ICT Infrastructure Business Planning Toolkit

ITU IPEC – Mexico City

26 August 2022

Agenda

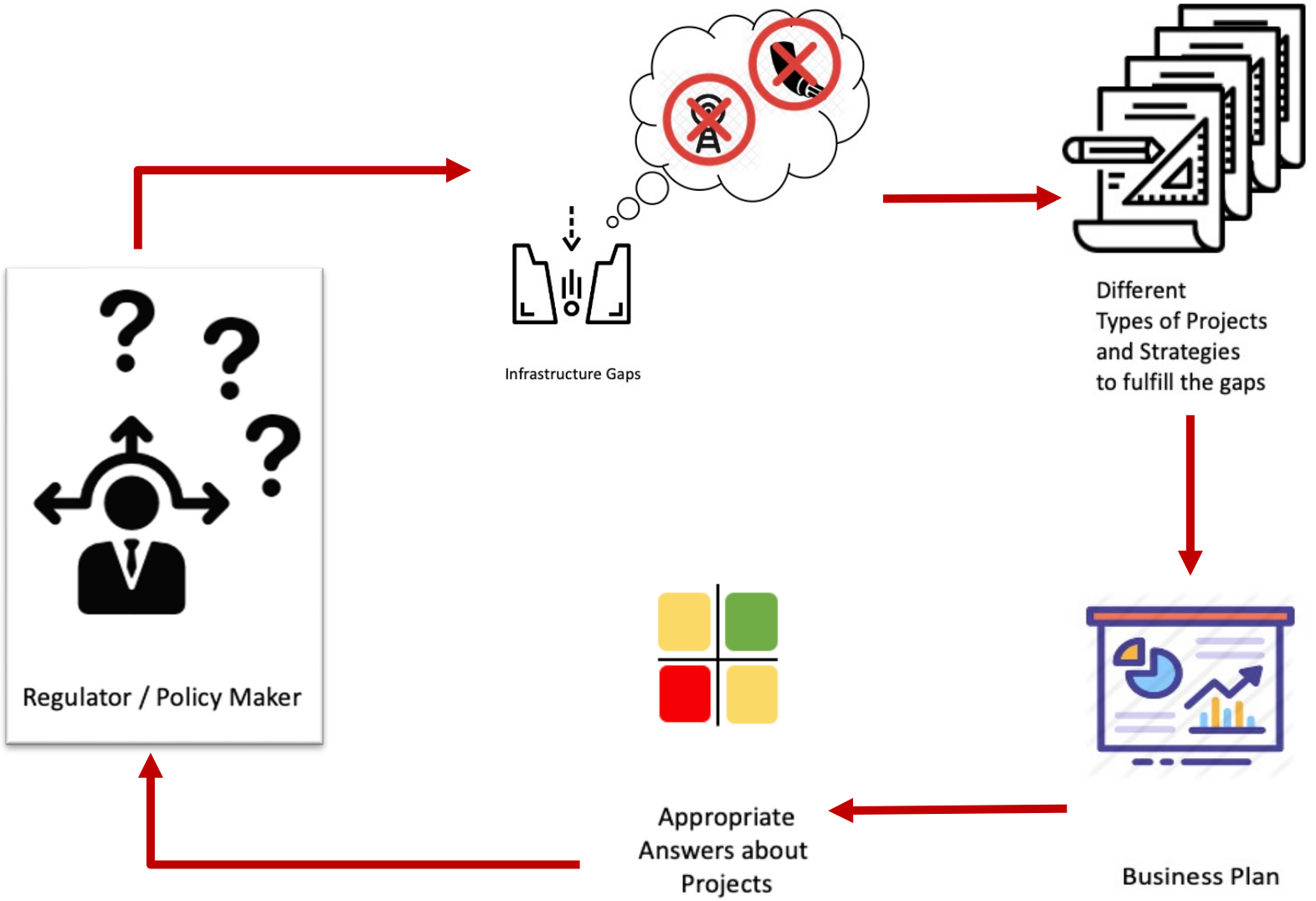
- Profile
- The BP Toolkit
- Case Study 1: 5G in Bosnia and Hezergovina
- Case Study 2: School connectivity in Brazil
- Conclusion

Profile

Tiago Prado

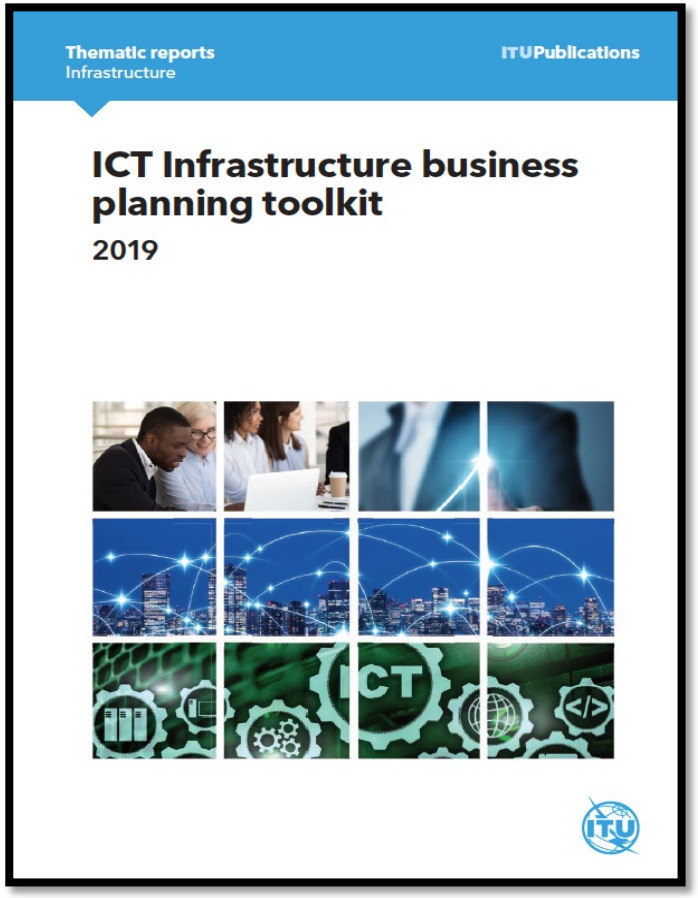
- 15 years of experience in the design and implementation of connectivity policies based on economic analysis (LATAM, Africa, EU, IDB, etc.)
- Trained policymakers of 50+ Africa, EU and LATAM countries since 2019 on how to use business planning as a tool to support evidence-based decisions
- Ph.D. candidate, with a Master of Public Policy, an MBA with focus on project management, a B. Eng. in Communications Networks
- Extensive data science skills, especially with econometric analysis and machine learning algorithms

The BP Toolkit



Regulators and policymakers must act efficiently to bridge connectivity gaps in the presence of information asymmetries…

The BP Toolkit



Business planning as a public policy tool

- A tool for estimating:
  - the economic value of an infrastructure project
  - project evaluation (economic viability)
  - Level of gov. subsidies to promote private investment
- Types of projects:
  - Mobile broadband (4G and 5G)
  - Fixed broadband (FTTH)
  - Transport network (fiber)

"ITU's reference for regulators, policymakers, and stakeholders on a practical methodology for the accurate economic evaluation of broadband infrastructure installation and deployment plans."

The BP Toolkit

1 Broadband business planning
- 1.1 The business plan
- 1.2 Challenges in developing a business plan
- 1.3 Business planning as a public policy tool

2 Estimating demand for broadband services
- 2.1 Estimating demand through econometric methods
- 2.2 Estimating demand through the Delphi method
- 2.3 Decomposition of demand into different segments
- 2.4 Estimating the market share of the potential new operator

3 Estimating revenues from broadband service provision
- 3.1 Estimating revenue for mobile broadband projects
- 3.2 Estimating revenue for fixed broadband projects
- 3.3 Estimating revenue for transport network projects
- 3.4 Revenue behaviour throughout the project

4 Estimating investments in broadband networks (CAPEX)
- 4.1 Mobile broadband access networks
- 4.2 Fixed broadband access networks
- 4.3 Transport networks

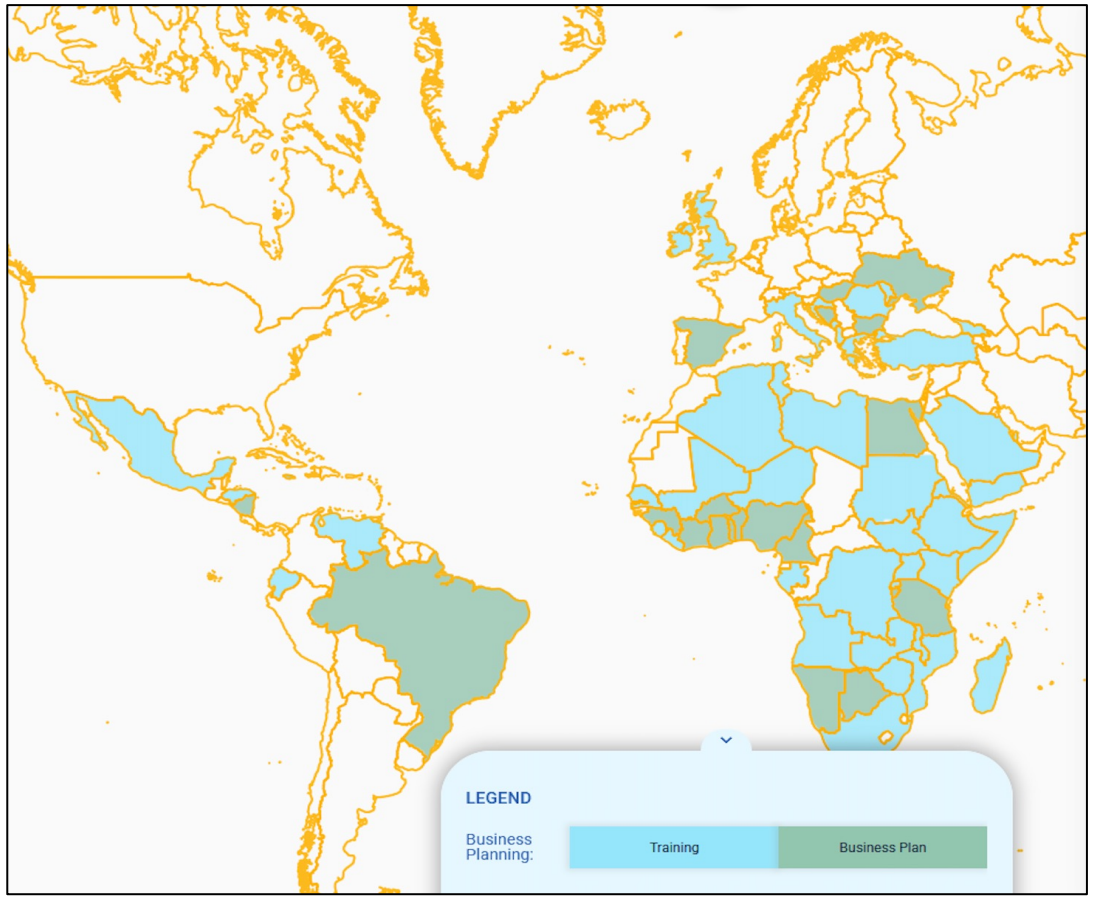
5 Estimating operational expenses (OPEX) for broadband service provision
- 5.1 Using cost models to estimate OPEX
- 5.2 Using past costs and expenses to estimate OPEX
- 5.3 Using benchmarks to estimate OPEX

6 Estimating weighted average capital cost (WACC)

7 Financing mechanisms to enable broadband infrastructure projects
- 7.1 Project and licensing financing mechanisms
- 7.2 Infrastructure deployment financing mechanisms
- 7.3 Service provision financing mechanisms

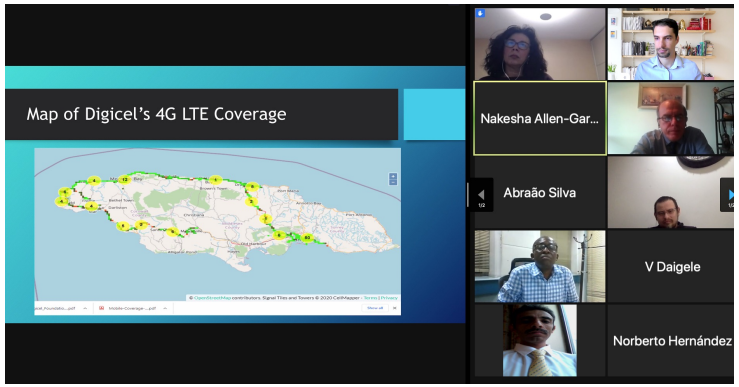
- The content has been peer reviewed by experts pointed by the ITU
- An update version that includes detail methodology to the context of 5G deployment will be published shortly

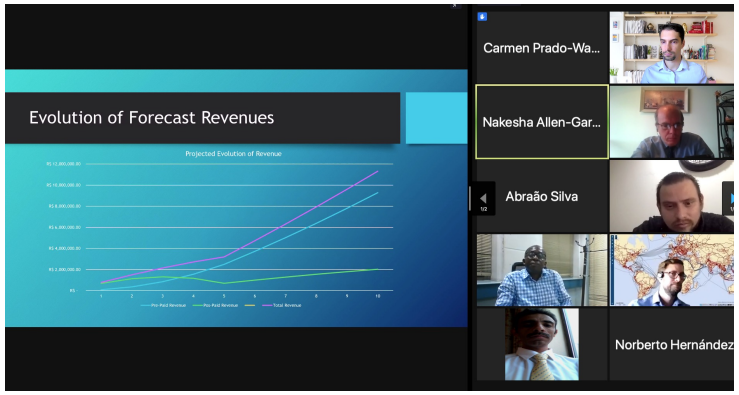
The BP Toolkit
(Training Courses)

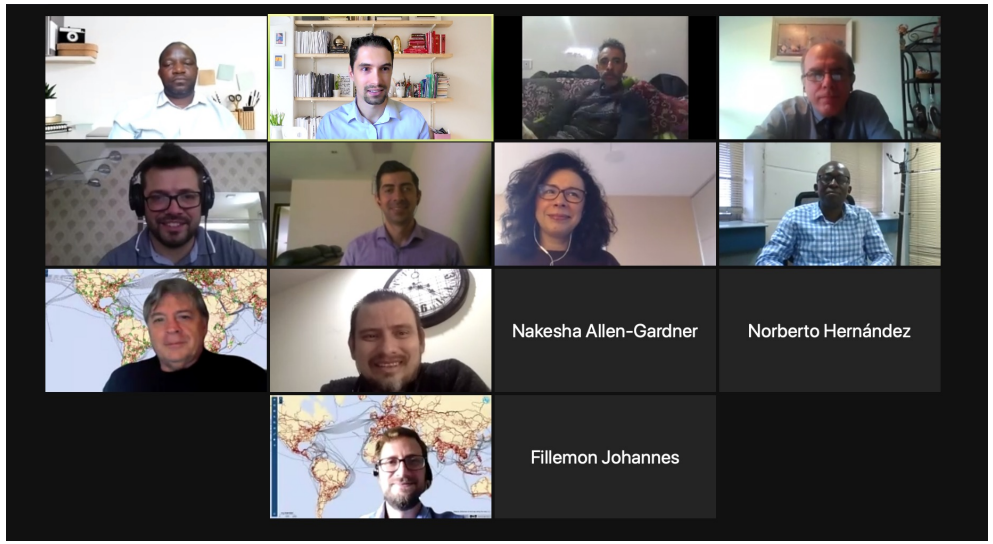


- 7-weeks long, ITU-sponsored hands-on training courses delivered to LATAM, EU, and African (EN and FR) countries

The BP Toolkit
(Training Courses)







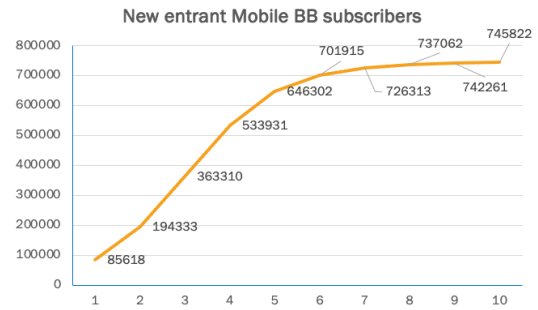
ITU Academy
Empowering minds

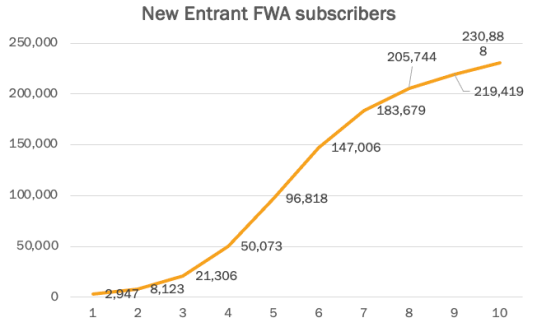
- 20+ detailed case studies developed to estimate revenues, capex, opex, and the NPV of 4G, 5G, and FTTH network deployment and service provision

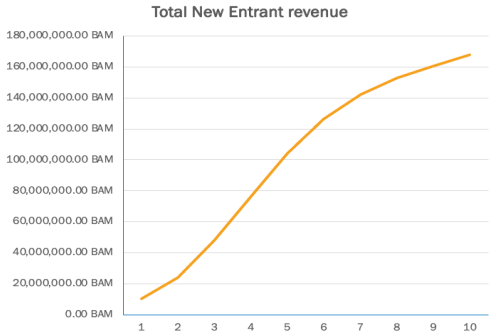
Case Study 1

New (5G) Mobile Operator in BHZ

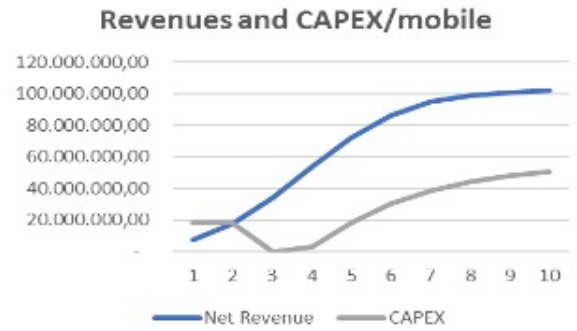
Demand and revenues:

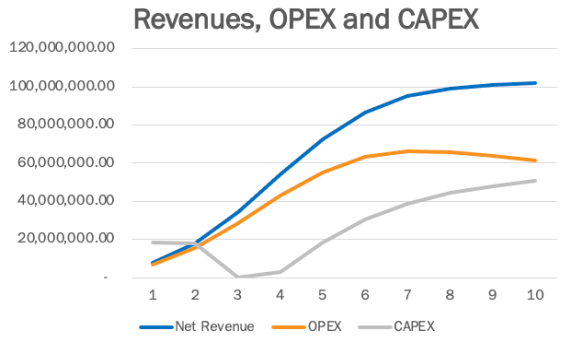


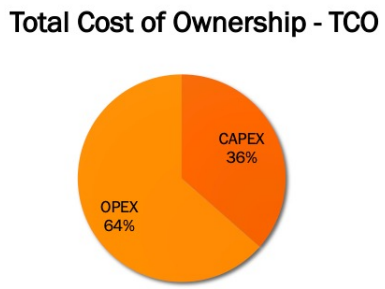




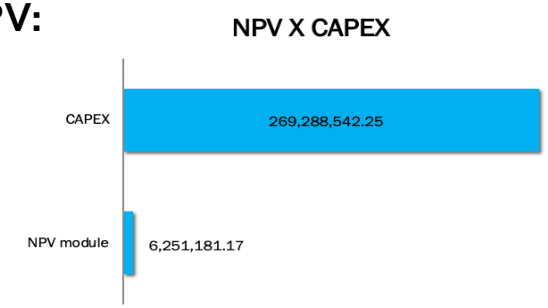
Capex and Opex:

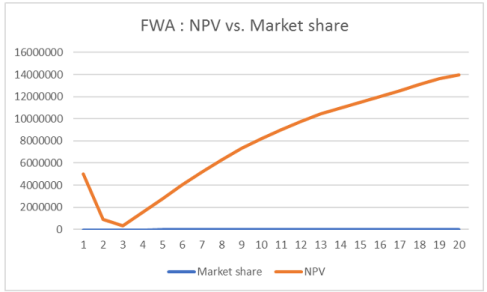


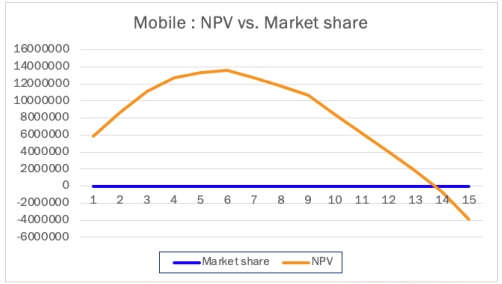




NPV:

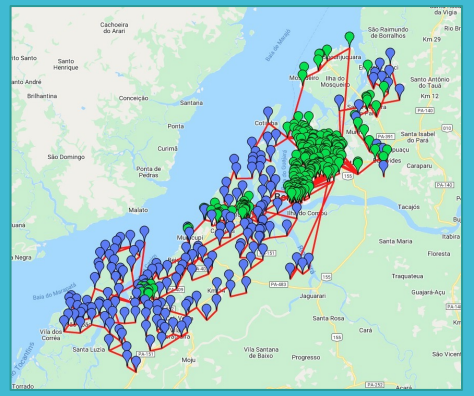






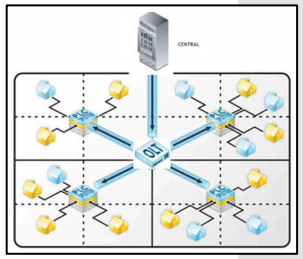
Case Study 2

School Connectivity in Brazil



Objective

Assess the level of incentives needed to support optic fiber deployment and 10 years fixed broadband service provision in 468 schools in the North region of Brazil



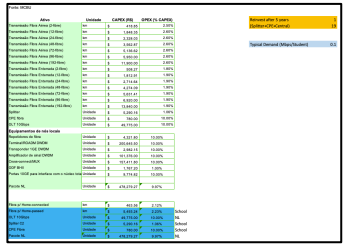
Methodology

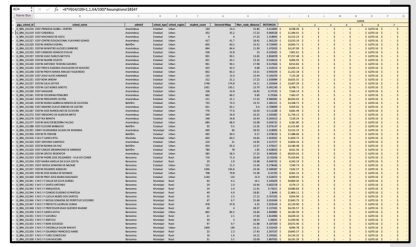
Using the ICT BP Toolkit to develop a business plan for:

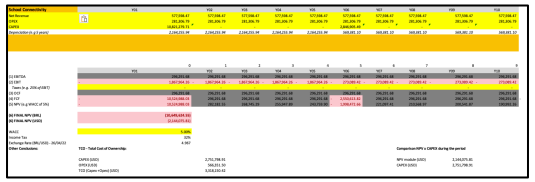
- Capex, Opex, revenues, and NPV estimation (economic attractiveness)
- Define the average subsidy per school based on Capex or NPV

Calculation

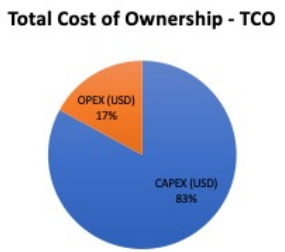
- km of fiber per school
- Active and passive network dimensioning based on traffic growth
- Estimation of O&M costs based on the number of network equipment

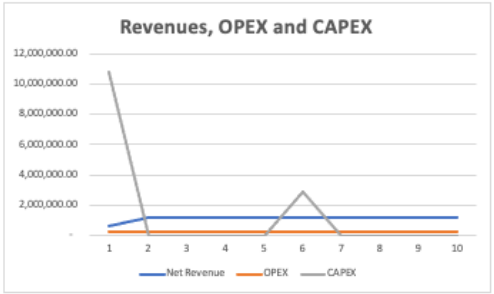


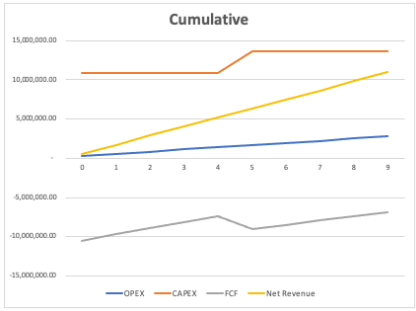


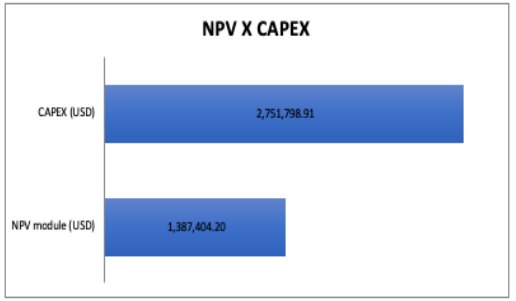


Results









Conclusion

1. The ICT BP toolkit published by the ITU brings a useful methodology to calculate the amount of incentives and investments to bridge connectivity gaps

2. There are 23 concrete examples of its use in the context of 4G, 5G, and FTTH projects

3. With the BP toolkit we can help LATAM countries to calculate the amount of finance they need to launch connectivity projects

Thank you!

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