Zero-rated internet services:
What is to be done?

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Facebook recently celebrated the one-year anniversary of its non-for-profit initiative, Internet.org.[1] Facebook claims to have set up this initiative to help those in developing countries who cannot afford to pay for a fixed-line or mobile data Internet connection get online. The application provides users with access to what they term "basic internet services," including Facebook, Facebook Messenger, and a suite of country specific websites related to education, finance, health, information, the marketplace, the news, and women's issues. Though critics have argued that this does not constitute access to the 'free and open' internet it is a far more comprehensive offering than Facebook Zero, their stripped down application developed originally for feature phones and the application that introduced many mobile users to the internet. This provided access to the Facebook Zero app only, which did not have any video, image and audio features. By mid-2015 Facebook had partnered with more than twelve mobile operators in seventeen countries to provide free usage of its Internet.org mobile application.

Facebook used the anniversary to highlight the initiative's success. It reported that nine million people have begun using the Internet as a result of its efforts.[2] Although this has been welcomed by some as a strategy to bring Internet users online for the first time, the introduction of internet.org has unleashed a vociferous debate about the long-term impact of Internet.org, and similar offers for free Internet access.

Why is there so much debate surrounding Internet.org, a non-profit initiative ostensibly meant to help the world's poor? Internet.org is just one manifestation of an increasingly popular and controversial marketing strategy, zero-rating. An application or website is zero-rated when a mobile operator does not count its usage against a user's monthly data allotment, rendering its use effectively "free."[3] This practice is particularly controversial when a content provider, like Facebook, does not have to pay a mobile operator to offer their application for free. In this way Facebook gains an advantage over other social media websites because the mobile operator is essentially providing Facebook for free whereas users of other services had to pay for the data required to use the service. The harms assumed to arise from this relate to potential anti-competitive practices in, and inhibition, of innovation and local participation.

Defence of zero-rating

Facebook, its mobile operating partners, and some outside observers, believe zero-rating will increase Internet access and foster increased innovation and greater competition among Internet content providers. They claim that zero-rating has the potential to expand Internet access among those who have never used the Internet

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[1] "One Year In: Internet.org Free Basic Services," *Facebook*, accessed August 5, 2015, https://internet.org/press/one-year-in-internet-dot-org-free-basic-services.

[2] "Internet.org: Myths and Facts," *Facebook*, accessed August 5, 2015, https://internet.org/press/internet-dot-org-myths-and-facts.

[3] Barbara van Schewick, "Network Neutrality and Zero-rating," accessed August 6, 2015, filing at FCC, http://apps.fcc.gov/ecfs/document/view?id=60001031582

and increase the amount of time existing Internet users, who spend far less time online than those in "always-online environments," are able to spend online.[4] Increased access, they believe, will then foster economic development for both small businesses and national economies.

Facebook has presented two strong but not independently verifiable or well contextualized data points in a series of blog posts to show that its plan is working. Facebook observed an increase of over fifty percent, on average, in the rate at which new users join mobile networks in locations where Internet.org was offered.[5] Facebook also responded to fears that the application limits Internet companies' ability to compete with Facebook and its content partners because new users will not be able to pay for real Internet access. Its data shows that more than half of those who have begun using the Internet through Internet.org are now paying for their own data.[6] Facebook believes that Internet.org has succeeded at "showing people the value of the internet and helping to accelerate its adoption."

Critics of zero-rating

Proponents of the 'open Internet' and Net Neutrality worldwide respond that Internet.org sets a dangerous precedent that will ultimately limit Internet use and competition. They claim that zero-rating violates a prerequisite for the Internet to drive innovation and economic development, Net Neutrality. Net Neutrality is a principle which dictates that Internet data should be treated equally by service providers. Barbra van Schewick, Professor of Law and Faculty Director of the Center for Internet and Society at Stanford University, explains that zero-rating allows mobile operators and Internet Service providers to "favor some applications over others and causes the same problems as technical forms of differential treatment," like slowing down or blocking certain forms of data.[7]

Criticism of zero-rating has not been confined to the United States and other developed economies. India has seen some of the most vociferous debate to date about the merits of zero-rating. Over a million Indians sent letters to the Telecom Regulatory Authority of India (TRAI) in support of banning zero-rating as a part of the Save the Internet Campaign. Sunil Abrahams of The Center for Internet and Society identifies the harms of network neutrality violations as: "…one, censorship by private parties without legal basis; two, innovation harms because the economic threshold for new entrants is raised significantly; three, competition harms as monopolies become more entrenched and then are able to abuse their dominant position; four, harms to diversity because of the nudge effect that free access to certain services and

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[5] "One Year In."
[6] Ibid.
[7] "Network Neutrality and Zero-Rating," Letter to the Federal Communications Commission. Re: Ex Parte Letter, GN Docket No. 09-191, GN Docket No. 14-28, (February 19, 2015), accessed August 7, 2015, http://apps.fcc.gov/ecfs/comment/view?id=60001018565.

destinations has on consumers reducing the infinite plurality of the Internet to a set of menu options. The first and fourth harm could result in the Internet being reduced to a walled garden."[8] TRAI has responded to this vociferous debate in India by publishing a public discussion paper on zero-rating and called for public comment[9] which closed at the end of August amidst renewed calls by Open Internet proponents for a ban claiming that zero-rating implemented for the purpose of helping to bring the marginalised online can still be harmful.

The United Nations Human Rights Council has established that citizens have a right to unfettered Internet access. Many nations are working to allow their citizens to realise this right. Critics argue that zero-rating could put this right at risk. For example, van Schewick warns that zero-rating sets a precedent where low-income American families will be shuttled into "'walled gardens' – cutting them off from free information and full participation" on the Internet.[10]

But might it not bring those who might otherwise remain offline online? Facebook's data suggests that over half of new Internet users are not getting stuck within a "walled garden," because they are paying for data usage. Arguments in favour of zero rating services providing a gate way to the open Internet, have also raised concerns about the poor being lured onto paid services that they can ill afford. Several of these operators do however provide alerts and voluntary cut off or permissions to continue notifications, self-regulating probably to avoid formal consumer protection regulation.

Understanding some of these aspects requires further research. Tracking data which would be required for billing purposes and so collected anyway by operators could be made available by them to assess the wider impact of such services on access to the open internet and particularly on free and paid use and expenditure as a portion of household expenditure.

Further, zero-rating for Internet uptake still "allows ISPs to tilt the market in favor of specific applications and to 'pick winners and losers' on the Internet."[11] Tilting the market could stifle competition from local social networks, apps developers and content providers who cannot afford to pay providers to zero-rate their content or who do not have the market share or eyeballs on their products to make it attractive to operator to provide free data for their services.

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[8] "Multiple Aspects Need to Be Addressed as the Clamour Grows for Network Neutrality," accessed July 29, 2015, http://cis-india.org/internet-governance/blog/dna-april-16-2015-sunil-abraham-multiple-aspects-need-to-be-addressed-as-the-clamour-grows-for-network-neutrality.
[9] "Net Neutrality Debate in India: Here Are All the Arguments You Need to Know," *The Indian Express*, accessed August 13, 2015, http://indianexpress.com/article/technology/social/net-neutrality-in-india-licensing-to-zero-ratings-its-a-complicated-debate/.
[10] "Network Neutrality and Zero-Rating."
[11] Ibid.

Zero rating as a late entrant strategy to gain market share

Zero-rating is a relatively new tactic for South African operators. Cell-C became the first mobile operator to offer South Africans access to Internet.org at the end of August 2015. Cell-C will provide its customers with zero-rated, or free, access to Facebook's mobile phone website from July to the end of August of this year and its Internet.org mobile application for one year from September 2015 until the end of August 2016. Cell-C's agreement with Facebook comes five years after MTN (the second largest operator) offered a different free Facebook service, Facebook Zero and Wiki Zero. However, zero-rated Facebook and Internet.org are not the same as Facebook Zero. Cell-C's Internet.org offering is more substantial than MTN's Facebook Zero offering. Facebook Zero was aimed at the feature phone market and users enjoyed only some of the basic functionality of the Facebook website. They could not download images and video. Cell-C is offering free access to a fuller Facebook product, which includes images and messaging but not videos and calling capabilities. Moreover, Cell-C is subsidising access to a wider range of Internet content through sites included in the Internet.org application. Cell-C has also offered its users zero-rated WhatsApp messaging application since September 2014. It announced that one million users utilised the WhatsApp voice application between July 13 and July 19, 2015 to demonstrate the popularity of the promotion.[12]

While MTN as dominant market player was the first to offer Facebook for free, Cell-C's embrace of zero-rated Facebook and WhatsApp needs to be understood in the context of an entrenched duopoly market it entered as the third entrant; the increasingly price competitive market in which the dominant operators are price setters; it position in relation to the fourth mobile market entrant that has been able to exploit the economies of scale of its fixed line incumbent owner to consistently offer the lowest prices. This kind of innovative marketing collaboration presents one of the few ways in which smaller market players can increase their market share and competitiveness in the market.

This raises serious questions about regulatory intervention of the kind being proposed in India which would require the such zero-rated services not be exclusive. While such a measure might lower the barriers to entry for local players, it would also undermine the competitive strategy of, in this case, a marginal market player.

Impact on the Broadband Market

Policy makers and researchers should track whether South African zero-rating offerings increase after Internet.org arrives on August 31. Facebook and its supporters might tell South Africans that fears about zero-rating are overblown precisely because

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[12] "WhatsApp Voice Calling a Hit on Cell C," accessed August 12, 2015, http://mybroadband.co.za/news/cellular/132950-whatsapp-voice-calling-a-hit-on-cell-c.html.

zero-rating will be "limited." After all, zero-rating does not appear to have played a major role to date in South Africa's mobile operator market. Moreover, most African companies that offer Internet.org are invariably dominant operator challengers. Zero-rating Internet.org is currently offered for free by operators in Ghana, Kenya, Malawi, Senegal, Tanzania, and Zambia. Airtel, Zambia's second largest operator with thirty seven percent of the market share, offers Internet.org. MTN, which has the largest share of the Zambian market at forty eight percent, does not. The prospect of a zero-rating explosion, and the harmful side effects that may ensue, is lessened if the practice only continues among a smaller subset of mobile operators. Fewer operators using zero-rating would mean fewer mobile plans that only provide limited Internet access which "Open Internet" proponents fear. If the status quo is maintained, regulators might feel more comfortable allowing zero-rating for Internet uptake purposes.

However, recent telecommunication industry trends suggest that there is potential for the expansion of zero-rating practices in South Africa. Usage of zero-rating has taken off among ISPs and mobile operators worldwide.[13] Digital Fuel Monitor, which studies mobile internet competitiveness, reported over 100 cases of zero-rating by November 2014. EU and OECD mobile operators provided zero-rated access to either a suite of Internet services or individual websites.[14] Even countries that have blocked zero-rating are under pressure to allow the practice. For example, Verizon, a dominant player in America's ISP and mobile markets, recently requested permission to exempt zero-rating from the United States Federal Communications Commission's 2010 Open Internet Rules.[15] Finally, Facebook's aggressive efforts to expand Internet.org's reach, and gain market share in unsaturated markets, may help to spread and normalize zero-rating practices in South Africa. It marked the initiative's anniversary by announcing that it will partner with any operator, including multiple operators in a single country, willing to offer the application for free. The announcement creates a window of opportunity for dominant operators, like Telkom, and other mid-market and smaller operators, to zero-rate Internet.org if they attempt to "keep up" with Cell-C.

Impact on South African Consumers

Understanding the impact of zero-rating and the arrival of Internet.org in South Africa is important because of the country's particular reliance on mobile phones and the appeal that social media sites hold for users.

Many South Africans are looking to access the Internet for the first time through a mobile phone. Research ICT Africa (RIA) has found that mobile phones, and particularly social media applications such as Facebook, have become major drivers of Internet

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[13] Ibid.
[14] Antonios Drossos, "The Real Threat to the Open Internet Is Zero-Rated Content,"
World Wide Web Foundation, accessed August 6, 2015, http://webfoundation.org/wp-content/uploads/2015/02/The-_real-_threat_open_internet_zerorating_logos.pdf.
[15] "Network Neutrality and Zero-Rating."

uptake.[16] RIA's 2011/2012 Household and Individual User Survey found that only 33.7 percent of South Africans used the Internet. The World Bank's 2013, and most recent, data placed South African Internet usage at 48.9 percent. These figures indicate that most South Africans have yet to go online at all, much less join becoming full participants in the Internet economy, South Africans who begin to use the Internet in 2015 are more likely to access the web for the first time on a mobile phone in order to use a site like Facebook than on a laptop or desktop computer in order to send an e-mail.

RIA also found that the price of data was a major barrier to internet uptake. Local market forces might make Internet.org and other zero-rated applications more appealing than they would be in countries where greater shares of the population already have access to the Internet and mobile phones. South African policy makers, regulators, and Non Profit Organizations can help assess whether the benefits that Facebook promotes or concerns that "Open Internet" advocates raise are likely to become reality.

Far more needs to be understood about the use of zero rated services to determine whether there are positive consumer welfare outcomes. Although some indicators and early public data suggest Internet.org will successfully drive Internet uptake, this needs to be verified. Internet.org is not completely free: Cell-C requires users to purchase airtime in order to access Facebook and Internet.org for free. And then there is the cost of devices and SIMS that price sensitive users would need to incur. The cost of a phone and data might still be cost prohibitive for the very population Facebook wants to help. Moreover, many South Africans use multiple SIM cards at any given time and switch between operators as they see fit. As a result, the "new users" Facebook claims were joining mobile networks at faster rates could already have mobile service and Internet access. Facebook can move this argument forward by simply making its underlying data publicly available (as part of its Open Data commitment) and allow researchers to verify its claims about the benefits of zero-rating.

Research needs to be undertaken to consider the possibility that Cell-C's offering will lay the groundwork for a new "digital divide" between those who have unlimited access to Internet content and those who have limited access to zero–rated content. Some will argue that some Internet access is better than no Internet access. Moreover, Facebook data suggests that new Internet users are not trapped within a new "digital divide." However, the fact that new users can access other websites may not be sufficient. The RIA 2012 South African Household and Individual Access and Use Survey suggests that low-income South Africans may come online and then choose to spend money that should be spent on essential goods, such as food and education, for mobile data. Zero-rated applications might help attract new Internet users while not harming those users' overall wellbeing. In countries where there is a competitive mobile

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[16] Ibid.

sector, the movement to ban zero-rating may paradoxically preventing the very thing that competition is meant to achieve: choice.

Finally, regulatory bodies must guard against the possibility that operators will rely on zero-rating as a part of their business models. Barbara van Schewick warns that: "If ISPs can charge application providers to be zero-rated, the would have an incentive to lower monthly bandwidth caps or increase the per-byte price for unrestricted Internet use in order to make it more attractive for application providers to pay for zero-rating."[17] But is van Schewick's charge exaggerated? Digital Fuel Monitor has documented that ISPs which have zero-rated their own "data-hungry" **on-demand film stores and mobile TV** and have either lowered the maximum amount of bandwidth users can purchase or increased the prices for data usage.[18] We don't know if these ISPs have adopted a zero-rating strategy in order to compete against dominant operators, nor can we assume that the business strategies adopted in the Global North – where bandwidth is comparatively limitless – can be applied to business models looking to build market share from bring users onto the Internet for the first time in the Global South.

More research is needed to establish if this is a strategy being used by new entrants or ISPs hoping to compete against dominant operators. Researchers need to investigate whether data prices could increase and make it harder for South Africans who currently access the Internet to pay for unfettered usage and to link this to the competitive environment in each country.

It may be convenient to defend Internet.org on the grounds that "some" Internet access is better than "no" Internet access. But this tradeoff does not reflect the nature of the situation at hand in its totality. The real tradeoff is between expanding Internet uptake and setting a precedent that will make it harder for users to freely access the Internet. Researchers and policy makers should first determine whether Internet.org is effective and then weigh its impact against concerns about general consumer welfare for South Africans on both sides of the "digital divide."

Impact on South African Content Providers

Whether broadband providers make use of zero-rating and whether South Africans sign up for zero-rating plans can also impact South African content providers' ability to compete with more established providers. A content provider is either a website or application that provides Internet content. Facebook and Internet.org could decrease, rather than bolster, the benefits broader internet usage might have for economic development. Mitchell Baker, Chair of the Mozilla Foundation, a non-profit organization dedicated to promoting openness, innovation and opportunity on the Internet, has argued that:

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[17] Ibid.
[18] Ibid.

'Selective zero-rating is arguably bad for the long-term opportunities and inclusion for the people it is designed to serve. It pre-selects what's available, directing people to where others want them to go. It is bad for economic inclusion. It is bad for the ability of new entrepreneurs to grow onto the global scale. It is bad for the long-term health of the Internet. Zero-rating as practiced today is 'selective zero-rating for a few apps and websites; exclusion for the rest of the Internet.'[19]

Baker may be more certain than most about the impact that Zero-rating may have. But she does flag one potentially negative outcome of the proliferation of free Facebook offerings. The determination of what is subsidized could potentially stifle competition in local content development. This concern should be particularly relevant in countries like South Africa, where the Internet economy is not yet, but can be, a great source of economic growth. The Internet Society has found that the Internet Economy only contributed 2% to SA's gross domestic product (GDP) in 2011 and will only reach 2.5% in 2016.[20] South Africa lags far behind both developed nations, where the average contribution of the Internet Economy was 4.1% in 2010, and even developing markets, where the contribution to GDP by the Internet Economy was 3.6% in 2011.[21] Companies are not the only ones who can use zero-rated products to determine who will succeed and who will fail in the Internet. The possibility that new users accept anything less than unfettered Internet access could dissuade entrepreneurs from entering the Internet economy.

Moving Forward: Keeping an Eye on Operators and Users

Cell-C and Facebook hope to increase Internet uptake in South Africa. Operators like Cell-C derive much of their revenue from data services and offering Internet.org is reflective of a strategy which uses zero-rating to capture increased market share. The success of Cell-C's promotion and its impact on the health of the Internet in South Africa will depend on the type zero-rating promotions that are offered and who they are meant to serve. Through its various zero-rated arrangements with dominant and smaller operators Facebook is building its new user base outside of the saturated markets in the North. Research should focus on the four groups that can potentially influence or be impacted by zero-rating: ISPs and mobile operators, how ISPs and mobile operators choose to use the tool, how users are impacted by the tool, and whether content providers are able to compete. South African policy makers and regulators should focus on what types of promotions operators present and how South Africans use them in order to determine the costs and benefits they provide for providers, users, and content producers. Ultimately, the greatest challenge may be to

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[19] Mitchell Baker, "Zero Rating and the Open Internet," *Lizard Wrangling-Mitchell on Mozilla & More*, May 6, 2015, access July 21, 2015, https://blog.lizardwrangler.com/2015/05/06/zero-rating-and-the-open-internet/
[20] Nicola Mawson, ItWeb news editor Johannesburg, and 9 Jun 2015, "SA's Internet Economy Lags Peers," *ITWeb Technology News*, accessed June 23, 2015, http://www.itweb.co.za/index.php?option=com_content&view=article&id=143793.
[21] Ibid.

decide which benefits and interests of each group must be protected and which should be sacrificed in the interest of the other groups.

In the wake of net neutrality and zero-rating furore in India, the Communication Policy Research Conference (CPPSouth 2015) convened a panel on the issue. The panel included researchers and former regulators and competition commissioners from the Oxford Internet Institute, LIRNEasia and RIA. While there was no consensus about whether zero-rating should be regulated there was some cohesion around the idea that competing and potentially conflicting public interest considerations should be weighed before any public policy or regulatory intervention was undertaken - there was no ground swell support for outright bans being lobbied for in India. While there was in principle support for net neutrality as a principle underpinning the open Internet, it was felt that a rigid application of net neutrality principles in a developing country context, particularly Africa where prices remained unaffordable for many, may have the unintended consequence of keeping the poor off the internet while maintaining an open Internet for those who had already accessed the services. The impact of zero rating on net neutrality was only one of the public policy considerations that would need to be weighed against others such as affordable access. There was some support for the argument that economic regulation should be undertaken only when the practice was an abuse of dominance in a particular market and was thus anti-competitive.

New complementary relationships that might appear exclusive (usually for a limited time period) but which enhanced affordable access and increased the viability or market share of late entrants or marginal market players and therefore improved the competitiveness of markets, should not be dealt with too blunt a regulatory instrument. There was also a collective view that outcomes of such competition regulation - or forbearance - of zero-rated services should be considered in relation to potential unintended outcomes in new dynamic and multi-sided markets and in relation to innovation and content diversity, particularly by increasing the barriers to entry by domestic start ups and in regulatory responsiveness to (artificial) scarcity claims.