

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

NAME OF CATEGORY: USE OF ICT FOR DEVELOPMENT BY NON-GOVERNMENT INSTITUTIONS

1. Coverage – Geographical and Demographic :-

(i) Comprehensiveness of reach of delivery centres,

TCS is currently offering services through its Financial Inclusion (FI) Solution Suite to 24 Public Sector Banks, 5 Private Banks and 18+ Regional Rural Banks (RRBs). TCS' FI Solution Suite has reached most of the states and union territories. As per current mandate, Government of India (GOI) has set the target of one Bank Account per house hold. This means each and every family should have access to Banking Services. This is possible through FI Technology only as this technology is low cost and easily scalable. This model can be replicated across multiple units with low cost and less time without compromising on quality.

(ii) Number of delivery centers

(10) Mumbai, Chennai, Hyderabad, Bangalore, Kolkata, Delhi, Lucknow, Ahmedabad, Pune, Bhubaneshwar

(iii) Geographical

(a) National level – Number of State covered

27

(b) State/UT level- Number of District covered

500+

(c) District level- Number of Blocks covered

4000+

Please give specific details:-

- TCS is working extensively with multiple stake holders in Financial Inclusion eco system such as Public Sector Banks, Device Manufacturers, VAS Providers, Regulatory Bodies, Technology Providers, Last Mile Delivery Partners, and Business Correspondent Organisations to continuously improve the outreach.
- TCS is currently working with more than 24 Public Sector Banks, 5 Private Banks and 18+ RRBs to achieve the goal of financial inclusion and banking reach to each and every Indian household.
- The total account base of customers across all Banks working on TCS provided FI Solution Suite is more than 2 crores and the aim is to reach more than 10 crores customer base in next three years.
- TCS is part of various technology and policy committees setup by Department of Financial Services (DFS), Govt. of India and Reserve Bank of India. It has regular interactions with NPCI, IDRBT, Bankers Committee and so on.

(iv) Demographic spread (percentage of population covered)

Over 2% population covered

2. Situation Before the Initiative (Bottlenecks, Challenges, constraints etc with specific details as to what triggered the Organization to conceptualize this project):

The Trigger:

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“Contrary to common perception, financial inclusion is a potentially viable business proposition because of the huge untapped market that it seeks to bring into the fold of banking services. Financial inclusion, prima facie, needs to be viewed as “money at the bottom of the pyramid” and business models should be so designed to be at least self-supporting in the initial phase and profit-making in the long run. It is important to keep in mind that service provided should be at an affordable cost.”

- Dr. K.C. Chakrabarty, Deputy Governor, Reserve Bank of India at the FICCI – UNDP Seminar on “Financial Inclusion: Partnership between Banks, MFIs and Communities” at New Delhi on October 14 2011

RBI has observed that even after more than 60 years of independence banking services are catering to only 25% of population. More than three fourth of the population, which has a lot of business potential is not having reach to the banking services. TCS has responded to this with an Information and Communications Technology (ICT) based comprehensive FI Solution Suite which is easily scalable, replicable and sustainable.

3. Scope of Services/Activities Covered(Extent of computerization in terms of number of services computerized, Process that have been re-engineered, Services which depends on these processes, Analysis/re-design of process workflows –before (as is) and after (To be) reengineering , level of automation (number of services computerized) #

45,000 Kiosks and 40,000 POS deployed on field by various banks are using the TCS FI applications. The following are operational statistics based on the number of units computerized.

- Customer base of over 20 million
- 24 Public Sector Banks
- 5 Private Banks
- 18+ Regional Rural Banks
- 85,000+ locations covered in 27 states
- Over 120 million transactions annually

TCS platform caters to wide range of products namely:

- Support Open & Semi Closed Wallet
- Remittance

Wallet



- Urban
- Rural

Financial Inclusion



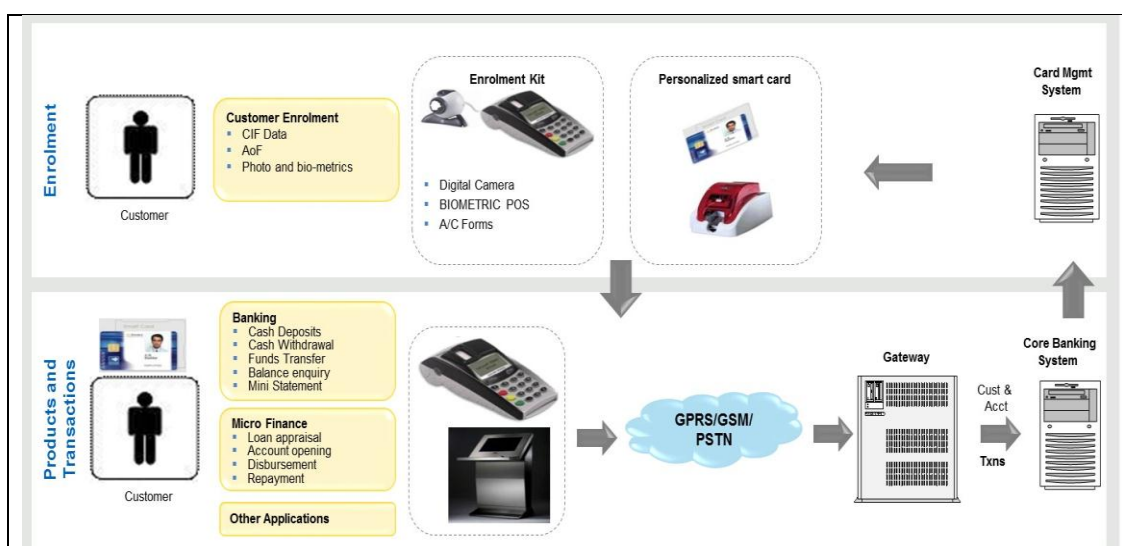
- Checking
- Savings
- Loan & Deposits
- Corporate

Mobile Banking



The FI Process Overview:

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Service Offerings of TCS Financial Inclusion Solution Suite:

Banking Transactions <ul style="list-style-type: none"> • Delivery channels – Kiosk, POS, Self Service Kiosk, Mobile, TAB • Customer Enrollment • Account Opening • Transactions 	Money Transfer (Remittance) <ul style="list-style-type: none"> • Cash to Account (C2A) • Account to Account (A2A) 	Green Channel and e-KYC <ul style="list-style-type: none"> • Combination of Self Service and Assisted service • Enables digital enrollment and transactions with/without Aadhaar • Branch de-congestion
Payments & Payment Gateway <ul style="list-style-type: none"> • Government subsidy payments - Pension payments, Oil and LPG Subsidies, • Wage payments 	Bill Pay <ul style="list-style-type: none"> • Utility bill payments • Mobile/DTH – Recharges and top-ups • Insurance premium payments 	E-Wallet <ul style="list-style-type: none"> • Ability to allow customers to open virtual accounts (wallets) • Top-up wallets • Spend using wallets
TAB Banking <ul style="list-style-type: none"> • Enrollment • Transactions • Doorstep services 	Mobile Banking <ul style="list-style-type: none"> • Self Service applications • USSD Based Transactions 	Self Service Kiosk <ul style="list-style-type: none"> • Stationed at bank branches and on existing infrastructures • MT, Balance Enquiry, Account statements, Bill pay
Loan Application <ul style="list-style-type: none"> • Loan request capture • Integration with Loan Origination System (LOS) • Loan disbursement and Repayment 	Group Lending <ul style="list-style-type: none"> • Group and Member formation • Group accounts opening • Loan disbursement and repayment 	Collections <ul style="list-style-type: none"> • Partner collaborations with Telco and retail giants • Insurance Premium collections • Loan Repayments

The suite facilitates the following Financial and Non- Financial services:

- Customer enrolment
- Savings bank, term deposits, recurring deposits and loan account
- Cash transactions, balance enquiry, mini-statement, statement of account
- Remittance and fund transfer
- AEPS and interoperability
- Insurance payments
- Government subsidy payments and Grants, pensions, NREGA

Value Added Services

- Recharge, Top-up Card
- Bill Collection – Electricity, Telephone and so on

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- Payments – NEFT/ RTGS
- Payment Gateway – Oxygen, AP-Online, MP-Online
- Salary wages disbursement
- PDS transactions
- Corporate payments and collections
- Purchase of agricultural equipment, fertilizers, seeds, etc.
- Sale and purchase activities carried out by – Dairy, poultry industry etc.
- Information on Government schemes
- Seek Pricing info from external portal interface

These services are made available through the following channels:

- Laptop/PC
- POS/Hand Held Device
- Mobile and Tablets
- Self Service Kiosks



Laptop/PC – Only vendor for FI Kiosk

- Works only in online mode
- Emerging as a preferred option with improving connectivity
- Biometric or non-biometric options; Cardless solution



POS/Hand Held Device

- Works in online and offline mode
- All in one device - Biometric and non-biometric solution (ATM card based), smart card and cardless approach
- Tie up with multiple device vendors/manufacturers



Mobile & Tablets

- Self service as well as assisted service model; cost effective
- Available mode of communications → GPRS, 3G, SMS, USSD
- Best portability in available options



Self Service Kiosk

- Self service model
- Works only in online mode
- Can be stationed in retail outlets

4. Strategy Adopted

(i) The details of base line study done,

The future lies with those who see the poor as their customers as commerce for the poor is more viable than the rich. And technology is a powerful tool, which cuts across class, caste, gender, infrastructure outreach, size of transaction. An amalgamation of these principles coupled with strong social commitment of TATAs in the DNA of TCS resulted in the creation of a unique, robust, scalable and cost effective FI Platform – A truly Collaborative Non – linear Model @ Bottom of Pyramid. The Guiding Design Principles being:

- Open Architecture – Should not lock into a technology platform that is Technology driven but Technology platform neutral
- Modular Architecture – Flexible to choose
- Loosely coupled and tightly integrated
- Seamless Integration Capability

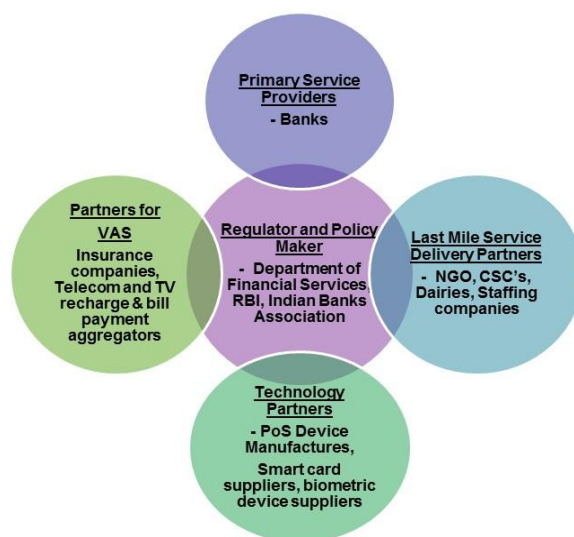
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- Data Integrity and Reconcilability
- Secured and Clean transaction processing
- Scalable and robust
- User friendly and ease of use
- Environment Friendly – Should conserve minimum energy resources
- Aligned with Standard Operating Procedures and Process of the Business industry
- Transparency to stake holders
- Necessary controls built in

TCS FI Technology works on following principles:

- Rich and Robust Technology backbone
- Lower cost of transactions for end customers
- Create a cross domain eco system
- Creation of easily replicable, sustainable and scalable for multiple stake holders with the help of affordable FI Technology

TCS Strategy is to focus on increasing partnerships with Banks, Value added Services (VAS), Last Mile Service Delivery Partners and Technology Vendors coupled with increased focus on technology enhancement to enable Sustainable, Scalable and Replicable FI Model.



In our quest of providing low cost banking to rural customers, TCS has pioneered many technological innovations as follows:

- RuPay Card acceptability at channel device
- Interoperability to FI customers so that a BC can enable transactions across banks
- Integration of channel applications of different Technology vendors with FI application at bank's end
- Integrating VAS with FI, bringing utility payments for example: mobile

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recharge and pay DTH bill at nil cost

- Ability to service multiple BC Partners such as NGO, MFI through a single solution within and across banks.
- Using cloud based services for FI reducing infrastructure costs.

(ii) Problems identified

Challenges faced by Banking Service Providers, Regulatory bodies and Government Agencies

- Poor Banking Reach: At the onset of the FI program in 2010, despite a network of 82,000 bank branches, banks cater to only 5% of villages.
- High installation and capital cost: The cost of infrastructure, hardware and software required for installing a new branch at remote areas is very high.
- Collaborative Approach: Collaborative participation required between several external stakeholders comprising banking institutions, regulatory directives, hardware vendors, business correspondent agencies, etc.
- Lack of channel for Government Payments: Government Subsidies, Pension Payments and Direct Cash Transfers are not reaching to last mile customers on time and in transparent manner.
- Absence of Standardised Processes: TCS has tried to develop and evolve multiple processes which not only complies with standards set by Regulatory bodies but also help in business growth and risk mitigation. There was no standardization in the specifications of field level devices such as Laptops, Finger Print Scanners.
- Large Untapped Rural Markets: Majority of rural house-holds does not have access to Banking Services.

Challenges faced by Technology Providers

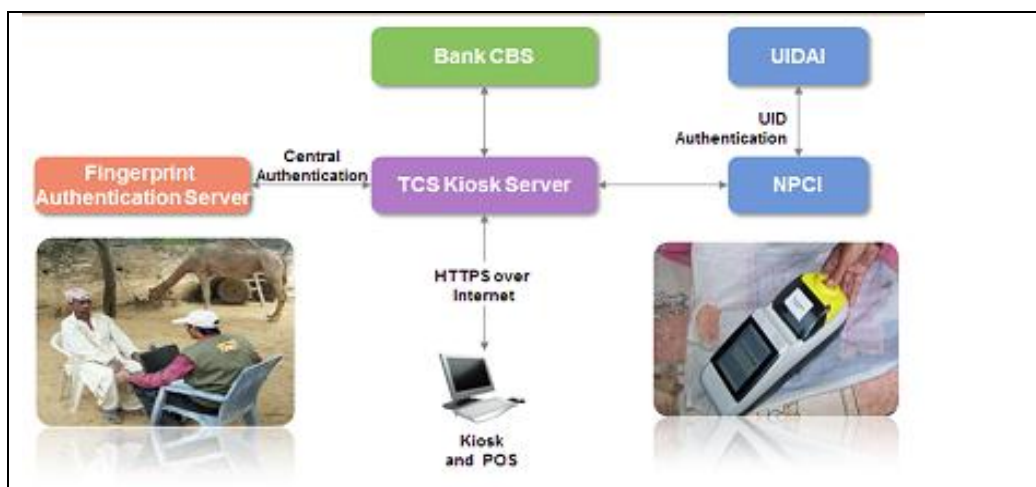
- Scalability: Technology model which can easily grow from single unit to 10,000 units and subsequently to 10,00,000 units.
- Sustainability: Technology which is not only scalable but gives sustainable business returns in long run
- Replicability: Modular and Layered Technology Architecture which caters to the need of Banks and can be easily replicated across multiple units
- Standardising applications and business processes

Challenges faced by Last Mile End Customers

- Low Financial Literacy: Villagers are having high dependency on informal credit system with high rate of interest on credit products. There is lack of knowledge about banking products.
- High cost coupled with inconvenience of commuting to Bank: Cost of Transaction for a farmer or a land less labourer at the Bank Branch is high due to travel distance and wait in queues and hesitation in speaking to the branch staff.
- Lack of penetration of Banking Services to rural households.
- Lack of Trust: Due to new technology, most of the times people are not able to trust new innovation which needs to overcome.

(iii) Roll out/implementation model

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TCS has set up a FI Business Unit to implement the various FI programs. The key components of this FI unit are:

- Setting up of technology infrastructure which includes last mile digitisation through multiple technology options (hand held terminals, kiosks, mobile devices), facility management, smart cards provision for the enrolled customers and day to day operations including reconciliation of end-to-end and financial transactions.
- Setting up Standard Operating Processes (SOP) for scalability, standardisation, controls and a feedback mechanism for innovation and improvements.
- Setting up a team having varied skill-set from reputed institutions with relevant experience to run such innovative end-to-end programs. These skills include technology, Business Correspondent (BC) agents and the corresponding supervisors and managers to provide services in the villages, technical support personnel (TSP) to provide field support and operations and technology development personnel.
- Partnering with multiple entities Non-Government Organisations (NGO), Trusts, commercial organisations, vendors for Point of Sale (POS) terminals, financial institutions for providing services including distribution and personalisation of smart card, providing hand held devices etc. in villages.

TCS FI solution has following features:

- Standard Interface capability and Flexible Architecture
- BC Management and Smart Card Modules
- HHT Management Module
- Secured Transactions
- De-duplication Module

(iv) Communication and dissemination strategy and approach used:

There are various communication strategies and channels used for dissemination of information:

1. Communication through E-mails to BC organisations, tech champions, zonal offices and bank branches
2. Help desk centres for resolution of technical issues and feedback from Business Correspondents and Tech Champions
3. Weekly meetings with Bank HO to discuss technical issues faced by BCOs
4. Automatic Patch Updater application available on POS devices
5. Direct communication with BCs through News Tickers available on top

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5. Technology Platform used-

(i) Description,

TCS has developed enormous understanding and expertise working with various banks on the FI programs and as a result have optimised the technical architecture of the solution with the best in class breed based on market demands and optimisation. Some of the architectural advantages of TCS solution are listed as follows:

- Multi-channel support (Web based PC/Laptop, POS, Mobile, ATM Switch etc.)
- Standard interface capability (Supporting standards like ISO, XML, Web services)
- Multiple backend systems interfacing capability
- Three tier architecture - J2EE
- Flexible architecture
 - Multiple OS and hardware support – Windows / UNIX / Linux
 - Multiple Web application servers support – Weblogic / JBoss / Apache
 - Databases – Oracle / Open source (My SQL)
- Performance tuned – tested for over 1500 concurrent hits

(ii) Interoperability

TCS' understands the interoperability requirements of the banks. TCS' solution has been designed to cater to the present and future requirements for interoperability. TCS' solution has following salient features to service this request:

- 1) The solution is capable to service the customer through multiple channels such as POS, Mobile, Tablet, Laptop/Desktop.
- 2) The solution is capable to service customer of multiple banks thorough one of the above mentioned channels.
- 3) Interface with NPCI for Aadhar enabled transactions
- 4) The solution can work across multiple technology providers

(iii) Security concerns

Security and upfront proof of value (to take the risk head on with right contingency and mitigations mechanisms) are paramount. The TCS solution addresses the security concerns involved with financial transactions and requirements of Regulatory Bodies through standard processes, Biometric / PIN based Authentication, Transaction Limits, Regular Audits and providing three layered architecture. The following are some features, which addresses security concerns:

- Supports device agnostic and BC agnostic interface with the CBS of

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the bank

- Centralised Financial Parameters (or limits) maintenance
- Biometric authentication for agent and customer
- Printed receipts and Voice acknowledgement for the customer
- Audit trail of all administrative activities
- Log of all transactions and SSL mode of communication
- POS or Kiosk terminal authentication
- Role based access - Service level restriction for agents
- Account level access restrictions and control reports
- De-duplication of customer data
- IDRBT complaint smart card and key management
- Complaint to UIDAI MicroATM standards
- Data encryption

(iv) Any issue with the technology used

1) Banking transactions in the field through Business Correspondent network used to take place in the offline and manual mode, which used to pose serious challenges for reconciliation process.

2) Banks used to have multiple Technology Service Providers (TSPs) with different technology standards and operating procedures. This used to pose serious challenges to business continuity and interoperability.

3) Fingerprint images captured and templates generated were not standardised.

4) Proprietary standards were followed in case of smart cards leading to lack of uniformity in Key management system.

(v) Service level Agreements(SLAs) (Give details about presence of SLA, whether documented, whether referred etc. #)

- SLAs are as documented in contracts with respective banks and may slightly differ from bank to bank. Typically SLAs pertain to server uptime, downtime, service continuity, and reconciliation etc. depending on the nature of the engagement.
- ISO 19794-2 standard for Biometric capture
- ISO certified DC and DR facilities undergoing half yearly audits

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- De-duplication of customer data
- IDRBT compliant smart card and key management
- Compliant to UIDAI MicroATM standards

6. Adherence to Service Level Agreement (SLA) – Give details about presence of SLA whether documented, whether referred etc, certificate from user department is mandatory #)

- ISO 19794-2 standard for Biometric capture
- ISO certified DC and DR facilities undergoing half yearly audits
- SLAs are as documented in contracts with respective banks and may slightly differ from bank to bank. Typically SLAs pertain to server uptime, downtime, service continuity, and reconciliation etc. depending on the nature of the engagement.

7. Citizen Centricity (Give specific details on the following#)

(i) Impact on effort, time and cost incurred by the user:

SNo	Indicator	Before	After
1	Reduction in Transaction Cost	Rs. 50	0
2	Reduction in Travel Time	2 Hours	15 minutes
3	Timely payment of Government subsidies and Scholarships at customer door step	Low	High
4	Financial Literacy and opportunities for rural house holds	Low	High
5	Credit Off take of Govt. Schemes	Low	High

(ii) Feedback/grievance redressal mechanism,

- Help Desk centres available for Business Correspondents and technology champions for fast and easy resolution of technical issues.
- Help Desk e-mail IDs available for written communication and feedback on technical errors
- Weekly meeting with banks for resolution of technical issues escalated

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by Business Correspondents and BC Organisations

- News Tickers available on the FI application for direct communication with Business Correspondents
- Adoption of Standard Processes
- Customer Feedback and Redressal mechanism at Bank Branches

(iii) Audit Trails,

- Regular Audits
- Feedback through Technology Champs and BC Organizations

(iv) Interactive platform for service delivery

These services are available through following channels:

- Laptop/PC
- POS/Hand Held Device
- Mobile and Tablets
- Self Service Kiosks etc.

(v) Stakeholder consultation

- TCS is part of various technology and policy committees setup by Department of Financial Services (DFS), Govt. of India and Reserve Bank of India.
- Interface with NPCI, UIDAI, IDBFT and other regulatory, statutory and standards bodies in the field
- Weekly meeting with banks for resolution of technical issues escalated by Business Correspondents and BC Organisations
- Weekly Telecons with different stake holders

8. User convenience (Give specific details about the followings #)

(i) Service delivery channels (Web, email, SMS etc.)

TCS has deployed multiple delivery channels depending on the bank requirement and geographical area of the deployment of the program. Some of the delivery channels include:

- 1) Web based solution (Kiosk Banking solution)
- 2) Hand Held Terminal based solution

Following channels are used for information dissemination:

- 1) Email Communication: Help Desk email IDs are provided to different stake holders

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- 2) SMS Alerts for transactions for registered mobile numbers
- 3) Information update available on the FI application through “News Tickers”
- 4) Information dissemination through Video Tutorials and Manuals

(ii) Completeness of information provided to the users

- 1) Comprehensive information about different processes and roles available through easy video tutorials and printed manuals
- 2) BC training kits available with tech champs and zonal offices

(iii) Accessibility (Time Window),

Time window of the solution is dependent on the participating bank. TCS' solution is capable to deliver services 365X24. Most of the participating Public sector banks have used this solution for business window of 9 AM to 9 PM on 6 days a week.

(iv) Distance required to travel to Access Points

TCS provided FI technology has enabled the following for end customers:

- 1) Reduction in travel time: Earlier customers used to take 30 minutes to 2 hours to reach Bank Branches. This technology is available right at the door step of the customers.
- 2) Ease of use: Confirmation of transactions in local languages, online receipts of transactions and biometric based authentication makes this technology reach to both literate and illiterate customers

(v) Facility for online/offline download and online submission of forms,

TCS' solution used by the banks has facility to open bank accounts of customer without use of any paperwork. All required details can be captured on a desktop/laptop/ HHTs and can be transmitted in real time to the Core Banking servers of the Banks in their respective data centres.

- 1) Both online and offline mode available for filling customer enrolments forms.
- 2) Only online transactions are permitted by RBI, which transmits data on real time basis. Hence online mode is available for transactions.

(vi) Status tracking

Through robust, dependable, transparent and reliable MIS tracking system for banks, BC organisations and branches:

1. Business Correspondents can check the transactions with Teller reports
2. Daily and monthly MIS to Bank and BC Organisations for monitoring the

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performance of BCs

3. Detailed transaction reports shared on daily basis for monitoring of transactions
4. Transaction logs available with the Data centre team for reconciliation and root cause analysis

9. Cost to user (Give details about impact on Service charge paid, travel cost, indirect cost incurred by the user, number of payment channels, etc. #)

TCS provided FI technology has resulted in the following benefits for end customers:

- 1) Reduction in Travel time on an average from 1 hour to zero. The FI technology is available at customer's door step with POS and kiosk channel.
- 2) Reduction in Travel cost for average Rs. 50 to Rs.0 as customers do not have to travel to bank branches.
- 3) Services are provided free of cost to end customers
- 4) No-frill accounts are free of cost and KYC norms has been relaxed for opening accounts
- 5) Intra-sol transactions are free of cost. Transaction charges for intersol transactions vary and depend on respective banks
- 6) Payment Channels are possible through POS and kiosk channels

10. Efficiency Enhancement (Give specific details about the following #)

(i) Volume of transactions processed,

120 million transactions are getting processed through FI Channel

(ii) Coping with transaction volume growth

We started with 20 million transactions and we have reached to 120 million transactions in last 3-4 years.

(iii) Time taken to process transactions,

1 to 5 seconds with average transaction time of 2.5 seconds

(iv) Accuracy of output,

100% with +/-0.05% errors

(v) Number of delays in service delivery

NIL

11. Problem Resolution and Query Handling (Give details about availability of help desk, query resolution mechanism, single window resolution, interactive interface etc. #)

- Help Desk centres are available for Business Correspondents and Tech CMPs for fast and easy resolution of technical issues
- Help Desk email IDs available for written communication and feedback for technical errors

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- The Standard Escalation Matrix shared with bank branches and Business Correspondents for query resolution
- Weekly meeting with Banks for resolution of technical issues escalated by Business Correspondents and BC Organisations
- News Tickers available on the FI application for direct communication with Business Correspondents

12. Innovation(Give details on extent to which the service is unique compared to other similar services, impact on number of steps required, identification and removal of bottlenecks/irrelevant steps etc. #)

In our quest of providing low cost banking to rural customers, TCS has pioneered many technological innovations as below:

- RuPay Card acceptability at channel device
- Interoperability to FI customers so that a BC can enable transactions across banks
- Integration of channel applications of different technology vendors with the FI application at bank's end.
- Enabling AADHAAR/UID based payments interfacing with NPCI and UIDAI
- Integrating VAS with FI, bringing utility payments for example: mobile recharge and pay DTH bill at nil cost
- Ability to service multiple BC Partners such as NGO, MFI. through a single solution within and across banks
- Using cloud based services for FI reducing infrastructure costs
- Solution Differentiators:

Integrated Platform	<ul style="list-style-type: none"> ▪ Gateway with Core Processing Solution ▪ Decoupled Integration Layer to facilitate third party solutions
Highly Configurable	<ul style="list-style-type: none"> ▪ Parameter-driven <ul style="list-style-type: none"> • Enrolment, Limits, Security Access • Product, Client and Account • Transaction Definitions and Accounting Rules • Multi-Currency
Extensive Data Stored	<ul style="list-style-type: none"> ▪ Customer and Account Information ▪ Detail Transaction Activity ▪ Extract critical data to perform MIS/ Analytics
Multi- Entity	<ul style="list-style-type: none"> ▪ True Multi Entity – support for multiple legal entities on single implementation ▪ Segregation across entities

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1 Platform Functionality	2 Product Technology	3 Implementation Certainty!
<ul style="list-style-type: none"> • Functional Richness <ul style="list-style-type: none"> – TCS FI Solution Suite was designed for Global best practice banking. The configuration options provide extensibility to the core functions to support local Practices. – Provides the right set of extension services for digital channels • End to End Services <ul style="list-style-type: none"> – TCS FI Solution Suite supports a variety of services like E-Wallet, eKYC, DBT, EBT, SSP, Micro Insurance, Micro Loans, Subsidies etc. 	<ul style="list-style-type: none"> • Return on Investment / Investment Protection <ul style="list-style-type: none"> – TCS FI Solution Suite provides flexibility and future proof of investment as technology evolves • Highly Scalable Architecture <ul style="list-style-type: none"> – TCS FI Platform has been implemented in large number of Public Sector * Private Banks. 	<ul style="list-style-type: none"> • GND Model <ul style="list-style-type: none"> – Proven Transformation experience – Regional and Local Support Network – Availability of skilled resources – Customer Centric Engagement Model • Enviably Implementation track record delivering business value <ul style="list-style-type: none"> – Implementation methodology enables reengineering of processes and overall business transformation

- Low entry cost non-linear technology model
- Bank in Box on Cloud
- Open standards enabling plug-n-play of multiple devices
- FI gateway ensuring Integration, Interoperability, Transaction integrity
- Tools approach for monitoring of field operations, training etc.
- Collaborative service delivery approach (approx. 20 partners currently in ecosystem)
- Engagement of grassroots level partners for last mile service delivery
- Co-innovation partnerships with device, telecom companies
- Leveraging Tata group companies

13. Sustainability (Give details about Self sustainability of these w.r.t Organization (hiring trained staff, training etc.), financial (Scope for revenue generation, Cost benefit analysis of the project etc. #)

The following features makes the FI solution suite a sustainable business model in long run:

- Open architecture based completely interoperable solution – across banks, channels, core banking systems with offline and online processing capabilities and interfacing with third party systems
- Solution providing multiple channel options such as kiosks and POS device for the BC agents
- The first Aadhar enabled solution which has been approved by GOI for delivering direct cash transfers to citizens
- It enables all types of transactions: Card Based, Card Less and Aadhar based Transactions
- TCS outcome based model of pricing and billing has changed the positioning from a vendor to a business partner
- Additional incentives to Business Correspondents as Business Facilitators (BFs) for banks
- Increasing engagements with VAS such as Insurance companies, Telecom and TV recharge along with last mile service delivery partners like CSC, NGOs, SHFs, Diaries and Staffing Companies provide sustainability to this business model

14. Adaptability Analysis

(i) Measures to ensure adaptability and scalability

TCS has built modular and layered technology architecture for FI enabling both horizontal and vertical scalability. Main layers are: CBS of banks, FI application at the middle level, interfaces for offering FI

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services by different vendors and channel applications.

The key benefits of the architecture are:

- Allows scalability, interoperability and replicability for FI ecosystem while enabling de-coupling of the services by each layer thereby encouraging multiple business models and bringing in flexibility and robustness in the solution
- Allows any number of VAS partners to be on-boarded easily and rapidly such as insurance companies.
- The solution can also be scaled to include corporate entities that need to do regular financial transactions with the rural population for example payments towards agri-produce procurement in the APMC markets to reduce cash transactions and bring in transparency and accountability.

(ii) Measures to ensure replicability

The challenge of replicability was overcome by:

- Setting up robust Standard Operating Procedures(SOPs) that allowed us to replicate solutions and processes across new geographies and projects
- User friendly and secured FI application for replication across multiple units
- Three layered architecture provided for easy and fast replicability
- The FI technology is easy to use, cost-effective and replicable at PAN India level. Started with single kiosk/POS, it is now working successfully in more than 550 districts, 26 banks and servicing over 20 million customers at all India level

(iii) Restrictions, if any, in replication and or scalability

None

(iv) Risk Analysis

There are financial, operational and technology related risks which are mitigated through various processes:

1. Absence of standardisation in the field level operations: Despite a generic guideline as stipulated for conducting the various field level operations, there was a need expressed to standardise the cash management operations. TCS responded with Standard Operation Procedures on enrolments, card activations, and training material for agents and cash management, which have been now standardised across banks.
2. Interoperability and Lack of Proper Standards: Absence of standardisation in the specifications of field level devices such as

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

Laptops, Finger Print Scanners, have led to difficulty in interoperability in terms of both intra-bank and inter-bank transactions. TCS has responded with a standardised platform which not helps the customers to have a lean Financial Inclusion system allowing multiple vendors such as Primary Service Providers, BC Services companies, Insurance Companies and Technology Partners.

3. Financial Risk: Data Back Up and Transaction Logs for root Cause analysis
4. Financial Risk: Limits for transactions in terms of volume and amount at Business Correspondent Levels
5. Deduplication technology to take care of risks related to Biometric authentication
6. DR Setup: DR setup of Hardware and Servers to take care quick recovery in case of environmental and man-made disasters.
7. Risks associated with excess cash in hand with BC agents: The Business Correspondent carries cash for day to day transactions which may lead to excess cash with BC agents. To overcome the risks associated with excess cash in hand with BC agents, TCS has come up with insurance of cash, process of depositing collateral against OD Accounts, monitoring mechanism involving Banks and BC agents and cash management process manual.

15. Privacy & Security Policy - (Give details about security technique deployed , use of digital signature, encryption etc #)

- Supports device agnostic and BC agnostic interface with the CBS of the Bank
- Centralised Financial Parameters (or limits) maintenance
- Biometric authentication for agent and customer
- Printed Receipts and Voice acknowledgement for the customer
- Audit trail of all administrative activities
- Log of all transactions
- SSL mode of communication and POS/ Kiosk terminal authentication
- Second level of Transaction password
- Role based access - Service level restriction for agents
- Account level access restrictions
- Photo and signature (if captured) of the customer is displayed
- Operational and control reports
- MIS reports
- BC and agent maintenance and evaluation, Commission configuration and calculation
- Group functionality and De-duplication of customer data

16. E-inclusion(Give details about availability of local language interface, Online submission of forms, length and breadth of services made available online, universal accessibility of the application).

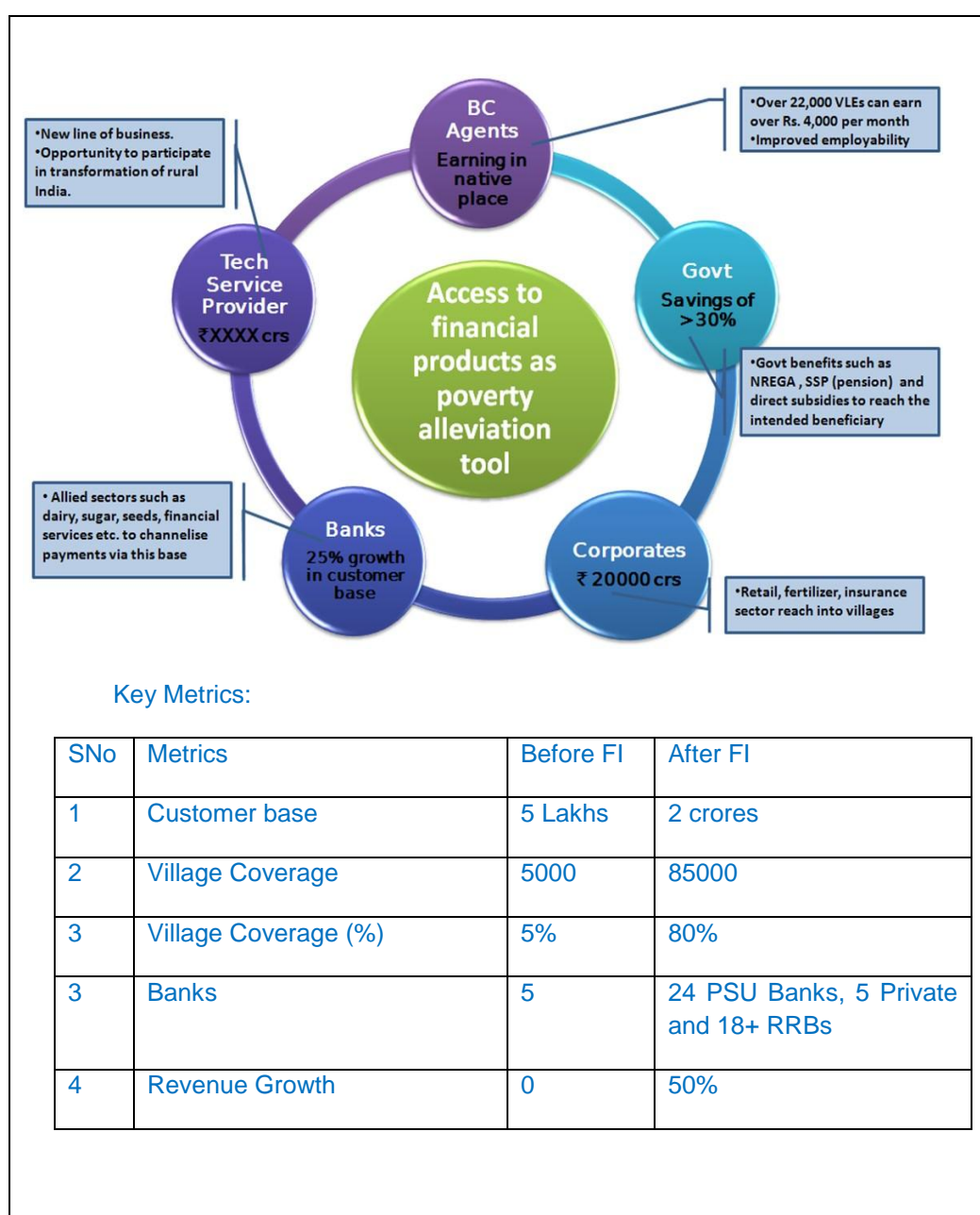
- TCS has partnered with over 24 PSU Banks, 5 Private Banks, 18+ RRBs and Technology Vendors to provide benefits of Financial Services to far flung 85000 + locations of India
- With the help of FI Technology provided by TCS over 20 million accounts has been opened across over 500 districts of India.

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- English and local language playback support on POS devices
- Both Online and Offline mode available for filling customer enrolments forms
- Only online transactions are permitted by RBI which transmits data on real time basis. Hence online mode available for transactions.

17. **Result Achieved/ Value Delivered** to the beneficiary of the project-(share the results, matrices, key learning's, feedback and stakeholders statements that show a positive difference is being made etc):

(i) To organisation



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- TCS provided FI Technology has Improved Financial Literacy and awareness of financial services among rural households
- The TCS FI application has enabled timely payment of government subsidies in transparent and efficient manner
- The TCS created ecosystem of Banks, Technology Vendors and VAS (Value Added Services) has resulted in over 120 million transactions across India through FI channel, which has contributed significantly in increased savings and income for rural house holds
- TCS was selected for BITC Big Ticks award in International Category in 2012

Some quotes from villagers and BC agents on advantages of the recharge facility (translated from local language)

- 'minimum recharge at local retail shop is Rs 50; while BC agent can provide recharge of Rs 10',
- 'no need to carry cash; the amount is deducted from bank account',
- '20 Rs recharge gives a balance of Rs 20 whereas in retail shop for a balance of Rs 20 it charges Rs 22',
- 'the nearest store for recharge is 17km while this gives recharge sitting at home'
- We used to get payments through slips. Someone would take the payments in other person's name, but now there is computerized system. Using the smart card I can get loans and pay my bills

Links for Online Video Testimonials and Case Studies:

http://www.tcs.com/resources/multimedia/Pages/TCS_financial_inclusion_strategy_India_unbanked_population.aspx

http://www.tcs.com/SiteCollectionDocuments/White%20Papers/tcs_government_idealegovernanceindia.pdf

<http://www.tcs.com/offerings/bancs/banking/Financial-Inclusion/Pages/default.aspx>

http://www.tcs.com/resources/white_papers/Pages/Financial-Inclusion-From-Obligation-Opportunity.aspx

http://www.tcs.com/resources/multimedia/Pages/TCS_financial_inclusion_strategy_India_unbanked_population.aspx

<http://www.tcs.com/industries/government/social-development/Pages/default.aspx>

http://www.tcs.com/news_events/press_releases/Pages/Indian-Bank-TCS-Financial-Inclusion-Solution.aspx

http://www.tcs.com/resources/case_studies/Pages/Andhra_Pradesh_Government_NREGA.aspx

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

Sl No	Title of the publication	Citation/ Weblink
1	TCS' Financial Inclusion Project selected as one of the finalists for eIndia Awards 2011 Nov 22, 2011	http://awards.eletsonline.com/egov-eindia-2011-awards/ http://www.tcs.com/offerings/bancs/banking/Financial-Inclusion/Pages/default.aspx
2	Press Release	http://www.tcs.com/news_events/press_releases/Pages/Indian-Bank-TCS-Financial-Inclusion-Solution.aspx
3	White Paper	http://www.tcs.com/resources/white_papers/Pages/Financial-Inclusion-From-Obligation-Opportunity.aspx
4	Case Study	http://www.tcs.com/resources/case_studies/Pages/Andhra_Pradesh_Government_NRE_GA.aspx

Banking Institutions and Government Organizations			
SN	Indicator	Before	After
1	Penetration of Banking Services in rural areas	10%	100%
2	Installation Cost for penetration of Banking services in rural areas	Rs.50,00,000	Rs. 50,000
3	Reach of Insurance Products to rural homes	Low	High
4	Standard Operating Processes and Procedures	Low	High

(ii) To citizen

Following social benefits were achieved through implementation of TCS' FI initiative:

- By providing access to basic banking and financial services in the villages it encourages small savings and facilitates credit to the needy. In the long run it will improve the financial capacity and confidence of the poor and support their overall development
- Brings in financial literacy and awareness of financial services impact is created among rural and semi urban people.
- Provide allied financial products too from the same Business Correspondent agent - one stop shop for all financial products – insurance, loans, bill payments, recharges etc.
- It provides employment to a member of the community as a Banking agent besides increasing the employment in the overall eco-system (TCS, Device vendor, NGO, Banks, and Governments etc.)
- With availability of financial services in the villages and employment of village youth for this program it support retention of people in the villages

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

- Eco-friendly as significant savings in terms of cost and travel time to the banks, also electronic transactions result in savings on paperwork (no cheques, passbook, electronic photographs, electronic images etc.)
- It also supports Women empowerment cause as in many villages women self-help groups are appointed as banking agents
- It provides a channel for proper authentication and timely disbursement of the government benefit payments to the intended beneficiary thereby preventing and fraudulent activities and assurance of timely receipt of money by the poor
- Rs. 10 micro-savings in account resulting in approx. Rs 6000 annual savings
- Credit history established enabled lending by bank
- To end users:

SN	Indicator	Before	After
1	Reduction in Transaction Cost	Rs. 50	0
2	Reduction in Travel Time	2 Hours	15 minutes
3	Timely payment of Government subsidies & Scholarships at customer door step	Low	High
4	Financial Literacy & opportunities for rural house holds	Low	High
5	Credit Off take of Govt. Schemes	Low	High

(iii) Other stakeholders

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

The main beneficiaries of the innovation are

- Rural, Semi Urban and Urban House holds
- Farmers and Land less labourers
- Women Communities
- Self Help Groups
- School Students
- Marginalized Communities
- Dalits and Tribals
- Rural and Urban Poor

The solution is working with SHGs for NREGA payment disbursement and with some dairy institutions for dairy payments. Solution is capable of following:

- The FI technology enables the linkage of SHG with banking system through local BC.
- With the help of FI technology, all members of SHGs can open bank accounts and all transactions can happen through the bank. The data can provide the real time monitoring of Cash Flow for SHGs and SHG Federations.
- SHG acting as BC can enable banking services in the villages, enabling government payments and other payments/collections services.
- Customised financial products can be designed through bank partnership for development of rural community.

Some of the examples are:

- NREGA payment disbursement at Sangli and other districts of Maharashtra
- Pension payment disbursement at Aurangabad and other districts. The pension payment at Aurangabad has been awarded by GOI
- Partnerships with Self Help Groups for easy, transparent and door-step banking transactions at Raigad, Nashik and other districts of Maharashtra
- Scholarship Payments to school students at many districts of Maharashtra
- BC Agent: Over 1000 SHGs earning Rs. 3000-4000 pm as BC agents
- Government: 10%-15% reduction in Govt. disbursement due to wrong/non-existent beneficiaries
- Bank : Savings balances Rs. 8 lakhs and credit off take of Rs. 3-4 lakhs in sample districts

18. Extent to which the Objective of the Project is fulfilled-(benefit to the target audience i.e.G2G, G2C, G2B, G2E or any other, size and category of population/stakeholder benefited etc.):

Some of the benefits of the TCS Financial Inclusion initiative:

- By providing access to basic banking and financial services in the villages it encourages small savings and facilitates credit to the needy. In the long run it will improve the financial capacity and confidence of the poor and support their overall development
- It provides employment to a member of the community as a Banking agent besides increasing the employment in the overall eco-system (TCS, Device vendor, NGO, Banks, and Governments etc.)
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- It provides a channel for proper authentication and timely disbursement of the government benefit payments to the intended beneficiary thereby preventing fraudulent activities and assurance of timely receipt of money by the poor

19. Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/benefit, Change in legal system, rules and regulations

Comparative Analysis of indicators of earlier brick and mortar bank branch vs new system ushered in with TCS Financial Inclusion Solution Suite is presented below.

SN	Indicator	Before	After
1	Reduction in Transaction Cost	Rs. 50	0
2	Reduction in Travel Time	2 Hours	15 minutes
3	Timely payment of Government subsidies & Scholarships at customer door step	Low	High
4	Financial Literacy & opportunities for rural house holds	Low	High
5	Credit Off take of Govt. Schemes	Low	High

Banking Institutions and Government Organizations

SN	Indicator	Before	After
1	Penetration of Banking Services in rural areas	10%	100%
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4	Standard Operating Processes and Procedures	Low	High

By virtue of its presence on various DFS and RBI committees, TCS could participate in decision making and influencing certain policy actions to be taken for the betterment of the overall industry such as simplification of KYC norms and introduction of eKYC, service tax matters and depreciation of devices, Cash Management, its insurance onus with respective banks etc. leading to rapid scaling up of Financial Inclusion in the country.

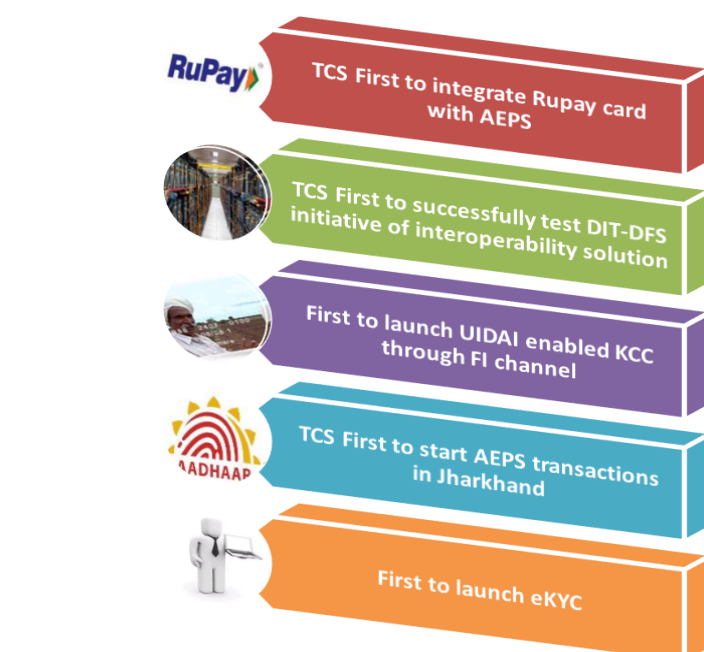
AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

20. Other distinctive features/ accomplishments of the project:

TCS has been the fore front of the Financial Inclusion Technology and has taken multiple innovations and process improvement initiatives to achieve the highest standards set by regulatory bodies on one hand and to achieve the goal of sustainable growth on other hand. TCS has done many innovations in the process.

TCS provided Pension based payment systems at Aurangabad and Jharkhand has been awarded by Central Government for one leading PSU (2012)

TCS has won MRLIF Best Innovation Award in Financial Inclusion Category in 2014 for Maharashtra



Winner of International Award Big Tick 2012
TCS Financial Inclusion - Transforming Rural Initiative



UIDAI-NPCI Award
Excellence in FI technology

- Micro Insurance, Micro Loans/Lending solutions enablement
- eKYC: Providing the eKYC platform on standalone basis or integrated with organisations' core/downstream systems

This is just an indicative list of indicators, applicant can add more information based on suitability of the project nominated.