should play a positive role of supporting and delivering civic education. Sensitisation should go hand-in-hand with amending the existing electoral laws to be consistent with the constitution vis-à-vis party politics.

Conflict of Interests

The author has not declared any conflict of interests.

REFERENCES


Ikelegbe A (2014). "Political Parties and Violence" in Olu Obafemi, Sam Egwu, Okechukwu Ibeanu & Jibrin Ibrahim, Published by National Institute for Policy and Strategic Studies (NIPSS), Kuru, Nigeria


APPENDIX

QUESTIONNAIRE

SECTION A: BIODATA

Q.1 Age
01) 18-30 ( )
02) 31-40 ( )
03) 41-50 ( )
04) 51-60 ( )
05) 61 and above ( )

Q.2 Gender
01) Male ( )
02) Female ( )

Q.3 Level of education?
01) Primary ( )
02) Secondary ( )
03) Diploma, certificates or equivalent ( )
04) HND ( )
05) Bachelor’s degree ( )
06) Master’s Degree ( )
07) PhD ( )
08) Other (specify) …………………………………

Q.4 Occupational status
01) Politician ( )
02) Civil Servant ( )
03) Farmer ( )
04) Trade/Businessman/woman ( )
05) Artisan/Technician ( )
06) Student ( )
07) Unemployed ( )
08) Retiree ( )
09) Full Housewife ( )
10) Other (specify) …………………………………

Q.5 Political Party …………………………………

SECTION B: QUESTIONS ON CROSS CARPETING AND MULTIPLICITY OF POLITICAL PARTIES

Q.6 Do you think 63 political parties or more are suitable for an enduring democratic process in Nigeria?
01) Yes ( )
02) No ( )

Q.7 Do you support the idea that Independent National Electoral Commission (INEC) should deregister some political parties that failed to secure at least a legislative seat in either national or state assembly?
01) Yes ( )
02) No ( )

Q.8 Do you agree that a statutory check should be imposed on the proliferation of political parties in Nigeria?
01) Strongly agree ( )
02) Agree ( )
03) Don’t know ( )
04) Disagree ( )
05) Strongly disagree ( )
Q.9 Cross carpeting and multiplicity of political parties in Nigeria obstructs the emergence of a viable opposition?
01) Strongly agree ( )
02) Agree ( )
03) Don’t know ( )
04) Disagree ( )
05) Strongly disagree ( )

Q.10 Do you support that political party that has no national outlook should be deregistered?
01) Yes
02) No

Q.11 What number of political parties you considered appropriate for Nigeria’s democracy?

Q.12 Will the number of political parties and defection activities in Nigeria will deepen democratic culture and practice?
01) Yes
02) No

Q.13 Will it be undemocratic to legislate on the number of political parties in the country?
01) Yes
02) No

Q.14 Do you think every political party in the country should have national outlook?
01) Yes
02) No

Q.15 Do you support that the government financial grants to political parties should be stopped?
01) Yes
02) No

Q.16 What impact does cross carpeting and multiplicity of political parties have on the democratic process in Nigeria?
01) significant
02) moderate
03) little
04) no impact
05) Don’t know

Rank from 9 (most important factor) to 1 (least important factor).

<table>
<thead>
<tr>
<th>No</th>
<th>Factors responsible for cross carpeting and multiplicity of political parties in Nigeria</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government financial grants to political parties</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>“get-rich-quick” syndrome by party elites</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Politicians making themselves relevant in the political process</td>
<td></td>
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<tr>
<td>4</td>
<td>Unresolved differences among party members</td>
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<tr>
<td>5</td>
<td>Ideological differences</td>
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<tr>
<td>6</td>
<td>Multi-ethnicity of the country</td>
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<tr>
<td>7</td>
<td>Lack of internal democracy</td>
<td></td>
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<tr>
<td>8</td>
<td>Lack of party discipline</td>
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<tr>
<td>9</td>
<td>Others (specify)</td>
<td></td>
</tr>
</tbody>
</table>

Q.18 Rate the following implications of cross carpeting and multiplicity of political parties in Nigeria?

<table>
<thead>
<tr>
<th>Implications</th>
<th>Very high</th>
<th>high</th>
<th>medium</th>
<th>low</th>
<th>Very low</th>
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<tbody>
<tr>
<td>Confusion among voters during elections</td>
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<td>One dominant political party</td>
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<td>Waste of public funds</td>
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<td>Fragmentation of public opinion</td>
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<td>One party dominating the parliament</td>
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<td>Local and sectional interests prevailing over the general interest</td>
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<tr>
<td>Obstruction of a viable opposition party</td>
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<tr>
<td>Others (specify)</td>
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</tbody>
</table>
Q.19 Rate the following benefits of cross carpeting and multiplicity of political parties in Nigeria?

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Very high</th>
<th>high</th>
<th>medium</th>
<th>low</th>
<th>Very low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ample choice to voters</td>
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<tr>
<td>Adequate representation of numerous interests</td>
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<td>Choice of ideology</td>
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<tr>
<td>Other (specify)</td>
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</table>

Q.20 What recommendations would you make regarding the number of political parties and the manner of decampment saga on democratic process in Nigeria?

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