Rural Technology and Business Incubator - A Case Study In Participatory Design

Feb 2010
RTBI - An Incubator with a Difference

Build Entrepreneurs ...

To create wealth in rural India

- Leverage Information and Communication Technologies (ICT) for social development
- Support young entrepreneurs aspiring to evolve rural inclusive business models
- Mediate between urban enterprise and rural potential

Established: Oct 2006
Foundation: Builds on the TeNeT group experience
Supported by IIT Madras
My coloured glass view

- Lakshmi Vaidyanathan
  - Joined RTBI in early 2007
  - ME (Electrical Engg) - 14 years in software development
    ✓ Started of during the Unix strong hold days - pre outsourcing wave
    ✓ Operating Systems Internals and Embedded
      - iso to sei-cmm to...
  - 5 months after RTBI registration - 3 years
RTBI in early 2007

- **The Ecosystem**
  - IIT Faculty, TeNeT Group and the TeNeT companies, some people passionate about working in rural/social development aspects

- **Desicrew (Rural BPO - Saloni) - started under TeNeT**
  - Then ROPE (Natural fibres - Sreejith)
  - Then InteliZon (Solar Energy)

- **N-Logue - the first wireless last mile company - 6+ years ...troubled times**
- **Voice related Project - using natural Voice as a search qualifier**
- **Rural Research Data Bank**
- **Financial Inclusion**
  - attempting new technology development
  - Working with banks and government

- **Then Health, Agriculture and Vocational Training and Placement**

  ✓ **Lots of Passion**
  ✓ **Clarity needed**
... One big friendly Project Team

- No real incubatee- incubator divide
- Grant based
- Project Mode
- One big happy technology team for all
  - Ever increasing demands
- Field trials
  - RTBI : It can be done !!
  - Incubatees : growing confidence..
- Revenues - what really is that?
- Process - yes it is needed .. Sometimes I am sure..
- Awareness - At this rate money can run out
In 2008-2009

Some key milestone changes

- Budget based
- No central team concept for field and tech

- Emerging identities - Uniphore (Voice), e-Jeevika (Vocational Training),
- Better fiscal responsibility
- Revenues - I am getting there ...
  » Dramatic impact

- Some early trials failed
  ✓ Agricultural initiative
  ✓ Local Information dissemination

- The awareness that field trials are very important
  ✓ Key confidence builder
  ✓ Understanding the stake holder
  ✓ Is there a Business case at all?
2008-2009

- Every place is different
  - Strengthen and leverage presence in Tamil Nadu
- Formalisation of agreements
- First IP registration (work under Voice research)
- Internal administrative, accounting, hr process automation

- Health - serious regulatory issues
- Research Data base - Aaum Analytics
- Field trials and Exploration HELPS!
  - Awareness that at least 6 of our incubatees came out of our “Projects” (not including Desicrew, ROPE)
  - Definition of the RTBI Incubation Process - stake holders better defined

- Figuring out: Workshops - agriculture, ICT policy, many others
- Partnerships IFMR, Xerox, Sweden, UK, LirneAsia, many other
- Money can run out soon ... triggered - proposals for exploratory work
- N-Logue - a dying partner - how can field work happen..
- Incubatees need more money...
  - the post seed fund gap/institutional support
RTBI’s Incubation Process

Key Features
- ICT Infrastructure in villages
- Community based pilots
- Multiparty Strategic partnerships
- Knowledge based academic environment
- Technology Innovations for rural needs
..towards 2009 and then...

- Understanding our value proposition
- Incubatee Reviews - support that they have required
- Maturing Incubatees - Mentors, Board members

- More incubatees
- There are some funds available for incubatees
  - Angels exist, NRDC....... MSME

- There are others in place of N-Logue

- There is something going on here
  - What we are trying is new and the dream of many

- And the Money finally did run out..
2010 - and miles to go..

- Financial stability model
  - Support ourselves, our explorations, our incubatees

- Corpus, Funds and agreements
  - (TDB, MSME did happen)

- Our new centre is ready for occupation
  - Some of our incubatees are taking their own space

- Challenges
  - Can we help our incubatees improve their fiscal processes
## Where are we today - Incubatee Companies

<table>
<thead>
<tr>
<th>RTBI COMPANIES</th>
<th>- 14</th>
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<tbody>
<tr>
<td>1. DesiCrew Solutions Pvt. Ltd.</td>
<td>Rural BPO</td>
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<tr>
<td>3. ROPE Enterprise Pvt. Ltd.</td>
<td>Natural Fiber Life-style Products</td>
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<tr>
<td>4. Uniphore Software Solutions Pvt. Ltd.</td>
<td>Voice-based Information and Transaction</td>
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<tr>
<td>5. eJeevika HR Pvt. Ltd.</td>
<td>Vocational Training</td>
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<td>6. Samvit Educational Services Pvt. Ltd.</td>
<td>Learning Management System for syllabus based training for rural school students</td>
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<td>7. Invention Labs Engineering Products Private Limited</td>
<td>Mechatronics based India centric Technology Design Services</td>
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<tr>
<td>8. Vastra Garments</td>
<td>Distributed Garment production</td>
</tr>
<tr>
<td>9. India Khelo Communications Pvt. Ltd</td>
<td>Identifying and nurturing local sports and talents</td>
</tr>
<tr>
<td>10. Augur Networks</td>
<td>Embedded Solutions for rural markets</td>
</tr>
<tr>
<td>11. AAUM Research and Analytics Pvt. Ltd.</td>
<td>Insights for businesses and policy makers</td>
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<td>12. Et Interactive Design</td>
<td>Design/branding assistance to rural clusters – most recent</td>
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<tr>
<td>13. Language Mentor</td>
<td>Spoken English – most recent</td>
</tr>
<tr>
<td>14. Transmete</td>
<td>Wireless Last Mile</td>
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A design & sourcing consultancy that helps turn ideas into realities. Through exhaustive investigation and user research, we undertake an immersive role in a client's business to formulate design and brand strategies that are both fiscally sound and consumer relevant.

A business of design thinking, pursuing design contentment whilst partnering rural and urban enterprises to realize their aspirations through design.
MISSION STATEMENT

“To Foster, Educate, Enhance and Leverage (FEEL) English language skills amongst the students of rural India, thereby enhancing their livelihood opportunities and promote social and economic well being”

Four Levels of English language learning process cumulating to 320 - 416 hours over a period of 2 years

Enhancing the four core skills of Language acquisition - Listening, Speaking, Reading & writing

Mentor based blended learning methodology with 40% Classroom and 60% web based learning

Mentor ration: classroom - 1:40, web 1:200

Assessment - PLAR (Prior Learning Assessment Recognition), PDP (Personality Development Profiling)

Mass customization and assurance of Learning using evidence collection and analysis

Innovative Pedagogies - using CALL (Computer assisted language learning) techniques

Multilingual support

Primarily focusing on students in the 1st/2nd year of college education Ex.- Engineering, Arts & Sciences, Nursing, Pharmacy, Bio-technology, etc

To be delivered in association with the colleges and in collaboration with the Universities
Capacity Building Initiatives
(Exploratory Projects)
Exploratory Initiatives - Financial Inclusion

Mobile banking - Mobile Payment Forum of India [http://www.mpf.org.in]

Use of biometric enabled low cost ATMs (Vortex), solar enabled NREGS Impact assessment (with UNDP) in 5 districts

Secure biometric enabled internet banking
More Exploratory Work

- Agriculture
- Health Care
- Walk on Water
- ...... transport...
Context Background

- Many products successful in local markets
- Product owners with limited access to large distribution networks
- Business entities on the lookout for newer products

Target

- Enable visibility to innovative products
- Enable access to broad applicability local technologies
- Enable access to feedback
• Research on Distributed Work flow applications design
  ✓ Development of a generic framework
  ✓ Develop supporting technologies for large scale next generation distributed production based systems
    - address fundamental issues in distributed work flow systems

• Current stage
  ✓ Study on Rural ICT Initiatives in India
  ✓ Study and documentation of existing workflows
The Core Team

- Lakshmi - Technology/Director-in-Charge
- Seenivasan - Manager - HR/Admin and Accounts
- Suma Prashant - Manager - Exploratory/Health Ventures
- Vijay Anand - Manager - New Ventures
- Indu - Manager - Field Operations
- Dr. Aarti - Sociologist/Academic Linkages
- Now:
  - Bharath - Assistant Manager - New Ventures
  - Swarna - Project Manager - NAIP
Thank You

Rural Technology and Business Incubator (RTBI)
Indian Institute of Technology, Madras
rtbioffice@tenet.res.in

Website: www.rtbi.in
Rural BPO

- Creation of Rural Delivery Model (RDM)
  - Enable technology to move work to where people are, rather than move people where work is
  - Provide customers with flexible work-force at competitive rates

- In the last 3 years
  - 2.1 million+ pages digitised
  - One Million kms of roads traced on maps
  - 30,000+ mobile-user queries answered
  - 140+ resources on payroll
  - Services in 5 languages
  - 7 Offices
  - 8 Services
  - 11 Awards

http://www.desicrew.in
Rural Opportunities Production Enterprise (ROPE)

ROPE is a social enterprise that provides global customers access to rural artisans who manufacture diverse products. ROPE’s village production centers manufacture items per customers’ requirements while ROPE ensures product quality, timely delivery and high labor standards. Customers choose ROPE products for social impact, lowest cost, uniqueness of designs and materials, superior quality and environmental impact.
Clean, affordable & abundant energy will lead to significant rural productivity gain

• Solar based lighting solutions:
  – Lamps and flashlights/reading lights:
    ✓ 2-3 X cheaper than other solar solutions
    ✓ 6-12 month ROI compared to conventional solutions.

• Power supply platform:
  – 2+ hours of power using a combination of grid and solar
    ✓ designed specifically to work under rural grid conditions.

• Solar pump
  – Targets to replace diesel pumps
    ✓ 3 year ROI.

ZONLIGHT – flash light
Completed 250000 field hours

ZONHOME – for home needs
Pilot in process

ZONPOWER – for rural areas
Patents filed

http://www.intelizon.com
Uniphore Software Systems

Automated Voice based systems for Information dissemination and capture over mobile phones

- Information-on-demand
- Data Gathering/Form filling
- Transactions
- Voice Authentication
- Feedback/surveys
- Alerts/Updates

- Agriculture
- Healthcare
- Livelihood
- Financial Inclusion
- Education

http://www.uniphore.com
Engineering Design for Indian needs

Invention Labs
The best way to predict the future is to invent it

A vending machine for dispensing milk sachets

A machine vision system for auto ancillary SMEs

Control systems for low altitude autonomous satellite

An affordable Soil Testing Kit for micronutrient testing

An Alternative and Augmentative Communication Device for Children afflicted with Cerebral Palsy

www.inventionlabs.in
Gearing rural India for the corporate world

Aim is to:

- Allow the corporate India, tap the talent from rural India
- Offer youth from rural India better career options

www.ejeevika.com
SAMVIT Education Services

- Curriculum based courses
  - Online TT (9th, 10th, 12th std)

- Skill enhancement courses
  - Spoken English on video
  - Photoshop tutorials
  - html tutorials

- Conceptual learning
  - MS-Office
  - Computers and Internet

- Online TT: 1100 registrations with a pass % of 89
- Revenue of ~60K in 2.5 months
- 4 new courses in the pipeline

http://www.samviteducation.com
AAUM's capability in rural analytics stems from expertise to extract insights from data sources with the ability to develop advanced models aided by actual rural understanding.

**Client**

Business Rules formulation

Analytical model development

**Data sources**

Secondary research

Client

Primary research

Census

Research firms

**Analytical Advantage Using Mathematical modeling**

Forecasting

Statistical analysis

Prediction

Adhoc reports

Optimization

Research Capability

**Analytical Advantage**

Profiling & Segmentation

Valuation, Loyalty & life time

Product /Process performance

Product /process innovation

**Statistical Tools**

R (Statistical System)

WEKA (Machine learning software)

SPSS (Multivariate Statistical Analysis)

SAS (Data mining, Statistical, and Econometric modeling)

**Contact**

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web: www.aaumanalytics.com

Incubated at RTBI for 1.5 years

Market Intelligence | Finance | Retail | Telecom | Supply Chain | Consulting
Distributed Garment Manufacturing

We are one of the leading manufacturers and suppliers of Garments and Customized Institutional Wear. Our range finds application in Hospitals, Hotels, Schools, Factories and home furnishing industry.

- Full Sleeves Shirt
- Crepe Silk Saree
- Nursing Uniform
- Surgeon Uniform

- Half Sleeves Shirt
- Doctor Coat
- Bedsheet
- Hospital Gowns

- Gents Pants
- Nurse Uniform
- Patient Uniform
- Security guard uniform

Within a short period of time, we have been able to range a wider in the fielmd by nailing our clients quality range of Garments and Customized Institutional Wear such as Half Sleeves Shirt, Full Sleeves Shirt, Crepe Silk Saree, Doctor Coat, Nursing Uniform, Nurse Dress, Pants, Patient Dress and Surgeon Uniform. In addition to this, we also offer furnishing in form of Curtains, Doormats and Bed Sheets with Pillow Covers. Owing to our quality range we have gained huge clientele such as Malar Hospital, Karthick Hospital, HT Hospital, Global Hospitals Heald City, and Silk Park, Cuddalore.

In addition to this, we have also gained industry proficiency in custom designing and development of ethnic and indo-western garments for ladies and gents. These are widely known for exclusive designs and impeccable quality.
IndiaKhelo objective:

IndiaKhelo is the first ever sports firm that aims to improve the sports culture of India by igniting locality based healthy competition.

How it works:

- IndiaKhelo affiliates with schools and sports academies, helping them organize professional matches, and upload results on IndiaKhelo system

- Through this initiative IndiaKhelo will build sports portfolio for millions of grass-root players to give them authentic ratings based on their real sports performance

Company Profile:

- Six member team and two advisers.
- Bankers, Indian team players, coaches, designers, developers, professors
- Promoters from all across India.

Khelo Communication Pvt. Ltd
http://www.indiakhelo.com