Understanding Corporate Use of the Internet in India

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ABSTRACT

The Internet is a global network of computers. Its reach, easy accessibility and low cost make it an efficient and effective medium for communication and commerce. It is gradually changing from a communication medium to a global virtual marketplace. Business the world over is moving on to the Internet. To understand how Indian firms are using the Internet, a survey of 45 Indian companies was conducted. The questionnaires were answered either by the Chief Information Officer (71 per cent), or by senior managers in other functional areas (29 per cent). The study found that nearly half of the sample (47 per cent) used the Internet for internal communication and personal communication and was experimenting with the other Internet services. About 38 per cent of the firms used it for external communication, that is, mostly with suppliers and customers. Thus, most of the firms surveyed belonged to the initial stages of Internet usage.

INTRODUCTION

The Internet is an amorphous collection of interconnected networks and computers spread all over the globe. Until the early 1990s, the Internet was not very popular outside the military and scientific research communities. But the Web and the Web browsers have turned the Internet into a truly global network. The business was sceptical initially of the Internet’s potential for commerce. However, business use of the Internet has been growing rapidly in the last few years. Its wide reach, easy access and low cost have made it the best medium for business communication and commerce. US firms were quick to realize the emergence of a global marketplace on the Internet and started integrating Internet technologies with their business practices. Electronic commerce is fast growing in the US and other European countries. Internet advertising, on-line publishing, and a host of innovative businesses sprang up as a result of the fast-paced growth of the Internet.

In this backdrop, a sample of 45 companies in India was surveyed using a questionnaire to study how Indian firms are using the Internet. Either Chief Information Officers (71 per cent) or senior managers in
other functional areas (29 per cent) answered the questionnaires. Data were collected on a number of Internet related variables from these firms and they were analysed to find some common features of Internet use by these firms. The sample had small, medium and large firms in it. About 29 per cent of the sample firms had sales turnover below Rs 500 million and about 24 per cent above Rs 5,000 million in 1997–98. Exactly 20 per cent of the firms had fewer than 50 employees and 20 per cent had more than 5,000. About 69 per cent of the firms were operating in the regional or national market in the country whereas 31 per cent were either multinational or global firms.

**IT INFRASTRUCTURE**

A little over 42 per cent of the firms had made an investment of less than Rs 50 million on information technology in the last five years and the rest had invested over Rs 50 million in the same period. About 82 per cent of the firms surveyed had LANs, 24 per cent had both WAN and Intranet and 13.33 per cent had only stand-alone systems. Nearly 11 per cent of the firms had VSAT connection, about 18 per cent had leased-line connection, 84.45 per cent had dial-up connection and a small number of them (2.22 per cent) had radio link. Nearly 18 per cent of the firms had 64 Kilobits per second (KBPS), about 4 per cent had 33.6 KBPS, 9 per cent had 16 KBPS or less and 11.11 per cent had 9.6 KBPS bandwidth.

Nearly 42 per cent of the firms had fewer than five nodes with Internet access whereas 6.67 per cent had over 100 nodes with it. About one-third of the firms had one to two years of Internet usage experience, about 40 per cent with two to three years experience and about 22 per cent had it for more than three years.

About 31 per cent of the firms incurred less than Rs 10,000 on Internet and Internet-related expenditure, about 24 per cent had it between Rs 50,000 and Rs 2,00,000 and 20 per cent had it over Rs 2,00,000 in the year 1997-98.

**INTERNET USAGE**

E-mail (100 per cent), WWW (100 per cent) and File Transfer Protocol (64.45 per cent) were the most popular Internet services used by these firms. About 6.67 per cent of the firms used Telnet also. Communication with branch office (66.67 per cent), file transfer (62.23 per cent), internal communication (51.10 per cent), communication with customers (40 per cent) and communication with suppliers (37.78 per cent) were the purposes for which e-mail was used by these firms.

About 58 per cent of the firms have their own Websites. External consultants designed Websites of about 58 per cent of these firms and the rest designed them with their own information system staff. Of the firms with Websites, 50 per cent maintained their Websites in India, 46 per cent in the US and the rest (4 per cent) in both India and the US. Information on cost of Website design could be obtained only from 14 sample firms (31.11 per cent). The modal value of the cost of Website design incurred by these firms was Rs 40,000-Rs 50,000. About 50 per cent of these firms incurred Rs 20,000 or less on Website maintenance during the year 1997-98 with an average of Rs 50,000. About 46 per cent of these firms updated their sites randomly, whereas 26 per cent of them did it daily or weekly.

Building corporate image (37.77 per cent), providing product information (24.44 per cent) and building brand awareness (15.55 per cent) were the purposes for which Websites were maintained by them. About 31 per cent of these sites had less than 1,000 hits per month whereas 19 per cent had it over 10,000 per month.
A little over 11 per cent of the firms had one or more employees responsible for scanning the Web for information; about one third of the firms spent less than 25 man-hours per week on browsing the Web whereas 4.44 per cent spent over 500 man-hours per week. Technology information (75.56 per cent), market information (48.88 per cent), research and development information (37.77 per cent) and supplier information (31.11 per cent) were the types of information for which the Web was browsed in these firms.

Benefits from Internet Use

The potential benefits expected from the Internet by these firms were lower communication cost (60 per cent), better and fast communication (55.55 per cent), image of a technology-driven firm (42.22 per cent) and gaining competitive advantage (37.33 per cent).

In terms of real effects of the Internet, about 27 per cent of the firms had their communication expenses rising after taking Internet connection, whereas the rest had it moving southward in the same period. Expenses which went down for these firms were fax expenses (for 60 per cent of the sample), telephone expenses (40 per cent) and courier expenses (35.55 per cent). In terms of magnitude of decline in these expenses, other communication expenses went down by 40 per cent, courier expenses by 30 per cent, fax expenses by 27 per cent and telephone expenses by 24 per cent on average.

A little over 62 per cent of the respondents were satisfied with the real benefits their firms had from the Internet and about 31 per cent of them were not satisfied. Of the reasons for dissatisfaction, the major ones were low speed, disruption, etc. (35.7 per cent), limited access to people in the firms (28.43 per cent), and poor returns (21.43 per cent). The major reasons for satisfaction of the respondents were quick access to information (13.33 per cent), better communication (6.67 per cent), access to R&D and technology information (6.67 per cent), increased business (6.67 per cent), and efficient and cost effective communication (6.67 per cent).

FINDINGS

Based on the existing use of the Internet services and the applications for which the services are used, the sample firms are classified into stages as follows.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Focus</th>
<th>Tools Used</th>
<th>No. of Firms</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>Internal communication</td>
<td>E-mail, WWW</td>
<td>21</td>
<td>46.67</td>
</tr>
<tr>
<td>Stage II</td>
<td>+ External communication</td>
<td>Ftp, telnet, intranet</td>
<td>17</td>
<td>37.78</td>
</tr>
<tr>
<td>Stage III</td>
<td>+ Commercial applications</td>
<td>extranet, etc.</td>
<td>7</td>
<td>15.55</td>
</tr>
<tr>
<td>Stage IV</td>
<td>+ Alliances</td>
<td>On-line services</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Stage V</td>
<td>+ Full-scale E-commerce</td>
<td>Virtual storefront, etc.</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Stage I

The Stage I firm uses e-mail facility mostly for internal communications. The staff may use it for personal communications as well. The firm might have a Website. It experiments with the Internet services and Web search for information is irregular.
Stage II

The Stage II firm has a Website and starts monitoring and promoting it. It starts using e-mail for external communication with customers and suppliers, and external stakeholders. Other services like FTP and Telnet might also be used. Web browsing gets formalized for critical information. The firm might appoint one or more persons for Web browsing. Web-sourced information gets integrated with the internal flow of information in the firm. The firm moves towards Intranets and enabling people to communicate faster. It starts getting queries from customers on-line.

Stage III

The Stage III firm has formal processes and procedures in place for Internet activity. It has procedures for tracking queries, answering e-mails, receiving orders on-line and processing them. The total of the orders received on-line is less than 10 per cent of the total sales turnover. It develops more applications of Internet technology such as extranet and gives access to its database to suppliers and customers with security systems in place. If the firm is small, it might start on-line distribution of products or services (if it can be distributed on-line like software, database services, entertainment, etc. The firm might join a few e-mails and advertise vigorously for more on-line sales.

Stage IV

The Stage IV firm’s reliance on the Net for orders increases. Orders received on-line exceed 25 per cent of the total sales value. On-line order processing and distribution gets firmly set. The firm hives off distribution to specialized logistics firms. It looks for tie up or alliances with on-line service firms to ensure robust on-line processing and distribution systems. It covers its risks on the Internet business by innovative insurance products from Internet insurance firms.

Stage V

In Stage V, the firm matures as an Internet-based business firm. It has full complement for Internet commerce, such as payment processing through special payment processing firms on the Internet. It sets up virtual storefront and its business from the Internet increases to more than 50 per cent of total sales turnover. It goes full blast on the Internet.

SUGGESTIONS

The following suggestions are offered to improve the effectiveness of Internet usage by Indian firms. The suggestions are classified into three categories, such as to the government, to the ISPs and to the firms.

Government

Since the government controls telecommunications and Internet Service Providers in the country, it is in a position to strongly influence the use of Internet. The following measures can be taken by the government:

More ISPs

The government opened up the Internet Service Provider business for private participation in 1998. This has widened the Internet base in the country. A strong Internet base is essential for most Indian
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businesses to migrate to the virtual business world before they go global. The government should encourage more Internet Service Providers to offer connection and support services in the country.

**Reduction in telecommunication tariff**

The telecom tariff is high in the country and it must be brought down to encourage the use of Internet by business and other users.

**Recognition for Internet-based transactions**

The archaic laws in the country, many over a hundred years old, have to be re-codified to be in tune with the current business practices worldwide. There is a need for universal commercial laws to support Internet-based business transactions.

**Legislation for curbing electronic crimes**

Electronic frauds are on the rise worldwide. Billions of dollars worth assets are exposed in many countries on the Net and the risk of loss is very high. Many countries including India do not have legislation addressing the concerns and issues of Internet commerce. The government should enact laws to curb unauthorized access to databases, taping electronic information on the sly, hacking, etc.

**Incentives to small firms to migrate to the Internet**

The Internet is a boon for small enterprises. They can go virtual with minimal investment. There is lack of awareness among entrepreneurs about the Internet’s potential for small enterprises. The government may offer fiscal incentives to the small enterprises to promote the use of the Internet by them.

**ISPs**

It should be the responsibility of the Internet Service Providers to ensure uninterrupted and reliable link to the business firms and users of the Internet in the country. They must invest in high capacity Internet backbones and provide high bandwidth connections to the business.

**Increased bandwidth**

Bandwidth is a problem for commercial applications. Limited bandwidth is available from the Videsh Sanchar Nigam Limited. If the private ISPs invest in high capacity network backbones, they would be able to meet the bandwidth requirements of the business.

**Reliable links**

Serious Internet applications for business requires robust and reliable link. The ISPs should ensure reliability of Internet connection so that the business can consider using the Internet for commercial applications.

**Lower charges**

The charges levied in the country are very high compared to that in the US ($15 to $20 per month for unlimited access). The current rate of about Rs 30 per hour in India should be lowered to encourage the spread of Internet culture in the country.

**Utility services**

There are a number of services which the ISPs are in a vantage position to offer like Internet Presence Provider service, e-malls and portals, listing of user sites on popular sites, etc. The ISPs should aim at providing total solution to the firms and users instead of remaining a mere nominal ISP.
Firms

For Internet use to be productive and for it to serve business interests, the firms may take the following measures:

Choosing of Internet services

Since ISP business is deregulated in the country a number of ISPs will be vying for business. The firm must choose a reliable ISP taking into account its requirements and what the ISP can meet.

Productive use of the Internet in organizations

The firms that have already taken Internet connectivity are not very clear about what to do with it. They should deliberate on the possibilities and means of harnessing its potential for business.

Training for employees in organizations

The firm should promote a culture of innovation internally and Internet culture must be a part of it. Training is required to be given to the employees to encourage the use of the Internet and use it productively for the business.

Persuading customers and vendors to go on-line

If customers and suppliers are not having Internet connectivity, many of the benefits of the Internet cannot be realized. If a little persuasion works it should be used to encourage them in going on-line.

Updating and promoting Website

Having a Website does not offer any business. The site should be functional to get the benefits expected and at the same time it should be attractive and informative for the users. The site should be updated frequently. It should not be loaded with too much graphics that delays access. The firm should promote it by listing the site on popular search engines, portals, popular Websites, etc.

Integration of Internet strategies with business strategies

The Internet is not properly used in most of the firms surveyed. The firms seem to be waiting for a critical mass of Internet base to be there in the country. It is time that the firms had a strategy to deploy this revolutionary technology for business in future. The Internet strategy should be fused into the firm’s overall business strategy.

CONCLUSION

The Internet is undoubtedly a revolutionary and path-breaking technology of the 20th century that has already changed the communication and business paradigms significantly. The convergence of digital technology has added impetus to the Internet as a medium for global communication and electronic commerce. The Internet is going to have a great impact on global business in the future. It has opened the floodgate of opportunities for business in general and for small business in particular. It is time Indian firms took stock of the happenings in the European and Western countries in Internet commerce and incorporated Internet strategies into their business strategies.