

Public wi-fi in the APEC economies: Emergent urban infrastructure



Public wi-fi networks ... are publicly accessible wireless local area networks enabling internet access

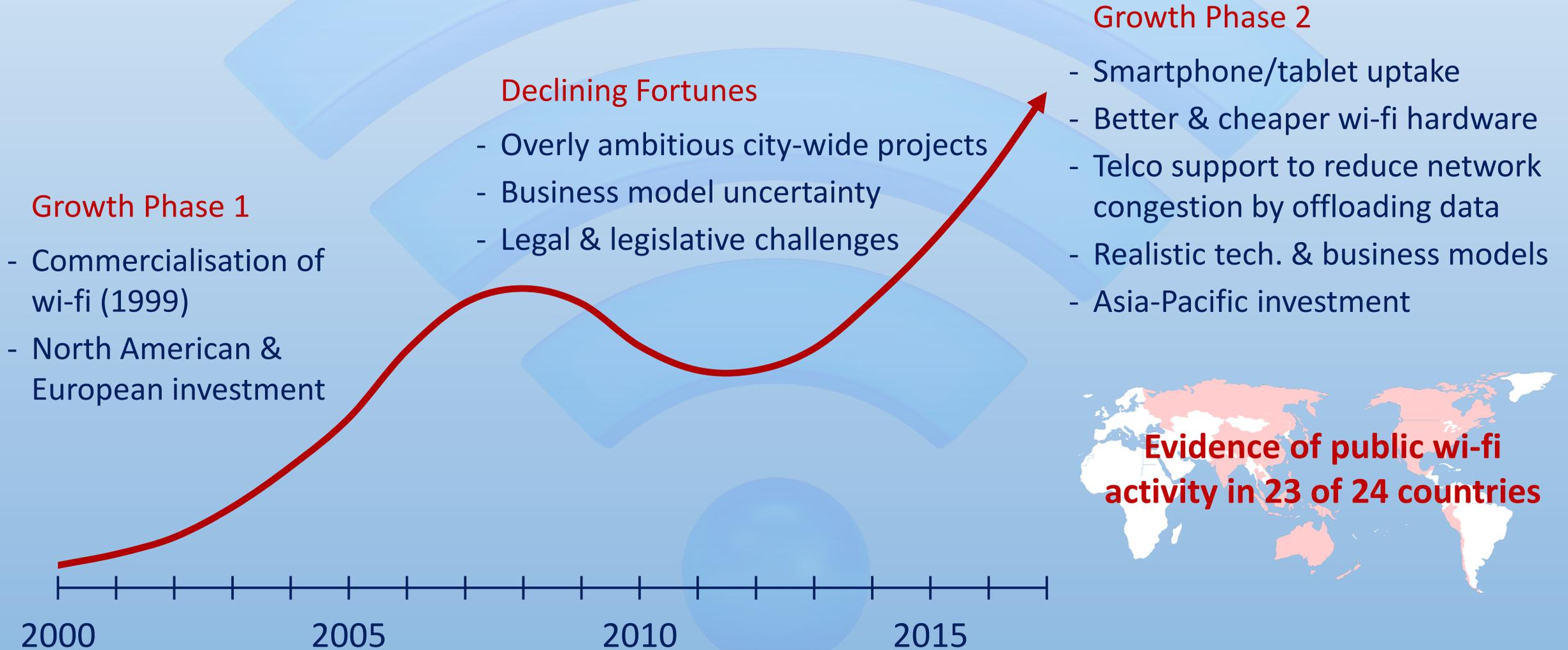
Public refers to:

- Government involvement in provision (often)
- Public areas (sometimes privatised public spaces, eg shopping malls)
- 'free' provision (often)

Wi-Fi refers to:

- Technology that uses free unlicensed spectrum (2.4Ghz band)
- Transmission range is limited (50-100 metre coverage) to minimise interference
- Ubiquitous incorporation in communication devices (laptops, phones, tablets, etc)

Public wi-fi networks ... are rapidly emerging as important urban communication infrastructure



Public wi-fi networks ... require access to a large stock of distributed physical infrastructure

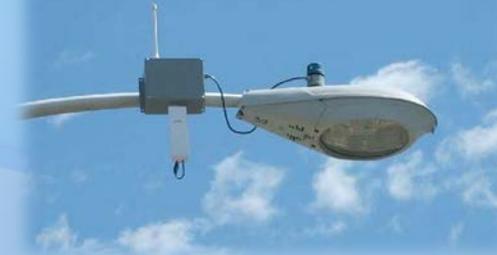
(1)

Wi-fi's limited transmission range requires deployment of a large number of Access Points (APs) to create zonal coverage



(2)

Governments control an array of infrastructure on which to mount APs [providing a significant advantage in network development]



Public wi-fi networks ... are developed by a range of government, community and commercial actors

- Networks are established independently or as cross-sector partnerships
- Government is well positioned to contribute to networks through its distributed infrastructure



Public wi-fi networks ... are developed on the basis of a range of rationales

- Tourism
- Digital inclusion
- Government service access
- Local economic development
- Public safety & urban management
- Inter-city competition
- Innovation
- Cell-tower data-offloading



... but little evaluation of public wi-fi networks against these rationales has been undertaken

Public wi-fi networks ... are an emergent form of urban infrastructure in the Asia Pacific & South Asia

1. Investment is set to continue (particularly given data demand growth)
2. Care needed in partnership development
3. Must establish clear understanding of costs and revenue opportunities
4. A primary danger is over-promising and under-delivering
5. Public wi-fi should be integrated into broader digital strategies
6. There is limited evidence of the impact of public wi-fi in meeting the range of rationales advanced for investment

Public wi-fi networks ... and the UIN Workstreams

Workstream 1: Policy and Planning

- Public wi-fi planning requires greater interaction and coordination between national and local government
- Policy and planning frameworks should encourage local institutional and technological innovation in wireless local area networks by limiting regulatory constraints or burdens, resisting capture by aggressive market players, and avoiding technological lock-in

Workstream 2: Preparation of Urban Infrastructure Projects

- Public wi-fi networks are generally small-scale investments that extend existing backhaul telecommunication infrastructure. They sometimes emerge as demand-driven/user-generated innovations—a process conceptualised as inverse infrastructure development.

Workstream 3: Financing for Sustainable Urban Development

- A range of models for financing public wi-fi have emerged, including Public-Private-Partnerships
- City governments have an advantage in wi-fi provision through control of distributed infrastructure
- Universal Service Obligation Funds (USOF) may provide a potential funding source for public wi-fi