ICT Development in Vanuatu
How We Are Doing It?

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The Government
of The Republic
of Vanuatu

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Agenda

- About Vanuatu
- Competitive Landscape
- The Development Path
- The next Challenges to Development
- Summary

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Vanuatu – Geopolitical Overview

- Archipelago consisting of 83 islands of which 63 are inhabited
- Population of approximately 272,500 (July 2017 mini census estimates)
  - 40% of the population are under 15
  - 75% of the population live in rural areas
- GDP (2015) of $US767.4 million
- Largest contributor to GDP is Services (tourism)
  - Agriculture follows close behind
- GNI per capita (2014) $US3,140
  - 5% of monthly income is $US13
  - Cheapest unlimited internet service is $US58 (512kbps)
  - 1Gb monthly prepaid mobile data is $US10
- Challenges
  - Political stability, economic development, natural disasters, high cost of logistics (transport and shipping), ICT literacy

Competitive Landscape

- TRR is an Independent Regulator
- Two full service carriers (Telecom Vanuatu, Digicel)
  - TVL dominant in fixed line and ISP
  - Digicel dominant in mobile
- A further 4 ISP players
  - Telsat – Wireless ISP (unlicensed spectrum), Port Vila only
  - Wantok – Wireless ISP (fixed 4G licenced and unlicensed spectrum), Port Vila and Santo
  - SPIM – Wireless hotspots (unlicensed spectrum), Port Vila only
  - PGL – HTS (Kacific) reseller, ubiquitous coverage
- Single Submarine Cable – Interchange Cable Limited
  - Fiji – Vanuatu
  - Wholesale pricing started to reduce with volume uptake but has now stagnated

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Universal Access is the Start of the Development Path?

- Universal Access (UA)
  - When everyone can access the service somewhere, at a minimum, at a public place
- Three principles of UA
  - Availability
    - the service is available to inhabited parts of the country through public, community, shared or personal devices
  - Accessibility
    - the population can use the service, regardless of location, gender, disabilities and other personal characteristics
  - Affordability
   - the service is affordable to all the population

Activities Contributing to ICT Development - Availability

- Increase/improve mobile and internet coverage to unserved and underserved areas
  - Combination of operator commercial activities and Government Universal Access Policy (UAP) funded projects
  - UAP Population coverage of 98% achieved
  - Broadband Internet available via Ku/Ka band VSAT
- Operator Activities
  - Signed UAP undertakings to rollout infrastructure in un/underserved areas
  - 22 towers deployed, all networks upgrade to 3G, 4G released in main towns
  - Over $USD13.5 million invested by operators
- UAP Funded Projects
  - Initial focus on education – delivery of school/community labs
  - Secondary focus on health – telemedicine pilot
  - Investigate and assist in opportunities in agriculture and Government services delivery

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Activities Contributing to ICT Development - Accessibility

- Predictive coverage analysis shows 98% of the population will have mobile voice coverage and 87% will have mobile data coverage
  - Some locales require a short walk to obtain coverage
- Ubiquitous broadband internet coverage via Ku/Ka band VSAT services
- Mobile penetration rate continues to grow
  - Up from 53% in 2014 to 71% in 2016
- Mobile data has grown dramatically in the last 2 years
  - Exponential growth in last 6 months
  - Up 223% over 2016

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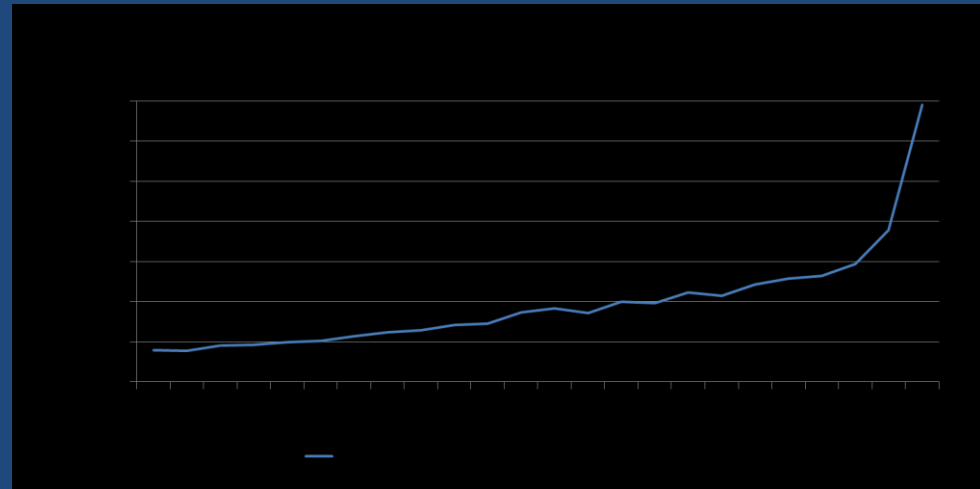
Activities Contributing to ICT Development - Affordability

- Call costs decreasing as voice bundle values increase
- Mobile data costs decreasing as data bundles increase
  - Typical unit costs of US1 cent per MB
  - Increased subscribers choice
  - Many "free rated" sites as well as continuous doubling of allowances

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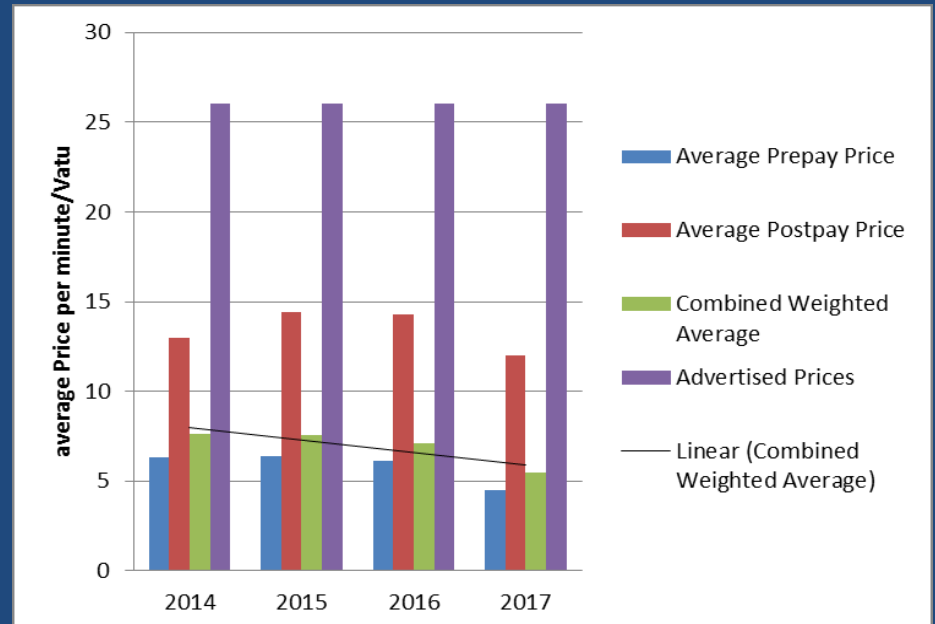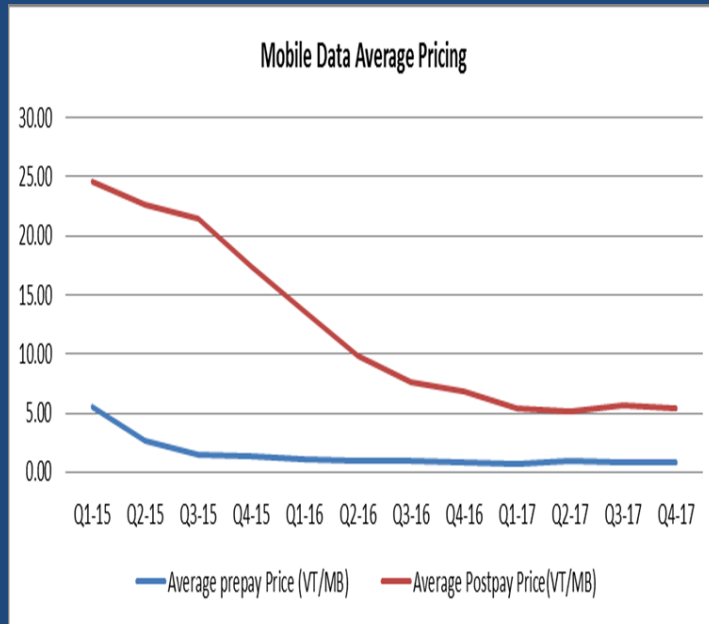
Why Satellite Technology

- Previously limited use of satellite technologies
  - Carrier use as gateway entry/egress until fibre
  - Some small scale VSAT services supplied by other parties
- UAP programs allocated funds to unserved areas for the establishment of
  - Computer Laboratories and Internet Community Centres (CLICC)
    - Provision of computer labs, solar power and internet facilities to 15 schools
  - Tablets for School (TFS)
    - Provision of tablets, solar power, secure storage and internet facilities to 7 schools
  - Telemedicine pilot
- Provided an opportunity to pilot alternative technologies in difficult environments
  - Kacific Broadband Satellites stepped up to provide "free" bandwidth for 12 months to 8 sites
  - Local ISP undertook all installation work
- ITU Disaster Community Centres
  - Currently in implementation phase
  - Commencing with 2 sites selected in Banks and Santo

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How Providing ICT Has Helped Communities Develop

- Technology hubs are providing the point where the community can engage with ICT technologies
- The use of these centres allows quick dissemination information that is of benefit to the community
  - General community social issues
  - Establishing and transacting business online
  - E-government services such as agricultural extension services
  - Capturing local kastom, tradition and language
  - Adult and children's ICT training
- Health services are provided faster across telemedicine and social media
  - Improves the diagnostic ability of local clinicians with early intervention saving lives and reducing the cost burden on the health system
  - Reduces the need of unnecessary transport of patients
  - Improves the local communities overall wellbeing
  - Facebook chat provides a forum for discussion

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The Future Challenges for Development in Vanuatu

- There are a number of challenges that have been identified are still to be overcome
  - Unreliable Fixed Wireless internet services,
    - Services at the edge of the network are not stable which leaving a negative impact
  - Actual geographic terrain is leading to limitations in terrestrial infrastructure
    - New sites identified have little access
    - Shadowing and population locations limits coverage
  - Economic returns
    - Increasing land disputes and terrain difficulties see escalating build cost for operators
    - High capex and opex and low returns lead to poor ROI
- Need to consider alternatives to facilitate services in remote locales
  - Smaller footprint and lower cost (active sharing of infrastructure/satellite backhaul)
  - Disruptive technologies (VoLTE/VoIP)
- BUT its not all about access now
  - Services and content and now required to drive further growth
  - Low level of digital literacy needs attention

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Summary

- **Access** to telecommunications is available to the majority of the population

- The **Availability** of a range of services to support applications requires some form of push from government to further stimulate uptake

- Base services are **Affordable** with a wide choice to the community

- Terrestrial Infrastructure investment in unserved areas is high with little return on investment leading to alternatives to be considered

- Effort needs to be made on development of content, both from a government service delivery and a commercial stand point

- Need to address low level of digital literacy – tied to education changes?

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