Utilisation of Digital Terrestrial Television Broadcasting in the Development of the African Economy

BY

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Introduction

The ITU in 2006 agreed that it was time to migrate to the digital means of terrestrial television broadcasting because of its numerous benefits which include technological, social and economic.

Africa, through the ATU was signatory to this agreement and proposed migration date of June 17, 2015. It is safe to say that the process is still on going in most parts of the continent.

The slow pace of the digital migration in Africa can be seen as a dark cloud hanging over the African TV market.
Introduction

The arrival of digital terrestrial television (DTT) will revolutionise the African audiovisual and telecoms landscape - when it finally happens - but it will also require major investments.

Arising from the outcome of ITU’s WRC-15 Conference, Digital Terrestrial Television Broadcasting has been guaranteed the exclusive use of the frequency band 470 – 694MHz.
Benefits of Digital Terrestrial Television Broadcasting (DTTB)

- Save in spectrum
- Multi-channeling: more than one channel of television program can be broadcast at the same time.
- Better audio and video quality
- A potential reduction in transmission network energy usage with the implementation of Single frequency network (SFNs) instead of the independent parallel networks which are common in analogue broadcasting
Benefits of Digital Terrestrial Television Broadcasting (DTTB)

- Interactive TV
  - The EPG feature.
  - DTTB allows users to access further information by entering menus and interacting with their television in ways they have never dreamt of before.

- Better Signal Processing
DTT Value chain and key activities

- **Content Creation**
  - Content production
  - Content syndication

- **Content Aggregation**
  - Right acquisition & content aggregation
  - Service scheduling
  - Advertising sales

- **Multiplexing**
  - MUX bandwidth management
  - Encoding
  - Service allocation

- **Content Distribution**
  - DTT site ownership
  - Site access

- **Network Transmission**
  - Network operation & management
  - Broadcast transmission

- **Reception/Presentation**
  - Receiver manufacturing
  - User interface design

**Content Creation** -> **Content Aggregation** -> **Multiplexing** -> **Content Distribution** -> **Network Transmission** -> **Reception/Presentation**
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**Employment**

DTTB will help to address the unemployment issue facing the teeming youth in the continent as the industry will require a lot of professionals/personnel in content production to be able to fill the content requirement for digital television.

Innovations in video programming and information services will arise, triggered by the convergence of personal computers and television technologies. This would create job opportunities for indigenous computer programmers.

Installation of Digital facilities will provide work for technicians
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**Employment**

Creative sector employment is enhanced. The independent TV production sector will similarly experience a boost with the film industry requiring studio hires and post-production crews. With greater investment in the Terrestrial TV industry, there is sure to be an economic boom.

DTTB becomes a platform of significant economic scale promising employment of more people. There would be direct employment of people to manage multiplexes, operate and maintain transmitters, man studios etc.
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**Employment**

DTTB will impact on consumer choice, platform competition, content investment and the wider creative industry through its ability to create job opportunities and industry growth.

Establishment of DSO call centres will generate employment across sectors.
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Content Production

Impact on content production: Competition in content production. DTTB brings about competition between platforms and channel packages which in turn affect investment in original content and content rights. The overall framework supports “competition for quality” which has been described as a vicious cycle of investment in content, which supports exports, feeds back to revenues and then again into content production.
**Content Production**

DTTB will incite content investment by pay subscription operators, who will naturally start competing with free-to-air operators. This will contribute to the continent’s successful independent production sector leading to possible exportation of TV content.

DTTB promises to help in generating substantial income for the broadcasters and in turn support content production and job creation in the broadcast industry.
Infrastructure wise, DTTB will inspire demand for and innovation in the consumer equipment market, as households acquire new TV receivers and set-top boxes for digital and HD content, and set-top boxes for internet-based services. Digital Switch Over (DSO) will accelerate sales of STBs. This will boost the retail market economy.

DTTB would contribute to the economic development of Africa through reduction in overall running costs resulting from the reduction in the number of transmission sites.
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**Technology**

Using platforms like subscription television programming, computer software distribution, data transmissions, teletext, interactive services, HD channels, video-on-demand, among others, revenue can be generated through the introduction of services such as stock prices, sports scores, classified advertising, advertising targeted to specific television sets, “zoned” news reports, closed-circuit television services obtainable on subscription.
Technology

Adoption of a uniform technical standard for STB (Eg. ECOWAS common minimum spec), is a measure to ensure stability and continuity in the broadcast market. Manufacturers are thus assured of the fact that STBs would work and could be sold in all parts of the ECOWAS sub-region and perhaps the continent resulting in economy of scale.

Manufacturing the STBs locally would boost the economy of the manufacturing country and encourage technology transfer.
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Technology

Establishment of service and repair centres.

Foreign investment arising from partnership between indigenous companies and foreign technical partners.

Viewers can listen to radio channels and watch archived programs via digital ‘on demand’ services at a cost which would encourage investment in advertisement.

The Set Top Box (STB) which will be used to receive the digital signal also has the capability to interact with devices such as the cell phone, memory card and internet modems, at a cost.
Revenue for Government

Digital Television will bring additional revenue source to the coffers of the Government.

- **Licensing**
  - DTTB operators shall pay license fees to Government.
  - A percentage of revenue accruing from advertising income.

- **Auction**
  - Unused frequencies in major commercial cities could be auctioned for **Pay Subscription** services and other services.

- **Digital Access Fee (DAF)**
UK example: Since its launch in 1998, DTTB has grown to become the UK’s leading television platform. It is used by 75% of households (with 40% of primary TV sets and on secondary sets in a further 35% of homes), and is present in nearly twice as many homes as its nearest rival, pay satellite. It is the leading free platform by a wide margin, with 83% share of free-to-air (FTA) households. It accounts for more viewing than any other platform, taking 44% of all viewing hours. It ensures wide availability of a low-cost multi-channel option for viewers who are unable to or choose not to subscribe to pay platforms, and therefore plays a pivotal role in providing universal, low-cost access to Public Service Broadcasting.
Conclusion

**UK example (cont’d):** Based on the proportion of viewing that is via DTT, the platform helps deliver £3bn of TV sector revenues, £2.2bn of the sector’s gross value added and 15,000 of the jobs in broadcasting and independent production.

Global telecom body, the Global System for Mobile Communications Association (GSMA), had estimated that broadcast frequencies’ sale as a result of digital switch over (DSO) could fetch the country (Nigeria) over $2 billion.

Unarguably, DTTB will bring about the development of the African Economy.
THANK YOU
References

DTT: Analogue to digital migration in Africa – Strategic choices and current developments (Full report – 2016)

Digital Switch: The Realities For Nigeria


Benefits of digital broadcasting – A report for the GSMA (2014)