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Dear Mr Abbas

Draft Telecommunication Mobile Number Portability (Seventh Amendment) Regulations, 2017

Cenerva is pleased to submit our response to the draft notification and consultation on mobile number portability (MNP) issued by the Telecom Regulatory Authority of India (TRAI).

Cenerva is an international ICT policy and regulatory advisory practice, providing expert support within emerging markets for critical areas of market regulation including: OTT services, cyber regulation, economic policy, mobile money, VoIP, spectrum management and consumer switching.

Cenerva's subsidiary, Laurasia Associates Limited, is acknowledged to be global experts on the development and implementation of Number Portability services. Over the past 10 years, Laurasia Associates and its specialist consultants have advised both regulators and operators, either directly or indirectly, on virtually every Number Portability programme across the world, including Russia, Paraguay, Colombia, Qatar, Morocco, Nigeria, Ghana, Kenya, Benin, Jamaica, Haiti, Kazakhstan, Pakistan, Bangladesh, Sri Lanka, Nepal etc.

We would like to congratulate the TRAI on producing an insightful, comprehensive, fair and detailed consultation paper.

In this response, we offer our comments on the two specific issues on which the TRAI is consulting, i.e.

- The proposed new mechanism to match the Unique Porting Code (UPC) between the donor and recipient operators ('DO' and 'RO').



- The proposed requirement for DOs to provide more details (the amount outstanding and the date of any notice served) to ROs via the MNP Clearing House ('MCH') where the DO has submitted a non-payment disconnection request to the RO.

We also comment on other aspects of the MNP system in India.

We would be happy to discuss our comments with the TRAI, and to participate in and assist with work to implement the two specific improvements on which this consultation is focussed, and any other improvements to the porting framework or processes.

Matching the UPC between the DO and RO

Currently customers who wish to port their number must request a UPC from their current provider (the DO) by SMS. They then provide the UPC to their new operator (the RO). Customers also have to submit a Customer Acquisition Form and Porting Form to the RO. The RO then, following completion of the sales validation process, raises the porting request via the MCH.

We note that "UPC mismatch" and "UPC expired" are major reasons for port rejections (amounting to around 40% of rejections between them). We agree with the TRAI that improvements to the process should be considered to reduce UPC errors.

The current process is complex and requires the customer, DO and RO to all complete a number of steps in the correct sequence. Hence there are several points at which the process may fail as the result of human error. We believe the TRAI should seek to institute process reforms which reduce the possibility of error as much as possible, whilst preserving the safeguards which ensure only valid porting requests proceed.

The TRAI proposes that the current process be supplemented by adding a requirement for DOs to send UPCs and UPC expiry dates to the MCH. The MCH can then match this information with verification requests sent to the MCH by ROs.

We believe that this reform may improve the verification process and has the potential to reduce the number of UPC-related port rejections.

However, the need for customers to correctly enter a UPC may still cause errors which cannot be rectified, resulting in a residual number of failed ports. The TRAI may therefore wish to consider more far reaching process reforms.

For example, the TRAI could look at ways in which the number of validation steps is reduced and the process simplified. In other markets, the validation stage of the process is completed between the customer and MCH. No validation code is required, and this reduces the risk of incorrect entry. This is facilitated through the following steps:

1. The customer makes a porting request to the RO.
2. The RO submits the request to the MCH.



3. The MCH sends a SMS message to the customer inviting them to confirm that they wish to port.
4. The customer confirms that they wish to port by submitting a simple message (e.g. “yes”) back to the MCH by return SMS.
5. The MCH confirms receipt of a valid confirmation to the RO, which allows the port to proceed.

The SMS validation system is very secure. It demonstrates (a) that the person requesting porting is in possession of the handset with the number to be ported and (b) enables customers to confirm their approval of the porting transaction quickly (steps 2-5 above can be completed in seconds). SMS is also a robust mechanism for customer validation since SMS always includes the CLI of the sending number.

This system is in use and works well in a number of countries including Kenya, Ghana, The Bahamas, and the UK Channel Islands and Isle of Man. We believe it has two specific advantages when compared to the current process in India.

- Firstly, this system reduces the number of steps in the process and hence the risk of errors. Validation happens quickly between just the customer and the MCH. Of course, it is still possible that the customer submits the validation code incorrectly; however ROs can take steps to mitigate this risk by assisting the customer or providing clear instructional information on how to submit the code correctly and accurately.
- Secondly, this process does not require the DO to provide a validation code (as is the case for the UPC in India), nor to send UPC information to the MCH, as would be required under the proposed TRAI improvements. We believe this is important. DOs do not have strong incentives to operate efficient porting processes, nor to make porting a straightforward experience for customers who they wish to retain. Therefore, porting and switching processes which require the customer to obtain validation codes from DOs are likely to perform badly relative to processes where the RO leads the process. In DO led processes, the required initial contact between the customer and DO may lead to customer retention efforts by the DO. Whilst all operators should be able to offer deals to retain their customers, sales and marketing conversations should not be a necessary step in the switching process. Even where there are no retention efforts, the requirement for consumers to navigate simultaneous contact with the DO and RO can be difficult and confusing.

Cenerva respectfully recommends that the TRAI considers moving to SMS validation between the customer and MCH.

Non-payment disconnection requests

The TRAI proposes that DOs be required to provide information on the sum outstanding and the date of any notice served to ROs via the MCH where the DO has submitted a non-payment disconnection request to the RO.

Cenerva is not aware of other countries adopting a mechanism which allows for customers to be disconnected by their new provider where they have failed to settle sums owed to their previous provider. Normally operators pursue money owing by previous customers directly with them, and



through the Courts if necessary. The porting process is not, in our view, a proportionate or effective means to recover outstanding debt.

Nevertheless, we agree that, if TRAI wishes to retain this mechanism, it would be more effective if the RO is furnished with information on the date of any notice serviced, as this may affect the disconnection schedule. We think information on the amount of the sum outstanding is less critical to this process.

This information should only be used for the purpose it was provided, and should not be passed to any other party (e.g. debt collection agencies). Robust controls on use of this information must be in place in the DO, RO and the MCH. Of course the sharing of customer information between operators and the MCH can only take place in compliance with applicable privacy and data protection laws.

Other potential MNP improvements

The mobile market in India is large, and competition is intense. The implementation of a successful MNP framework and processes has been an important driver of competition and, most importantly, has delivered benefits to Indian consumers. By the same token, MNP is critical to the future success of the mobile sector in India. Competition drives innovation and value, and mobile competition cannot be fully effective without the ability for consumers to switch easily and keep their 'phone numbers.

To ensure that MNP delivers the best possible competition and consumer outcomes and is able to cope with changes in consumer expectation and technology in the coming years, we believe the TRAI should consider further reforms in addition to the two discussed in its consultation. Where the benefits of change outweigh the costs, there is a strong case for the regulator to intervene to make improvements.

Any review should cover the needs and experiences both of individual consumers and business users.

We offer the following suggestions for areas which the TRAI may wish to include in such a review.

Porting timeframes

Operators are allowed up to 10 days to complete a port in some parts of India. We understand the average time for a port to be 4 days, and that porting of pre-paid numbers (around 95% of subscribers) usually takes longer than for post-paid numbers.

These timeframes compare unfavourably with the best performing markets outside India, where porting can be completed within a matter of hours.

Globally, speed of porting has improved dramatically since the turn of the century. In 2000, on average porting took around 30 days. By 2005 average mobile porting times had dropped to 5 days, and then to 2 days by 2008. More recently mobile porting times have dropped further to less than one day with many countries confirming that they are consistently delivering mobile porting within a matter of hours. For instance, the national communications agency of Ghana has reported that 95% of porting transactions were completed within 10 minutes of initiation.



Our experience of the porting timeframe being applied in new porting service implementations in emerging markets suggests that, for mobile porting, a two-day porting timeframe is considered reasonable although best practice is one-day. We suggest that TRAI undertakes a detailed review of the reasons behind the current porting timeframe, and the revisions to processes and systems which would bring India closer to global best practice.

Loss of service

We understand that the Indian MNP framework incorporates a two-hour disruption to services for law enforcement purposes. We do not comment on law enforcement factors. However, we recommend that the TRAI and other relevant agencies review this requirement, with a view to minimising or removing service disruptions to consumers who are switching their provider.

The potential for loss of service, even for a short period, is likely to be a significant disincentive for consumers to switch. Loss of service is inconvenient, particularly as the communications and connectivity capabilities provided by mobile 'phones become increasingly central to our lives. Consumers may understandably opt not to switch rather than face even a short period without the use of their 'phone.

Of course, loss of service can have more serious consequences than just inconvenience - for example, if it occurs during a time when a subscriber needs to call the emergency services.

Porting charges

TRAI allows for a porting charge to consumers in India of up to Rs 19.

International best practice is that there should be no charge to consumers for porting. Charging is an obvious disincentive to port and hence may damage competition. The benefits of competition in India are enjoyed by all consumers, whether they switch or not, and significantly outweigh the costs of porting. These costs should therefore be recovered across the whole market and not borne just by those customers who switch and port their numbers.

The costs which arise from porting are

- The costs of MCH services and facilities. These are a commercial matter between the MCH providers and operators.
- Transactional costs of porting between operators. A charge per port can cover these costs. This charge must be competitively neutral. It can be agreed between operators, but there may be the need for regulatory oversight to ensure that porting charges cover only the efficiently incurred direct costs of porting and do not contribute inappropriately to other operator costs.
- Retail costs. Each operator should bear their own retail costs.

Communication with consumers during porting



Information received by the porting customer before and during the port is key to a successful process and good experience of porting for consumers. There are a number of aspects of this.

In our response on the TRAI's proposal to improve UPC matching (above), we point out some of the drawbacks of some types of DO contact with consumers during the port - for example, retention offers may muddle the process, and add unnecessary steps to it. However, some information which the DO can provide is useful for consumers. Our experience in other markets shows that switching customers find it helpful to receive information on the outstanding balance of their account, and on any service features or benefits they will lose when they switch. Reforms which are currently being implemented in UK mobile switching processes will ensure consumers receive this information. This will enable them to plan effectively to clear any outstanding money owing to their existing provider, and establish the service features they like with their new provider.

We recommend any review of MNP undertaken in India should include a component to ensure that customers receive clear and coordinated helpful information from the DO and RO at each stage of their switching journey.

Withdrawal requests and cancellations

Customers in India are currently able to cancel their porting requests within 24 hours of submission.

We believe that customers should be able to change their mind. This means that the porting framework should incorporate a "cooling off" period during which the customer can reverse their decision, and processes should be in place so that the RO can return the customer to the DO during this period.

Cooling off and the ability for consumers to return goods and have their money refunded is best practice in all markets. Cooling off is particularly important in "distance selling" situations, i.e. when customers are not present at the point of sale, and make their purchases online or over the 'phone.

The porting process also needs to enable repatriation of numbers and return of customers to their previous provider when a port had been undertaken incorrectly or fraudulently.

However, as long as customers are protected by cooling off provisions, and incorrect or fraudulent ports can be reversed, we do not believe it is necessary or desirable for consumers to be able to cancel the porting process once it is underway. Allowing the customer or recipient operator to modify or cancel the porting request once it has been validated or approved may result in stakeholder confusion and could lead to service disruption for the customer. For near real-time porting it is critical that the process focuses on establishing the customer's intention to progress the porting request and, once verified by the customer, it should ensure the porting request can be completed.

National porting

MNP in India was originally introduced in India in separate regional "circles", and the ability for customers to port numbers between the circles was limited. The process now works nationally, and consumers can port any mobile number in the Indian national numbering plan between any two operators.



However, the history of MNP in India means that regional structures still exist. For example, different MCH providers provide centralised clearing house facilities in the two geographic zones into which the Indian market is divided. Coordination and seamless operation between the zones has become more important since MNP became available nationally in 2015.

Cenerva does not possess evidence to take a view on the efficiency of the two MCH model. We suggest that any review of MNP should look at operation of the MCHs in India, including coordination and consistency between the two current MCH facilities, whether this can be improved and whether consolidation is needed. We recommend MCH performance be assessed by benchmarking performance the best against MCHs in other countries.

Future developments

MNP requirements should be seen in the context of broader industry, technological and regulatory developments. For example:

- Industry plans for development of next generation networks (NGNs) may present opportunities for more efficient porting processes and to streamline the consumer experience of porting. Identifying these opportunities requires coordination across industry, and the regulator is well placed to facilitate this. TRAI should include the potential for MNP improvements in its infrastructure and technology roadmaps.
- These developments may also open up opportunities to develop fixed number portability (FNP) in India.
- By its nature MNP creates capabilities to gather and store data covering the whole market, for example the number allocations data held by the MCHs. This data is constantly updated so as to be contemporaneous. The capability for secure and accurate data storage is needed for other industry and regulatory facilities, for example the need for an accurate and up to date register of SIM cards. Any review of MNP will provide the TRAI with the opportunity to investigate opportunities and synergies to link MNP facilities with other database requirements.

I trust the responses we have provided to the questions in the TRAI consultation and other MNP issues are helpful. Our responses are based on our extensive experience of advising clients on best practices in Number Portability service design, and implementation across the world over the past 10 years.

We would welcome the opportunity to arrange either a visit to or conference call with the TRAI MNP team to discuss the responses we have provided, and to share our experiences and learning from successfully implementing and supporting the operation of number portability services in a wide range of different markets across the world.



With your approval, I would like to arrange a convenient date and time for us to speak.

We look forward to hearing from you.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "James Wild", with a horizontal line underneath.

James Wild
Managing Partner

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