ICT Banking for the Illiterate Rural Customers
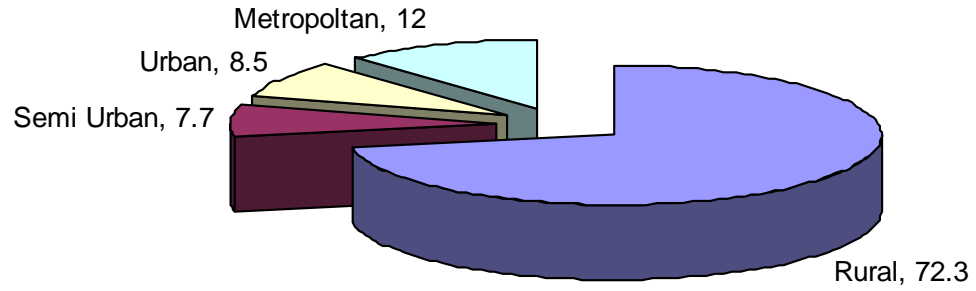
Introduction

- Majority of the Indian population lives in rural areas, there is an urgent need to deliver citizen services to them in a cost effective way with assured quality.

- Banking is one of the most important services that play a crucial role in the economic development of the rural area .

- The banking industry is growing at a very fast rate in India with a number of foreign banks joining the Indian market
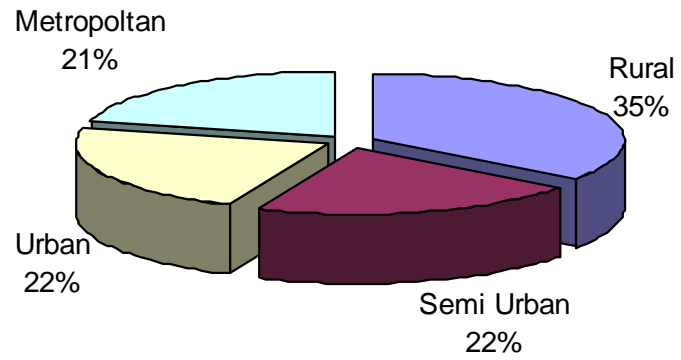
Not So Bright Side???

- Rural population of about 780 million still has limited access to financial services
- Still 500-600 million people do not have bank accounts (Around 50% of the Total Population)
- However a high proportion of rural lending is from informal sources
- This informal credit amounts to Rs.3500 billion

- Commercial Bank branches cover only 7% of rural sector and large market is still untapped.
- The Reserve Bank of India's Handbook of Statistics on the Indian Economy (2006-07) shows that there were 30,639 rural branches of Scheduled Commercial Banks (SCBs) in India in 2007. That is, 4,750 less than the number in 1993.
- In other words, an average of 26 bank branches shut down each month, or one every working day.
- This directly points towards the sustainability problem in the rural banks with lack of customers.

Population of India

Metropoltan, 12

Urban, 8.5

Semi Urban, 7.7

Rural, 72.3

Number of Bank Branches

Metropoltan
21%

Rural
35%

Urban
22%

Semi Urban
22%

Why Banks are Not Sustainable??

- Huge volumes on infrastructure are required for less number of customers in the rural area.

- Things are opposite in the urban area.

Challenges Faced by The Villagers…

A survey on 500 villagers over 10 villages in the Yamunanagar district in Haryana State to get the real insights…

- Lack of documentary evidence for the property / identity

- Literacy problems in complying with the documentation (Filling up Forms, Carrying Transactions etc.)

- Fear of privacy breach / fraud in view of educational lack

- Inability to use the technology

- Communication boundary for the regional / native languages

Rural-Urban Literacy Rate

(Literate to Document)

Sector	Men	Women	Total
Rural	57.9	30.60	44.70
Urban	81.1	64	73.0

Technology in Indian Banking

- 'Anywhere banking' through Core Banking Systems.

- 24/7/365 delivery channels such as Automated Teller Machines (ATMs)

- Internet and Mobile Banking

- Real Time Gross Settlement (RTGS) System in compliance with the International Settlements

- Electronic Clearing Systems (ECS) for fast money transfers

Biometric ATMs

- Verify people's identities based on their unique physical characteristics
- Scanning fingerprints or irises to verify an ATM customer's identity
- Public sector majors such as Union Bank of India, Dena bank, Central Bank of India are using the Biometric ATMs on pilot basis

The Biggest Hurdle…..

- Computer Interface Fever among the villagers
- Fear of Privacy Breach / Fraud

Proposing The Solution??

Regional Languages

- 22 Official Regional Languages
- More than 70 languages and dialects are used by people in general
- Rural people find it difficult to work in English or Hindi

Natural Language Processing in India

The Department of Information Technology initiated the TDIL (Technology Development for Indian Languages) with the objectives:

• Developing Information Processing Tools and Techniques to facilitate human-machine interaction without language barrier

• Creating and accessing multilingual knowledge resource

•Integrating them to develop innovative user products and services

•Solutions are available for almost 22 regional languages
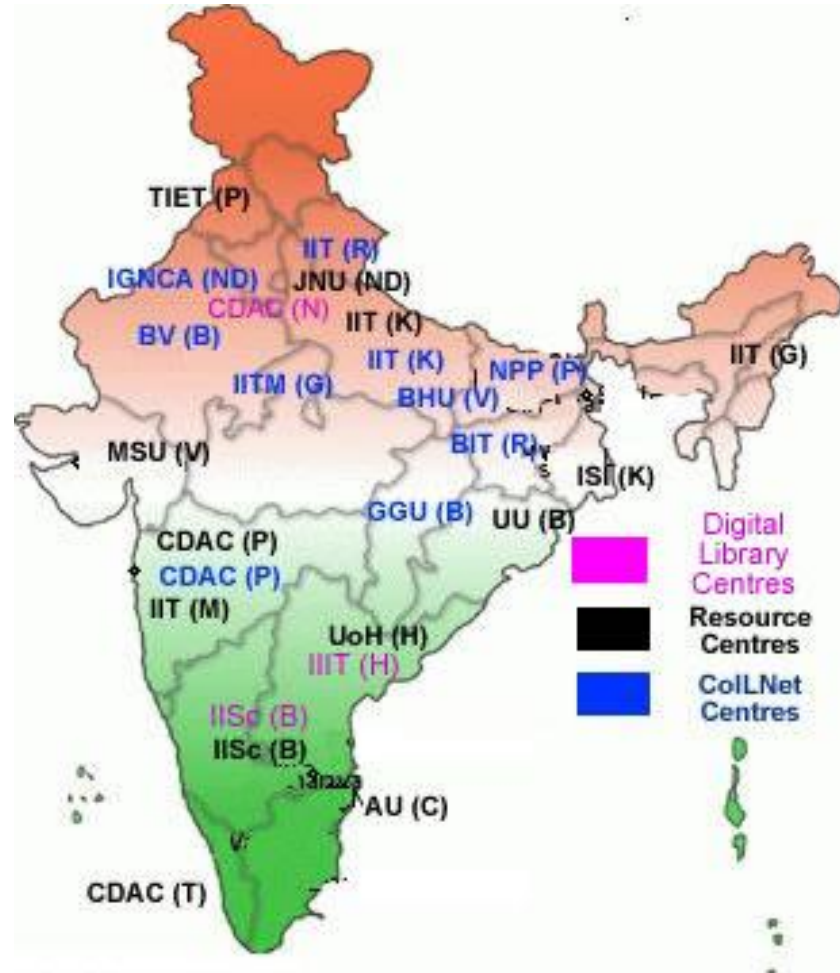
The Proposed Framework…..
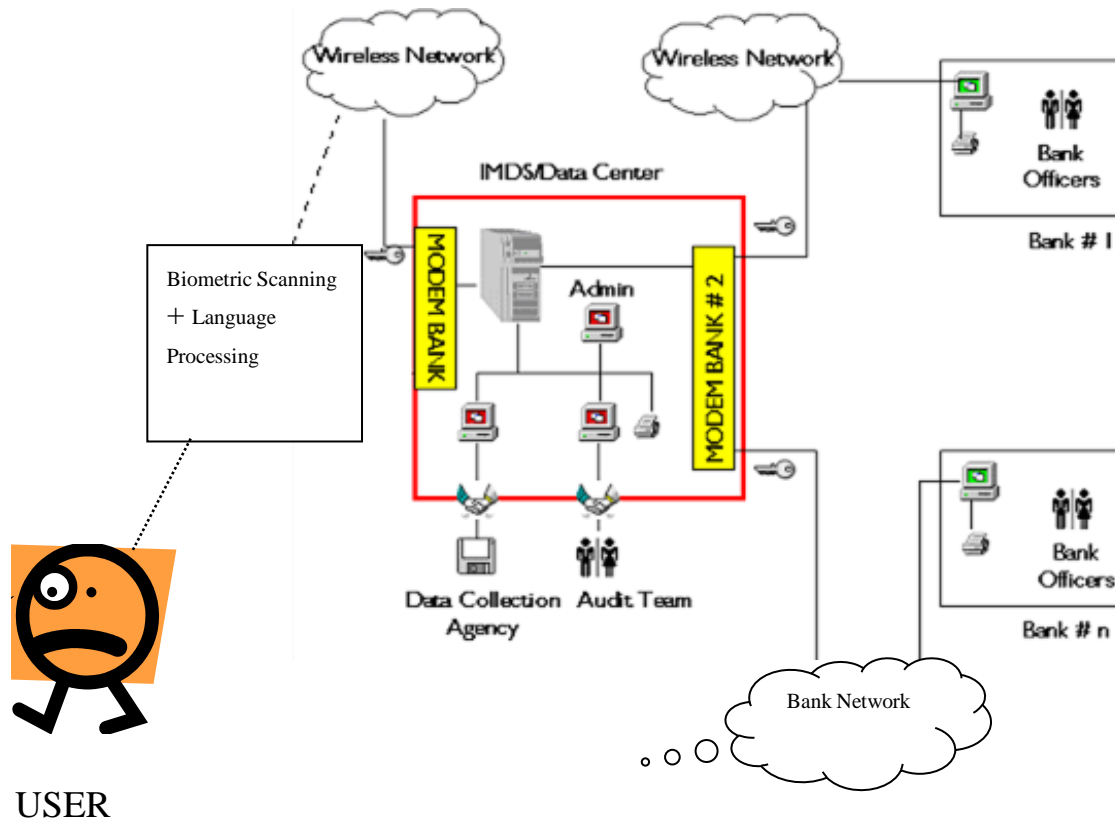
Conclusion

The banking services in India are moving with a speedy rate with a lot of new private banks as well as international players coming into the market. However, the rural India is still in the olden days crying for a viable solution. Illiterate rural folks are the one suffering with the operational problems. A combination of the biometrics and natural language processing appears to be the most viable solution for the privacy enhanced banking of rural people. The proposed framework should certainly start a new era in the rural banking with advance technology support. However, the real benefits can only be seen after the pilot testing.

Thank You..............

References

- Jing, H., Xi, C., Gui-qing, Qi., Analysis on the Model of Digital Divide & the Demonstration Research in Narrowing the Digital Divide with ICT, Proceedings of International Conference on Management Science and Engineering (ICMSE '06), Oct. 5-7, 2006, pp.62-67

- Wei-xian Xue., Tao-feng, W., A Study of Measurement Models for Digital Divide of China", International Conference on Management Science and Engineering (ICMSE '06), Oct. 5-7, 2006, pp.183-187

- Dolnicar, V., Vehovar, V., Sicherl, P., Benchmarking Digital Divide: Definitions used and methods applied, 26th International Conference on Information Technology Interfaces, June 10, 2004, pp. 421-426

- Qureshi, S., Keen, P., Kamal, M., Knowledge Networking for Development: Building Bridges across the Digital Divide, 40th Annual Hawaii International Conference on System Sciences (HICSS 2007), Jan. 2007, Vol. 1, p. 226c

- Lim, S., Lee, M., Use of ICT for Bridging Digital Opportunity: A Korea's Case, International Conference on Convergence Information Technology, Nov. 21-23, 2007, pp. 2408-2413

- Belanger, F., Carter, L., The Effects of the Digital Divide on E-Government: An Emperical Evaluation, Proceedings of the 39th Annual Hawaii International Conference on System Sciences (HICSS '06), Jan. 4-7, 2006, Vol. 4, p. 81c

- Ishmael, J., Bury, S., Pezaros, D., Race, N., Deploying Rural Community Wireless Mesh Networks, IEEE Internet Computing, Vol. 12, Issue 4, July-Aug. 2008, pp. 22-29

- Tongia, R., Connectivity in emerging regions: the need for improved technology and business models, IEEE Communications Magazine, Vol. 45, Issue 1, Jan. 2007, pp. 96-103

- Menard, F. D., Proulx, R., Overcoming the digital divide in rural areas serving broadband profitably to as few as 25 subscribers, Second International Conference on Access Networks & Workshops (AccessNets '07), Aug. 22-24, 2007, pp. 1-6

- Grampin, E., Baliosian, J., Visca, J., Giachino, M., Vidal, L., Wireless Network Architecture for Digital Inclusion in Rural Environments, First International Global Information Infrastructure Symposium, 2007. GIIS 2007, July 2-6, 2007, pp. 20-26

- The other digital divide [news brief], IEEE Spectrum Magazine, Vol. 45, Issue 1, Jan. 2008, p. 16

- Habib, I., Mazzenga, F., Wireless technologies advances for emergency and rural communications, IEEE Wirelessmmunications, Vol. 15, Issue 3, June 2008, pp.6-7

- Ilcev, S. D, Inmarsat satellite-based global business solutions for remote and rural communications, 7th AFRICON Conference in Africa (AFRICON, 2004), Sept. 17, 2004, Vol. 1, pp. 361-371

- Kawasumi, Y., Deployment of WiFi for rural communities in Japan and ITU's initiative for pilot projects, Proceedings of 6th International Workshop on Enterprise Networking and Computing in Healthcare Industry (HEALTHCOM 2004), 28-29 June 2004, pp. 200-207
- Jhunjhunwala, A., Koilpillai, D., Ramamurthi B., Broadband to Empower Rural India, IETE Technical Review, Vol. 24, No. 4, July-Aug. 2007, pp. 195-202
- Ramamurthi, B., Broadband wireless technology for rural India, Indian Journal of Radio and Space Physics, Vol. 36, No. 3, June 2007, pp. 168-171
- Jhunjhunwala, A., Next Generation Wireless For Rural Areas, Indian Journal of Radio and Space Physics, Special Issue on Rural Wireless Communication, Vol. 36, No. 3, June 2007, pp. 165-167