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Technological countermeasures of copyright piracy enforcement in Nigeria: An alternative to creative works owners' livelihood in a monolithic economy post covid-19

By

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Abstract

The Coronavirus pandemic is a global problem that came with its attendant economic shock that is higher than the one brought by World War 1 and 2 put together. The attendant consequences expectedly landed Nigeria economy to recession. Nigeria over the years has been grappling with the problem of diversification of her economy to forestall the ugly impact of monolithic economy. This paper investigated the effect of using technology in fighting intellectual copyright piracy which will encourage the citizens to harness their creative endowment to eke out a living with its resultant effect on the reduction of unemployment. The study developed 400 self-structured questionnaires which were administered to respondents using responsive sampling technique and the data were analysed using simple frequency table. The outcome revealed that technology can help in a great deal to fight intellectual copyright piracy which was established by the research to be on the increase in Nigeria.

Keywords: Copyright piracy, Technological countermeasures, post covid-19

1. Introduction

The development and growth of knowledge economy in Nigeria has been tremendously affected by persistent copyright piracy. The extent of copyright infringement continues to escalate thanks to technology and high corruption index in the country (Adonu, 2017). According to Asein (2019), Nigeria lost N918trn annually to copyright pirates, amount higher than cumulative earning of oil and gas for about ten years. For the past two decades, the economy of developed countries have completely shifted from traditional economy to knowledge driven economy. The principal things that drive economy in these countries are creation of new knowledge, innovation and technological changes (Tchamyou, 2017; Asongu, 2013), however this is not the case with Nigeria due to dangerous portrait posed by copyright piracy.

The Nigerian government had made some germane efforts on the fight against copyright piracy firstly, by the establishment of Nigerian Copyright Commission (NCC). The Nigerian Copyright Act promulgated as Decree No. 47 in 1988 by the then military government but later redesigned as Copyright Act in 1992 (Adonu, 2017). The Copyright Act is meant to provide an enabling environment for authors of creative works to get rewarded for their creativity by provisions of mechanisms for protection and enforcement of their copyright. Secondly, Nigeria joined the World Intellectual Property Organization (WIPO) in 1995 and have signed and ratified all the treaties of the organization ever since then (WIPO, 2020) and finally, NCC had secured 100 convictions and judgments since inception (NCC, 2019).

Notwithstanding the efforts being made by the government to combat copyright piracy, the trend continues to get sophisticated because of some factors attributed to digital revolution (Sudler, 2013). The revolution spans from the growth in internet and wireless connections to low cost of computer memory which had demystified digital data sharing and usage. The NCC as at the time of this research has no known information technology tool to assist her to tackle ever growing activities of copyright pirates apart from few digital protection efforts made by authors of creative works. The music and film industry is the most affected by digital revolution as music and film enthusiasts can download music from numerous music streaming sites such as Spotify. The temptation to download music and films from streaming sites such as Youtube and Netflix in Nigeria is aggravated by high cost of data subscription and poor network coverage that support streaming. Whereas some advanced nations are migrating to 5G network, most places in Nigeria are still battling with how to have access to 3G network. Even though, the copyright materials were genuinely acquired, some persons are likely to transfer them to others for commercial purposes due to high rate of unemployment in the country. It is a common sight to see young people illegally transferring digital copyright items for a fee ninety percent lower than shelf price of such item. Some of these activities go unchallenged by NCC maybe because they are not equipped technologically to monitor and prosecute the offenders.

The coronavirus pandemic brought economic activities almost all over the world to near-halt as countries imposed restrictions on human movement to contain the spread of the virus. As the toll continues to soar with the end not in sight, the economic damage is already evident with nations like Nigeria sunk into recession (Baldwin, & Di-Mauro, 2020). The World Bank baseline forecast foresees 5.2 percent contraction in global G.D.P in 2020 using exchange rate weights. The report further revealed that every region is prone to considerable growth downgrades. East Asia and the Pacific will grow by a scant of 0.5%. South Asia will contract by 2.7%, Sub-Saharan Africa by 2.8%, Middle East and North Africa by 4.2%, Europe and Central Asia by 4.7%, and Latin America by 7.2%. These unfortunate declines are expected to reverse years of progress toward development goals and tip tens of millions of people back into extreme poverty (World Bank, 2020). Nigeria is one of the first countries in Sub-Saharan Africa to report a case of Covid-19 as at March 2020 and had implemented some economic-biting measures to contain the spread of the virus (Amare *et al.*, 2020). More so, the global oil price nosedived to about 60% the worst for the past three decades (Nicola, *et al.*, 2020). The implication of this is that expectedly this pandemic will weaken the economy of Nigeria that already had huge debt profile and the most viable option for a comeback is a concerted effort to diversification of the economy.

To address the issue of economic diversification, we randomly surveyed 400 adults in typical urban area in Nigeria made up of creative work owners and users of creative works who were asked the effect of current anti-piracy fight by the government, their involvement in illegal use of creative works, whether a well-protected creative work can provide means livelihood for an individual. After modeling the data collected, we discovered that piracy was on the increase, that the anti-piracy measures in place now is not good enough and that an effort to use technology to counter piracy will create more jobs in Nigeria.

The rest of the paper is organized as thus: In section two, we review literature on copyright enforcements, and proposes four hypotheses. In section three, we describe the empirical methodology and data. In section four, the result was presented and our findings discussed and finally in section five, we offer conclusions and recommendations.

2. Related Works and Hypothesis

Copyright piracy has reached an epidemic level in Nigeria. It is a cankerworm that has eaten deep into the fabrics of creative efforts in any nation. There is no clear cut statistics in Nigeria by known previous research on the effect of piracy but it was estimated that Nigerians creative industry lose about \$9B annually on copyright piracy (Asongu 2013). It has been established that a country free from illegitimate use of her copyright works for commercial will automatically attract both foreign and local investors. This when achieved will create employment for the country which will in turn shores up the GDP of that nation. A direct foreign investment in any sector will always attract transfer of technology which will help to develop such sector capable of bringing robust revenue to the government (Lawal-Arowolo, 2015).

H1: Copyright Piracy is on the increase in Nigeria

(Adonu, 2017; Nwogu, 2014; Ahmadu, 2017) agreed to the fact that due to advancement in technological development and penetration of broadband internet, copyright piracy had risen to a crescendo level in Nigeria. Likewise, the availability of high storage media at low cost and availability of untraceable peer-to-peer network which encouraged people to have enough space to store digital file such as music, video, software and e-books and unrestricted transfer of digital content among devices. This has caused an increasing illegal downloads of copyright files from the internet (Adonu, 2017). It is like a normal thing for someone to transfer copyright protected digital material from one mobile device to the other through some technological innovations such as Bluetooth, Xender, e.t.c. The printing industry is not spared in Nigeria as about 40% to 50% of publishing business have been taken over by pirates bringing a great loss to revenue of publishers. Ahmadu (2017) alluded to the rise in piracy in Nigeria to poverty, ignorance of copyright law, the get-rich attitude of the citizens and high cost of the original products.

H2: Ones Creativity can provide a source of livelihood to such person

The creativity of an individual is the natural endowment given to the individual by God. People had made a good living from their creative endowments in the past and will continue to make living from such endowment if properly protected (Nwogu, 2014). The entire live earnings of a Professor in Nigeria University is not up to the annual earnings of a successful musician in Nigeria. For example a gospel musician (Mercy Chinwo) is said to worth over one hundred fifty million dollars. Bill gate is ranked among the richest in the world and many persons are under his payroll because of his creativity (software development). Publishing companies in Nigeria cries out of dwindling misfortunes because of escalating menace of book pirates (Ahmadu, 2017). Even those who engage in copyright do so because of financial gain. Countries have shown that creative industries can play a substantive role in economic growth of such country. This is because the industry had been tipped as one of the world's most vigorous economic sectors. Available data showed that creative industries have facilitated cultural, social and economic development in most

developed economies. A sizeable number of world populations depend on creative works to earn a living. The creative industry have a diverse area of coverage to include music, movies, performing art, publishing, software and games (Edosomwan, 2019). The creativity and innovative ideas emanating from any citizen of a country requires due protection by the government and appropriate enabling environment to ensure that it benefits such person and the country at large (Borja, *et al.*, 2015).

H3: A robust creative economy can diversify Nigerian's economy

Economic diversification is a critical tool for growth in all strata of economy from developed to third world countries (Freire, 2019; Nwokoye, *et al.*, 2019; Esanov, 2012). It has the potential to create employment by reinforcing the GDP through direct economic activities. When economy depend on income that originated from oil and gas, it is difficult to have long-term sustainable economic plan due to volatile nature of oil price. This often leads to deficit budget which will in turn subject such nation to excessive borrowing (Nwokoye, *et al.*,2019; Esanov, 2012; Ahmadov, 2012). The abundance of natural resources in any nation hurts macroeconomic stability of such nation. This is because it shifts attention away from other revenue generating sectors of the economy such as manufacturing, creative industries, e.t.c, breeds civil unrest, engender corruption and summarily makes the government not to think outside the box since it is easier to make money from oil and gas (natural resources) (Nwokoye, *et al.*, 2019; Esanov, 2012). This is the case with Nigeria, who abandoned other sectors of her economy ever since oil and gas was discovered in large quantity in Nigeria. Meanwhile, in the wake of recent global economic downturn occasioned by covid-19 pandemic lockdown, the portrait of resources-reliant nations provides an undeniable proof that without diversification, these economies remain highly exposed to different external shocks (Nwokoye, *et al.*,2019). Developing nations need to fathom the relationship between diversification and economic development to ensure comprehensive growth which will in-turn become a springboard for them to catch up with the developed economies (Freire,2019).

H4: Technology can help to improve the fight against copyright piracy

There exist some technological protection measures (TPM) used by some previous researches in fighting copyright piracy. Software vendors had used digital right management (DRM) to prevent users from freely running pirated copies (Al-Rafee, *et al.*, 2010). Digital right management is the process of granting access right to digital copyrighted works to a legal user which does not permit him to download the file for the fear of sharing it to third party but will have access to the file through any internet-enabled device (Rothchild, 2005). Product activation is used by some software vendors to prevent copyright infringement which prevents legal user not to use the purchased software except when there is a certified communication between the user's computer and the vendors server which assign a unique code to the system which make the software not to work in another system (Nwankwo, 2018). Tethering system is used by producers of digital music in MP3 format that prevent the file from being played on any other device aside the designated number of devices specified by the buyer during the purchase. Another TPM against digital copyright piracy is content scramble system (CSS). The system divides DVD into seven regions coding and it prevents DVD designated for a particular region not to play in another region (Edosomwan, 2019).

3. Methodology

This research was carried out principally to investigate whether using technology protected measures (TPM) can help to improve the fight against copyright piracy of creative works in Nigeria which in turn will provide means of livelihood to her citizens and a means of diversification for her economy. The specific area of focus was Abakaliki the Ebonyi State capital. Abakaliki is an emerging city in Nigeria with some facilities to her credits such as good network of roads, overhead bridges, sports stadium, and many on-going projects such as domestic airport. The peaceful nature of the city attracted many inhabitants from all over the nation including those making their living by the means of their creative works (musicians, movie actor(ess), software developers, book authors, e.t.c). Movie producers have been spotted severally shooting their movies in various locations in Abakaliki. These explain the rationale behind the choice of Abakaliki as the focal area for the study. The study as well utilized purposive sampling method, a form of non-probability sampling which is based on the researcher's judgment of the respondents. The judgment was based on the population that is technology savvy.

Data Collection

A measurement instrument was used to gather data from the respondents. The self-administered questionnaires were 400 in number and was distributed to adult population comprising of musicians, film actors/actress, software developers, book authors, painters, sculptors, comedians, satellite paid television vendors and creative work users residing in Abakaliki urban. The questionnaire comprised of 14 semi-structured questions. The survey asked the respondents to answer some closed questions in the twofold scale (that is Yes/No) which indicated the view they had formed about each statement. The first section of the questionnaire identified demographic information of the respondents. The second section probed into ICT skills of the respondents and their ownership of mobile phones and finally section three centred on the implication of copyright piracy on the economy of the nation. The research were physically distributed to the correspondence. 250 of the questionnaires were successfully filled and returned representing 85%

Data Analysis

In other to validate the research questions as contained in this study, an empirical analysis using SPSS 22.0 was performed after data coding for statistical processing. Also, frequency analysis was performed to analyze the demographic and overall features of the study by the respondents. The whole essence of the analysis is to test the impact of the linear relationship between the variables.

Demographic Findings

Table 1: Classification of Respondents by Gender

<i>Respondents</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Male</i>	140	56
<i>Female</i>	110	44
<i>Total</i>	250	100

Table 1 represent the gender distribution of the respondents according to the data gathered from the survey instrument. The sample had a mix of 140 males representing 56% of the respondents and 110 females representing 44% of the respondents. This entails that greater response rate of the survey are from the male. The majority of the respondents fall within the age bracket of 31-40 as shown in Table 2. This showed the segment of the population of any nation who supposed to be self-reliant.

Table 2: Classification of Respondents by Age Respondents

<i>Respondents</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>18 – 30</i>	42	16.8
<i>31 – 40</i>	111	44.4
<i>41 – 50</i>	75	30.0
<i>Above 50</i>	22	8.8
<i>Total</i>	250	100

4. Results and Discussion

Some direct questions were asked using the survey instrument as “Have you received or shared copyright digital file?” as illustrated in Table 3 which revealed that majority of the respondents had received or shared copyrighted digital file with 92.8% answered “Yes” and 7.2% answered “No”. The implication of this is that illegal transfer of digital copyrighted file is much possible and this is critical for escalating piracy index of the country (WIPO, 2020). The second key question from the survey asked whether technology can help to improve the fight against copyright piracy as shown in Figure 1 and about 88% of the respondents answered “Yes” and about 12% of the respondents answered “No”. The result in Figure 1 agrees with (Nwankwo, 2018) which postulated that the use of technology such as information technology can help in no small measure to reduce or stop entirely digital piracy which in turn can engender economic growth, saves job, encourage innovations and creation of new products. The result is very congruent with the realities on ground since the escalating high copyright piracy index around the world is fueled by technologies, so it is most reasonable to use technology to fight technology for better effectiveness of this age long fight against piracy which has not yielded commensurate result in Nigeria.

Do you think that technology can help to improve the fight against copyright piracy

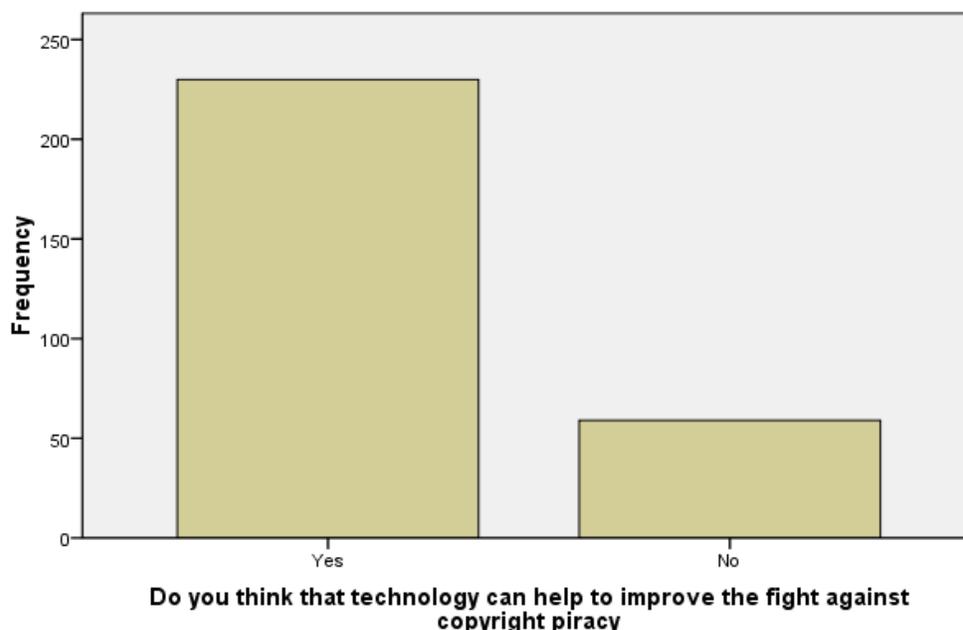


Figure 1: Bar chat of one of the research question

Table 3: Have you received or shared copyright digital file?

<i>Respondents</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Yes</i>	232	92.8
<i>No</i>	18	7.2
<i>Total</i>	250	100

5. Conclusion

This paper has shown that piracy of creative works is on the increase in Nigeria. This reduces the honest income of those who engage their creativity to earn a living and other secondary beneficiaries such as artiste producers, book printers, book vendors, and even the government that would have earn a reasonable tax from these chains.

The paper provide evidence that a robust creative economy can be a solution in hand to economic diversification that Nigeria had struggled to put in place for many decades past. This is very urgent if Nigeria is to survive the current recession unleashed to her as an aftermath of the covid-19 pandemic.

Finally, the result indicate that technology especially ICT can be of great help in combating the menace of copyright piracy in Nigeria. Though, there are extant laws and body charged with the responsibility of fighting copyright piracy in Nigeria but their efforts had not yielded the required

result as revealed by this research. The reason as adduced by (Borja, *et al.*, 2015) is that technological innovations in ICT that brought about technologies such as Bluetooth, WIFI, p2p, high speed internet, micro storage, e.t.c have facilitated illegal distribution of materials protected by copyright almost unnoticed by those responsible to prevent that just because they lack the technology to track and stop it.

Therefore, solution to improved copyright piracy fight lies on government sourcing home-grown technology solution to blend with the already existing laws and enforcements since it is clear that the fight is beyond manual fight.

Notwithstanding the contribution of this research, it still parades several limitations. Firstly, some advance modeling techniques may yield different results. Secondly, concerning the dichotomous nature of the research, future research should expand this by looking in depth how to use software to fight digital piracy that is on the increase so as to realize the issue of economic diversification that will bring more economic vigour to Nigerian's economy that is already in recession.

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