ISP Investments in Frontier Markets:
A ‘forgotten’ piece of the connectivity puzzle

Connectivity Capital

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Connectivity infrastructure investment in the last 50 years driving the expansion of the global internet

Two major gaps in the connectivity ecosystem:

1) The access gap (esp. outside of major markets)

The Alliance for Affordable Internet estimates target SDG9c will only be reached in 2042, 22 years after the target date.

Source: ITU, A4AI
Two major gaps in the connectivity ecosystem:
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Despite the mobile ‘miracles’, affordability and network availability issues remain for billions of people

- 4.2bn non-internet subscribers
- 2.6bn covered by 3G but not subscribers
  - (Affordability and Relevance Issues)
- 1.6bn not covered by 3G
  - (Network Infra Availability Issue)

Source: GSMA
Two major gaps in the connectivity ecosystem:
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Mobile operator network coverage maps overstate actual network availability

Source: Steve Song; APC
Two major gaps in the connectivity ecosystem:
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As a share of total data consumption, WiFi data is still emerging in frontier markets... riding off of nascent terrestrial fiber infrastructure

Mobile Data and Wifi Data are *complementary* forms of connectivity. Users toggle to optimize for convenience and cost. However, in frontier markets, users are largely limited to only Mobile Data (along with the higher costs for connectivity).

Source: INI preliminary research from Cisco VNI reports. Partial scale.
Two major gaps in the connectivity ecosystem:

2) The funding gap for non-high ARPU customers

2016 Broadband Commission estimate: **USD 450 billion** needed to connect **1.5 billion people** around the world (USD 300 / person)

**World Economic Forum**: USD 115 / person needed to ensure universal connectivity in **East Africa** (Northern Cooridor)

**A4AI** estimates an investment gap of around **$100 billion globally over the next 10 years — or about $10 billion a year** to achieve universal access.

**But...**

Between **2019 and 2025** inclusive, **mobile operators** across the world will **spend $1.3 trillion** on capex. However.... more than **75%** of that 5G-related.
Two major gaps in the connectivity ecosystem: 2) The funding gap for non-high ARPU customers

Significant disincentive to deploy outside high ARPU urban centers

Economic Differences per Site per Area, Remote Versus Urban Deployments

- Capex: 30%
- Opex: 100%
- Users: -80%
- Revenue: -95%

Source: GSMA
Two major gaps in the connectivity ecosystem:
2) The funding gap for non-high ARPU customers

DFI investments into ICT infrastructure are low, and the deal sizes are too big for small ISPs.

$5bn in ICT from 2013 - 2016

Average project commitment size is around $30 million, with a median of around $20 million over the 2012-2017 period

Source: A4AI MDB Investments in the ICT Sector April 2018
Factors providing the foundation for ISPs to expand and provide complementary connectivity

- **Window of opportunity for explosive ISP growth**

- **Fiber Infrastructure**
  The requisite trans-continental & backhaul fiber infrastructure are now in place. Backhaul costs have been cut in half.

- **Falling CapEx**
  The price of wireless equipment, radios, antennas, etc. has fallen significantly. The total CapEx for ISP build out is much lower.

- **MNOs Dominate**
  MNOs are unlikely to disrupt their own markets and compete against themselves.

- **Smart Phone Devices**
  The cost of smart phone devices has fallen significantly, exponentially increasing demand for more data.

- **Explosion of Apps**
  New apps including VoIP, mobile money, social media, etc. provide considerable value to customers that is driving demand for connectivity.
I. ISPs will complement MNOs. 
Users demand both affordability and convenience, and while some players may dominate, connectivity is not a winner-take-all market. Co-existence and thriving together is the global norm and will continue in frontier markets.

II. Lack of capital slows ISP growth and access to connectivity. 
ISPs in frontier markets exist, but often delay, forgo, or fail in their expansion plans because of the lack of appropriate capital. New and diversified forms of capital are needed to fund ISP growth.

III. A sector-specific debt fund allows for proprietary deal flow and better risk mitigation. 
A sector-focused fund allows for better understanding of mis-priced risk and appropriate mitigation structures to accelerate ISP growth. Debt allows for simpler, non-fiduciary Investee relationships, and is self-liquidating.
Connectivity Capital & ISP Investments
Connectivity Capital: Loan Criteria

**STAGE:** Established ISPs with expansion plans

**GEOGRAPHY:** Global, with near-term focus on Sub-Saharan Africa & Asia

**LOAN TERMS:**
- ⇒ $200K to $2M USD loans
- ⇒ Term up to 36 months
- ⇒ Flexible ISP-specific collateral arrangements

**LOAN REQUIREMENTS:**
- Over 2 years of operations
- Strong management team
- Minimum annual revenue of $250,000
- Documentation:
  - Audited financials or management accounts
  - Identified use of funds and CapEx plan
Connectivity Capital’s near-term focus for the Asia region

**Pipeline Development**
What markets in Asia should be looked at closely?

**Capital Partnerships**
Identifying LPs seeking sector-specific approach

**Technical Assistance Facility**
Non-capital resources: 1) ISP Business Toolkit
For more information
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