Cyberchase: Getting Africa Up To Speed

Innovation Lab Lead: Eric Musonza is a Biotechnology Equity Research Analyst covering the pharmaceutical and biotechnology sectors. He holds a BS in Molecular, Cellular, and Developmental Biology from Yale University. He also conducted reviews of clinical trials at Columbia University Medical Center, including human subject research in oncology, genetics, and social/behavioral psychology. His published research focused on deep brain neurostimulation as a method of treating seizures in patients with refractory epilepsy. Eric Musonza is also a member of the Development Committee at Uncommon.org, an education initiative teaching employable coding and project management skills to empower youth across Zimbabwe.

Introduction: Uncommon.org is a nonprofit that builds solar-powered computer labs in low-income neighborhoods in Zimbabwe. Uncommon provides free computer science lessons to hundreds of local youth, and help them develop their coding and program management skills for the digital workforce. Uncommon also pairs their students with experienced mentors such as data analysts from leading companies like Google, Amazon, Facebook, and Pinterest.

The problem: In order to obtain internet connection, Uncommon relies on purchasing data packages from local vendors (NetOne, Telecel, Econet or Africom). These data packages are expensive and take a toll on Uncommon's budget. Data packages are sold at prices significantly higher than comparable data in the United States, and data costs alone consume ~60% of our annual budget. Uncommon would like to obtain equivalent or higher quality internet access (200+ Mbps) on more manageable financial terms. Uncommon is open to exploring options including satellite connection, fiber optic cables, and other methods. There is no exact time frame, but Uncommon would like to accomplish this within the next 2-3 years. Potential solutions should not exceed $100,000 — lower expenditure would be preferred.

Solutions Produced: Technological Solutions to Improve Internet Access

- Asymmetric Digital Subscriber Line
    - Similar to DialUp, but limited by copper wire infrastructure in Zimbabwe
- VSAT antennas
    - Similar to television satellite dishes , but limited by cloud, cover and rainy weather
- Fiber optic cables
    - Extremely reliable, and high-speed Internet, but limited by expensive construction (reach out to Liquid Telecom for a cost estimate; Helinna Ayalew is an African Yale Alumni there)
- Starlink
    - strong, reliable Internet, access at very low cost, but limited by policy in Zimbabwe. This solution would require a clear strategy for policy advocacy and messaging for legalizing StarLink in Zimbabwe.

- Innovative Designs
- Connected balloons
    - Google has these but ran into financial limitations when building at scale. Perhaps look into a most cost-effective method to design these for a smaller hub
- LTE signals
- Solar planes
- Financial Solutions
    - Grow monthly donor community by 10x = leverage Instagram following + built-in donation feature + BrandWatch + interns to help collect data, spot trends, and generate fundraising campaign ideas
    - Generate more revenue from web design and development fees = focus on starting in communities in the San Francisco, Boston, and New Haven areas. Provide digital services at competitive rates
    - Develop grant application, strategy = focus on winning more multi year grants that provide a fixed dollar amount large enough to meet our projected internet expenses. Would be helpful to have interns with experience and grant applications for nonprofits
    - Collect recruiting fees from hiring companies = Establish employment programs with corporations/startups where Uncommon is paid a placement fee in exchange for staffing their open positions with trained Uncommon graduates