

# Using Global Content Balancing to Solve the Broadband Penetration Problem in the Developing World: Case Study, India

May 2012 [IEEE Communications Magazine](#)

This very interesting article is unusual in that it successfully combines technical and business aspects to explain how the general expectation that growing broadband penetration is an inexorable force may not be true in all cases. Readers in the developed world (e.g. US, EU) and/or in countries that have made broadband deployment a societal goal (e.g. S. Korea) have seen broadband availability and the consequent growth of the internet-based economy (e.g. online newspaper readership) steadily increase over the past decade. The growth may have been top down driven and rapid (as in S. Korea) or market driven and in fits and starts (as in the US), but the growth has taken place.

This article explains how the high cost of access to non-local content leads to a diversion of available OPEX into long haul bandwidth, leaving less for the development of local access networks. This in turn chokes off growth by reducing revenue which depends to some extent on broadband access, resulting in a vicious circle which limits overall network growth. This model is explained in the context of India, but it is easy to see how this may occur in other places as the developing world opens up to the global internet. The authors present a content balancing approach (essentially local caching in the form of data-center roll out) to increase the proportion of funding for access network growth, hoping this can trigger a virtuous circle of overall network growth. The article discusses various details like pricing strategies and expense models to justify the results.

Although this article uses the Indian experience as a case study, it is an interesting proxy for potential developments in the rest of the developing world in places where direct government intervention in broadband development does not take place. Of course, if a government with sufficient money and direct control over policy (e.g. China) decides broadband is a priority, then this issue may not arise. But in a situation in which investment dollars are allocated based on market forces and public discussion, the sort of deadlock described in this article may very well arise again (e.g. in Africa, or the middle east). If this experiment succeeds, it could create a model for broadband deployment in other places. If it fails, then it may well indicate that governments, including democratic societies, need to take a less market driven and more strategic approach to broadband deployment. If this is not done, the globe may well be on its way

to another form of haves and have-nots, this time in the domain of internet connectivity - a global digital divide. In either case, the outcome should be watched with interest by communications professionals since it is likely to impact all of us one way or another.

---

**Title and author(s) of the original paper in IEEE Xplore:**

*Title:* Using Global Content Balancing to Solve the Broadband Penetration Problem in the Developing World: Case Study, India

*Author:* Ashwin Gumaste, Prasad Gokhale, Tamal Das, M. K. Purohit and Peeyush Agrawal

*This paper appears in:* IEEE Communications Magazine

*Issue Date:* May 2012

[Back](#) [IEEE Xplore](#) [Version](#) [Similar Articles](#)

---

**Source URL:** <http://www.comsoc.org/ctn/using-global-content-balancing-solve-broadband-penetration-problem-developing-world-case-study-i>