CHAPTER 8

PRESENT STATUS OF E-COMMERCE IN INDIA

E-commerce has a tremendous growth potential and also generates economic growth in the country. It is important to recognize that e-commerce is going to be the driving force of economic development in countries, especially India. Experiences of many countries indicate that the increasing returns and cumulative effects have resulted in high rates of growth.¹

Deeper penetration of IT applications in the economy, and in society as a whole, can help boost the economy. E-commerce applications can make it easier for the country to better integrate with global markets, the e-marketplace. This has led the government, over the last few years, to formulate liberal policies for the development and growth of the IT industry.
8.1 Growth of IT industry in India.

The Indian Information Technology (IT) and IT Enabled Services (ITES) success story and its paradigm changing impact on global service delivery is now a well acknowledged fact. However, much of the success achieved by the sector has been attributed to the meteoric growth in exports – that has overshadowed the latent opportunities unlocked and growth observed in the domestic market over the past few years.

8.1.1 Spotlight on the domestic IT services market opportunity

Domestic demand for IT in India is witnessing a gradual transformation from a predominantly hardware-driven to a solutions-oriented approach, resulting in a growing emphasis on services. In fact, over the past few years, revenue growth in the services segment alone has reported faster growth than that in the overall domestic IT market (including hardware, software and services). As depicted in the following chart, this trend is expected to continue over the forecast period.²

Growth of IT Spending in India

Source: IDC, 2005
The liberalization of Indian economic policy, deregulation of key sectors and progressive moves towards further integrating India with the global economy have been key drivers of increased IT adoption in the country. This is best reflected in the fact that most indigenous players in telecom and banking – two key sectors with significant multinational corporation (MNC) participation – have significantly upgraded their levels of IT adoption to offer best-in-class services comparable to those offered by the global competition. These two sectors together account for approximately 35-40% of the domestic spend on IT services.

Similar competitive pressures in other more recently deregulated service sectors such as airlines and insurance, the uptake in the manufacturing and industrial sectors, and the several e-governance initiatives launched by the government under the National E-Governance Plan (NEGP), are expected to provide sustained growth in domestic demand for IT services over the next few years. Over the next five years, domestic spending on outsourced IT services is projected to more than double from INR 103 bn in 2004 to over INR 238 bn in 2009.

Five-year revenue forecasts for key service lines in the domestic market (INR mn)

<table>
<thead>
<tr>
<th>Breakups</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Consulting</td>
<td>4,784</td>
<td>5,669</td>
<td>6,775</td>
<td>7,774</td>
<td>9,109</td>
<td>10,674</td>
<td>17.4%</td>
</tr>
<tr>
<td>System Integration</td>
<td>34,011</td>
<td>42,979</td>
<td>51,900</td>
<td>62,065</td>
<td>72,960</td>
<td>85,399</td>
<td>20.2%</td>
</tr>
<tr>
<td>Application Development</td>
<td>13,997</td>
<td>17,115</td>
<td>19,852</td>
<td>22,586</td>
<td>25,113</td>
<td>27,924</td>
<td>14.8%</td>
</tr>
<tr>
<td>End-to-end Outsourcing</td>
<td>6,328</td>
<td>8,221</td>
<td>10,247</td>
<td>12,344</td>
<td>14,344</td>
<td>16,850</td>
<td>21.6%</td>
</tr>
<tr>
<td>Discrete Outsourcing</td>
<td>16,731</td>
<td>21,055</td>
<td>25,819</td>
<td>31,401</td>
<td>36,262</td>
<td>41,509</td>
<td>19.9%</td>
</tr>
<tr>
<td>Deploy and Support</td>
<td>23,631</td>
<td>28,321</td>
<td>32,907</td>
<td>37,651</td>
<td>42,510</td>
<td>48,186</td>
<td>15.3%</td>
</tr>
<tr>
<td>IT Education and Training</td>
<td>4,126</td>
<td>4,879</td>
<td>5,609</td>
<td>6,534</td>
<td>7,260</td>
<td>8,067</td>
<td>14.3%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>103,606</td>
<td>128,239</td>
<td>153,109</td>
<td>180,354</td>
<td>207,559</td>
<td>238,607</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

Source: IDC, 2005

Systems integration and network integration make up a high-growth large-size category within IT services engagements. These services will continue to be prime movers of the domestic IT services market in the enterprise segment owing to the increasing growth in enterprise application implementation and increased demand for network integration from telecom and banking verticals.

FY 2006-07 witnessed a revalidation of the Indian IT-Business Process Outsourcing (IT-BPO) growth story, driven by a maturing appreciation of India’s role and growing importance in the global services trade. Industry performance was marked by sustained double-digit
revenue growth, steady expansion into newer service lines and increased geographic penetration, and an unprecedented rise in investments by MNCs in spite of lingering concerns about gaps in talent and infrastructure impacting India’s cost competitiveness. The sector looked set to close the year at record levels, with the revenue aggregate growing nearly tenfold over the past ten years.

Positive market indicators including large unaddressed white spaces and the unbundling of IT-BPO mega-deals with increasing shares of global delivery, strongly support the optimism of the industry in achieving its aspired target of USD 60 bn in exports by 2010.

8.1.2 Highlights of the IT-ITES sector performance

IT Industry – Sectorwise breakup

<table>
<thead>
<tr>
<th>USD billion</th>
<th>FY 2004</th>
<th>FY 2005</th>
<th>FY 2006</th>
<th>FY 2007E</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Services</td>
<td>10.4</td>
<td>13.5</td>
<td>17.8</td>
<td>23.7</td>
</tr>
<tr>
<td>-Exports</td>
<td>7.3</td>
<td>10.0</td>
<td>13.3</td>
<td>18.1</td>
</tr>
<tr>
<td>-Domestic</td>
<td>3.1</td>
<td>3.5</td>
<td>4.5</td>
<td>5.6</td>
</tr>
<tr>
<td>ITES-BPO</td>
<td>3.4</td>
<td>5.2</td>
<td>7.2</td>
<td>9.5</td>
</tr>
<tr>
<td>-Exports</td>
<td>3.1</td>
<td>4.6</td>
<td>6.3</td>
<td>8.3</td>
</tr>
<tr>
<td>-Domestic</td>
<td>0.3</td>
<td>0.6</td>
<td>0.9</td>
<td>1.2</td>
</tr>
<tr>
<td>Engineering Services and R&amp;D, Software Products</td>
<td>2.9</td>
<td>3.9</td>
<td>5.3</td>
<td>6.5</td>
</tr>
<tr>
<td>-Exports</td>
<td>2.5</td>
<td>3.1</td>
<td>4.0</td>
<td>4.9</td>
</tr>
<tr>
<td>-Domestic</td>
<td>0.4</td>
<td>0.8</td>
<td>1.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Total Software and Services Revenues</td>
<td>16.7</td>
<td>22.6</td>
<td>30.3</td>
<td>39.7</td>
</tr>
<tr>
<td>Of which, exports are</td>
<td>12.9</td>
<td>17.7</td>
<td>23.4</td>
<td>31.3</td>
</tr>
<tr>
<td>Hardware</td>
<td>5.0</td>
<td>5.9</td>
<td>7.0</td>
<td>8.2</td>
</tr>
<tr>
<td>Total IT Industry (including Hardware)</td>
<td>21.6</td>
<td>28.4</td>
<td>37.4</td>
<td>47.8</td>
</tr>
</tbody>
</table>

Total may not match due to rounding off
NASSCOM estimates have been reclassified to provide greater granularity
Historical values for a few segments have changed due to availability of updated information

- Growth in Revenues
   The Indian IT-ITES sector (including the domestic and exports segments) is expected to exceed USD 47.8 bn in annual revenue in FY07, an increase of nearly 28% in the current fiscal.  
   - Contribution to GDP estimated to be 5.4%, up from 4.8% last year.
   - Service and software exports remain the mainstay of the sector contributing USD 31.3 bn and beating forecast to register a 32.6% growth.
   - Increasing traction in offshore product development and engineering services is supplementing India’s efforts in IP creation. This segment is growing at 22-23% and is expected to report USD 4.9 bn in exports, in FY 2006-07.
MNC investments reach an unprecedented scale; over USD 10 bn announced in FY 2006-07, to be invested over the next few years.

Service-line expansion:
Aiding service providers to take on larger and more complex deals, and driving up the average size of contracts awarded to Indian firms. Indian Service Providers have increased their share of contracts of values in excess of USD 50 mn from 1% in 2002 to 7% in 2006.

- High offshore component of delivery and superior execution in multi-location delivery continue to be key differentiators.
- Broad-based industry structure – IT led by large Indian firms, BPO by a mix of Indian and MNC third-party providers and captives, reflects the depth of the supply base.
- Even though large players continue to lead growth, gradually increasing their share in the industry aggregate, several high-performing SMEs also stand out.

Employment trends and NASSCOM initiatives:
Total IT Software and services employment to reach 1.6 mn in FY07. Industry in collaboration with government and other stakeholders has taken several initiatives to further enhance the availability of and access to suitable talent for IT-ITES in India. For example,

- The NAC (NASSCOM Assessment of Competence) was nationally rolled out in November 2006, after a successful pilot. This is being taken to a number of states in 2007.
- A comprehensive skill assessment and certification programme for entry-level talent and executives (low-middle level management) is underway.
- An image enhancement programme to build greater awareness about the career opportunities in this segment is underway.
- NASSCOM has been working with academia across the country under its IT Workforce development initiative to encourage and facilitate greater industry interaction, and has signed MoUs with UGC and AICTE to take forward these initiatives.
- NASSCOM has suggested the concept of experimenting with adapting the Special Economic Zone concept (deregulation and removal of restrictions) for education, and create Special Education Zones. The long term steps that are needed include much
higher government investment in education, major education reform and better compensation and research grants for teachers/researchers.

- NASSCOM has proposed the setting up of a chain of finishing schools for IT professionals to make them more employable with a simple 3-4 months of honing of technical skills and imparting soft skill training, helping bridge the manpower supply-demand gap by at least 30-40%. It has been proposed that finishing schools be set up by the IITs and National Institutes of Technology.

**Employment figures – Software and Services sector**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Services</td>
<td>215000</td>
<td>297000</td>
<td>398000</td>
<td>562000</td>
</tr>
<tr>
<td>ITES-BPO</td>
<td>216000</td>
<td>316000</td>
<td>415000</td>
<td>545000</td>
</tr>
<tr>
<td>Engineering Services and R&amp;D and Software</td>
<td>81000</td>
<td>93000</td>
<td>115000</td>
<td>144000</td>
</tr>
<tr>
<td>Domestic Market (including user)</td>
<td>318000</td>
<td>352000</td>
<td>365000</td>
<td>378000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>830000</td>
<td>1058000</td>
<td>1293000</td>
<td>1630000</td>
</tr>
</tbody>
</table>

*Figures do not include employees in the hardware sector
Source: NASSCOM

8.1.3 The Indian ITES-BPO scenario

The Indian ITES-BPO segment continued to chart strong year-on-year growth at 37% for FY 2005-06. Growth is being driven by a steady increase in scale and depth of existing service lines. There has also been addition of newer vertical specific services and emerging/niche business services in the past year.

**Spotlight on the domestic ITES-BPO market opportunity**

ITES-BPO is a nascent segment of the domestic market, driven by voice based services with customer care and sales and marketing activity accounting for approximately 70% of the total.

**Domestic ITES-BPO revenues (INR Million)**

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>2428.9</td>
<td>4412.5</td>
<td>8019.5</td>
</tr>
<tr>
<td>F&amp;A</td>
<td>2561.9</td>
<td>2975.4</td>
<td>3454.1</td>
</tr>
<tr>
<td>Customer Care</td>
<td>7696.1</td>
<td>16161.8</td>
<td>33939.7</td>
</tr>
<tr>
<td>Sales &amp; marketing</td>
<td>8465.2</td>
<td>12019.6</td>
<td>17756.4</td>
</tr>
<tr>
<td>Other</td>
<td>2059.2</td>
<td>2449.4</td>
<td>2914.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>23213.3</td>
<td>38018.6</td>
<td>66084.4</td>
</tr>
</tbody>
</table>

*Source: IDC, 2005*
Currently, the BFSI and Telecom verticals account for over 70% of the demand for ITES-BPO services in the domestic market.

<table>
<thead>
<tr>
<th>Employees ITES-BPO (in '000)</th>
<th>Exports ITES-BPO (in USD bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY04 254</td>
<td></td>
</tr>
<tr>
<td>FY05 316</td>
<td></td>
</tr>
<tr>
<td>FY06 415</td>
<td></td>
</tr>
</tbody>
</table>

- Indian ITES-BPO exports have grown to USD 6.3 bn in FY 2005-06, recording a growth of 37%. They are expected to grow to USD 8-8.5 bn in FY 2006-07.  
- Net employment in the ITES-BPO segment has grown by approximately 100,000 in FY 2005-06, taking the total direct employment within this segment to 415,000.  
- Employee turnover/attrition levels appear to be stabilising, with talent acquisition, development and retention initiatives undertaken by the players beginning to deliver results.

**Key growth drivers of Indian ITES-BPO exports**

- Globalisation, overseas competition and the business economics imperative
  - Rapid growth of globalisation has added to competitive pressures across geographic markets that were previously relatively isolated from overseas competition.  
  - The resulting impact on growth and profitability continues to push organisations towards more cost-efficient business models.

- Global sourcing going mainstream, significant senior business leadership vision and oversight
  - Having convincingly established proof-of-concept, global sourcing is now a key element of corporate boardroom agenda.
• As a part of mainstream business strategies, offshore/outsourcing initiatives are being accorded significant senior leadership oversight.
• Increasing emphasis on leveraging the model for greater strategic business impact; not restricted to functional support (IT, HR etc.).

> India’s demonstrated superiority, sustained cost advantage and fundamentally powered value proposition

• Outsourcing to India has provided companies with significant benefits over arbitrage in labour costs through business process enhancements and improvements
• Indian vendors are expanding their service offerings, enabling customers to deepen their offshore engagements; the shift from low-end business processes to higher value, knowledge based processes is having a positive impact on the overall industry growth.
• Indian vendors have successfully built up the scale of their operations to match the pace of increasing demand for these services, ensuring that client organisations do not have to settle for alternative options.
• Despite rising costs, Indian offshore operations offer cost savings of 40-50% and in spite of wage inflation averaging 10-15% annually, companies are able to leverage declines in telecom and other overhead costs, productivity gains and economies of scale to sustain the cost arbitrage.
• Recent research has shown that even at current levels of suitability India has the largest pool of suitable offshore talent – accounting for 28% of the total suitable pool available across all offshore destinations and outpacing the share of the next closest destination by a factor of 2.5.
• The number of IT-ITES professionals employed in India has grown from 830,000 in FY 2003-04 to well over one million in FY 2004-05. This rapid growth in industry employment has been facilitated by the combination of two fundamental factors – a favourable demographic profile and a large, expansive and established network of academic infrastructure.
• The main factor underlying India’s long-term attractiveness is its highly favourable demographic profile. With nearly 60% of its population in the 15-59 age group and more than half below 25, India will continue to have a significantly higher number of people in the productive (working) age group than in the dependent age group for at least the next few decades. In contrast, countries
including the US, Europe, Japan and China have a more aged population with dependency ratios likely to increase over the same period.

| Indian IT Sector: Knowledge Professionals Employed* |
|--------------|------------|------------|----------|----------|----------|----------|
| IT, Engineering and R&D, Software Products Exports | 1 10,000 | 152,000 | 173,000 | 205,000 | 244,000 | 392,000 | 913,000 |
| IT-enabled services exports | 42,000 | 70,000 | 100,000 | 120,000 | 216,000 | 375,000 | 409,000 |
| Domestic sector | 752,000 | 109,114 | 345,250 | 293,000 | 318,000 | 332,000 | 385,000 |
| Total | 264,808 | 432,114 | 522,250 | 439,000 | 530,000 | 1,050,000 | 1,287,000 |

* Does not include employees working in the hardware sector.

Global IT spends are projected to grow at a steady rate of 10-11% per annum. The increase in global BPO spend will further propel the Indian ITES-BPO industry. Also, unpenetrated potential of G-2000 corporations (late adopters) will lead to demand deepening vertical and geographic market penetration of offshore outsourcing.

### 8.1.4 Knowledge Professionals in India

As per NASSCOM estimates, as of June 1, 2006

- Industry employee base estimated at nearly 1.3mn in FY06.
  - IT software and services added over 120,000
  - ITES-BPO added ~100,000
    - total direct employment in the Indian IT-ITES has grown approximately from 284,000 in FY 1999-2000 to 1,293,000 in FY 2005-06
- Indirect employment attributed to IT-ITES was 3 mn
  - in addition to the nearly 1.3 mn-strong workforce employed directly in the industry, Indian IT-ITES has helped create an additional 3 mn job opportunities through indirect and induced employment. Indirect employment includes expenditure on vendors including telecom, power, construction, facility management, IT, transportation, catering and other services. Induced employment is driven by consumption expenditure of employees on food, clothing, utilities, recreation, health and other services.

#### Employment figures-Software and Services sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>FY 2004</th>
<th>FY 2005</th>
<th>FY 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Services</td>
<td>614000</td>
<td>741000</td>
<td>878000</td>
</tr>
<tr>
<td>ITES-BPO</td>
<td>253000</td>
<td>316000</td>
<td>415000</td>
</tr>
</tbody>
</table>

Source: NASSCOM
Net employment in the ITES-BPO segment has grown by approximately 100,000 in FY 2005-06, taking the total direct employment within this segment to 415,000.

Employee turnover/attrition levels appear to be stabilising with the talent acquisition, development and retention initiatives being undertaken by the players, beginning to deliver results.

India has demonstrated superiority, sustained cost advantage and fundamentally powered value proposition, supported by the following data points.

- Outsourcing to India has provided companies with significant benefits over the arbitrage in labour costs – through business process enhancements and improvements.
- Indian vendors are expanding their service offerings, enabling customers to deepen their offshore engagements; the shift from low-end business processes to higher-value, knowledge-based processes is having a positive impact on the overall industry growth.

**Indian IT Labour Supply: IT Software and Services**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>No of engineering graduates</td>
<td>316,000</td>
<td>365,000</td>
<td>441,000</td>
<td>501,000</td>
<td>536,000</td>
</tr>
<tr>
<td>Degree (four years)</td>
<td>139,000</td>
<td>170,000</td>
<td>222,000</td>
<td>270,000</td>
<td>290,000</td>
</tr>
<tr>
<td>Diploma &amp; MCA (three years)</td>
<td>177,000</td>
<td>195,000</td>
<td>219,000</td>
<td>231,000</td>
<td>246,000</td>
</tr>
<tr>
<td><em>No of IT professionals</em></td>
<td>179,000</td>
<td>201,000</td>
<td>246,000</td>
<td>280,000</td>
<td>303,000</td>
</tr>
<tr>
<td>Engineering IT graduates (degree)</td>
<td>84,000</td>
<td>102,000</td>
<td>133,000</td>
<td>162,000</td>
<td>180,000</td>
</tr>
<tr>
<td>Engineering IT graduates (diploma)</td>
<td>95,000</td>
<td>99,000</td>
<td>113,000</td>
<td>118,000</td>
<td>123,000</td>
</tr>
</tbody>
</table>

Source: NASSCOM

* IT professionals include Comp Science, Electronic and Telecom professionals

**Indian IT Sector: Knowledge Professionals Employed**

<table>
<thead>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IT, Engineering and R&amp;D, Software Products Exports</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
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<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
<td>120,000</td>
</tr>
<tr>
<td>IT-enabled services Exports</td>
<td>42,000</td>
<td>42,000</td>
<td>42,000</td>
<td>42,000</td>
<td>42,000</td>
<td>42,000</td>
<td>42,000</td>
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<td>42,000</td>
<td>42,000</td>
<td>42,000</td>
<td>42,000</td>
</tr>
<tr>
<td>Domestic sector</td>
<td>118,000</td>
<td>118,000</td>
<td>118,000</td>
<td>118,000</td>
<td>118,000</td>
<td>118,000</td>
<td>118,000</td>
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<td>118,000</td>
<td>118,000</td>
<td>118,000</td>
<td>118,000</td>
</tr>
<tr>
<td>Total</td>
<td>280,000</td>
<td>280,000</td>
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<td>280,000</td>
<td>280,000</td>
<td>280,000</td>
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<td>280,000</td>
<td>280,000</td>
<td>280,000</td>
<td>280,000</td>
</tr>
</tbody>
</table>

* Does not include employee numbers relating to the hardware sector.

Source: NASSCOM
The NASSCOM-McKinsey Report 2005 indicates that Indian industry is targeting USD 60 bn in exports by FY 2009-10. This translates into an estimated demand for 850,000 IT professionals and 1.4 million ITES-BPO professionals by 2010. With offshore penetration for both IT and ITES-BPO services estimated at about 10%, and offshore adoption rising rapidly, the demand for these services from India is expected to continue on its high growth trajectory.

**Highlights of NASSCOM Hewitt ‘Total Rewards Study’ on trends in salary increase in 2005**

IT-TES is considered one of the highest paying sectors, which also provides ample opportunities of growth.

- Average salary increase in the IT sector across levels was around 16%.
- Average in ITES BPO sector across levels was in the range of 16-18%.
- The junior levels saw a higher movement in compensation with the first three levels reporting a double digit salary increase of 12% in comparison to 2004 which saw an average increase of 8% at these levels. Higher median movement at these levels may be attributed to the increasing demand for specialised skills at these levels.

If current trends in graduate turnout and employment are maintained, India will be well positioned to meet demand for professionals in the IT software and services segments of the industry.

**To sharpen India’s value proposition and extend its leadership in the global IT-ITES space,** NASSCOM and the industry have already taken several initiatives to further enhance the availability of and access to suitable talent for IT-ITES in India. These initiatives include:

- **MoUs with UGC and AICTE:**
  NASSCOM signed a Memorandum of Understanding (MoU) with University Grants Commission (UGC) and All India Council for Technical Education (AICTE) last year, to strengthen professional education (through curricula, faculty, infrastructure and pedagogy improvements) in line with the IT industry’s requirements of demand for skilled professionals.

- **National Assessment of Competence:**
  NASSCOM has launched NASSCOM Assessment of Competence (NAC) programme for potential employees in the BPO industry. NAC is an industry standard assessment and certification programme that aims to ensure the transformation of a "trainable"
workforce into an "employable workforce". In the first phase the pilot, which was launched recently, ran for 3 months in 3 cities, namely, NCR, Mumbai and Bangalore. Around 36 key ITES-BPO companies and nearly 15,000 graduates participated in the pilot.

- **National Skills Registry:**
  NASSCOM is working with industry, present and prospective BPO employees and HR consultants to determine the best method to improve retention rates in the industry. NASSCOM in collaboration with the National Securities Depository Limited (NSDL) has launched National Skills Registry (NSR), in an attempt to further strengthen security in the Indian IT industry. NSR, a global first, is a centralised database of information about the employee's professional and educational background. The NSR has been specifically designed to ensure authenticity of data through independent verification and biometric identification of the individual.

- **Certification programme for frontline management:**
  Under the aegis of NASSCOM’s Executive Development Programme (NEDP), NASSCOM and QAI, the leading quality consultancy in India, last year unveiled the first-of-its-kind Certification Programme for Frontline Management for the ITES-BPO sector. The programme has been launched nationally and was organised in the five major metros, Delhi, Mumbai, Bangalore, Chennai, and Hyderabad, in FY 2005. It will soon be extended to other cities like Pune, Kolkata, Chandigarh, and Jaipur.

- **Industry-Academia partnership:**
  NASSCOM in its **IT Workforce Development (ITWD)** initiative is also working with academia across the country to encourage and facilitate greater industry interaction, helping them share relevant feedback, stay updated on developments in the industry and giving them an opportunity to incorporate positive changes in their curriculum and pedagogy.
8.2 E-commerce in India today

India Internet Usage Stats and Telecommunications Market Report

Table 8.2.1 Internet Usage and Population Statistics: India

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Users</th>
<th>Population</th>
<th>% Pen.</th>
<th>Usage Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>1,400,000</td>
<td>1,090,870,677</td>
<td>0.1%</td>
<td>ITU</td>
</tr>
<tr>
<td>1999</td>
<td>2,800,000</td>
<td>1,090,870,677</td>
<td>0.3%</td>
<td>ITU</td>
</tr>
<tr>
<td>2000</td>
<td>5,500,000</td>
<td>1,090,870,677</td>
<td>0.5%</td>
<td>ITU</td>
</tr>
<tr>
<td>2001</td>
<td>7,000,000</td>
<td>1,090,870,677</td>
<td>0.7%</td>
<td>ITU</td>
</tr>
<tr>
<td>2002</td>
<td>16,500,000</td>
<td>1,090,870,677</td>
<td>1.6%</td>
<td>ITU</td>
</tr>
<tr>
<td>2003</td>
<td>22,500,000</td>
<td>1,090,870,677</td>
<td>2.1%</td>
<td>ITU</td>
</tr>
<tr>
<td>2004</td>
<td>39,200,000</td>
<td>1,090,870,677</td>
<td>3.6%</td>
<td>C1 Almanac</td>
</tr>
<tr>
<td>2005</td>
<td>50,600,000</td>
<td>1,112,225,812</td>
<td>5.5%</td>
<td>C1 Almanac</td>
</tr>
<tr>
<td>2006</td>
<td>40,000,000</td>
<td>1,112,225,812</td>
<td>3.6%</td>
<td>IAMAI</td>
</tr>
</tbody>
</table>

Source: www.internetworldstats.com/asia/in.htm

According to joint research by the Internet and Mobile Association of India (IAMAI) and IMRB International, Internet users in India reached 37mn in September 2006, up from 33mn in March 2006. During the same period the number of active users has risen from 21.1mn to 25mn. "Active User" is an internationally accepted and widely used category to define users who have used the Internet at least one in the last 30 days.

According to the findings, youth are the main drivers of internet use in India. College students and those below the age of 35 are the biggest segment on the Internet. Both these segments have the highest proportion of conversion of "Ever" Users to "Active" users of Internet.

Besides youth, Internet-hungry small towns are also fuelling the growth. As per the survey, smaller cities and towns are increasingly embracing the Internet revolution and are pushing growth from below. Smaller cities and towns have shown an impressive 142% YoY growth and now account for 25% of all Internet users.

The study estimates that the Internet user base is likely to cross the 40mn mark by March 2007, when the "Ever" user base is likely to reach 42mn and the Active User base is likely to hit 28mn. By March 2008, the Ever user base should cross the 50mn mark, and the Active user base would reach a staggering 43mn.
Mumbai with 3.24 mn Ever users and 2.6 mn Active users, leads the pack of top eight internet using metros. Delhi is second with 2.66 and 1.80 million of Ever and Active users respectively. Ahmedabad has the lowest number of users among the top eight metros.

### Internet users base across top eight metros

<table>
<thead>
<tr>
<th>Top 8 Metros</th>
<th>Ever Internet Users (13.12mn of 17.36 mn)</th>
<th>Active Internet Users (10 21mn of 13.23 mn)</th>
<th>% of Active Internet users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mumbai</td>
<td>3.24 mn</td>
<td>2.6 mn</td>
<td>82%</td>
</tr>
<tr>
<td>Delhi</td>
<td>2.66 mn</td>
<td>1.80 mn</td>
<td>67%</td>
</tr>
<tr>
<td>Kolkata</td>
<td>1.34 mn</td>
<td>1.05 mn</td>
<td>78%</td>
</tr>
<tr>
<td>Chennai</td>
<td>1.48 mn</td>
<td>1.26 mn</td>
<td>85%</td>
</tr>
<tr>
<td>Bangalore</td>
<td>1.31 mn</td>
<td>0.97 mn</td>
<td>74%</td>
</tr>
<tr>
<td>Hyderabad</td>
<td>1.29 mn</td>
<td>0.95 mn</td>
<td>74%</td>
</tr>
<tr>
<td>Ahmedabad</td>
<td>0.78 mn</td>
<td>0.59 mn</td>
<td>75%</td>
</tr>
<tr>
<td>Pune</td>
<td>1.02 mn</td>
<td>0.92 mn</td>
<td>90%</td>
</tr>
</tbody>
</table>

Source: IAMAI

Around 38% of all internet users in India are 'heavy users' and on an average spend about 8.2 hours per week on the internet, according to the I-Cube 2006 report by the IAMAI and IMRB International.

The report also revealed that the percentage of heavy internet users in India is rapidly increasing: from 16% of overall users in 2001, to 20% in 2004, to 38% in 2006. Similarly, the percentage of light internet users has steadily declined from 63% in 2001 to 28% in 2006.

The study further states that, the average number of minutes per week spent on the Internet was 322.3 for schoolchildren, 433.2 for college going students, and 580.5 minutes a week for older men. Working women spend an average of 535.3 minutes and non-working women 334.5 minutes.

In terms of purpose of use, for 32% active users were using the Internet as the primary source for information and research in 2006 – a considerable jump from just 20% in 2001, when the primary drivers of internet traffic were e-mail and chat.
With innovations in content in recent years, especially in the form of online ticketing, weblogs, product information and preview sites, the year 2006 has seen an impressive 32% of the Active Internet Users having Information as their primary application. The growth in the number of users accessing Internet primarily for entertainment has also been significant, though its share continues to hover around 8-10%.

From a tentative beginning in 1999-2000, when all sorts of dotcoms selling all sorts of stuff (perhaps one could even buy peanuts online) sprouted and perished, e-commerce in India has come a long way. It may be too early to do a comparison with the e-commerce scenes in countries such as the US where billions of dollars are spent online. But the business in India is growing exponentially every year, albeit from a smaller base, and total revenues have now reached a respectful size, according to IAMAI statistics. IAMAI, a non-profit organisation founded in January 2004 by leading Indian Internet portals, projects that e-commerce revenues in the country, growing at 95% during FY 2006-07, will reach Rs 2,300 crore in the B2C segment.

IAMAI forecasts that over the next two years the year-on-year average growth is expected to be 95-100%. The number of Indians who are online will also surge to 100 mn by 2007-08, from the present 38.5 mn.

**Drivers of growth**

Business started picking up from 2004 onwards. Prior to that, e-commerce in the country was plagued by issues such as poor Internet penetration, slow speed of connectivity, security issues and fear of using a credit card online. Then, in the dotcom meltdown, numerous online shops closed down, leaving only a handful of players in the business. But over the last two years, those who tenaciously clung to their beliefs and business plans have seen their fortunes brighten.

One of the biggest drivers of growth for e-commerce has been the government. A series of initiatives from the government side, such as public sector banks and Indian Railways embracing the Net, has helped boost the confidence of users to trade online. Banks such as State Bank of India encouraged subscribers to log on and transact online, bringing in a large number of new users. The online ticket sales of Indian Railways proved to be such a big hit that today it is one of the largest players in Indian e-business. These actions removed a lot of concerns in the minds of people about online transactions. A number of state governments
also launched a host of services on the Net, allowing people to do transactions and electronic payments. It was these initiatives by the Government, rather than legalising electronic signatures and bringing about cyber laws, that helped e-commerce in the country.

The proliferation of broadband Internet connections is another factor that helped e-commerce. Broadband not only provided a better experience online, it also significantly reduced 'dropped transactions,' thereby encouraging more users to buy on the Internet.

The cost of computers coming down drastically, as well as falling rates for connectivity, also helped. Today, more people spend more time hanging out at cyber malls. Chances are that many among them will end up buying something.

The shopping basket continues to diversify, and coupled with more offline players now adding value with an e-commerce offering, this will only further boost the growth of e-commerce in India. The take-off of online stock trading is another catalyst for online shopping.

The arrival of global players such as eBay, MSN and Yahoo, and consolidation in the Indian B2C space, has also boosted buyer confidence. Prominent Indian portals such as Rediff and Indiatimes are aggressively pushing their online shopping business, even as they focus on content. Soon existing brick-and-mortar shopping malls too could come up with an online presence, just like their counterparts in the US did.
Interestingly, a lot of Indians are spending time on the Net before they embark upon their journeys. IAMAI statistics reveal that airline and railway tickets constituted a bulky 57% of the total value of online shopping revenues during 2005-06. Electronic gadgets (10.10%) and home appliances (5.10%) are the other two major items bought online. Gifts, movies, apparel and jewellery are the other prominent items in the shopping list.

Although the patterns of online shopping in India are quite similar to that in the US, a major difference is the rate of use of credit cards. Credit card purchase is very high in the US, but in India, cheques and other modes of payment are still more common.

Pan-Indian phenomenon

And all those purchases are not happening in the metros alone; nor are those buying online yuppies. True to the spirit of the Internet, online shopping is happening everywhere in India.
During 1999-2001, online sales happened more in metros and to high-income people. But now, more sales are happening in smaller cities. So if the top six cities accounted for 60-70% cent of online business in 2001, today their share has shrunk to just 20%. Smaller towns contribute the rest of online sales.

IAMAI surveys reveal that cities such as Surat, Vadodara, Coimbatore, Nasik, Varanasi, Ludhiana, Patna, Jamshedpur, Agra, Bikaner, Srinagar, Jalandhar, Ludhiana, Faridabad, Belgaum, Kottur, Kochi, Kottayam, Hosur, Pondicherry, Kharagpur, Ankleshwar, Bharuch, Vapi, Jalgaon, Sholapur, and Bhopal are witnessing an increase in online shopping activities.

For instance, Lucknow has jumped to the fourth position among places that buy beauty products online. It also ranks fifth for sports goods, sixth for gifts, hotels and toys and seventh for books, electronic gadgets, apparel, etc. Jaipur has moved to the eighth position for books, music, home tools and movie tickets, while Nasik has entered the list in apparel, gifts and sporting goods. Tiruchi has also started buying online health and fitness products and is ranked eighth in this category. This refutes the common belief that e-commerce shoppers originate from metros and big cities.

As for business volumes, Mumbai is the hot spot for e-business with a 24% share in India's e-commerce. Delhi-National Capital Region (NCR) with a 19% share comes second. Chennai (7%), Bangalore (6%) and Hyderabad (4%) are the other cities where significant amounts of online buying are happening, according to IAMAI.

The association also says that a great deal of online shopping has been happening at cyber cafés, which bring even those who don't have a PC at home into the ambit of cyber shopping. A survey by IAMAI found that over 47% of cyber café visitors have shopped online more than once in the last six months. Thirty one % of the people in Maharashtra, 16% in Tamil Nadu and 11% in Delhi were using cyber cafés as shopping points, while 1% each from Bihar and Punjab were using kiosks, the survey shows.

India is expected to be among the top three Internet markets in the world in five years. But in order for it to make it to that league, a great deal of work needs to be done. Today it is at the stage where the US was 10 years ago. At that point of time, the US made all transactions on the Internet tax-free. However, in India, Internet transactions often attract a double tax. This is
because inter-state transactions attract a central sales tax, in addition to the value added tax an
online retailer has to pay while sourcing products. Selling products in inter-State transactions
entails a loss.

Issues relating to logistics also weigh heavily on the minds of potential buyers. Any delays in
shipping or damages to the products mean that the buyer is unlikely to return. Online retailers
are trying different ways to overcome these issues. A permanent solution would be having
one's own warehouses to stock products, but the present cost structure does not allow many
players to resort to this measure. Apart from this, portals will have to offer discounted prices,
greater integration with content and instant product reviews and user experiences to lure more
buyers.

Meeting customer expectations online is a tougher task than doing it offline, since checking
out another shop is just a click away for the user.

The estimated projection of Internet users is as follows:

March 2007: 42 mn ever users and 28 mn active users

March 2008: 54 mn ever users and 43 mn active users

"Active user" is defined as someone who has used the Internet at least once in the last 30
days, while "ever user" is someone who has used the Internet at least once.

Other survey findings were:
- Time spent on the Internet increases with the increasing age of the user.
- School going kids spend an average of 322 minutes a week online.
- College-going students spend an average of 433 minutes a week.
- Older men spend an average of 580 minutes a week.
- Working women spend an average of 535 minutes online a week.
- Non-working women spend 334 minutes a week.

Among the study findings is that the Internet has now penetrated beyond the communication
needs of the active user population and is no longer just an avenue for satisfying curiosity.
While email, chat and IM would continue to pull first-time users, the next round of growth
would be driven by applications such as blogs, P2P, video-on-demand, online radio, online gaming and localized content.

The report estimated the number of school-going kids using Internet at 1.6 million and college-going students at 3.4 million.

According to IAMAI the low cost of broadband has helped increase Internet use. E-commerce and high demand for "in" domain registrations are also factors for the increase in online users. The "in" domain registrations surpassed 150,000.

Broadband policy and other initiatives by the IT and Telecom Ministry encourage increased adoption. A monthly broadband subscription costs as little as Rs. 199 US $4.50). A second factor is the IT Telecom Ministry initiative to make computers available for purchase under Rs. 10,000 (US $226). In addition to working with hardware manufacturers to remove the financial barrier for households in India, the organization continues to push development of language fonts to remove language and localization of content issues.

According to IAMAI, a trade association representing the online content and advertising, e-commerce and mobile content and advertising industry, Indians go online for a number of activities including e-mail and IM (98% ); job search (51%); banking (32%); bill payment (18%); stock trading (15); and matrimonial search (15).

Statistics on Internet in India

<table>
<thead>
<tr>
<th>Number of broadband connections:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 2006: 2 million</td>
</tr>
<tr>
<td>Sep 2006: 1.7 million</td>
</tr>
</tbody>
</table>

[DNA Dec 06]

Expected number of broadband connections by end of 2007:
9 million (according to Communication and IT Minister Dayanidhi Maran)

[DNA Dec 06]

Internet subscriber-to-user ratio:
1:10 according to NASSCOM estimate [DNA Jul 06]
Number of people using the internet:
70 million according to estimate by NSSCOM [DNA Jul 06]

Previous numbers of Internet users in India:
1992: 1,000
1995: 250,000
1999: 2.8 mn
2000: 5.0 mn
2004: 25 mn
Nov 2005: 38.5 mn

[HT, Jan 2006]

Number of internet subscribers in India (end 2005):
6.13 mn [ID; Jan 2006]

Internet penetration in March 2006 (internet users, not necessarily subscribers):
4.5% of India's population [DNA Apr 06]

Market share of BSNL for broadband subscriber base:
About 50% [DNA Dec 06]

Price for BB (available from):
Rs. 199 Rs per month [HT; Jan 2006]

Number of travel related web searches by Indians during Xmas & New Year period 2005:
8 mn estimate [Business Standard, Dec 2005]

PC availability per 100 inhabitants in 2004:
1.2 [GTF; 2005]

Number of internet cafés in India:
105,000 [ConSu; Nov 2005]
Annual growth in cyber café market in India:
45% (average over past 5 years) [ConSu; Nov 2005]

Projected growth in online transactions in two years: 300%
(2004-05: Rs 570 crore (73m GBP)
2006-07: Rs 2,300 crore (295m GBP)
[DNA Jul 06]

Percentage of internet users who buy train tickets online: almost 30%
[DNA Jul 06]

Most common payment method for online shoppers:
38% credit card 32% cash on delivery
[DNA Jul 06]

Credit/debit card users in India: approx 40 million
[DNA Jul 06]

The number of Internet users in India is now 40,000,000.

The IOAI forecasts that in a few short years' e-commerce transactions will cross the Rs 2300
crore mark (2006-2007) highlighting the growing adoption of the Internet as a legitimate sales
channel.9

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B2C - Rs crore</td>
<td>130</td>
<td>255</td>
<td>570</td>
<td>2180</td>
<td>2300</td>
</tr>
<tr>
<td>% Growth</td>
<td>96%</td>
<td>124%</td>
<td>107%</td>
<td>95%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>2003-04</th>
<th>2004-05</th>
<th>2005-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average No. of Transactions per month</td>
<td>207,000</td>
<td>440,000</td>
<td>795,000</td>
</tr>
<tr>
<td>% Growth</td>
<td>-</td>
<td>112%</td>
<td>80%</td>
</tr>
<tr>
<td>Average Transaction Value</td>
<td>-</td>
<td>Rs 1080</td>
<td>Rs 1100</td>
</tr>
</tbody>
</table>

Source: IAMAI
The Internet offers an audience that will grow to a 100 million users by 2007-08, offers secure unlimited shelf space and isn't bound by operational timings and geographical boundaries; and an opportunity to cater to a wider market at a comparative miniscule cost.

With urban sprawl activities getting a boost and with metro allied Internet and media consumption, there are increasing opportunities of seeing an open economy and transaction values increasing in suburbs towns and satellite townships. On a macro level this would mean direct access to big city markets (for consumers and suppliers alike) and should ensure a growth in income which further fuels the Internet's cause.
8.3 Case Study – ITC’s eChoupal

The eChoupal is a multilingual, web-based e-procurement solution providing comprehensive information targeted at the farmer. It is a pioneering techno-business initiative of ITC Ltd and is part of ITC’s rural development initiatives. A pet project of the ITC Chairman, Mr. YC Deveshwar, the ITC eChoupal initiative was conceived by a team from ITC IBD (ITC International Business Division) headed by the ITC IBD CEO, S Siva Kumar. IBD is the agricultural commodities export division of ITC IBD was under pressure from ITC to boost its contribution to ITC’s net turnover in a market with intense competition and narrow margins. Taking up the challenge head-on, the IBD’s top managers carefully studied the existing procurement process for commodities from Indian farmers and concluded that something drastic was required for this supply chain to be streamlined. The existing supply chain was typically "Village-> Mandi-> ITC Factory/Warehouse". Some of the irregularities in this scheme were:

- Farmers had only one option to sell their produce-The Mandi. The Mandi was disorganized and run by middlemen, who often cheated the farmers in terms of weight and in terms of price.
- Farmers were usually in the dark about the meteorological information that is so crucial during the sowing time. The available information was usually too generic in nature.
- Farmers were unaware of the latest techniques in farming, soil analysis, fertilizer application, etc. As a result, crop yields were much lower than in other developed countries.

Most importantly, they were unaware of the actual prices at which middlemen sold their produce. As a result, they had to accept whatever prices were offered to them. In May 1999, the eChoupal plan took concrete shape.

The choupal is a common place in a village where farmers and villagers gather after a day’s work to discuss their activities and share knowledge. ITC decided to launch a revolution at the grass roots level, based on this age-old knowledge sharing concept of the Choupal.

In 1999, soya bean and soya-related products formed the basis of the IBD’s business in 1999. Madhya Pradesh was the state producing the largest quantities of soya bean. The eChoupal was launched, as part of the initiative called www.soyachoupal.com.
As per this concept, each village was provided with a computer kiosk containing the following:

- A PC
- Connection lines-telephone-based modems, or VSAT terminals
- A UPS powered by solar energy
- A printer

**Technology and Logistics**

Challenges: The challenges posed are:

- Low availability of electric power and lots of fluctuations in supply
- Transportation issues - reaching equipment and technicians into remote areas
- Telecom infrastructure - very poor quality. Designed only for voice, not data
- An almost 100% computer-illiterate consumer base.

**System specification:** A four-layered IT infrastructure model was conceived. It consisted of:

- Organization – training, support, planning, people, and processes
- Information- data processing
- Application- application, goals, resources occupied, performance metrics
- Technology - servers, clients, network, system software

ITC set up a special telecom infrastructure using tweaked C-DOT RNS kits to get a data throughput of 40 kbps and used a modem. In places with no telephone connectivity, VSATs were used for data communication. Spike suppressors and isolation transformers were used along with the UPS to provide smooth, uninterrupted power.

The software consisted of a multilingual word processor called *Ankur* to provide a vernacular graphic interface for farmers. The PC also had video clips on soil testing.

To overcome logistical issues, mobile vans were used to demonstrate and popularize the system through roadshows. They also carried technicians to install and support the system.

**System software development**

The system was developed by ITC Infotech India Ltd., a 100 per cent subsidiary of using Microsoft technologies – primarily ASP and VB components on an IIS server. HTML is used for presentation and an RDBMS is used at the back-end.
The system is linked to ITC IBD’s ERP so that transactions can be updated into the system on a real-time basis.

**Of the farmer, by the farmer, for the farmer**

A literate member of the farming community is chosen as the Sanchalak, or coordinator, on behalf of the village. The Sanchalak accesses the site on behalf of the farmers and explains the features of the site and provides them with the relevant information that they want.

Each such Sanchalak is given a user name and password to access the system. Besides serving as an authentication, the user name-location mapping ensures that information is location-specific, making the process more relevant and specific.

ITC pays for the installation cost, the equipment maintenance, while the Sanchalak pays for the day-to-day charges such as electricity and internet. Sanchalaks make a commission of 0.5 per cent per ton of processed product that they get the farmers to sell to ITC.  

Before the eChoupal, commission agents used to pick up grain from the mandis on behalf of ITC. They were given the new role of Samyojaks, or facilitators. The Samyojaks help establish eChoupal kiosks in villages falling within their geographical area. They help in selecting and training Sanchalaks in the villages. They also organize activities at the ITC hubs and warehouses and sell ITC products directly to the farmers when they come to sell their produce. Samyojaks get a commission for this from ITC. In this way, ITC has appeased their older commission agents as well. Sanchalaks and Samyojaks in particular regions are called for meetings/workshops on a regular basis.

The eChoupal concept is a big hit with the farmers for the following reasons.

- ITC puts up its offer prices on the site. Farmers can obtain information about other offices and make an independent decision about where they want to sell their produce.
- In the traditional system, the farmer is obliged to go to the Mandi whenever the sales / auctions take place. The eChoupal system gave the farmer an option to sell his produce to ITC anytime he wanted.
- The transparency in the system was there for farmers to see. There was no word-of-mouth communication of prices. The prices were on the site in writing.
- The system is multilingual, so the farmers can actually read what is presented on the screen. Hence the system is used rather comfortably by farmers.
The entire system is used by the villagers with the Sanchalak himself being another villager, so the degree of ownership is very high.

ITC has thus provided the farmer an option which he never had before. By directly interacting with the farmer, ITC now has the opportunity to obtain the quality produce that it desires. ITC set up a well-connected network of warehouses and hubs to receive and store the produce and paid the farmer on the spot for his produce. A very effective e-procurement model has thus been created this is as depicted in Figure 8.4.1.

**Figure 8.3.1 An e-procurement model**


**A Wealth of Information**

The eChoupal gives farmers a lot of relevant information. This includes the following:

- Weather information
- Best farming practices
- Market information
- Crop information
- Questions and answers and answers to frequently asked questions (FAQ)
- Soil testing
- Feedback
- Farmer information
- Information on state and central government schemes
- News
Extending the Internet

After the success of www.sovachoupal.com, ITC decided to venture into pruning the supply chain of other commodity exports. As a result, www.aquachoupal.com for aquaculture and www.plantersnet.com for coffee were started. Similar initiatives have been considered for optimizing the procurement of wheat and horticultural products.

Marketing Goes Rural

In addition to acting as an e-Procurement model, ITC has started leveraging this eChoupal infrastructure to extend its distribution network into the rural heartland well.

ITC is in a position to sell products allied with agriculture such as fertilizers, agrochemicals and seeds. ITC’s subsidiary, Megatop, sells insurance to the farmers. Credit schemes for farmers are also on the anvil for those who feel exploited by banks. In addition, ITC has started using the eChoupal as a network for marketing the range of goods in the Food and FMCG sector, such as edible oils (from soya), salt, biscuits, confectionary, etc.

It is also in a position to auction its infrastructure to other companies that desire to penetrate the rural markets. For example, BPCL has started using the eChoupal sell LPG cylinders in Madhya Pradesh and Uttar Pradesh.
8.4 Case Study - S. Kumars: skumars.com

S. Kumars Online Ltd. (SKCL) is the infotech thrust of S. Kumars Group. Its primary mission is to provide technology to the common man. By setting up a nation-wide network to facilitate e-commerce, even the smallest villages in India will have access to the urban centres, and the world. SKumars.com network will overcome the constraints of inadequate cable infrastructure, shortage of personal computers and validation of transactions critical for e-commerce to flourish. SKumars.com network is supposed to create new opportunities for the business and trading community and prove beneficial to all concerned - the consumer, the trader, the manufacturer and to the shareholders of the company. This business model involves setting up a network of VSAT enabled franchisees, spread all over India. A VSAT (Very Small Aperture Terminal) is a dish that allows the computer to directly connect to the central SKCL site through a satellite. This network is expected to be extremely customer friendly, allowing even the smallest consumer, service provider and trader to buy economically or provide services to a larger market, thereby providing everyone with the twin advantages of convenience and economy. The salient feature of the business is that virtually everyone can be a customer of the network. In a country where credit cards are used by less than 0.5 per cent of the population, SKCL will enable every Indian to transact, pay in the most accepted mode of payment - cash - and reap the benefits of e-commerce. The trading community has an integral role to play in enabling this vision. It is the franchisee network, which will provide the means to every customer to transact, irrespective of whether the consumer has a credit card or access to a personal computer.

Consumers, traders and suppliers will come to the franchisee outlets and use the network for accessing information, buying, selling, and communicating. Millions of individuals are expected to have access to the latest technology and e-commerce. Their model is one of its kinds, to be executed all over India through franchisees. They have over 1200 franchisees spread over the country, connected through the Internet. These franchisees are also known as business partners who sell through kiosks. The customer goes to the franchisee, browses, places an order, and the franchisee delivers the goods.

The company has been through some major problems: low hits, poor availability of the medium itself (the Internet), the payment mechanism, customer awareness, decreasing franchisees, etc. The most unique part about the site is that it is an integration of the online
and offline concepts, and the fact that they sell purely Indian products (anything that you can think of...right from rakhees to ganga jal) and are very well integrated and spread across the country to ensure customer satisfaction.

What Do They Offer?

- A nationwide trading system. Now you can buy and sell anything from anywhere in India
- The power of information. All the information you need is available at the click of a button
- The convenience of education. Top-of-the-line education in over 1000 cities and towns.
- Employability options. A nationwide network to access, identify, and train individuals.

The single largest benefit of the SKumars.com Ltd. (SKCL) network is that it has been designed to offer almost everything that its users would want from it. For example, if there is a customer who wants to sell a product, all that he has to do is to place a small (extremely low cost) advertisement at the outlet. He can specify the product, the location and the price.

If another consumer wants to buy something (anything actually), all that he has to do is to go to his nearest SKCL franchisee, browse the SKCL network, select the items from the various locations on the basis of his budget and place the order, all sitting at the franchisee outlet.

One can also enrol and participate in the best of educational courses sitting in one's neighbourhood. Transaction of shares, job market opportunities, astrological forecasts, and real estate information is also available on the network.

The various services offered to the consumer under B2C are as follows:

1. Hospitality. The network will give information and choice to aid decision making. Rent rooms/conference halls/villas and lots more, across 2000 towns and cities.

2. Travel & tourism. Worry-free holidaying made possible at competitive prices. The network will offer tours to match budgets. Mapping information (road as well as city) on how to reach various destinations will also be available.

3. Education. School and college education, computer-based education like C programming, Java, RDBMS and networking, professional courses for CNmi MBNmedical entrance exams, secretarial courses and preparatory courses it! banking and insurance exams. A variety of tests for evaluating various skills will also be offered.

4. Financial products. Retailing of equity and debt instruments, banking products, mutual funds, insurance products, loan syndication for consumers and other individual loans.
5. **Gifts and e-greetings.** Sending gifts to friends and relatives anywhere in India or receiving them from anyone overseas. If spending on a gift is expensive, one can simply send an e-greeting. It may actually cost next to nothing.

6. **Online shopping.** Consumer electronics, jewellery, handicrafts, white goods, apparel, accessories, specialty foods, packaged foods, and lots more.

7. **Alternative medicine.** Information on ayurveda, the indigenous manner of healing the body with incantations and herbs. Advise on naturopathy and other alternative systems of healing.

8. **Real estate.** Access to information about real estate options throughout the country.

9. **Entertainment.** Downloading the latest music videos/audios, cinema updates and reviews. Booking tickets to the movies in town.

These case studies point towards the fact how Indians are leveraging on this new revolutionary model.
8.5 E-Commerce and Rural Growth in India

8.5.1 Introduction: Rural India & E-Commerce

Rural India brings into mind a huge heterogeneous entity which is essentially synonymous with extreme poverty, agricultural labourers who often plough hard in the sun with emaciated bullocks to earn meagre incomes that barely makes their ends meet and so on. However, this picture is a distorted caricature of what rural India is today and it effaces the amazing potential that lies within the rural households. The contours of rural India have been changing continuously and at a very faster rate than what many people realize.

Electronic commerce includes every type of business transaction in which the participants (i.e., suppliers, end users, etc.) transact business or conduct their trade in goods or services electronically. Although e-commerce is a relatively recent phenomenon, already it is clear that it will have a profound impact on life in rural India. Breaking through the tyranny of distance will cause unprecedented changes, opportunities and threats in many key areas like business, employment, and provision of government, banking, education and health services. Whether rural India will thrive or even survive in the future will depend on how successfully they make the unavoidable transition to being part of a new global economy.

Indian growth after liberalization has been anchored through the tech boom that has appeared to lift India above the level of an impoverished third-world giant. The state of the art, modern, air conditioned offices in Bangalore and other major Indian cities has been a symbol of the tech affluence. However, the same tech boom has contributed in widening the digital and economic divide between the rural India and the urban elite.

So the aspect of using E-Commerce to fuel the rural growth and reducing the economic and digital divide through E-Commerce is challenging and interesting.

8.5.2 Some Snapshots of Rural India

At the first outset let us try to break some of the common myths that people hold about rural India through some facts.

- Rural India is not necessarily agricultural. More than a third of rural households in India derive their income from services or manufacturing - not from farming. In the successful
farming states of Punjab, Kerala and Haryana, over half of all rural households have escaped agriculture altogether.

- According to the 2001 Census, 30 per cent of rural Indian households - accounting for 41.6 million families - availed of banking services. Clearly, these are the financially and economically better off households.¹⁹
- The cities are struggling to provide transportation, housing and other infrastructure. According to major think tanks, India must do what America did between 1960s and 1980s. America just spread out as a country. Cities are still there but the economy is based on suburbs and the scope of rural suburbs is immense.

8.5.3. Rural India and E-Commerce - SWOT Analysis

Rural India has its own strengths and weaknesses. E-commerce is also struggling to gain a foothold in India. Presented below is a combined (Rural + e-commerce) SWOT analysis.

Strengths
- Explosive growth of Internet transactions in banking, stock brokering, shopping and transfer of funds.
- Government support for information technology revolution. India is among one of the 12 countries in the world to adopt an e-commerce law

Weaknesses
- Low Internet and telecom penetration - Rural tele-density in India has increased by a negligible 4% from 1.49 phones per 100 people in 2002-2003 to 1.55 phones per person in 2003-2004. While the overall growth in tele-density was 27% for the same period.²⁰
- Lack of basic computer literacy in rural areas.
- Lack of electricity in rural areas to run computers
- Lack of money with villagers to buy computers
- Lack of basic infrastructure like absence of credit card in rural sector. Without credit card, making transactions on Internet is not easy.
- Slow implementation of Information Technology Act.

Opportunities
- The power of Internet - Internet is a means to connect individuals who want to communicate. Hence, with each new adopter, the Internet became more useful to every other individual.
- Explosive growth of Telecom and Internet sector in India - 27% increase in overall tele-density (phones per hundred people) from 5.11 to 7.02, in the year 2003-04. Out of
607,491 villages in the country, 522,347 have been provided village public telephones (VPTs).  

- Due to saturation of urban markets, there is willingness among corporate to explore rural economies. They are willing to invest in rural infrastructure to exploit rural consumer base.
- Prof. CK Prahalad argues that people at the bottom of the pyramid have immense entrepreneurial capabilities and buying power.

**Threats**

- Outdated mindset of bureaucracy - Governments need to be motivated to approve policy framework to facilitate private-public partnership.
- Maintenance of computers and other equipment is difficult and expensive in rustic villages.
- The judicial machinery is already overworked - Will the cases arising out of e-commerce fiascos over transactions be ever sorted out? Is judiciary knowledgeable enough to deal with such cases?

### 8.5.4. Rural Growth Vehicles

If one carefully looks at each weakness discussed in SWOT Analysis (Section 3), one will find that each weakness leads to a bigger problem hindering rural growth. If each weakness is systematically tackled, rural growth can be unleashed, as signified by table below:

<table>
<thead>
<tr>
<th>Weakness</th>
<th>Weakness leads to this problem...</th>
<th>If problem solved, then it will lead to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of communication links</td>
<td>Lack of Information</td>
<td>Access to markets for agricultural produce using Internet.</td>
</tr>
<tr>
<td>Low telephone penetration</td>
<td></td>
<td>Better distribution system</td>
</tr>
<tr>
<td>Low Internet penetration</td>
<td></td>
<td>Better communication with migrated sons &amp; daughters to towns through a mixture of Internet and cell phones</td>
</tr>
<tr>
<td></td>
<td>Lack of latest know-how</td>
<td>Distance education through a mixture of television and Internet on agriculture.</td>
</tr>
<tr>
<td>Lack of computer literacy</td>
<td>Perpetual debt</td>
<td>Access to micro-credit / micro-finance at cheap rate</td>
</tr>
<tr>
<td>Lack of finance with villagers to buy computers</td>
<td>Ill health of humans as well Tele-medicine for remote villages as cattle</td>
<td></td>
</tr>
<tr>
<td>Lack of basic health services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of employment</td>
<td>Lack of sustainable opportunities</td>
<td>Example: A lady in village buys a telephone connection and opens revenue models a STD booth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Access to low powered computers, like indigenously developed Simputer.</td>
</tr>
</tbody>
</table>

The SWOT analysis has thrown a long list of weaknesses. In order to enable e-commerce become a rural growth vehicle these weaknesses need to be overcome. The examples presented in this section are live, tried and tested. They try to exemplify that e-commerce can be successfully used to fuel rural growth if companies are willing to reengineer their businesses and products appropriately.

8.5.5 Leveraging E-Commerce for Rural Growth

The heart of Gandhi's vision was *swadeshi* which meant not only the spinning wheel and *khaddar* cloth but local self-reliance on the village level to revitalize rural India and e-commerce may be a fuel to propel this dream. Time has come for the small scale industries and handloom weavers not to depend on sales entirely through government subsidies. It is important to generate a new class of entrepreneur and new class of training. Instead of rural India coming to urban marketing centres, the reverse phenomena has to take place and e-commerce can successfully pioneer this movement.

Many programmes has been riding on rural e-commerce and outlines that e-commerce may act as a catalyst of rural development. These programmes identifies the core strength of a village cluster and infuse technology, impart vocational training with state-of-the-art technology, create a consortium of industry, research, academia and successful co-operative societies, give entrepreneurial training and incorporate the use of Internet. Some of these programmes are outlined below. 24

**Indext-C**, a Gujarat Government endeavour was created to provide information and guidance in organizing the Cottage & Rural Industries sector as a catalyst for a better quality of life for artisans and small entrepreneurs. The *Cottage Industry-Global Market* (CIGM) project works with women's craft cooperatives in the Kangra District of Himachal Pradesh to support capacity building and local development. [K2Crafts](http://www.k2crafts.com/) is the online marketplace for the CIGM project, established to market the cooperatives' hand-made, world-quality shawls. **PEOPLink**, a non-profit organization, guides communities of women in countries like India, Nepal, Bangladesh, Haiti and Kenya, involved with handicrafts, helping them to place their products online, and building a global network of Trading Partners (TPs). The TPs have digital cameras that allow easy uploading of images, which are in turn used as promos to retail and wholesale buyers in the industrialized countries. **AsCent** (The Asian Centre for Entrepreneurial Initiatives) has made an attempt to introduce CAD/CAM
technologies to artisans in the Belgaum district of Karnataka, alongside online advertising and
sales.

8.5.6 E-post an example of e-commerce on national level.

With increasing competition amongst telecom operators, the proactive ones have started
tapping rural markets. Even government owned post-offices have started an innovative
service called e-post. Using e-post, e-mails can be sent and received by people living in far-
flung villages, those even without access to Internet. The regular postman along with regular
mail delivers e-mails.

Out of 150,000 Post Offices all over India, about 650 Post Offices have been designated as e-
post centres. These 650 e-post Offices are uniformly spread across all major districts and are
linked with each other using Internet.

For example, a north Indian villager wants to send a letter to her son/daughter working in a
south Indian suburb. Instead of sending a regular snail-mail, she goes to nearest post office
and submits the letter. The letter by the end of the day is sent to nearest e-post centre. The e-
post centre scans the letter and dispatches it as an e-mail to the e-post centre located nearest to
destination address. At the receiver end, the print out is taken of the e-mail and the regular
postman delivers the same to the addressee.

Since e-Post messages are scanned and sent, they can be in any language and can even be
handwritten. They could also contain pictures and graphics and can be sent to multiple
addresses.

The e-post goes on to prove that e-commerce can be successfully used to fuel rural growth if
companies are willing to re-engineer their businesses and products appropriately. Using the
Internet is not particularly complex. If the Internet is made compatible with most people's
previous experience of writing letters or telegrams. This is what e-post did.

The success of e-post that started in 5 Indian states 2 years back and now rolled across entire
country is taken outside India as well. The Government of India, in partnership with two UN
agencies, the International Telecommunication Union (ITU) and the Universal Postal Union
(UPU), will help Bhutan to replicate the e-post model.
8.5.7 Lack of Credit / Finance to Buy Computers - Bangladesh Shows the Way

The microcredit / microfinance revolution in Bangladesh, heralded by Prof. Yunus, founder of Grameen Bank is well known. The Grameen Bank started off experimenting with giving loans to poor people. At that time, the idea was that the poor people are not credit worthy. Prof. Yunus first tried giving micro loan in one village back in 1976 and it worked, and with that experience they expanded to the second village and the third village. Grameen Bank became a formal bank in 1983.

Grameen Bank till date has provided microcredit to over 2.4 million borrowers, 95% of whom are women, across 40,000 villages. Microfinance in India today only reaches around 20 million people through 7000 MFI s. In India, about 240 million people are in need for microfinance.

ICICI and ABN AMRO are two private sector banks actively involved in disbursing microfinance. If Bangladesh can do it, why can't India do it? The fact is microfinance today is available to those who seek it; the only problem is lack of awareness.

8.5.8 Lack of Electricity to Run Computers - Dominican Republic Shows the Way

There is a small village by the name of El Limon in Dominican Republic. The population of the village is just 350 people. The village is situated in arid mountainous region.

The citizens of this village, with the help of a volunteer from the United States, developed the micro hydro-electric system and laboured hard to put it in place. They channelled whatever little water coming down from mountains to a tank built at a height. Then, using a series of plastic pipes from an existing irrigation system, they channelled water to turbines. They mixed cement by hand and poured it into wooden moulds to craft 500-pound electric poles. Then, they carried the poles up the mountain, dug the holes and installed the wiring system.

Their hydro-electric system generate enough electricity to power a light-bulb in each of the village's 50 or so houses, and have enough left over to power their cinder-block schoolhouse.

Once they had electricity, the villagers hooked-up a donated computer to the Internet using a digital radio and an antenna relay system that connects to the nearest phone line, ten miles
away. Now their school, which has no library in a village with neither telephones nor indoor plumbing, has a connection to the World Wide Web.

Close to home, Nepal has an estimated 900 micro-hydro-electric installations scattered throughout 59 of Nepal's 75 districts. Back home in India, 1500 micro hydro-electric systems generating power in range of 2 KW to 10 KW has been envisaged for state of J&K.

Moreover, Indian Institute of Science has developed a very low powered computer. The device has been named Simputer28. Simputer can be run on 3 normal AA size batteries for 5 hours. The Simputer can do away with the oft-repeated argument that computers can't be run in villages due to lack of electricity. More progressive states and proactive villages can opt for fully matured micro-hydroelectric installations.

**8.5.9 Lack of Communication Facilities to Hook to Internet - Examples from Bangladesh, South Africa & India**

In Bangladesh, after the success of Grameen Bank, Prof. Yunus decided to leverage on the network already created by providing cell phones in 45,000 villages. The company called Grameen Phone till date has provided phones to women in 1,300 villages. Women have purchased these phones using microcredit facility and are earning by selling telephone services to fellow villagers to make calls to other cities within Bangladesh as well as overseas. A typical Grameen telephone lady earns twice the per capita income of the Bangladesh, that too within a month of purchasing the phone.

Villagers are using the telephone connection for finding out good market for their eggs and baskets they want to sell. A cellular phone in a village may not be an apt example of e-commerce. However, a telephone connection is a vital link for initiation of any e-commerce activity. Today, all these 1,300 villages are sitting on an inflection point where rural economy could take wings by hooking up cellular phones with computers to access World Wide Web. Internet can bring the cost of checking prices to a fraction to what it takes using cellular phone.

In South Africa, a company by the name Freeplay Inc., sells a hand-cranked radio that uses a spring to generate electrical power. The newer models are even better. Once cranked for 30 seconds, the radio plays for almost an hour. Some models are also coming with solar panels.
Hence, in villages where electricity is non-existent and batteries hard to come by, FreePlay Inc. is raking in revenue.

**8.5.10 Lack of Computer Literacy - People's Extraordinary Ability to Learn**

An oft-repeated argument that illiteracy is a roadblock in the spread of e-commerce is merely an excuse. It is not the illiteracy; it is the indifferent treatment that villages have received which is acting as a stumbling block in spread of technology. They have been cheated many times by false promises of politicians and businessman alike. Hence, they look at any new move with suspicion that delays the percolation of technology.

According to Prof. Yunus, founder of Grameen Bank in Bangladesh, "My work has convinced me that all people are basically very smart. You don't have to spend a minute when they see something is useful. They pick it up very quickly. All kinds of superstitions, all kinds of ignorance, melt away the moment they see this is something useful. So you call it telephone. You call it computer. You call it anything that you want. All you have to demonstrate is that something they want is there. If it is education, if it is money, if it is convenience, if it is comfort, if it is health, they see it right away."

Back home in India, a project called "Hole in the Wall" put an Internet kiosk in poor neighbourhoods with surprising results. Children who could not read or write immediately took to the computer, figuring out how to use it with no instructions at all.

The project started as an experiment in Delhi by NIIT Ltd., Indian software training multinational and later funded by World Bank has thrown surprising results:

- Groups of 6 to 13 year olds do not need to be taught how to use computers. The project findings proved that children can self-instruct themselves to operate computers.
- Their ability to do so seems to be independent of their educational background, literacy levels in the English language or any other language, social or economic level, ethnicity and place of origin, gender and intelligence.
- In 3 months time, children with minimal instructions were able to learn all windows navigational functions, play games, load and save files, download, chat, send and receive e-mails, do simple trouble shooting like if speakers are not working.
The above examples again exemplifies that e-commerce can be successfully used to fuel rural growth if companies are willing to re-engineer their businesses and products appropriately.

8.5.11 Advantages of Rural e-commerce

All these programmes are well-positioned to bring about long term economic and social changes in the lives of artisans by laying the foundation for a new kind of rural e-commerce based on greater information flows. The advantages of rural e-commerce are manifold.

► It offers businesses a cost-effective way to expand into global markets
► It lowers the transaction costs of businesses by dealing directly with overseas suppliers and customers
► It streamlines the rural business processes and Production, marketing and delivery mechanisms can be revolutionized, opening up new opportunities.
► It reduces procurement costs for seed, feed and chemicals and maximize prices for products. Decision-making can be aided by detailed Web-based information such as weather, marketing and industry reports.
► The middleman who takes away huge margins would be marginalized, and the artisans' vulnerability replaced with empowerment.
► More regularization due to systems that track down sales and maintain quality controls.

Some of these programmes still need strategies for sustainable development, generation of social capital, and Internet branding for local industries. However a result of all these projects will be bringing into the fold artisans and other rural folks who have so far been denied the opportunity to participate in and benefit from the progress India is making, by reversing the dissipation of our rich products and offerings. For example: In a report titled, "Putting Australia on the New Silk Road", the Department of Foreign Affairs and Trade in Australia offers an example of a group of farmers in Victoria profiting from the immediacy of e-commerce transactions by retailing custom orders of fresh produce at premium prices directly to Asian markets. Email and electronic funds transfer enabled the elimination of intermediaries, higher responsiveness and flexibility, and the consequent reduction in transaction costs and increase in profit margins.
8.5.12 Bottlenecks for E-Commerce in Rural development

The factors influencing e-Commerce vary from country to country and some of these factors attract while some other deter a vendor from carrying business with rural areas on focus. The top barriers to e-commerce as a medium to fuel rural growth are:

- Security and Encryption
- Trust and Risk
- Lack of information among rural artisans
- Lack of qualified personnel to work with farmers, artisans and other rural folks.
- Lack of proper business models
- Too slow and undependable internet
- Legal Issues
- Fraud and Risk of Loss
- Modes of payment
- Culture
- Consumer Privacy

These bottlenecks are in addition to the other usual e-commerce bottlenecks like pricing structure for users by various service providers, availability of bandwidth which may be a hindrance for users to experience the real world shopping experience etc.

8.5.13 Suggested Business Models

One of the major challenges that faces the e-commerce transactions in rural level is the lack of a proper business model. A business model is the method of doing business by which a company can sustain itself or generate revenue and specifies where it is positioned in the value chain. Some of the business models that can be adopted by e-businesses that focus on rural products are

- Brokerage Model
  In this model a broker or an online firm brings buyers and sellers together to facilitate transactions. It can be a Business to Business (B2B), Business to Consumer (B2C) or Consumer to Consumer (C2C). The broker will charge fee for each of the successful transaction.
Merchant Model
This is the online version of classic wholesalers and retailers of goods and services. Sales can be made through the list prices or through auctions. This model can be essentially replicated for those rural products that are unique to the web and don’t have traditional “brick and mortar” model.

Manufacturer Model
In this model a single rural manufacturer reaches the consumers directly using the power of the web and compressing the distribution channels. This model is good for those products like Kolhapuri chappals that already have an established brand name.

Third Party marketplace
This is an emerging model in which the companies leave web marketing and maintenance to a third party. The value of this model comes from the members who add their information onto a basic environment provided by a virtual community company. The revenue model is the membership fees and transaction revenue.

Catalogue Model
Catalogue Model brings together the best in the offline and virtual worlds. The basic idea is to send a catalogue to the interested users and web should act as a medium for checking the catalogue experience. This model helps in expanding the customer reach and provide more penetration.

The exact distinction between each of these models is hazy however the basic focus should be on providing excellent customer service and to maintain the exclusivity of the products. The products should have a premium attached to them and it should not be positioned based on the price discounts.

One of the MBA students of JBIMS proposed an extraordinary model of E-Commerce to fuel the Rural Growth, wherein he suggested the following necessary ingredients:

- Computers - low cost, low power Simputer developed by Indian Institute of Science and marketed by Amida Ltd., Encore Software and PicoPeta Simputers Pvt. Ltd.
- Finance - low cost micro-credit and micro-finance by ICICI Bank and ABN AMRO Bank
- Electricity - Micro hydro-electric power systems, hand-cranked radios by Freeplay Inc, low powered Simputer.
- Communication & Internet - Grameen Phone, e-post by Indian Post and Nettlinx Pvt. Ltd.
- Computer Literacy - Hole-in-the-Wall experiment by NIIT Ltd., easy to use Simputer.
How is the Model Supposed to Work?

Start from the top of the model: Banks will provide microfinance to villagers for starting micro enterprises (say buying buffaloes to sell milk), for buying low cost Simputer and for buying phones.

The banks will provide this microfinance to villagers through NGOs. NGOs will help villagers to form self-help groups (SHG). A financial intermediary, usually an NGO, is introduced between bank and SHG. Bank will transfer a large loan to the financial intermediary. The financial intermediary in turn will
disburse microfinance to large number of SHGs. This leads to one time transaction cost to intermediary, hence bringing the costs down for banks.

The literacy programmes will be aimed at unique needs of each SHG and will be facilitated by NGOs.

Big self help group can buy a low cost Simputer entirely for their use, or a group of small SHGs can together buy a Simputer. They can share a telephone connection between them.

The aim will be to connect large number of villages around each other at the same time. Connecting many villages will lead to network effect. The network effect is far more empowering than a few connections placed sparsely in different areas. It also helps in developing richer content and integrates people. The model implemented together in large number of villages around each other will also provide a powerful environment for research and finding ways to make it sustainable and replicable.

A common rural portal will be developed. The same portal will have login access for villagers and urban individuals. The villagers will access the following applications: -

- Rural yellow pages
- Microfinance accounts - how much amount is due, what is due date, etc.
- Rural industry and economic news
- Access to markets to sell grains, vegetables, milk, eggs, handicrafts and pottery
- Tele-medicine
- Distance education
- Rural chat room - to share knowledge amongst different villages

Corporations will access the following pages: -

- Repayment of microfinance / microcredit loans
- Invitation of bids for supplying eggs, grains, sugarcane, potatoes, etc.

In the above model, following are the beneficiaries and each realize revenue in a particular way: -
<table>
<thead>
<tr>
<th>Entity</th>
<th>Revenue/Benefit realization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Information provider</td>
<td>Charge nominal money on pay per use basis Charge 1% of transaction done through portal, which is much less than what the current middlemen charge from farmers and artisans.</td>
</tr>
<tr>
<td>Banks</td>
<td>Provide microfinance Gets benefited as they get a chance to expand their client base. The profitability in microfinance may be low, however vulnerability is less. Grameen bank is much more profitable than many of nationalized banks in India.</td>
</tr>
<tr>
<td>Software Company</td>
<td>Contracted for portal development and maintenance. Gets benefited as they get long-term contracts</td>
</tr>
<tr>
<td>Hardware Company</td>
<td>Provide web servers, computers and Simputer Gets benefited as they sell their equipment.</td>
</tr>
<tr>
<td>Telecom Company</td>
<td>Access to rural markets</td>
</tr>
<tr>
<td>NGOs</td>
<td>NGO’s helping in creation of self-help groups gets credibility for its work</td>
</tr>
<tr>
<td>Villagers</td>
<td>Better price realization as middlemen is weeded out Better buying power due to larger disposable income</td>
</tr>
</tbody>
</table>


8.5.14 Rural E-Commerce - An Advantage & A Challenge

The obvious advantage of rural e-commerce is the removal of digital divide between the rural and urban folk. Instance has been cited that availability of access facilities and training prevents digital exclusion in remote rural location and can generate viable economic and e-transaction activity linked with overseas market demand. In Philippines, students from remote villages, equipped with programming knowledge acquired in free tutorials, low cost technical schools or through internet, come together to do programming job for overseas customers. Substantial growth in demand for PCs and internet has been experienced in the recent past. In India the rural areas can provide the same services that are being provided from Indian metros to US Clients. A call centre based on local language or a data processing / entry centre for Indian MNCs where content is being processed / entered by rural folks will offer the same advantages as off shoring to India from U.S.

Another significant advantage that the products from rural areas have in comparison with the other products that are being sold in the virtual world is the exclusivity. E-Commerce has increased the reach and is a new source of info-mediary model for these products. Consumer electronics or air tickets which are being sold through internet has lower percentage of conversion rates ie with respect to the number of users who visit the product on a web page and the number of users who buy them. Researches have shown that buyers use e-commerce
for a virtual window shopping before making the actual buying decision. Even though the exclusivity of rural products will give it a tremendous advantage the initial challenge lies in building trust and brand name in the virtual world.

A major challenge is the **financing parts of all these initiatives** and it includes funding infrastructure developments designed to enhance rural India's ability to participate in the information economy. This can be done by those stakeholders who will benefit from rural e-commerce and improvement of telecommunication infrastructure in general. For example, a sugar factory in Nellikuppam in the south of Tamil Nadu has reportedly funded 65 local Internet Kiosks. Sugarcane farmers who supply to this company can check their account details online and track information on fertilizer and pesticide prices and make orders when needed. The facility lessens their trouble and cost of bus ride to the factory for getting such information. This and similar isolated projects are indicating that there is scope for expansion of market for information and IT enabled transactions. However, there is need for socio-economic research to establish the nature of policy stimulus needed to evoke market spontaneity so that success stories are replicated elsewhere.

One basic thing that we need to remember is that there is no technological panacea to fuel rural growth - it has to be a mix of political willingness, social reforms, and public-private cooperation. Technology will act as the last link.
REFERENCES

CHAPTER 8

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10. Excerpts from a case prepared by A. Vijayshankar, PM&IR student of XLRI.
20. DOT Annual Report, 2005
21. DOT Annual Report, 2005
22. C. K. Prahalad is the Harvey C. Fruehauf Professor of Business Administration at the University of Michigan Business School, Ann Arbor. He is also the Founder and Chairman of Praja Inc., a pioneer company in interactive event experiences, based in San Diego, California. He authored bestseller book, Fortune at the Bottom of Pyramid.
25. Micro Finance programmes extend small loans to very poor people for self-employment projects. Technically, microfinance is defined as provision of thrift, credit and other financial services and products of very small amounts to the poor in rural areas, semi-urban and urban areas. Any one availing micro-finance has to engage in some productive activities that will generate some income.
26. Prof. Yunus received his Ph.D. in Economics in 1969 from Vanderbilt University, where he was a Fulbright scholar. Yunus was appointed as a member of the International Advisory Group for the Fourth World Conference on Women in Beijing, China (1993-1995). He is the recipient of several humanitarian awards for his work, helping the poor in the developing world.
27. MFIs - Micro Financial Institutions
28. The Simputer is a powerful full-featured handheld computer. Simputer-based solutions are extremely user-friendly because of Simputer's special features like low power, compactness, mobility, simple-to-use icon-based interfaces, and Integrated
Smartcard reader. The Simputer enables to build large IT solutions at a fraction of the cost normally associated with such projects.

29. **Hole-in-the-Wall experiments** - Access to state-of-the-art personal computers were given to several thousand children in urban and rural India. The computers were placed outdoors, usually mounted on walls, and hence, often referred to as "Hole-in-the-Wall".

30. The learning process is carried out in a minimally invasive environment. There is no adult intervention or supervision. Adults do not use the kiosk. All activities are monitored remotely using web-cameras.

31. **Self-Help Group (SHG)** is a small voluntary association of poor people from the same socio-economic background. They come together for the purpose of solving their common problems through self-help and mutual help. The SHG promotes small savings among its members. The savings are kept with a bank. This common fund is in the name of the SHG. Non Governmental Organizations (NGOs), social workers, health workers, village level workers, etc., help in the formation of self-help groups. An SHG can be all-women group, all-men group, or even a mixed group. Ideally, the group size may be between 15 and 20, so that the members are participative in all activities of the SHG.