

GOVERNMENT OF INDIA  
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY  
**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 648**  
TO BE ANSWERED ON 27.06.2019

**INTERNET SECURITY FOR CYBER TRANSACTIONS**

**648 SHRI V. VIJAYASAI REDDY:**

Will the Minister of Electronics and Information Technology be pleased to state:

- (a) whether total cashless economy is possible only when country has high internet speed and high cyber security;
- (b) in what manner Government would achieve cashless economy when India ranks 96th in terms of download speed which is less than Bangladesh, Iraq and Nepal and 105th in terms of average bandwidth availability and poor internet security with almost zero conviction rate;
- (c) whether people in the country are wary of cyber transactions for fear of falling victim to hacking attacks; and
- (d) in what manner Government is planning to go ahead, in view of the above?

**ANSWER**

MINISTER FOR ELECTRONICS AND INFORMATION TECHNOLOGY  
(SHRI RAVI SHANKAR PRASAD)

(a) and (b): As per the TRAI data there is increasing trend of growth of Internet subscribers. (No. of Internet subscriber base at the end of September 2016 was 367.48 million & total No. of Internet subscriber base at the end of September 2018 was 560.01 million). The contribution of digital payments transactions has increased in the digital economy due to the convenience and transparency that comes with it. The digital transaction through USSD, for which no internet connection is needed, has seen total no. of 0.15 Crore of transaction in FY 2018-19 while as a result of the consistent efforts by Govt. of India, the total number of digital payment transactions has increased significantly from 220 Crore in 2013-2014 to 3134 crores in FY 2018-2019.

(c) and (d): To increase the penetration and to build trust and confidence in the society towards Digital Payments, the Government of India has taken several steps to create awareness as well as further strengthen the security system. These steps have been mentioned in Annexure-I. In addition, the steps taken by Reserve Bank of India (RBI) in respect of digital payments security and awareness are mentioned in Annexure-II.

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**Annexure-I**

**Initiatives by the Government of India**

In tune with the dynamic nature of Information Technology and emerging cyber threats, continuous efforts are required to be made by owners and users to protect networks and data by way of hardening and deploying appropriate security controls.

1. The Indian Computer Emergency Response Team (CERT-In) issues alerts and advisories regarding latest cyber threats and countermeasures on regular basis to ensure safe usage of digital technologies. Regarding securing digital payments, 28 advisories have been issued for users and institutions.
2. All authorised entities/ banks issuing PPIs in the country have been advised by CERT-In through Reserve bank of India to carry out special audit by empanelled auditors of CERT-In on a priority basis and to take immediate steps thereafter to comply with the findings of the audit report and ensure implementation of security best practices.
3. Government has issued guidelines for Chief Information Security Officers (CISOs) regarding their key roles and responsibilities for securing applications / infrastructure and compliance.
4. Government has empanelled 84 security auditing organizations to support and audit implementation of Information Security Best Practices.
5. All organizations providing digital services have been mandated to report cyber security incidents to CERT-In expeditiously.
6. Government has formulated Crisis Management Plan for countering cyber attacks and cyber terrorism for implementation by all Ministries/ Departments of Central Government, State Governments and their organizations and critical sectors.
7. Cyber security mock drills and exercises are being conducted regularly to enable assessment of cyber security posture and preparedness of organizations in Government and critical sectors. 38 such exercises have so far been conducted by CERT-In where organisations from different sectors such as Finance, Defence, Power, Telecom, Transport, Energy, Space, IT/ITeSetc participated. Three (3) exercises were conducted in coordination with Reserve bank of India in November 2018 for senior management and Chief Information Security Officers (CISOs) of banks.
8. CERT-In conducts regular training programmes for network / system administrators and Chief Information Security Officers (CISOs) of Government and critical sector organisations regarding securing the IT infrastructure and mitigating cyber attacks. Twenty two (22) trainings covering 746 participants conducted in the year 2018 (till November).
9. Government has launched the Cyber Swachhta Kendra (Botnet Cleaning and Malware Analysis Centre). The centre is providing detection of malicious programs and free tools to remove the same.
10. Government has initiated setting up of National Cyber Coordination Centre (NCCC) to generate necessary situational awareness of existing and potential cyber security threats and enable timely information sharing for proactive, preventive and protective actions by individual entities. Phase-I of NCCC has been made operational.
11. Under the Information Security Education and Awareness (ISEA) Project Phase-I (2005-2014), more than 44,000 candidates were trained in various formal/non-formal courses in Information Security through 40 institutions (including IISc. Bangalore, TIFR Mumbai, 4 IITs, 15 NITs, 4 IIITs, 7 Govt. Engineering Colleges and select centres of CDAC/NIELIT). Around 100 Government officials, covering NIC, ICERT, STQC, CDAC, NIELIT, ERNET, Scientists from MeitY, etc. were trained as Master Trainers in the area of Information Security. The ISEA Project Phase-II project aims to train more than 1 lakh candidates in various formal/non-formal courses & more than 13,000 Government officials by March 2020. Further, 43,322 candidates have been trained/under-going training in various formal/non-formal courses through 52 institutions. Besides this, around 2.2 lakh candidates are under-going training / trained in affiliated colleges of 5 Technical Universities participating in the project. In addition, institutions have reported 710 paper publications in Cyber Security Domain. 7,349 Government Officials have been trained in the area of Information Security through 12 centres of C-DAC/NIELIT and ERNET India. In addition, 1,016 Government officials trained through e-learning courses. Besides this, 836 general awareness workshops on Information Security have been organized across the country for various user groups covering 95,161 participants.

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## **Steps taken by RBI**

Department of Payment and Settlement Systems (DPSS), Reserve Bank of India (RBI) has issued circulars/ guidelines related to security and risk mitigation measures for securing digital / online payment transactions.

### **1. Securing Card Transactions**

Various measures have been taken by RBI to secure card transactions: -

- i) Banks have been advised to provide online alerts for all card transactions {Card Present (CP) and Card Not Present (CNP)}, vide, RBI circular dated March 29, 2011.
- ii) RBI has also issued circulars dated September 22, 2011, February 28, 2013 and June 24, 2013 for securing electronic (online and e-banking) transactions advising banks to introduce additional security measures, as follows:
  - a) All new debit and credit cards to be issued only for domestic usage unless international use is specifically sought by the customers. Such cards enabling international usage will have to essentially be EMV Chip and PIN enabled.
  - b) Issuing banks should convert all existing MagStripe cards to EMV Chip card for all customers who have used their card internationally atleast once (for/ through e-commerce/ATM/POS).
  - c) Banks should ensure that the terminals installed at the merchants for capturing card payments (including the double swipe terminals used) should be certified for PCI-DSS (Payment Card Industry-Data Security Standards) and PA-DSS (Payment Applications-Data Security Standards).
  - d) Banks should ensure that all acquiring infrastructure that is currently operational on IP (Internet Protocol) based solutions are mandatorily made to go through PCI-DSS and PA-DSS certification. This should include acquirers, processors / aggregators and large merchants.
  - i) RBI has directed banks to mandatorily put in place an Additional Factor of Authentication (AFA) for all CNP transactions w.e.f. 01.05.2013 failing which the issuer bank shall reimburse the loss to customer without demur.
  - ii) All authorised card payment networks are permitted to offer card tokenisation services to any token requestor (i.e., third party app provider), subject to certain conditions. All extant instructions of RBI on safety and security of card transactions, Including the mandate for Additional Factor of Authentication (AFA) / PIN entry shall be applicable for tokenised card transactions also (DPSS.CO.PD No.1463/02.14.003/2018-19) dated January 08, 2019).

### **2. Securing Payments through Internet Banking / Electronic Payments**

RBI has issued circular on 'Security and Risk Mitigation Measures for Electronic Payment Transactions' (DPSS.CO.PD No.1462 /02.14.003 /2012-13) dated February 28, 2013. Vide this circular, RBI has required banks to introduce following additional measures to secure electronic mode of payments like RTGS, NEFT and IMPS:

- i) Customer induced options may be provided for fixing a cap on the value/mode of transactions /beneficiaries. In the event of customer wanting to exceed the cap, an additional authorization may be insisted upon.
- ii) Limit on the number of beneficiaries that may be added in a day per account could be considered.
- iii) A system of alert may be introduced when a beneficiary is added.
- iv) Banks may put in place mechanism for velocity check on the number of transactions effected per day / per beneficiary and any suspicious operations should be subjected to alert within the bank and to the customer.
- v) Introduction of AFA (preferably dynamic in nature) for payment transactions should be considered.
- vi) The banks may consider implementation of digital signature for large value payments for all customers, to start with for RTGS transactions.
- vii) Capturing of Internet Protocol (IP) address as an additional validation check should be considered.
- viii) Sub-membership of banks to the centralized payment systems has made it possible for the customers of such sub-members to reap the benefits of the same. Banks accepting sub-members should ensure that the

security measures put in place by the sub members are on par with the standards followed by them so as to ensure the safety and mitigate the reputation risk.

ix) Banks may explore the feasibility of implementing new technologies like adaptive authentication, etc. for fraud detection.

### **3. Prepaid Payment Instruments (PPIs)**

RBI has issued 'Master Direction on Issuance and Operation of PPIs' (MD on PPIs) (DPSS.CO. PD. No.1164/02.14.006/2017-18) dated October 11, 2017 (updated as on December 29, 2017).

As per para 15.3 of MD on PPI issuers were instructed to put in place a framework to address the safety and security concerns, and for risk mitigation and fraud prevention as follows:

- i) In case of wallets, PPI issuers shall ensure that if same login is provided for the PPI and other services offered by the PPI Issuer, then the same shall be clearly informed to the customer by SMS or email or post or by any other means. The option to logout from the website / mobile account shall be provided prominently.
- ii) Issuers shall put in place appropriate mechanisms to restrict multiple invalid attempts to login / access to the PPI, inactivity, timeout features, etc.
- iii) Issuers shall introduce a system where every successive payment transactions in wallet is authenticated by explicit customer consent.
- iv) Cards (physical or virtual) shall necessarily have AFA as required for debit cards, except in case of PPIs issued under PPI-MTS.
- v) Issuers shall provide customer induced options for fixing a cap on number of transactions and transaction value for different types of transactions / beneficiaries. Customers shall be allowed to change the caps, with additional authentication and validation.
- vi) Issuers shall put in place a limit on the number of beneficiaries that may be added in a day per PPI.
- vii) Issuers shall introduce a system of alert when a beneficiary is added.
- viii) PPI issuers shall put in place suitable cooling period for funds transfer upon opening the PPI or loading / reloading of funds into the PPI or after adding a beneficiary so as to mitigate the fraudulent use of PPIs.
- ix) Issuers shall put in place a mechanism to send alerts when transactions are done using the PPIs. In addition to the debit or credit amount intimation, the alert shall also indicate the balance available / remaining in the PPI after completion of the said transaction.
- x) Issuers shall also put in place suitable mechanism to prevent, detect and restrict occurrence of fraudulent transactions including loading / reloading funds into the PPI.
- xi) Issuers shall put in place suitable internal and external escalation mechanisms in case of suspicious operations, besides alerting the customer in case of such transactions.

### **4. Limiting Customer Liability on Unauthorized Electronic Banking Transactions**

RBI has issued circular no. DBR.No. Leg.BC.78/09.07.005/2017-18 dated July 06, 2017 limiting the liability of customers on unauthorized electronic banking transactions. The transactions include –

- i) Remote / Online payment transactions (transactions that do not require physical payment instruments to be presented at the point of transactions e.g. internet banking, mobile banking, CNP transactions, PPIs,
- ii) Face-to-face / Proximity payment transactions (transactions which require the physical payment instrument such as a card or mobile phone to be present at the point of transaction e.g. ATM, POS, etc.)

The systems and procedures in banks must be designed to make customers feel safe about carrying out electronic banking transactions. To achieve this, banks must put in place:

- i) appropriate systems and procedures to ensure safety and security of electronic banking transactions carried out by customers;
- ii) robust and dynamic fraud detection and prevention mechanism;
- iii) mechanism to assess the risks (for example, gaps in the bank's existing systems) resulting from unauthorized transactions and measure the liabilities arising out of such events;
- iv) appropriate measure to mitigate the risks and protect themselves against the liabilities arising there from; and
- v) a system of continually and repeatedly advising customers on how to protect themselves from electronic banking and payments related fraud.

#### **5. Limiting Customer Liability in Unauthorized Electronic Banking Transactions in PPIs issued by Authorised Non-banks**

RBI has issued circular no. DPSS.CO.PD.No.1417/02.14.006/2018-19 dated January 04, 2019 limiting the liability of customers in unauthorized electronic banking transactions in PPIs issued by Authorised Non-banks. To achieve this, PPI issuers are directed to

- a. Ensure that their customers mandatorily register for SMS and email alerts.
  - b. Send alert for any payment transaction in the account to the customers. Transaction alert should have a contact number and / or e-mail id on which a customer can report unauthorised transactions or notify the objection.
  - c. Provide customers with 24x7 access via website / SMS / e-mail / a dedicated toll-free helpline for reporting unauthorised transactions that have taken place and / or loss or theft of the PPI.
  - d. Provide a direct link for lodging of complaints, with specific option to report unauthorised electronic payment transactionson mobile app / home page of their website / any other evolving acceptance mode.
  - e. Ensure that a complaint is resolved and liability of the customer, if any, established within such time, as may be specified in the PPI issuer's Board approved policy, but not exceeding 90 days from the date of receipt of the complaint.
6. For the purpose of creating awareness RBI is holding e-BAAT program at various locations wherein audience are sensitised about safe digital payments. Also, a campaign named "RBI Kehta Hai" is undertaken through print and electronic media to create awareness in this regard.

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