Regulating **Over-the-Top Services (OTTs)** The Challenges and Recommendations

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Table of Contents

List of Figures

List of Tables

1. Executive Summary

This study reviews the impact that Over The Top Services (OTTs) such as Skype, WhatsApp or YouTube have had on the traditional telecommunication services. It explores the question of whether OTTs should be regulated or not; and if so, in what way.

With the rapid changes experienced in the telecommunications and internet space where new and old services have converged, the traditional Telco providers find themselves with reducing revenues in voice, sms and video segment where their new rivals, the OTT service providers, continue to enjoy increasing revenues.

This comes within the backdrop of developing countries (ATU 2016)[1] resolution that argued that OTT service providers take advantage of the prevailing regulatory imbalance that allows them to offer services that are equivalent to regulated services - without necessarily being subjected to the stringent regulatory obligations.

Some traditional Telco providers have been known to block, throttle or prioritize some of the OTT traffic as a reaction to reduce the ever-growing bandwidth burden placed on their networks by OTT providers. Such interventions are in breach of the principle of Network Neutrality - where all transmitted data is expected to be treated equally irrespective of its source, type or destination.

The regulatory landscape is further complicated by the fact that OTT providers are global players but with significant local impact. This impact goes beyond competition and includes aspects that touch on content, data protection, privacy and security issues of the local citizens.

The study finds that whereas OTTs do provide direct competition to traditional telecom service providers, without being subjected to similar regulatory burdens, the problem may not be resolved by subjecting them to the traditional regulatory frameworks.

<?> African Telecommunication Union (2016) Draft Resolution, https://www.itu.int/dms_pub/itu-t/md/13/wtsa.16/c/T13-WTSA.16-C-0042!A14!MSW-E.docx

Regulating OTTs may require new and different approaches while retaining the basic principles of light regulation - where competitive market forces are given the first priority to resolve outstanding issues. Regulatory intervention is then exercised only where consumers have little or no choices (monopoly environments) or where choice exists but switching costs are too high.

Additionally, regulatory interventions for such new services are best served by multiple frameworks and principles including but not limited to promoting Competitive markets, Network –Neutrality, Cyber security, Data Privacy and Protection.

2. Introduction

This study reviews the impact that Over The Top Services (OTTs) such as Skype, WhatsApp, YouTube and others have on the traditional telecommunication services. It explores the policy question of whether OTTs should be regulated or not; and if so, in what way.

This comes within the backdrop of developing countries (ATU 2016)[2] communiqué, which argued that OTT service providers always take advantage of the regulatory imbalance that allows them to offer services that are equivalent to regulated services - without necessarily being subjected to the similar regulatory obligations.

They argue that this creates a regulatory imbalance in favor of OTT providers who not only rely on traditional telecom provider infrastructure to provide competing services, but they also avoiding paying taxes, licensing fees and other regulatory requirements imposed on traditional telecom providers.

2.1. Methodology

Extensive literature review was done to map out the global and local issues of concern arising from the realities of OTTs in the telecommunication sectors. The review focused on establishing how these concerns are dealt with globally and locally based on select thematic areas that included regulatory, economic, competition, network neutrality and data privacy perspectives. Conclusions were then derived based on the observed best practices in terms of regulating Over the Top Services.

2.2. What are traditional Telco services?

Traditional telecommunication services were those that were originally offered by telecommunication providers that were national monopolies. They mainly offered fixed voice communication services as well 'carrier' services that would transmit TV and Radio broadcasts across the country.

Internet or data services were also provided by the national monopolies under the framework of data services. Traditional Telco services were therefore voice, broadcast and Internet services – all charged separately by the Telco providers.

2 African Telecommunication Union (2016) Draft Resolution, https://www.itu.int/dms_pub/itu-t/md/13/wtsa.16/c/T13-WTSA.16-C-0042!A14!MSW-E.docx

The key characteristic of traditional Telco Services is that each service type (Voice, Data or Broadcast (TV/Radio) had its own separate and independent transport or carrier infrastructure supplied by the Telco providers as shown in Figure 1 below.

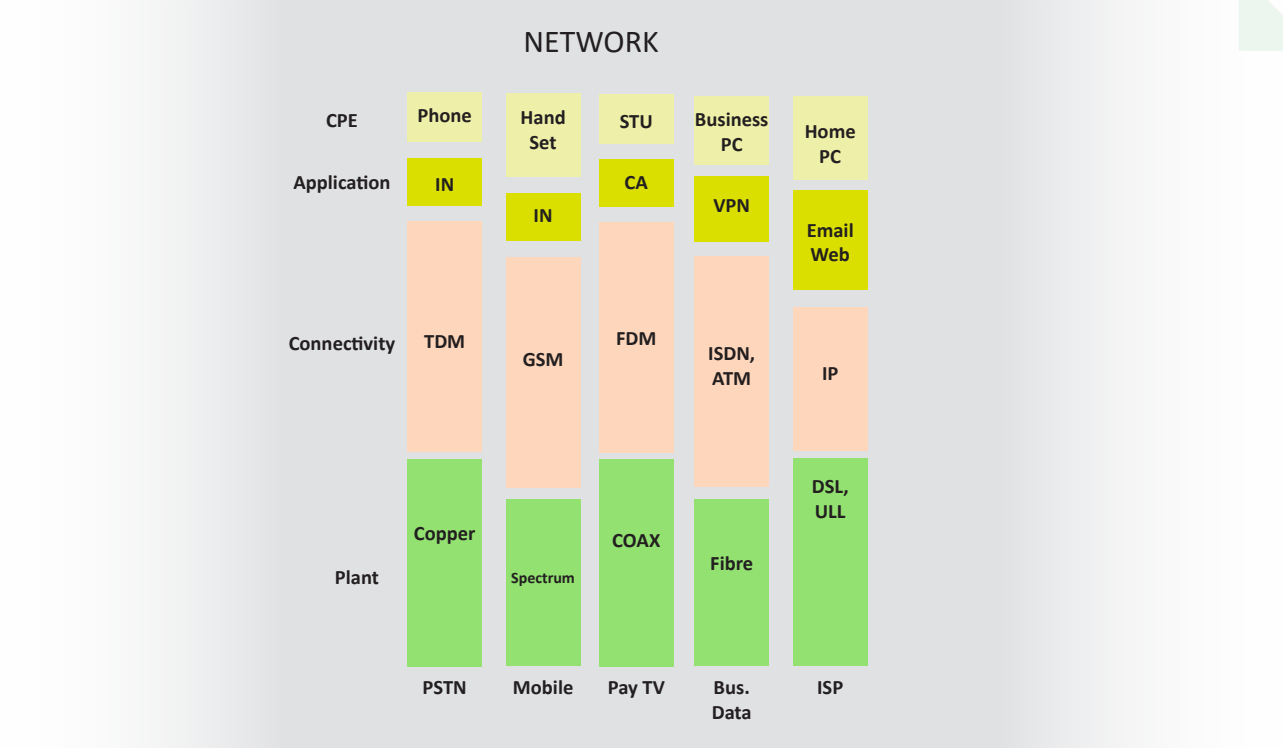


Figure 1- Seperate Infrastructure for each Service Type Source ITU Regulation Toolkit[3].

By the early 2000s, most countries had liberalized their telecommunication sector and brought in competition. Additionally, the mobile communication revolution had taken shape and most traditional services were now being delivered over mobile, rather than fixed networks.

3. ITU, ICT Regulation Toolkit, http://www.ictregulationtoolkit.org/toolkit/2.1

The mobile revolution also increased the Internet penetration, particularly in developing countries, allowing millions of subscribers the possibilities of receiving traditional telecommunications services over the Internet.

This set the stage for 'Over-the-Internet' Services or Over-the-Top services (OTTs) as they have come to be known. 'Over-the-top' in the sense that they ride on traditional Telco provider infrastructure without necessarily being owned by the Telco provider.

2.3. What are OTTs.

The convergence between Internet and traditional Telco services has brought about Over-the-Top Services. OTTs occur when traditional voice, data and video content is 'packetized' and transmitted over the data or internet channel rather than over their traditionally separate transport infrastructure.

In this converged environment, the Service layers are decoupled from the underlying transport infrastructure as shown in Fig 2 below.

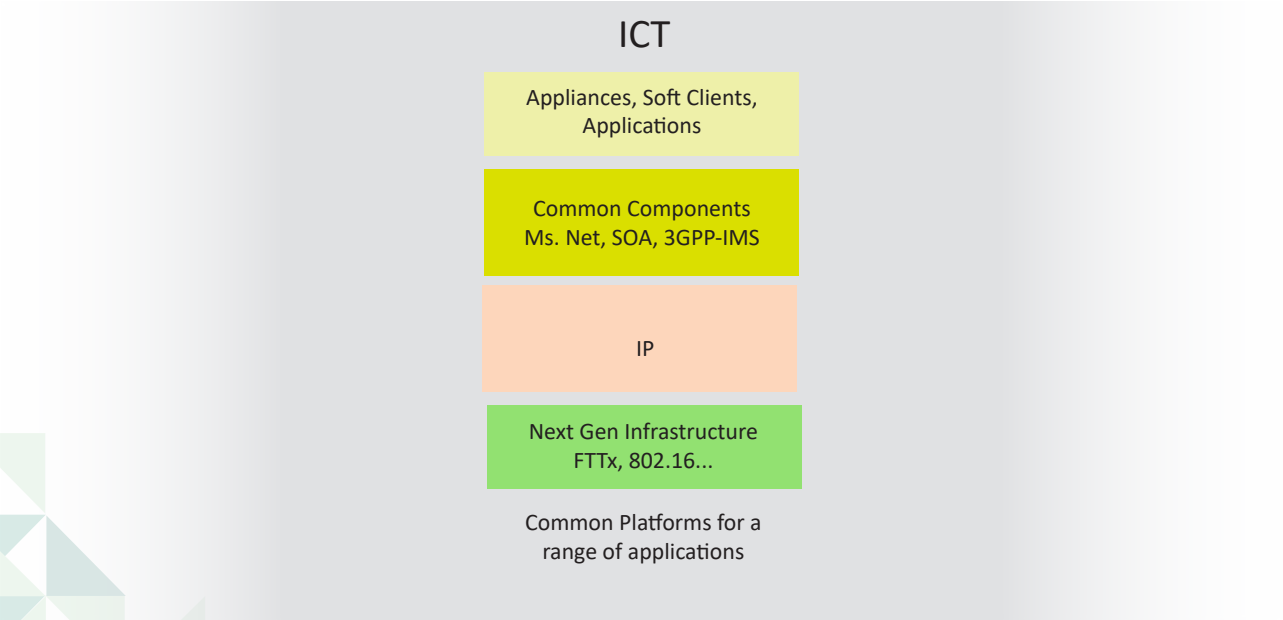


Figure 2 - Single Infrastructure for different Service Types, Source ITU Regulation Toolkit

Essentially, all telecom services are provided over the same single transport infrastructure (IP – Internet Protocol) rather than through separate infrastructure as it were during the original traditional setup. That single transport is known as the data or Internet Protocol infrastructure as shown above.

This convergence reality has became an issue because the providers of the new packetized or internet based telecom services are owned by third parties – Content and Application providers – rather than being exclusively owned by the traditional Telco operators as it were in the old regime.

These third party providers have come to be known as Over-the-Top service providers (OTTs) with leading brands like Skype, WhatsApp, YouTube amongst others providing services in direct competition to the traditional telecom providers.

The International Telecommunications Union (ITU)[4] defines OTT services as any service provided over the Internet that bypasses the traditional Telco operator's distribution channel.

(ITU, 2017) further defines over-the-top (OTT) service as an online service that can be regarded as potentially substituting for traditional telecommunications and audiovisual services such as voice telephony, SMS, video on demand and television.

There is no single definition for Over-The-Top (OTT) services but in general, OTTs can be considered to be all third-party services that are provided through the Internet access, based on network neutrality principles and served in 'best-effort' manner.

Third-party services means those services not belonging to the traditional Telco Service provider while best-effort means that the Telco providers do not guarantee service quality for them and neither do the subscribers of the OTTs expect any.

4. Regulating Over-the-Top services, http://www.ictregulationtoolkit.org/toolkit/2.5

2.4. Categories of OTT services

There are different categories and types of OTT services as described below.

Voice OTT services:
These include *Skype, Viber, WhatsApp-voice* amongst others and are the most used OTTs globally. Skype is the most popular globally, though Viber is dominant in some parts of the world, WhatsApp-voice in other regions.

OTT voice services however, do not have any Quality of Service (QoS) guarantees, since they are multiplexed with other OTT services (video, data) on equal best-effort basis (first come first served in theory).

Video OTT services:
Video accounts for most of the traffic transferred over both fixed and mobile access networks to global Internet. According to the Cisco Visual Networking Index[5] (CVNI) about 2/3 of all Internet traffic is video traffic.

The largest free OTT video sharing and streaming service is *YouTube*, while the largest global paid OTT video streaming services is *Netflix*. Just like the OTT voice service, the OTT mobile video services are served in best-effort manner – that is without QoS restrictions.

Data (Non-Real-Time) OTT services: They include all services which do not have strict quality of services requirements with respect to the end-to-end delays or jitter. This means that the data service is not time-sensitive in that consumers can tolerate delays. These types of services include but not limited to texting services from WhatsApp, Telegram, Instagram, Facebook Messenger or Google Hangout.

5. CVNI, Forecast and Trends, 2017-2022, https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-741490.html#_Toc532256795

3. OTT Competition to traditional telco providers.

Some literature has a broader definition for OTT data services and includes Web-based services like email services, cloud services and file sharing services. This broader definition is not adopted in this report since these do not directly compete with the traditional Telco providers.

Whereas email, cloud, file sharing, eCommerce and other third party online apps like Uber, AirBnB and others do ride over the telecom provider's network, they however do not offer direct competition to traditional Telco providers.

The OTTs that offer direct competition to Telcos are those that can potentially replace their Voice, Data and Broadcast offerings.

Skype service would for example provide competition or replacement to traditional Voice communications, WhatsApp messaging would offer direct competition to Text or SMS services while Netflix would offer direct competition to broadcast services.

It can therefore be argued that Skype, WhatsApp and Netflix are global Content or Application providers entering into highly regulated domestic markets without encountering similar regulatory obligations.

3.1. OTTs presence in Kenya.

OTTs are well established in Kenya with both global and local brands operating in the market. Appendix-I identifies and summarizes their cost offerings.

3.2. The Issues – Telco Provider Perspective

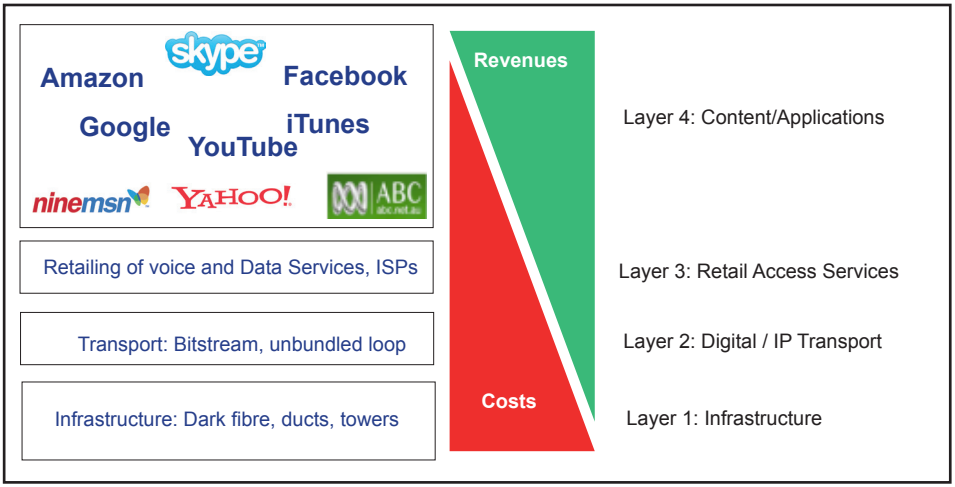
In a Draft resolution (2016) [6]the African Telecommunications Union identified and stated the outstanding OTT issues as follows:

6. African Telecommunication Union (2016) Draft Resolution, https://www.itu.int/dms_pub/itu-t/md/13/wtsa.16/c/T13-WTSA.16-C-0042!A14!MSW-E.docx

Over the Top (OTT) service providers, who engage in telecommunication activities at national and global level, have seen their activities grow considerably in recent years. Nevertheless, even though "free" OTT offers may be attractive to consumers, they have a direct and significant impact on the revenues of telephone operators in developing countries, and on national tax revenues.

OTT providers offer VoIP services and messaging services in direct competition with the traditional voice and SMS services offered by national telecommunication operators, but without being subjected to the same regulatory constraints.

Moreover, OTT providers do not contribute to the investments made to develop telecommunication infrastructures in developing countries; on the contrary, they create a traffic load on the networks of national operators without providing any financial compensation



In essence, the OTT or Content providers were investing the least in the underlying infrastructure while reaping the most as depicted in the Figure 3 below

Figure 3 - Investment Costs vs Revenue, the OTT Perspective Source ITU

Domestic Telco providers or operators argue that they have to invest huge amounts to lay down the core infrastructure that includes fiber, communication masts and others – which is the most expensive component in the Telco ecosystem. On the other hand, their OTT competitors, the Content and Application providers do not incur this investment cost but still reap the most from the ecosystem.

3.3. The Telco Operator Reaction to OTTs.

To address this imbalance, Telco providers have had mixed reaction to OTTs providers growing influence into their service offerings. Many have opted to partner with OTTs providers, particularly those offering messaging services like WhatsApp, Twitter, etc. Some Telco Operators would Zero rate [7]or provide free access to say WhatsApp or Facebook services as a way of gaining market share.

However, there is still some resistance by some Telcos when it comes to the more bandwidth intensive OTTs that provide Voice or Data services. Under the pretext of Traffic Management, several operators have been known to react by taking some or all of the following actions:

*__Blocking technology__: Operators would use blocking technology to completely prevent access to, or use of, a rival's OTTs content or application

__*Throttling technology:__ Operators would throttle or slow down the rival's OTT content or application so that the Operator's/ISP's own service is more attractive in comparison.

*__Prioritization__ or __Access-tiering:__ Operators would publish different levels of quality and price levels for different types of application or content types. They would then discriminate and ensure that the ISP's own content has higher priority or speeds at the expense of the competing OTT provider services.

Traffic Management is commonly practiced and allows the Telco Operator to plan and allocate network resources across multiple classes of users in an optimized manner. The operator may for example prioritize Voice communication over SMS/Text due to their inherent differences in their time-sensitivities.

Beyond blocking or throttling, traditional operators are also exploring other options like charging the OTT operator more for priority access, collaborating with OTT providers or offering their own versions of OTTs as described in the Figure 4 below:

7 Futter, A., & KorAntenG, K. (2016). *MUCH ADO ABOUT NOTHING?* Retrieved from http://www.researchictafrica.net/publications/Other_publications/2016_RIA_Zero-Rating_Policy_Paper_-_Much_ado_about_nothing.pdf

How Operators Face the OTT Challenge					
Strategic Focus	Blocking OTT services	Charge OTT provider for network use	Partner with OTT players	Offer own "OTT services"	Offer "advanced integrated services"
Objective	• Block certain OTT services to secure revenues • Make OTT services unavailable or unattractive	• Monetize OTT network traffic • Apply "eyeball principle. (paradigm shift from 'content is king' to 'access to end-consumer is king')	• OTT containment • Complement own portfolio • Secure high value segments by service differentiation	• Rebuild OTT portfolio • Integrate OTT service in product bundle	• Secure revenues from high value segments • Capitalize on high value propositions

Figure 4- Telco Providers response to OTT Services, Source Detecon Consulting[8]

<?> Datecon Consulting, Telco Response to OTT Services, https://www.itu.int/en/ITU-D/Regional-Presence/AsiaPacific/Documents/Events/2015/Aug-ITP/Presentations/ITU%20Conference%20Kuala%20Lumpur%20-%20Dr.%20Werner%20Knoben%20-%20Detecon.pdf

4. Network Neutrality

Some of the Telco operator's traffic management practices could be judged to be violating the Network Neutrality principles. ITU[9] in its discussion paper defines Net neutrality as the principle that all electronic communication passing through a network is treated equally, independent of the content, application, service, device, sender address and receiver address.

The European Union in its more recent policy on Open Internet[10] however adopts a more balanced view allows for some form of traffic management. It states that it enshrines the principle of Net Neutrality and defines it as follows:

Internet traffic shall be treated without discrimination, blocking, throttling or prioritization. At the same time, the EU net neutrality rules allow reasonable traffic management and, with the necessary safeguards, "specialized services"; those are services which assure a specific quality level, required for instance for connected cars or certain 5G applications.

Whereas traffic management techniques are generally acceptable, the context of when and where they are applied could lead to discriminatory practices where traffic through the network is maliciously treated differently depending on its source, destination, type, application or device.

The Figure 5 below provides a guideline of what could be considered to be fair traffic management practices (green) to out rightly malicious interventions (red) on the part of the Telco operator.

9 ICT Regulation Toolkit, GSR 2012, Net Neutrality http://www.ictregulationtoolkit.org/document?document_id=4029

10 EU (2016) Open Internet/Net Neutrality Policy, https://ec.europa.eu/digital-single-market/en/policies/open-internet-net-neutrality

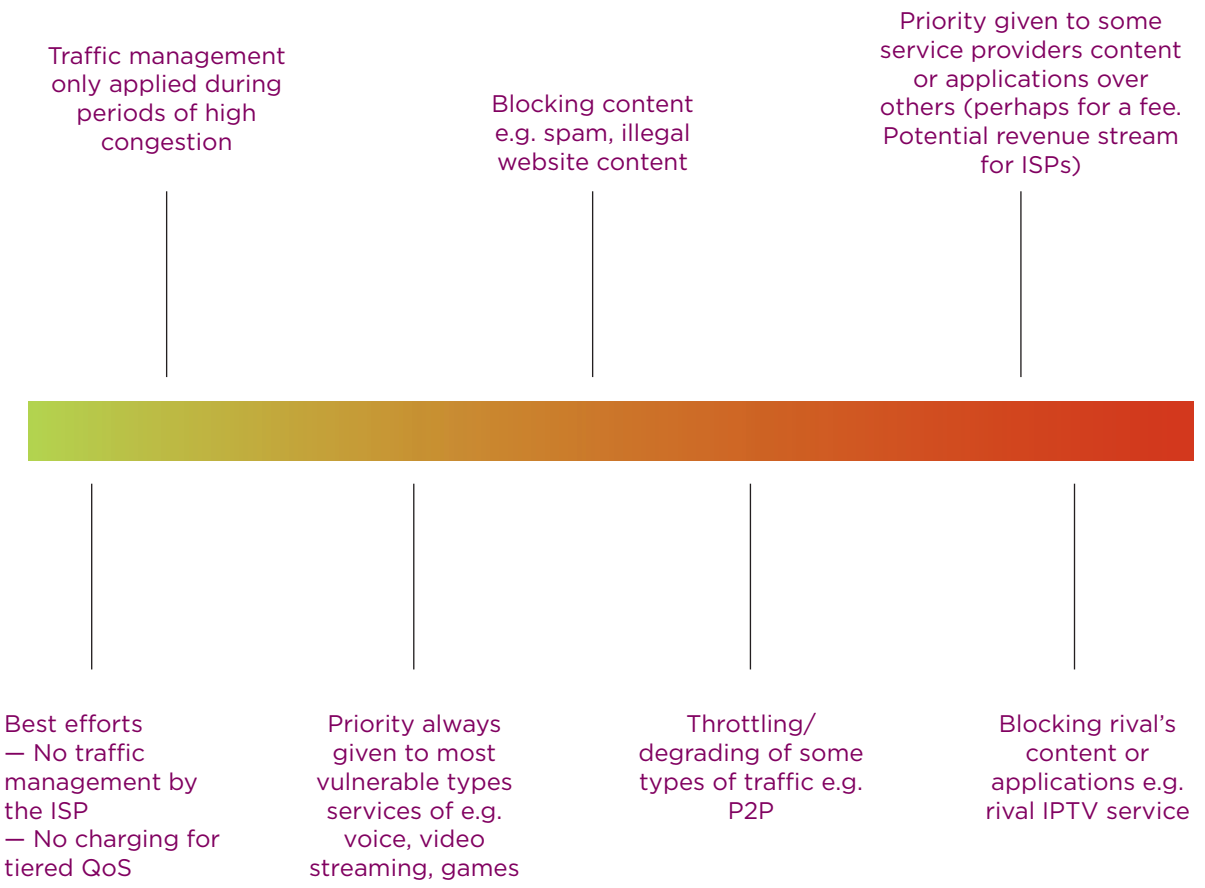


Figure 5 :- Traffic Management Practices, Source OFCOM, UK[1]

<?> OFCOM (2010), Net Neutrality Consultation Document, https://www.ofcom.org.uk/__data/assets/pdf_file/0026/55556/netneutrality.pdf

5. Regulatory Perspective

5.1. Why Regulate?

The basic objective of regulation is to provide a balance between the competing interests of the Telco providers and their subscribers. Basically, the Telco provider would wish to maximize their supplier surplus while the subscribers would wish to maximize their consumer surplus.

In simpler terms, the Telco provider would want to maximize the price charged to the consumer in order to increase their profit while the subscriber would wish to get the Telco services at the lowest price – including free of charge.

The regulator must therefore look out for the interest of both the provider and consumer by ensuring that the Telco providers have the necessary incentive (funding) to remain operational without taking undue advantage over their subscribers.

The best tool to balance out these conflicting goals between providers and consumers is to ensure a competitive environment, which would then provide options for consumers and subsequently moderate operator's excessive greed for profits.

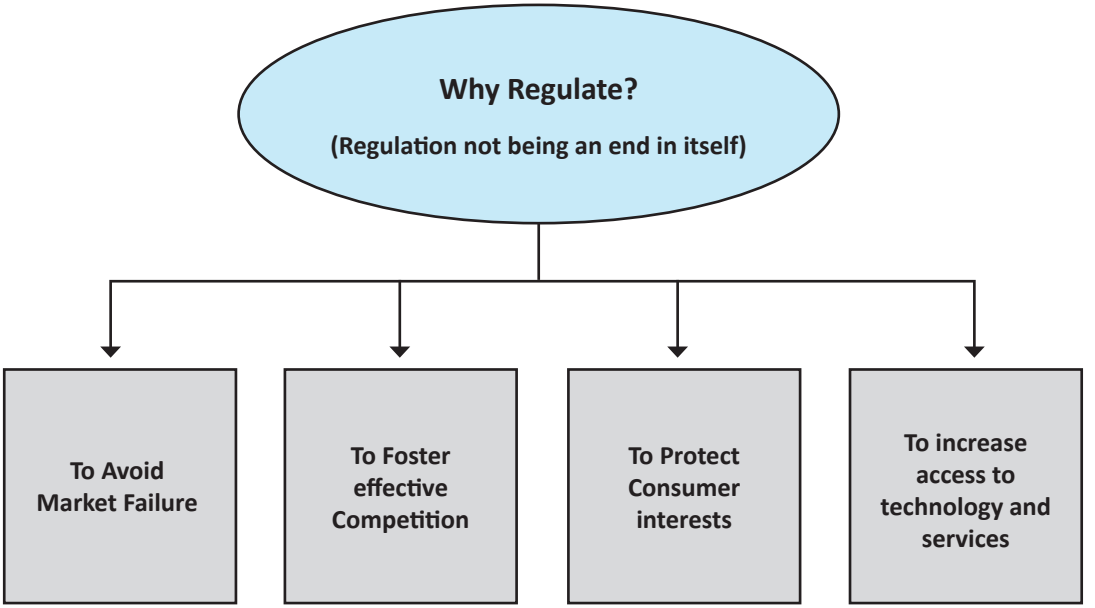
The Regulation body of Knowledge[11] supports this view and observes that countries establish regulatory agencies in order to improve the sector performance relative to the alternative situation of no regulation.

Figure 6:- Traditional Regulatory Approaches, Source: Telecommunications Handbook, ITU 2011

Figure 6 above shows that traditionally, regulators mainly focused on controlling market power and/or facilitating competition. Additionally, regulators were also charged with ensuring service quality, availability and system expansion, improving cost efficiency, attracting capital to the sector, improving sector stability and generating government revenues from licenses and concessions.

In practice, the regulatory agency would authorize Telco providers to operate in a given region through licensing. The licensing conditions would then spell out the obligations, responsibilities and penalties for violating these conditions.

11 The Body of Knowledge on Infrastructure Regulation, Source: http://regulationbodyofknowledge.org/general-concepts/



Some of the key obligations and conditions would include but not limited to observing Fair-competition practices, Quality of Service, Privacy & Security, Universal Service obligations, Tariffs, Tax and Spectrum Fees amongst others.

In the context of OTTs, some of these traditional approaches to regulation have been challenged and we take a look at some of them.

5.2. The OTT Issues- Regulatory Perspective

In its consultative paper (2015)[12], the Telecom Regulatory Authority of India Regulatory (TRAI) summarizes the challenges as follows:

…the mobile operators have complained that "…the licensed [network operators] in India are subject to many licensing provisions, including but not limited to regulatory fees such as Entry Fee, License Fee and Spectrum Usage Charges. They are also subjected to various statutory regulations such as Quality

12 TRAI Consultative Paper *"Regulatory Framework for Over-the-top (OTT) services"*, https://main.trai.gov.in/sites/default/files/OTT-CP-27032015.pdf

of Service Regulations, Tariff Regulations and, Consumer Protection Regulations.

They also need to ensure emergency services, confidentiality of customer information, privacy of communication, undergo regular audits and ensure proper lawful monitoring and interception.

However, 'unlicensed' OTT providers are not bound by any such conditions. This opportunity for arbitrage enables OTT players to offer Internet Telephony either free or at very low tariffs and that too by riding on the Telecommunication Service Provider's infrastructure'
(Telecommunications Regulatory Authority of India, 2015),

Essentially, regulatory authorities have to deal with the issue of regulatory imbalances as contrasted between the regulatory obligations for the traditional operators versus those of their OTT competitors.

6. The regulatory challenges:

To the extent that OTTs compete with traditional Telco service providers, what regulatory options (if any) are needed? Is it appropriate, necessary or even possible to regulate OTTs in a way that provides a level playing field with their traditional operators?

In its research study on OTTs the Commonwealth Telecommunications Organization (CTO, 2018)[13],) covered a wide range of regulatory challenges some of which are selected for review below:

6.1. Licensing Obligations

Licensing and authorization is the mechanism in which regulatory agencies identify and manage service providers within a given geographic region. Given that OTT providers are often global operators, it becomes a challenge when one attempts to bring them under a particular localized licensing regime.

It is even more complicated by the fact that OTT Providers are virtual and do not need physical infrastructure or presence in a particular geographical domain to provide their service. Additionally, given the rapid change of innovation with some licensed operators providing their own array of OTTs, regulatory agencies have had to grapple with the question of whether OTTs are complimentary or competitive services.

6.2. Taxation (Jurisdiction)

Traditional telecom operators are liable to pay taxes in every country that they are operating in. The same does not apply to OTT players who are mainly required to pay taxes to the country where their main headquarters is located –the country of origin principle. This however does not favor countries where OTTs may have their highest subscriber base, i.e. make most of their revenues without paying the commensurate local taxes.

6.3. Quality of Service (QoS)

Most Telco operators have to comply with stringent rules regarding complying with Quality of Service (QoS) obligations for their service offering. In some jurisdictions, its mandatory for Telco's to also provide customer care services and put mechanisms in place to address customer complaints.

13 CTO, Understanding the Dynamics of OTTs (2018), https://cto.int/wp-content/uploads/2018/10/MARTIN-KOYABE.pdf

In contrast, OTT service providers do not have to provide any QoS guarantees and in most cases, the subscribers are not expecting or demanding any QoS guarantees from them since their services are more often than not provided free of charge.

6.4. Net Neutrality

The principle of treating all traffic equally has a competition aspect to it in that Telco Operators are prohibited from blocking, throttling or prioritizing their traffic over their competitor's traffic. This enables consumers or subscribers to have a wider array of services to choose from - without undue discrimination by the operators.

However, the counter argument is that Telco operators must manage or shape their traffic in order to ensure that different classes of user and content are optimized over a limited resource – the network bandwidth. Regulators must find a fine balance between Net neutrality and the realities of traffic management.

6.5. Data Protection:- Privacy & Security.

National Security requirements are subjected to the traditional operators. They must protect subscriber privacy and report any significant attacks to their networks. They must also cooperate with security agents in normal routine of criminal investigations as well as offer support during national emergences (911).

The same levels of data protection and security obligations do not generally apply to OTT providers, many of whom collect far much more personal data than the traditional Telco operator. There has been increased incidents of OTT players violating basic principles of data protection & privacy with little or no consequences – particularly in developing countries where data protection legislative framework is non-existent.

This challenge also applies to content and privacy matters where for example porn related content maybe legal in one jurisdiction but illegal in another. Regulators must therefore find ways to hold OTT Providers accountable, even in cases where they are not domiciled in their geographic jurisdictional domains.

6.6. Pricing:

Price regulation is imposed, especially on traditional dominant traditional Telco operators that have the potential to abuse their market power or engage in anti-competitive practices. However, this form of regulation does not apply to OTT service providers who may possess similar or higher levels of market power.

Google, Facebook, Netflix, Skype, Whatsapp are essentially dominant within their own service categories but the local regulator has little to no say over their pricing strategies – particularly since some of these services are provided free of charge to the consumers.

The business models for OTTs are radically different and are based on multi-sided market platforms where third parties (advertisers) rather than consumers meet most of the operational costs. This makes it more difficult and complicated for the regulators to determine if, when and how to intervene on tariff or price related matters.

6.7. USF- Universal Service Fund

Many developing countries place an obligation for traditional operators to reserve and contribute a certain percentage of their revenues to the Universal Service Fund[14]. This fund is expected to subsidize the expansion of the communication network to the under-served regions and communities.

Given that OTT players are not licensed in most regions in which they operate, it is obviously impossible for the local regulators to impose and collect this levy.

With all these challenges, a bigger question emerges:- Is it worthwhile to apply old regulatory approaches to the new realities of OTTs or should a totally new regulatory regime be created to address these challenges?

14 Universal Service Fund, Communication Authority of Kenya, https://ca.go.ke/industry/universal-access/universal-service-fund/

7. What are the current approaches to regulating OTTs

Most approaches towards regulating OTTs are pegged on the Net Neutrality regulations. Therefore OTT regulation would depend on the extent to which a particular country treats or embraces the principle of network neutrality.

The Research ICT Africa (RIA 2016) Study[15] on Net Neutrality (NN) and Zero-rating, summarized the various NN approaches, and by extension regulatory treatment of OTTs, across the various economies as shown below

Policy Approach/Legislation	Key Elements	Countries adopting approach
Strict Net Neutrality/Open Internet	*All internet data is considered/treated as being equal *Regulations to prohibit discrimination, prioritization, blocking, and or throttling of internet data. *No 'Gate-Keepers' of at network, content or application levels	Chile, Netherlands, Brazil, Slovenia
Moderate Net Neutrality	* Open Internet with degree of flexibility for Operators * Anti-trust or Ex-post regulations (case by case evaluation)	US, EU
Self-regulation	*Industry code of practice and Net neutrality	UK, Sweden, Japan, Switzerland
No Regulation	*Market dynamics decides *Wait & See regulatory approach	Kenya, Ghana, South Africa, Most of African Countries

Table 1:- Governance Options for Network Neutrality,Source RIA (2016)

15 Gillwald, A., Chair, C., Futter, A., Koranteng, K., Odufuwa, F., and Walubengo, J. Much Ado about Nothing – Zero Rating in the African Context. (2016), https://www.researchictafrica.net/publications/Other_publications/2016_RIA_Zero-Rating_Policy_Paper_-_Much_ado_about_nothing.pdf

This situation still obtains, except in the US which seems to have relaxed its provision to strictly adhere to Net neutrality principles.

Within the Kenyan context, it is clear that the 'No regulation' approach to both the Net-neutrality and by extension no regulation to OTT players has been adopted.

The Net neutrality approach to regulating OTTs actually favors the OTT providers in that it prohibits stringent traffic management practices from traditional Telco operators that may be deemed to interfere with free flow or access to OTT services.

This approach therefore fails to recognize that many OTT providers are quasi-monopolies in their own right and have emerging issues that go beyond the narrow scope of only being considered as competitors to traditional Telco providers.

OTT service providers have influence and impact that goes beyond the narrow scope of competing with Telco providers. Facebook has for example had to grapple with election integrity issues where its platform has been at the center of investigations for having been abused to influence elections around the world.

Both Google[16] and Facebook[17] have also been found guilty and fined heavily for violating EU antitrust and other laws that are often not under the regular domain of the telecoms regulator.

Perhaps this is an indication that these new internet-based companies or content providers are playing in multiple domains and have gone beyond the scope of the traditional telecoms regulator. We may therefore require a multi-agency approach to effectively provide comprehensive oversight to their operations.

16 Google fined 4.34 Billion Euros, http://europa.eu/rapid/press-release_IP-18-4581_en.htm

17 Facebook fined 100 million Euros, http://europa.eu/rapid/press-release_IP-17-1369_en.htm

8. Way forward /Recommendations

Regulating OTTs may require different approaches but in most jurisdictions seems to follow the basic principle of light regulation - where competitive market forces are given the first priority to resolve outstanding issues. This means that regulatory intervention is exercised only when consumers have little or no choices (monopoly environments) or where choice exists but switching costs are too high for the consumers.

There are however three key observations to be made arising from the tensions that OTTs bring to bear on traditional the telecommunication services:

Economic: Evidence shows that Telco operators are experiencing reducing volumes[18] [19]in their traditional segments of voice, sms and broadcast communications. This may potentially hamper their capacity to fund expansion of their broadband communication networks in line with national broadband strategic goals.

Regulatory Imbalance: It is true that OTT Service providers are not subjected to stringent regulatory requirements that include license and spectrum fees, Quality of Service requirements, Data protection and Security, Taxation amongst others. This gives OTT Service providers some undue advantage over the traditional operators in the specific areas of direct competition.

OTTs are beneficial: Despite the above two realities, it is also observed that OTTs like Whatsapp, Skype, YouTube have contributed immensely in providing competition and getting the majority of citizens online –at minimal costs. This has led to social benefits including but not limited to cheaper communications, increased freedoms of expression and association as well as more competition and choice for the consumers.

8.1. Economic Recommendations

With regard to dwindling revenues arising from consumers opting for free services offered by OTTs, it should also be noted that Telco providers are also experiencing increased traffic volumes in Data or internet services.

18 ITU (2018), Telcos reducing revenues and opportunities, https://news.itu.int/study-finds-new-services-and-cost-savings-should-offset-telco-revenue-decline/

19 ITU (2017), Economic Impact of OTTs, https://www.itu.int/dms_pub/itu-t/opb/tut/T-TUT-ECOPO-2017-PDF-E.pdf

In other words, what is considered lost revenues in traditional voice offering is partly gained through increased data volumes or internet bandwidth sales.

Many Telco's have also re-engineered their business models from being purely transport or bandwidth service providers to being fully integrated ICT solution providers offering a range of products including those offered by OTTs (such as VoIP, IPTV, Cloud, Fintech, etc).

This should be the way forward for Telco's, rather than having to block OTTs and violating the widely accepted Net Neutrality principles.

There may be a case for providing incentives to the OTTs so that they have local or regional presence for purposes of Taxation and /or participating more deeply in domestic causes. This would be a far better approach as compared to introducing Social media tax[20], which ends up suppressing general internet usage or uptake.

Additionally, as observed by one of the participants[21] in the study:

'Taxation of internet services is a global challenge. Some countries are over reacting with a heavy-handed approach. Others are taking a more progressive view. Global trade dynamics are going through a protectionist phase. That is being driven by the strongest economies. A copy-cat strategy by emerging markets may not serve them as well as compared to adopting the opposite strategy - which would helped the Invisible Hand to punish the global protectionists and drive investment to emerging markets'

8.2. Regulatory Imbalance Recommendation:

With respect to the problem of regulatory imbalances, it would be difficult, perhaps inappropriate to try and contain OTT providers within the traditional regulatory instruments used to manage the traditional Telco providers.

This is because they do not have in-country physical infrastructure or local corporate presence that

20 Impact of Social Media Tax in Uganda, https://cipesa.org/2019/01/%EF%BB%BFsocial-media-tax-cuts-ugandan-internet-users-by-five-million-penetration-down-from-47-to-35/

21 R. Bell (2019) – KICTAnet OTT Policy Forum, July 2019

often make it easier for regulatory engagement.

In any case, Data Protection and Privacy regulations would provide a better fit for OTTs - given that they are largely content and application service oriented. Enactment and implementation of Data Protection & Privacy Acts would therefore provide a better regulatory framework for OTTs.

Additionally, since OTTs play across multiple jurisdictions that go beyond the narrow scope of telecommunications, it would be imperative to consider joint and coordinated approach for effective regulation.

Several regulatory agencies including but not limited to ICT regulators, Competition regulators, Data Protection regulators, Financial regulators, Copyright Regulators will therefore need to harmonize their approaches in light of the multisided nature of OTT service providers.

9. Appendix I - OTT Service Presence in Kenya

OTT Services in Kenya

The OTT services offered in Kenya include but are not limited to:

- Netflix
- Showmax
- Amazon Prime Video
- Viu Sasa
- Irokotv
- Youtube
- Facebook
- Whatsapp
- Telegram
- Skype
- Viber

Cost of OTTs Per Month

Netflix has three tiers, the difference in the three is in HD quality and number of devices one can use at once.

Table 2:

Netflix Pricing

Package	Price per Month
Basic	Ksh 822
Standard	Ksh 1027
Premium	Ksh 1233

Showmax has two tiers; Select at Ksh. 330 with more local content and optimised quality to save data and Premium at Ksh. 880 per month with access to full library

Table 3:

Showmax Pricing

Package	Price per Month
Select	Ksh 330
Premium	Ksh 880

Amazon Prime Video

Table 4:

Amazon Prime Video Pricing

Package	Price per Month
A single package	Ksh 616

ViuSasa

Table 5:

ViuSasa Pricing

Package/Rates	Videos	Music	Videos and Music
Daily	Ksh 10	Ksh 5	Ksh 15
Weekly	Ksh 60	Ksh 30	Ksh 90
Monthly	Ksh 200	Ksh 100	Ksh 30

Irokotv

Table 6:

Irokotv Pricing

Package	Price per Month
Basic	Ksh 341
Premium	Ksh 512

Free: Youtube, Facebook, Whatsapp, Telegram, Skype, Viber.

ABOUT KICTANet:

The Kenya ICT Action Network (KICTANet) is a multi-stakeholder platform for people and institutions interested and involved in ICT policy and regulation. The Network is a thought leader and is dedicated to bringing evidence, expertise, and more voices into ICT policy decision-making. KICTANet promotes public interest and rights based approach in ICT policy making.

Our Pillars

POLICY ADVOCACY

We work to bring stakeholders together to discuss on the best policy alternatives and also monitor the progress of policy development processes.

CAPACITY BUILDING

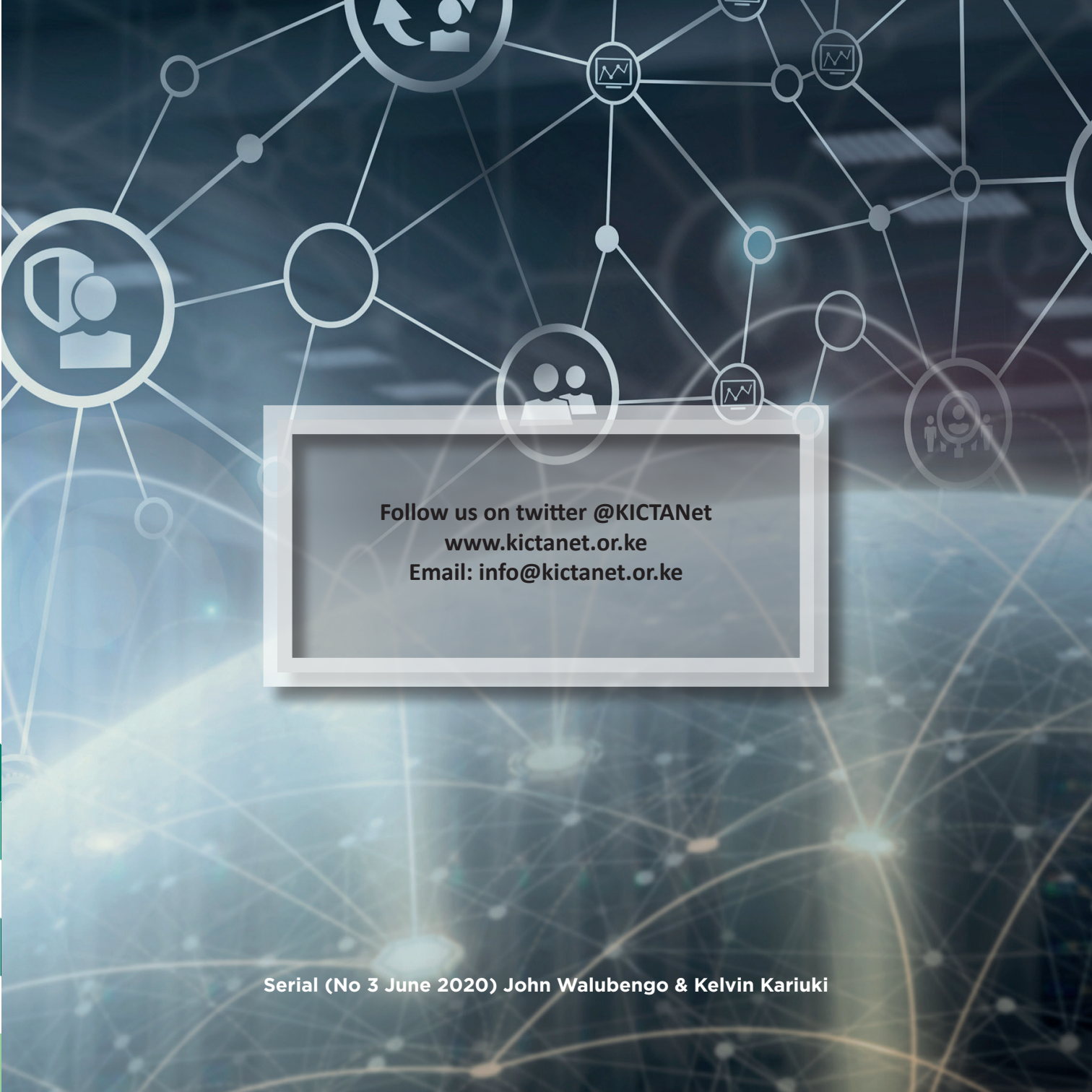
To ensure continuity and diversity in the policy development, we bring in new voices in the different stakeholder backgrounds through training and events.

RESEARCH

Our policy advocacy and capacity building are supported by evidence based research through an established working group on both current and emerging issues.

STAKEHOLDER ENGAGEMENT

We facilitate ICT stakeholder engagement through collaborative initiatives in face-toface Town Hall meetings, and in the KICTANet's interactive mailing list where multiple stakeholders engage regularly on ICT policy issues



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