Comments on the Digitalization and Digital Divide in the Horn of Africa (HoA), Kenya and Ethiopia: The Media Perspective

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Abstract

The aim of this research is to present a broader discursive overview of the state of digitalization and digital divide in some of the Horn of African (HoA) countries with a particular focus on Kenya and Ethiopia, from the media perspective. The research attempted to find out the state or trend of digitalization/media in Africa, and point out examples of digital divide from the perspective of the media. To achieve this, a secondary material review and key informant interviews were conducted with key informants within the digital media ecosystem, including trainers, researchers, journalists, developers and academics from Africa and Europe. These key informant interviews were particularly needed to broach the personal experiences and expertises of the informants. The preliminary findings show that the level of digitalization/media development in the region has made commendable progress in a few countries but is largely at a low level of development, with the Kenyan experience faring better than the Ethiopian. There are many opportunities for and divides between digitalization and digital media development in HoA but given the current state of politico-economic governance in the region, the digital divide-related challenges look larger than the opportunities. This study offers suggestions on how digitalization and digital divide could be better approached.

Keywords: Digitalisation; Africa; Mass Media; ICT; Opportunities; Transition

Introduction

Many African countries have shown strides in the adoption and distribution of digital tools and media. However, there are still challenges in terms of digitalization and digital media development in the countries, one of the main challenges being digital divide. The Horn of Africa (HoA), located in the Eastern most side of the African continent, is one of Africa's most conflicted regions as well as a region of promising economic development. The findings of the International Telecommunication Union's (ITU) Measuring the Information Society 2015 report ranks countries in Africa at the bottom of the level in terms of ICT access and affordability.

The World Bank's World Development report states that the dividends of digitalization economically benefited the few rich, and it is understandable that most African countries fall within the less benefitting groups since the majority of the population the Sub Saharan Africa (SSA) consists of the poorest people in the world together with South Asia[1]. The review of these reports reveals that users – such as ordinary Mobile, Telecenter, and the non-user are not given sufficient coverage or focus. Similarly, the rural poor in the developing world, the perhaps the least benefiting, those at the bottom of the digital divide and the mass media are also not examined in these "flagship" reports. Most importantly, the case of mass media digitalization, new media, digital security and freedom has not been dealt with in great detail or specifically in any of the research reports.

In other words, methodologically, the interview method purposively sampled eight interviewees from the whole of the digital media ecosystem rather than simply focusing on journalists hence a number of ICT experts and academics, journalists, developers, financers and regulators have been contacted from across Africa and Europe. The sample made every effort to include a diverse population of interviews from different

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[1]According to a World Bank (WB), report published in 2012 over 77.8 percent of the extremely poor lived in South Asia and Sub-Saharan Africa of which the 388.7 million were in SSA.

gender, geographic, educational and expert groups. The review of secondary materials and reports supplemented the interview method of this study. The literature review and the theoretical discussion dwells on theories and reports on new/digital media broaching the issue from a human resource, Information Technology (IT) and journalistic perspectives to figure out the ecosystem.

The research questions are "What do the latest available data show about the opportunities of digitalization in the HoA specifically Kenya and Ethiopia and what are the main digital divide related challenges that the new media outlets and experts in the region face?"

The literature review aimed to include a part on the digital transition in Africa in general and a second part about the transition to digital media and the digital divide in Africa in particular. Then, the review allowed the identification of open questions, thus allowing an understanding of what the main factors limiting or representing a constraint to the digital transition of media in Africa or the region of interest, the Horn of Africa, are.

Digitization vs. Digitalization

Before delving into detailed discussion of digitalization and its intricacies in African media, it is worth defining digitization and digitalization; two terms are often used interchangeably but wrongly. The Oxford English Dictionary (OED) defines digitization as the "the action or process of digitizing; the conversion of analogue data (esp. in later use images, video, and text) into digital form" and digitalization as "the adoption or increase in use of digital or computer technology by an organization, industry, country, etc." It is the later definition that we are interested in for the sake of this discussion. Brennen & Kreiss [1] using the Oxford dictionary definition elaborates digitalization as "the way in which many domains of social life are restructured around digital communication and media infrastructures." Brennen & Kreiss [1] explain digitization in two dimensions as a symbolic conversion of analogue signals into bits of 1s and 0s and materially, expressed in different materials whereas digitalization is understood as "macro-level changes in social structure and practice."

The authors trace the use of "digitalization" for the first time in an essay published in 1971 in the North American Review and since then many academic journals and research works have studied the progress and achievements of digitalization. Most developed countries have passed the digitization stage, converting their analog systems to digital, and are now enjoying the fruits of digitalization, where technological innovation is helping the digital development. Yet, many African countries have not even fulfilled the International Telecommunication Union's (ICU) Geneva 2006 Agreement set 17 June 2015 to be a mark of analog switch-off.

Digital Divide

The earliest definition of digital divide understood the divide as the inequalities in access to and use of Information and Communication Technologies (ICTs), primarily the Internet [2]. The binary division of Internet divide, which categorises those who have access to Internet and those who do not, is referred to as first-level digital divide. This type of divide is now narrowing

since most developed countries have a relatively universal access to broadband and the use of the mobile phone in developing countries has also improved. This leads to second-level digital divide, which is focused on the usage of Internet or the skills-based divide. The third level of digital divide, then, came to look at the digital divide comprehensively rather than binary Internet access, skills and use division. The third level focuses on the consequences of the divide or the beneficial outcomes of Internet use and this divide argues that we can say there is a digital divide when the access to the Internet and skills do not lead to beneficial outcomes [3]. Research has shown that economic and sociodemographic attributes are significant determinants of usage patterns [4]. Digital divides are examined in several generations of research which seek an understanding of relationships between the spread of digital technologies and the factors contributing to the inclusion or exclusion of countries, regions and people in the digitally mediated world. Van Dijk [5], for instance, theorises digital divides as being created by relational and resource factors including personal and positional inequalities, the asymmetrical distribution of resources, the differences in kinds of access and the differences in the nature of participation in society [6].

Gaps in Internet use between the old and the young, gender differences, the exclusion of the disabled and gaps in access between urban and rural areas are also examples of Internet divide. For example, exclusionary business practices may be revealed, such as the levying of service fees of as much as 16 per cent of the value of transactions on mobile money transactions in some African countries, which serves as a barrier to use and reinforces economic divides in [6].

Digital divide in Africa has been studied from mainly quantitative and first-level divide perspectives. The divides of each socioeconomic and demographic group have not yet been widely studied qualitatively and by focusing on the second and third levels of the digital divides. This review, treating the divide as a challenge, qualitatively assesses the second and third levels of the divide in the Eastern African context.

The African Case

Berger's (2005) collaborative research found out that digitalization in many African newsrooms was nascent. The author said:

many African newsrooms and journalists are very far from the optimum use of ICTs…the vision therefore should be to see Africa's digitally excluded journalists not so much as needing to enter the 'Information Society' and share in its benefits, but as helping to change that self-same society.

Berger's findings attest to the poor level of skills and infrastructure in the newsrooms studied during the early years of the 2000s and since most of the countries studied were located in the relatively "better-off" region of Southern Africa, it is possible to imagine what the picture might have looked like in the rest of the SSA regions. Since then many changes have occurred in the African media landscape, mirroring the changes in the rest of the world. The spread of social media, especially Facebook, across Africa for the purposes of socializing, reporting, campaigning

and communication and dissemination of information has been noticeable. In some African countries, the Internet is equated to Facebook[2]. Mabweazara [7] confirms existence of challenges in African newsrooms when it comes to technology and use but "there is no denying the fact that African newsrooms (as elsewhere) are experiencing the disruptive–somewhat cataclysmic-impact of new digital technologies on the way news is generated, disseminated and consumed by their audiences." The author clarifies about documented application of technological facilities, newsroom creativity and small adaption to the digital revolution. Mabweazara [8] stresses that the analysis of African newsroom adaption to digital media or the digital journalism epistemology requires a contextual appraisal of African journalism (its culture, institutions, and the broader communication environment) and the insights it provides. In a previous write up, Mabweazara proposed a framework that appraises the use of technologies by journalists as a "socially shaped" amalgamated approach that takes social constructivism and the sociology of journalism theories. A close observer of African media can notice that many established African media outlets are adapting and transitioning with the digital developments at least in terms of delivery. African newspapers (both the old ones and start-ups) are now actively upgrading their online and mobile content provision. It is possible to access up-to-date African reports on Twitter, Facebook and other social media outlets both in text and in multimedia formats. Mabweazara [8] clarifies further that in Africa new digital technologies are not "adopted and appropriated" equally and in a homogenous manner due to **"**the structural and functional inequalities associated with the notion of the digital divide." Mabweazara [9] quotes Mchakulu citing the case of Malawian journalists, who have been able to ameliorate their works with mobile technologies. However, Mabweazara also quotes Mchakulu to stress that technologies could not replace the traditional practice, "it is a fallacy to believe that all their work can be done through technological intervention as physical space and face-to-face meetings remain essential and under-gird journalists' professional practice".

This finding from Malawi is not in line with Marshall McLuhan's technologically deterministic view, which argues that particular technical developments are "the independent and the sole or prime causes of changes in society". Partially condoning the latter view, Steensen and Ahva [10] contend "new approaches from technology and economics are influencing journalism studies, but in a limited manner." This debate can be laid here for another research venture, however it is undeniable that technological developments as well as human and societal factors are putting a mark on the advancements. The Ethiopian government has also made huge investments in the digital sector, although it is criticised for focusing investments that help the government's control rather than open up the space for civil societies. The government promotes digital media for its own goals, which are for developmental and party politics especially investing in the WorldNet and School net projects[3].

In African digitalization and media discussions, a media outlet mentioned as one of the first indigenous digital media examples in SSA is The M&G Online. The M&G Online was launched in 1994 in South Africa as the first online newspaper or perhaps the first SSA newspaper on the Internet. The offshoots of the M&G Online, the Thought Leader and Sports leader blog sites, which feature opinion and analysis, introduced the Reader Blog, once-off contributions by readers – as an extension of digital journalism [11]. In the rest of the African countries including countries of the Sahara region, locally founded and owned African online media outlets were not available except some creative start ups by the African Diaspora in Europe and America, who started their own online ethnic media sites for news and discussion purposes. Amongst the first examples is the Cyber Ethiopia website, launched in 1996 by an Ethiopian technologist based in Switzerland to discuss Ethiopian issues and share news. Over the course of the past 15 years, most of the African traditional media have also opened an online edition and in recent years digital-only start ups have popped up in various countries. Some have closed down soon after, though, due to inability to finance themselves and run the business.

Of particular interest in this study is the digital transition of the state of digital media in Africa and the digital divide in the Horn of Africa, particularly Kenya and Ethiopia. Robinson [12] in a study aimed at documenting newsroom transitions from print to digital found "labour-fed tensions as reporters and their editors incorporate new technologies into their news production routines." This transition resulted in changed power hierarchies benefiting those with technological skills and those with print-cultural mindsets being less privileged. The transition can also be assessed from the way digitalization is changing the values of journalism. Robinson states that a 2009 survey of journalists reported that a majority (57%) think the Internet is "changing the fundamental values of journalism," including a ''loosening of standards'' (45%) (Pew Project for Excellence in Journalism, 2009). Robinson also cities other writers, who note that the incorporation of technology like the web helped production and staff mindsets in the newsroom "Those newsrooms that hired physical-realm guides to facilitate the transition achieved more success" and this transition could best be achieved by taking technology as a journalistic concept rather than an extra tool or device. The process of digital transition is not also being expedited as much as the technologies and societal needs would have allowed. Factors like costs, political meddling, courtroom feuds, and regulatory inexperience are holding back digital TV transition in developing countries [13]. The digital switchover is well underway in countries that have allowed more space for civil society and media groups to get involved and at the same time, the rise of cable, satellite and broadband Internet is pushing down broadcast television, especially analogue.

Dragomir & Thompson [14] notes "Nigeria, South Africa and Kenya as the vanguards of the digital transition in Africa." The finding by Balancing Act's 2014 report also finds that Facebook is the most

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[2]Studies by Research ICT Africa and Geopoll has found that many respondents in Africa, Nigeria and also similarly in Indonesia said that they used Facebook but not the Internet. This may indicate a misconception of the differences but also that many people are logging in on their mobiles or in Internet cafes to simply use Facebook. Further data about the findings is available on Quartz.com http://qz.com/333313/milliions-of-facebook-users-have-no-idea-theyre-using-the-Internet/

[3]As Gagliardone (2014) notes these two are the most ambitious government digital media projects in the continent to build state and nation.

widely used social media platform in Sub Saharan Africa and all forms of social media serve as a source of news and information in addition to more traditional media. Ownership and access to mobile phones, computers, laptops, smartphones and tablets also grew in Africa. Seven African countries had launched digital terrestrial television, 16 countries were running it alongside analogue TV and 12 others were preparing to launch in 2014. The sector is being led by Star Times and Go TV with a total number of clients to DTT in Africa being over nine million. Similarly, the use of Internet for news consumption has grown: "On a daily basis, the use of the Internet to get news and information on a daily basis is considerably higher: Ethiopia (55%); South Africa (62%); Ghana (63%); Kenya (68%); and Nigeria (69%) (Balancing Act, 2014). Balancing Act's findings also showed that young people used feature phones and Internet for news and information purposes daily, rather than print outputs. The data below by Balancing Act show that the population in Africa with an access to the broadcast and digital devices has been showing considerable growth since the year 2007.

Among SSA countries, South Africa is the leading country in the digital media opportunity rankings followed by Angola, Kenya, Nigeria, and Ghana [15]. Therefore, digital media related opportunities are expected to primarily benefit these countries according to their order of rankings. The Internet however, is where most African media outlets have shifted to, invested and benefited from compared to the rest of the media. The media have been able to garner a large number of online audiences, subscriptions and profits from digital advertisements. A phenomenon with pros and cons, digitalization is a process that is being highly lauded, promoted and studied. Amidst the enormous acceptance and grasp of the offerings of the digital world, the body of knowledge that questions or shows the criticism against digitalization, and an increasingly digital media communication dominated journalism is scare if not nil.

Media Digitalization Critique

Beyond the debates and discussions on the needs and speeds of ICT and ICU digitization and digitalization, there are a few ongoing debates and questions about the positives and ethical nature of the transitions or perhaps the usefulness of digital divides. Commonly, the redundancies resulting from digitalization are assumed primary negative effects, especially in the legacy media.

Journalists or all digital communicators exchange and store sensitive information and data using their digital devices, which make it more prone to theft, loss and especially hacking. State and non-state actors continuously monitor digital footprints and activities of media people and all users, hence private and secure communication has become an elusive idea. Some authoritarian states in Africa such as Congo, Uganda, Ethiopia, Zimbabwe, and Chad among others are starting to block people from accessing certain sites or even shutting down the Internet after users have totally become dependent on the digital offerings for work and information consumption[4]. Nevertheless, the digital world is not short of creativity and alternatives; it is now about to offer the less privileged and those at risk of being censored a new method of keeping them connected. Gwagwa [16] gives an example of an initiative of Facebook started in 2013, Internet.org, which is aimed at connecting the majority of the world or the population from developing countries that do not have access to the Internet free basic services "based on the premise that connectivity is a human right."[5]

As much as they are useful for organisation, campaigning and effecting societal changes, digital tools and media could also be used for violent, anti-social, hate and criminal purposes more easily and suitably than the traditional media. What does the development and shift to Internet of Things (IoT) and Internet of Everything (IoE) as well as the development of artificial intelligence mean to human values and the safety, employment and sustainability of societies? Irresponsible use of technology in terms of time spent, purpose of usage and by children is the other dimension of the negative side. Some of these disadvantages are also present within the African context. Moreover, the underdeveloped skill level of the digital media ecosystem, poor digital and offline infrastructure, access, inhibiting policies and digital insecurity are among the few main discontents of digitalization in the African media sector.

Gregson et al. [17] quote Schmidt and Cohen [18] to note that if the current pace of technological innovation is maintained, eight billion people could be connected through a palm-fitting device heading to a future of 'Internet of Things'[6]. Hoorens quoted in Gregson *et al.* [17] identify six possible disruptive technologies, including social networks, the Internet of Things (IoT), big data, automation of knowledge work, and cloud computing. These disruptive technologies have already become realities, most of them slowly, but surely, entering the African continent. In brief, the whole sprint to a world dominated by technology is something to be cautiously and critically questioned and studied especially in the media sector when the digital media, particularly Web 2.0, is being used for recruitment, mobilization, propaganda and radicalization purposes by violent non-state actors. The digital media are also at the centre and forefront of the information, communication and dissemination of these events and "contributing negatively or positively to the insecurity" and when we aggregate these disadvantages of digitalization, digital divide might not necessarily be a negative phenomenon. This is true especially in the context of the HoA, where most of the least developed and least stable communities are located.

Data and Discussion

In this section, the data collected during the interview process conducted between February 1 to June 20, 2016 will be presented. The data collected is discussed together with the analysis of the findings. The conclusion and recommendations chapter follows this section.

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[4]The government shut down the Internet under the pretexts of national security and sometimes in the interests of students – to have time to study off the Internet. Access Now has the recent trends organised https://www.accessnow.org/Internet-shutdown-zimbabwe-happened/

[5]Critical articles have since emerged debating that the service is another way of making money, it is a false philanthropy and could kill local innovation http://qz.com/385821/poor-Internet-for-poor-people-why-facebooks-Internet-org-amounts-to-economic-racism/

[6]The interconnectivity and communication of things such as driverless cars talking to each other likely to be succeeded by "Internet of Everything"

State of Digitalization

The interview findings show that only a few countries have digitized and digitalized, with some African countries boasting digital media reforms and outlets that can compete internationally.

Regarding the state of African digitalization and cases of successful transition and digital media outlets in Africa, Sylvain Beletre, Associate Editor and Research Analyst at Balancing Act, an African focused European ICT and Digitalization research firm, recounts that not many African media organisations have fully transitioned because digital changes are still in process.

In terms of the skills of the journalists and Human Resource Management (HRM) within African newsrooms, Sylvain explained:

HRM and training budgets are usually very limited in African media houses. Most employees are struggling, juggling daily tasks. However, like anywhere else, journalists often use smartphones to take picture or record interviews, and digital cameras to take videos. They are a few initiatives and organisations out there that train and improve journalists' digital skills in Africa.

Though present on all social media types and having their own websites, long established Horn of African print and broadcast media outlets update their digital platforms intermittently once a day or a week and a few others, several times a day with fresh and exclusive content. As Kenyan interviewees disclosed, the working atmosphere within Kenyan newsrooms has changed since digitalization, and, then, social media. Currently, staff members are required to have digital media skills when employed and those existing attend courses to keep themselves up-to-date[7].

Opportunities of/for Digitalization in the Horn

The review of the secondary material in the previous sections has demonstrated that there are visible opportunities for the Horn/ Eastern African media to tap from the digitalization process. Philippe Couve argues that one of the main opportunities is the "digitalized African audience." The wider availability and penetration of mobile phones (smart phones) has enabled the majority of the Kenyan, Ethiopian, Sudanese and Djiboutian audience to be on par with digital developments across the world despite issues with access to and cost of the Internet.

The entrepreneurial spirit across the region and especially in East Africa, Kenya and Uganda, is another opportunity that the Kenyan interviewee alludes to as an opportunity. Despite not being widely observed within the journalistic sphere, digital innovations within the creative media sphere are taking hold in Kenya, Uganda and to some extent in Ethiopia. There are several entertainment websites, software and games being invented by African techies and young innovators. It has yet to come to the mass media field but there is hope that it would be extended to journalism when media has become digital.

Africa is a young continent[8]. This reality could have its own advantages and disadvantages for Ethiopia and Kenya. It could be

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[7]Kenya's Nation Media Group has opened its own lab known as Nation Media Lab which trains regional journalists on Digital Journalism.

[8]The 2012 *African Economic Outlook* report notes that Africa's population within the youth bracket of between 15 and 24 was 200 million, forecasted to double by 2045, making it the continent with youngest population in the world.

disadvantageous because there is a possibility of overpopulation and unemployment, which could in turn lead to resource depletion, crime and "illegal migration". On the other side of the continuum, this young population is highly tech-dependent, making any investment in digital media or digital activity a lucrative business. According to a South Africa based media educator, "Africa's young large young population means a large group of digital product and service consumers. It also means a large number of young digital innovators and entrepreneurs." Not only would the local digital start-ups benefit from this opportunity but also international multinational companies. Chinese and European digital, satellite and telecom companies are eyeing the African market for this same reason.

Digital media are used for economic and political development purposes. Initiatives and programs such as ICT4D and ICT4Peace are some of the greater cases the advantage of digitalization. The digitalization can benefit the economy or due to the usefulness of being digitized and digitalized in this knowledge, most countries in the region could soon be dependent on digital tools and services. Politicians are also using the digital media to interact, canvass, lobby, and mobilize their supporters. The sooner and the wider their countries are equipped with digital capabilities, the higher political benefits they could earn. The mutual benefit of digitalization is observed in the Kenyan case:

Stiff competition in the mobile phone market has also lowered access costs …(and) there is a significant increase in news diversity as a direct result of the convergence of Internet, television, and radio on mobile platforms [19].

Unmanaged privatisation is also at risk of complete corporatisation by very few elites. Across the continent, although with varying levels, digitalization is creating opportunities for the mass media and the population while at the same time opportunities are there for digitalization to flourish. The accounts of expert interviewees reveal the reciprocal opportunities that digitalization creates and is created or made available for digitalization. What about digital divides in the Horn of Africa or the challenges that digitalization itself creates on media? Although the latter part of the question is already discussed in the criticisms part of this paper, a brief reflection will be presented on both sides of the challenges mainly drawing of the key-informant interviews held with 10 interviewees.

The Cons of Digital Divide in Kenya and Ethiopia

The major challenge that has been cited by most of the interviewees as increasing the digital divide in the Horn of Africa or the digital media development in the region is government policies and regulations. Most of these governments are becoming wary of digitalization, therefore they allow only the development of the sector in a highly controlled or in a slower manner. Similarly, they put in place laws and regulations that restrict or inhibit the open and transparent advancement of digitalization. In 2014 there were at least 31 African countries where the telecom sector or the Internet service provider (ISP) was state owned or had monopolistic privileges affecting the

digitalization process in the continent[9]. Without the participation of alterative telecom service providers and entry of private companies, it is very difficult to build a digitalized African media atmosphere or information society. A young Ethiopian digital media start-up Website owner and technologist said:

Despite negligible cases of digital media start-ups and digitalization efforts here and there, there is almost no digitalization process. It is also impossible to talk about the very idea of it let alone in the media sector.

Contrary to the case in Ethiopia, neighbouring Kenya, which has liberalised its market and telecom sector since the 1990s is now being dubbed the Silicon Valley of Africa with several local digital start-ups and international computer and IT companies opening their African branches there. Several Kenyan media houses are the leading in East and Central Africa region in terms of pioneering use of digital tools and service provision[10]. One simple example offered by Sylvain Beltere is the case of the Kenyan KTN which joined YouTube with 148 491 642 total uploaded videos in July 2016 and 278 306 subscribers. Yet, in the middle of these success stories, half of the 53 African countries still have telecom sectors monopolized or dominated by the state and this is the major challenge to digitalization or the digital media development. In a monopolized telecom environment, digital media cannot flourish because costs will be determined by the sole provider, the monopolist can limit or favour access to services or products and the monopolist government can censor contents or shut it down completely. When this discouraging policy environment is coupled with the three-levels of the digital divide, the challenges widen.

Philippe Couve explains that the challenges to digitalization or digital media development can be divided into three: training, the traditional media culture and finance. These challenges that are widening the digital divide in the region are also commonly prevalent in the two countries: Kenya and Ethiopia but to a higher extent in Ethiopia. The digital divide that is widely observed, based on Couve's analysis, within the African media, especially in the Horn of Africa, is the second and third level of the digital divide. It is, however, important to highlight the fact that there are still journalists in South Sudan, Ethiopia, and Somalia, who are still affected by the first level of the digital divide with no or irregular access to electricity, Internet and digital tools. The only exception is Southern Africa, where the training and newsroom culture are improving, despite the financing problem.

Even if local and international digital media are supported to digitalize, getting revenue remains a problem for most of the HoA countries surveyed in this study, such as Ethiopia. It is impossible to make payments by bankcards (especially internationally) in most African countries. Online banking is also not practical in many SSA countries. There are some advances in mobile money but it has not been extended to the media and high-tech sector. Thus, the main method of getting revenue remains to advertising and the transactions are conducted through the traditional banking processes. As much as digital insecurity is a big challenge in a highly monitored and technically attacked digital region, applying or taking part in digital security courses has been punishable in some African countries[11]. Although there are laws governing press freedom and mass media or ICT, most African countries still do not have national policies or legislations governing new media or digital media. This leaves the future of HoA digital media and the digitalization process in uncharted water, preventing digital journalists from benefiting from the digitalization process; the third-level digital divide.

Cost is another stated challenge by most of the interviewees: cost of equipments, cost of access to Internet and digital infrastructure are all too expensive. Similarly, the free and participatory digital sphere is also being exploited by non-state-actors for destructive and violent political ends so much so that there is publication of reports that do not follow or respect the very basic journalistic ethics online, such as false information, propaganda, defamatory materials and hate speech. Plurality, diversity and creativity in the digital sphere are being highly monopolised and kept insular by big media organisations in some economically well-off African countries, hampering alternative voices and start-ups. The 2013 research on "Mapping Kenyan Digital Media" had found that Internet and telephony technologies have increased plagiarism and copyright infringement.

A final point discussed by all the interviewees from Kenya and Ethiopia, which is likely to be the case across many parts of Africa, is widespread poverty and rural concentration of the population. Most of the Horn of African population inhabits the rural parts of the continent, where the infrastructure, education and income level are low compared to the urban areas. These factors could hinder the rural communities from accessing and enjoying high-tech digital products and services and the digital media from reaching their audiences.

Digitalization itself is also a challenge to society and the existing media. Some interviewees have stated that digital transition and development is coming to Ethiopia when the continent has not even fully been able to pass the agricultural and industry or manufacturing stages, which could detrimentally lead to economic chaos. Interviewees have also reckoned that digitalization and the change to digital media have made many seasoned journalists jobless. It has affected the cardinal principles of news reporting, anyone with an access to digital can tools distort reporting, and affected the African communal culture, the interviewees seeming to prefer the digital divide.

Conclusions and Recommendations

Overwhelmed by the dramatic changes that the new media has brought, many publishers and conglomerates in Africa are on guard, puzzled by how they can approach, integrate or manage the digital media and journalistic development. Broadly speaking,

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[9]A 2012 report by Balancing Act published on *Businesstech.co.za* lists countries with not yet privatized telecom sectors, including Algeria; Angola; Benin; Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo-Brazzaville, DRC, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Libya (which has several state entities), Mali, Mozambique, Namibia, Niger, Sao Tome, Sierra Leone, Swaziland, Tanzania, Zambia and Zimbabwe.

[10]Kenyan media houses, among others such as *Nation Media Group, the Standard,* and *The Star* are connected via fiber-optic networks. These newsrooms have also transitioned and can be taken as some of the rare examples.

[11]Several Ethiopian journalists and activists who applied for digital security courses have been detained and charged. Similarly, countries in Africa are drafting and approving legislation on cybercrime that could affect the little digital freedom, participation and activities that have been there.

the approach has been defensive in Ethiopia compared to Kenya. In the HoA, countries with more democratic institutions, liberalized and economically advanced such as Kenya have shown better records of accomplishment of digitalization. The interview findings revealed that there are some digital media start-ups and innovations by young university students and ICT experts outside the newsroom in Kenya and Ethiopia but the bulk of it is for and in the creative and entertainment media sector rather than the hard or serious journalism sector for mass media and news reporting development. In terms of opportunities, the digitalization process and international digital media investment can benefit a lot in the region. The population or the audience, especially the technology savvy youth, the economic-financial profit, high level of mobile phone availability per capita, the digitized/digitalized audience and the entrepreneurial spirit are some among many opportunities that digital media ventures can tap in Kenya and Ethiopia.

The process however is facing several challenges, especially in the media sector. Three of the main impediments to digitalization and digital media development in the two countries are training or non-digitalized education system, a defensive political/regulatory regime and defensive media establishments and undercapitalization. On the other hand, digitalization is also affecting the employment, economy, culture and security of the HoA countries and media houses.

Governments in the region should improve their telecom policies allowing the entry and competition of the private sector since it is when there is a fast broadband connection, high tech services and digitalized community that investors invest and economies prosper. International media support organisations and academic institutions should work on digitalization advocacy and training programs for traditional media journalists and owners. This may lead to change of behaviour, relaxing the defensive behaviour of media owners and allowing them to embrace and tap the benefits. Given the listed opportunities, the multinational companies should invest in the region and finance innovative start-ups. Importantly, this study raised many questions which could be researched in the future, such as the side effects of digitalization in the HoA and the fact that some interviewees prefer the digital divide. Further, multiple triangulated research should be conducted on the technical, legal, governance, human rights, economic and cultural aspect and effects on digitalization and digital media in Africa. The triangulation of the research methods, data and theoretical analysis of future research could ameliorate some of the limitations of this study.

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