

From: **ashok jhunjhunwala** <ashok@tenet.res.in>

Date: Aug 8, 2016 6:44:05 AM

Subject: RE: Consultation Paper of Telecom Regulatory Authority of India (TRAI) on the review of regulatory framework for the use of USSD for Mobile Financial Services

Advisor (F&EA), TRAI

Thank you for your mail. Here are my comments:

1. Financial inclusion is critical for India's growth and mobile is a very powerful tool enabling it. MPFI and NPCI has been able to do a lot with mobile payments, but more needs to be done by the regulators to enable financial Inclusion. This consultation paper is in the right direction.
2. However, instead of commenting on USSD alone, I would take a step back and discuss what all the regulators can do. Of course the suggestions here are all good, except that they are not enough.
3. Mobile enables communication through (i) voice, (ii) SMS, (iii) Internet (including WAP), (iv) USSD. Whether SIM kit is used or application is loaded on phone is incidental, as it will still use one of the four communication mechanism listed here.
4. Voice and SMS is most widespread used and is available even with the oldest communication technology, and one can say that as long as mobile network operates, voice and SMS would work. Internet is increasingly becoming available on mobile network and mobile phones, though not on 100%. USSD is a channel meant for signalling, but excess bandwidth here has been used in the past for various purposes. The first mobile payment, involving data communication, was therefore planned on SMS and Internet. At the time, payments on SMS was not secure and Internet was not widespread. MPFI and NPCI made efforts to make SMS secure and also to get mobile operators to agree to reasonable charges with SMS. But the operators were not willing to do it. We therefore came up with the idea of USSD being used for mobile payment and with some difficulty and support from regulator, we could get this started. It was not the first choice as it posed limitation. The off take has not been as much as secure SMS would be.
5. Time has come for regulators to take a step back and reflect and push for something that will make mobile payment universal.
 - a. Things have changed and smart-phones are in wide-spread use today. Even the rural phones are quickly changing to smart-phones. They all have Internet capability. And there is no change required to get secure mobile payment on Internet. So we are moving in the right direction. Only

problem is that in many a rural areas, Internet is still patchy.

b. what we need badly is to enable secure SMS for mobile payments. This can be defined and implemented in less than six months. As application can be loaded on the phones today, secure SMS would be simple way to enable secure mobile payment by encrypting SMS. This could be used universal. And since SMS charges are low (and TRAI can further define this for financial application), this could be used quickly.

c. The other thing that has not been given is push is use of secure voice (IVR without human call center) for mobile payment with voice-based second factor authentication. The basic technology has been available. It is time some attention is paid to it. For this can be done even by illiterate people and in all Indian languages. Of course TRAI and banking regulator has to work together to make this happen. If needed, we can come and make presentation to TRAI and others. This is what will make FI grow rapidly.

d. Of course, in the meanwhile, I think the recommendations here on USSD are well thought out and should be implemented.

Ashok Jhunjhunwala
IIT Madras, India