Response to

TRAI Consultation Paper On

Differential Pricing for Data Services

Authors

D. Manjunath and Jayakrishnan Nair,
Department of Electrical Engineering,
IIT Bombay

30 December 2015

Background

We have been researching the effect of discriminatory pricing of data services by telecom service providers (TSPs) on the market structure. We have applied state-of-the-art network-economic models toward this and our response is based on the findings from our research.

There are two commonly proposed models for discriminatory pricing by TSPs.

Model 1: A TSP provides access to certain services for free by entering into agreements with the content providers. This usually involves payments to the TSP by the content provider.

> This model endows the TSP considerable with considerable power to `shape' the market among the content providers. This is illustrated by the following hypothetical example with two comparable and completing content providers and one TSP. If the TSP is to enter into an agreement to zero-rate one of the two providers, that would naturally skew user traffic in favour of this chosen provider. This in turn would either inhibit the content provider that was not chosen, or force it to enter into a similar arrangement with the same or another TSP. Our detailed analysis of a significantly more realistic model confirms that such a situation will indeed arise. We emphasise that the TSP can *force* a skewed marketplace if it finds it more profitable.
>
> Now consider the case when the TSP is also a primary or a secondary content provider. We define a secondary content provider as an entity that provides content distribution services, or hosting/caching services, or a combination of these. In this case the anti-competitive practices that are possible are even more obvious. For example, if the TSP launches a music-streaming service and zero-rates it (or subsidises it, or provides a low-delay access), it can effectively kill the usage of any competing services in its subscriber base. Our research indicates that this power is substantial and even small changes in the commercial agreements with different content providers can help a TSP use its power.
>
> Clearly, allowing discriminatory pricing actually *encourages* such behaviour by TSPs.

Model 2: A corporation, say F, sets up a platform that is zero-rated, that TSPs as well as content providers can join.

This model seeks to provide free access to a subset of the Internet. There are several issues that arise.

1. The first issue here is that the subset of the Internet that should be free is decided by F. The conflict of interest is clear here when F itself is a major content service provider on the Internet. Even if the platform is advertised as open, as a profit-seeking organisation that is answerable to its shareholders, we should only expect that F's primary motive is to boost its own user base.
2. A second issue is the technology that will be used in such a platform. The simplest way to provide such a platform would be to set up the equivalent of a proxy server and tunnel Internet access through this proxy server. In fact this is the design of one widely publicised platform. The security and privacy implications of this model with this technology are obvious. What is not so obvious is that if F is also a content service provider, then other such content service providers will be dis-incentivised from joining this platform because F now gets access to their analytics and user data. Thus the view of the Internet seen by the subscribers to this service will be that corresponding to services not competing with F.

We close this background with the following remark. The common argument for zero-rating services is that they enable internet access to the poor and the underprivileged. At first glance this may indeed seem to be the case but a slightly deeper analysis reveals the following aspect. The primary objective of any corporation is to make profit, and not to perform a public service. This means the following.

1. Under Model 1, note that we should not expect any public service. The content service providers that would be willing to pay the TSPs to zero-rate their services are those that offer *paid* services, like e-commerce services, transport services, and so on. These services are not targeted to the poor; indeed, they are targeted to a population that is capable of compensating the providers's expenses of sponsoring the service in the first place.

2. Under Model 2, there will be some `service' to the poor and underprivileged who will get free access to a part of the Internet. However, it will be at a significant cost in terms of security and privacy. Furthermore, the content accessible under this model will be `curated' to meet the medium-term and long-term commercial interests of the platform operator.

Thus the summary of our findings is that allowing discriminatory pricing for data services encourages corporations to come up with innovative anti-competitive models that work to their advantage and shortchange the end users and/or their competitors.

Based on the above background, we now provide pointed answers to the four questions in this consultation paper.

Question 1: Should the TSPs be allowed to have differential pricing for data usage for accessing different websites, applications or platforms?

Response 1: From the discussion in the background that we present above, the answer is an **unequivocal no.** The TSP should not be endowed with the power to shape the content provider market. Nor should a "zero-rating-platform provider" be allowed to dictate the view of the Internet that the users see and use.

Question 2: If differential pricing for data usage is permitted, what measures should be adopted to ensure that the principles of nondiscrimination, transparency, affordable internet access, competition and market entry and innovation are addressed?

Response 2: The only acceptable discriminatory pricing model that is also technogically feasible, is one where the TSP provides different grades of

service in terms of speed and volume and the user chooses the grade. Under a given grade, there should be no discrimination with across services; which services to use and how much should be the prerogative of the end user. The grade and quality of service to the end user should not be determined by agreements between the TSP and content providers.

Question 3: Are there alternative methods/technologies/business models, other than differentiated tariff plans, available to achieve the objective of providing free internet access to the consumers? If yes, please suggest/describe these methods/technologies/business models. Also, describe the potential benefits and disadvantages associated with such methods/technologies/business models?

Response 3: We suggest the following options.

1. An advertisement supported browsing model where the users agree to have a permanent "banner" that displays advertisements that will be supplied by the TSP. This of course means that the TSP should be able to attract sufficient advertisers to this service. Of course, users are free to browse *any* content on the internet under this model.
2. A public service that specifies a format for the webpages much like the “m.*” format that is currently being followed for mobile friendly webpages. Let us denote such a format by "s.*." Web-pages that comply with this format would have to be suitably ‘light’, and these pages would be available for free. In fact, we believe that such an s.* format can be derived rather easily from the m.* formatted webpages. As an alternate to the content provider providing its webpages in this format, a caching or a middleware service could be developed to convert m.* webpages to corresponding s.* webpages and this should be part of the public option.

Question 4: Is there any other issue that should be considered in the present consultation on differential pricing for data services?

Response 4: The key to harnessing the power of the Internet is the content and the OTT services. For such a harnessing to be possible, it is imperative that economics and the legal aspects be very very carefully analysed. Our research is aimed at addressing some aspects of this question and it is necessary that TRAI institute a proper study of all aspects of the possible relationships between TSPs and content providers. Specifically, we believe that the following suggestions be analysed.

1. The TSPs should have no role in determining the `winners' among competing content providers. In the absence of proper regulation, the power that the TSPs have over the content providers is significant and decisive.
2. Agreements between TSPs and content providers be open and be available for public scrutiny. This will ensure that they not make any discrimination among content providers.
3. There should be a law that disallows TSPs to provide any content related service.