



IMPACT OF ICT IN SMALLTOWNS IN INDIA: A CASE OF PUBLIC ACCESS TO INTERNET

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Abstract Over the period, number of cybercafés has shrunk in urban India and increased in towns in India. Consequently, people in towns have started recognising the importance of cybercafés and accessing information on education, income and welfare programmes from such public access centres. In this context, it is essential to understand from the policy perspective that whether these cybercafés are improving the well being of the masses living in towns and rural areas. The study based on two midsize towns, Firozabad and Bhadohi in India find that majority of cybercafé users belonged to upper social group, highly qualified, young male and students. They were regular users and visit cybercafés for gathering information relate to mainly education and employment. They are able to achieve their life-goals but challenges of slow internet speed, limited power availability, lack of enough computers and space at cybercafés limits its usage.

Key words:

Women Cybercafés,
Public Access to
Internet, ICT, Internet
Users, Internet Non-
Users

1. Introduction

The public access to ICT via Internet is central to the information technology revolution that transforms the communication arena across the world. It is dramatically changing the way people live, work, communicate, recreate and participate in public life all over the world (Haseloff, 2005). The people of the developing countries have a very limited access to this service in comparison to developed countries like United Kingdom (85%), United States (81%), and Germany (82%) For example, in India, only 10% of people were accessing to internet facilities till the year 2011¹. Despite high growth of the economy and various government pro-active policies, still more than quarter (25.7%, Planning Commission, 2013) of the people in small towns and rural India are poor. One of the main reasons attributed to this high poverty is lack of proper information and access. In recent years, public access to Internet mainly cybercafés arguably have the potential to offer greater benefits to people in developing countries like India.

In India, increased use of cybercafés is associated with limited ownership of personal computers, high cost of hardware, low income, low literacy rate, limited efficiency of English language skills and e-literacy skills required to use new technologies (IAMA, 2009). It is well documented that cybercafé has been used for accessing variety of services in India, like gathering information related to education, jobs, receiving interview calls, business related activities and learning

computers (Takur and Aitieva, 2007; Dangwal *et al.*, 2005; IAMA, 2010). In recent years some cybercafés are also working as mediators in the delivery of public services by way of providing information of government outreach programmes (Kiri and Menon, 2006; Rajaleskshmi, 2007; Rangaswamy, 2008).

Some time ago these benefits were limited to only metros and urban areas due widespread presence of cybercafés. However, over the period cybercafés have been increasing in semi-urban and rural areas (i.e. towns & big villages) and declining in urban and metros (IAMA, 2013). The people in towns and rural areas have started recognising the importance of cybercafés and accessing information on education, income and welfare programmes from such centres. Therefore, in present context it is essential to understand from the policy perspective that whether these cybercafé are improving the well being of people residing in towns and villages of India. The questions arises are- what is the impact of cybercafé on educational information?; what is the impact of cybercafé on employment/income opportunities?; and what is the impact of cybercafé on government welfare service delivery?

2. Research methodology

To examine the above objectives a survey was carried out in two midsize towns of Uttar Pradesh (UP) in India. The respondents were selected using a multi-stage cluster sampling method. At first stage, towns were identified by three criteria, one by their involvement in

the independent economic activity, another by their distance from nearby city, i.e. more than 50 kms and third by enough number of cybercafés in the town, i.e. more than 10 cybercafé. In such a way, two mid size towns, Firozabad (famous for glass work) and Bhadohi (famous for carpet work) were identified for the study. At second stage, we had mapped cybercafés functioning for more than one year within the selected town and found 15 cybercafé in Firozabad and 12 in Bhadohi town. At the next stage, 5 cybercafés from each town were identified randomly on the basis of geographical spread, one each from eastern, western, northern, southern and central part of the town. From each cybercafés, at least 30 users and 20 non-users around the venues were interviewed with the help of a detail semi-structured questionnaire.

In the first round of survey, 300 users and 200 non-users were interviewed, which found only 4% of the female users. Subsequently, a supplementary study was conducted to address the gender gap through interviewing 133, extra female respondents by using snowball or reference methods. Finally, 673 respondents were interviewed with 389 users and 284 non-users as control group. The detailed interview with 10 cybercafés owner or operators was also carried out. A semi-structured questionnaire was canvassed to elicit the information from respondents. The questions includes, demographic detail, access, perceived impact

on education, income and welfare services and personal goals and their achievement level.

3. Results

Bhadohi (Sant Ravidas Nagar) and Firozabad towns with population of 128 thousand and 603 thousand in 2011 are situated in eastern and western part of the state named Uttar Pradesh in India. Compared to other districts in the state, the districts in which these two towns are located have human development and gender development indices falls in the medium range. Literacy in Uttar Pradesh is quite imbalanced. In urban areas 18.3% of men and 28.3% of women are illiterate; and in rural areas – 21.5% of men and 44.4% of women were illiterate in 2011².

3.1. Profile of Respondents

The half of cybercafé users (henceforth users) belonged to upper caste (50%) and highly qualified i.e. tertiary and above (61%) compared to non-users (henceforth non-users) of cybercafé (39%). Users were younger (average age of 23 years) than non-users (26 years) reflects the inclination of youth towards accessing internet at cybercafé for their well-being. Only one-fourth (26%) of the cybercafé users were female that reveals the existing social and cultural restriction for gender in the study area (Table 1).

Table 1: Demographic Profile

		User		Non-User	
		N	%	N	%
Social group	Schedule Caste	20	5.1	16	5.6
	OBC	144	37	126	44.4
	Upper Caste	195	50.1	121	42.6
	Minority	30	7.7	21	7.4
Education	Upto Secondary	67	17.2	76	26.8
	Higher Secondary	89	22.9	102	35.9
	Tertiary and above	237	60.9	112	39.4
Gender	Male	289	74.3	184	64.8
	Female	100	25.7	100	35.2
	Total	389	100	284	100
Average Age		23	26	23	26

Source: Field Survey

Table 2: Occupational Distribution

Occupation	Users		Non-Users	
	N	%	N	%
Employed	154	39.6	164	57.7
Trade/Business	9	2.3	5	1.8
Unemployed	14	3.6	14	4.9
Students	209	53.7	94	33.1
Others	3	0.8	7	2.5
Total	389	100	284	100

Source: Field Survey

Students were relatively higher among users (54% students and 40% working), and working people among non-users (58% working and 33% students). However, There was marginal difference between users and non-users across household income groups. People from higher income groups were accessing cybercafés more

these non-users were mainly involved in low skilled jobs and did not have much importance of the internet in their life (Table 2).

than those who belonged to other income groups due to higher disposable income at their hands (Table 3).

Table 3: Distribution of Annual Income (in Dollar)

Annual Income	Users		Non-Users	
	N	%	N	%
1000-2000	53	13.6	55	19.4
2000-4000	134	34.4	84	29.6
4000-8000	157	40.4	130	45.8
8000+	45	11.6	15	5.3
Total	389	100	284	100

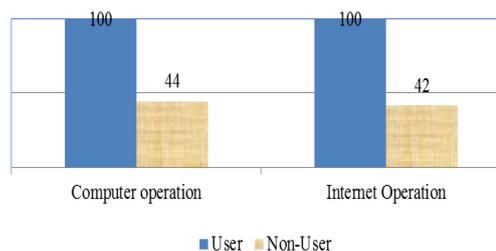
Source: Field Survey

(Note: local currency Rupees converted into dollar as 1 dollar = 64 Rs.)

3.2. Exposure and Access

Around 44% of the non-users also knew computer and internet operation as they accessed it at their home, workplace and schools/colleges (Table 4).

Table 4: Knowledge of computer and Internet Operation



Source: Field Survey

Cybercafé operators said that with the introduction of 3G services by telecom operators in towns and villages in India, internet access on mobile is also getting popularity. Non-users, who use internet at other places,

were slightly more experienced (1-5 years, 49% users and 62% non-users) in comparison to users because of availability of computer and internet at their home, working place and schools/colleges (Table 4).

Table 4: Experience of Accessing Computer and Internet

		User		Non-User	
		N	%	N	%
Accessing Computer Duration	Upto 6 months	29	7.5	10	7.9
	7-11 months	68	17.5	16	12.7
	1-2 years	101	26	35	27.8
	3-5 years	79	20.3	19	15.1
	5+ years	112	28.8	46	36.5
	Total	389	100	126	100
Accessing Internet Duration	Upto 6 months	59	15.2	18	15.3
	7-11 months	100	25.7	20	16.9
	1-2 years	89	22.9	37	31.4
	3-5 years	100	25.7	37	31.4
	5+ years	41	10.5	6	5.1
	Total	389	100	118	100

Source: Field Survey

The users in towns' access cybercafé less frequently as half of them visited only once in a week (49%) and only one-third of them access daily (34%). Most of them

used to go to cybercafé from their homes (57%) and workplaces (27%), (Table 5).

Table 5: Frequency of Visit and Place

		N	%
Frequency of Visit	Daily	131	33.7
	Once in a week	191	49.1
	Once in a month	63	16.2
	A few times a year	4	1
	Total	389	100
Place of Visit	Home	223	57.3
	Workplace	104	26.7
	School/College	57	14.7
	Others	5	1.3
	Total	389	100

Source: Field Survey

Around one-third (36%) were visiting to cybercafé from within 1 kms, half of them (53%) from 1-5 kms and 7% from far away places, i.e. more than 5 kms. Most of the

users felt comfortable in going to cybercafé in the evening (45%) and morning around 10 'o' clock (34%), (Table 6).

Table 6: Distance and Time

		N	%
Distance of Venue	<1 kms	139	35.7
	1-2 kms	103	26.5
	3-5 kms	103	26.5
	>5 kms	28	7.2
	Donot know	16	4.1
	Total	389	100
Time of Day	Morning	131	33.7
	Afternoon	80	20.6
	Evening	176	45.2
	Late night/early morning	2	0.5
	Total	389	100

Source: Field Survey

It was convenient for the students and workers to visit cybercafés in the evening and morning. Some of them

(16%) were also visiting more than one cybercafé (Table 8).

Table 8: Visit to Same or Additional Venue

		N	%
Go to Same Venue	Yes	328	84.3
	No	61	15.7
	Total	389	100
If no, Additional Venue	1	7	11.5
	2	41	67.2
	3	12	19.7
	5	1	1.6
	Total	61	100
Travel to Venue	Walk	123	31.6
	Cycle/Rickshaw	106	27.2
	Drive	95	24.4
	Public Transport	61	15.7
	Ride with family members	4	1
	Total	389	100

Source: Field Survey

This was due to unavailability of systems during rush hours and in absence of electricity backup system. Users, who lived nearby cybercafés, went on by foot (32%), others use cycles/rickshaws and two-wheelers (27%), and rest (15%) travel by public transport (Bus

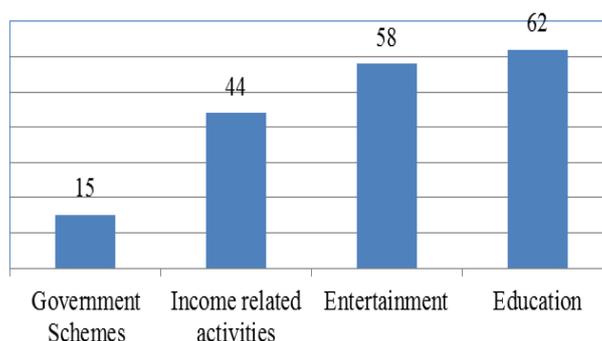
and Auto). Average time and cost of going to cybercafé was 18 minutes and 13 rupees respectively (Table 7). Discussion with owner/operators revealed that those involved in some economic activity visit cybercafés regularly and travel by paid transport.

3.3. Use and Impact

The users were accessing cybercafés for gathering information mainly on education (62%), income (employment & business, 44%), and government

welfare services (15%). However, majority of them also ended up accessing entertainment related website (58%) after achieving their main objective of the visit (Figure 2).

Figure 2: Use of Internet at Cybercafés (%)



(Multiple Answer)
 Source: Field Survey

In the towns, as discussed earlier majority of cybercafé users were young, highly educated, students and

working people visit to access educational and employment related information.

Table 8: Other Sources of Gathering Information

	User		Non-Users	
	N	%	N	%
News-paper	76	19.54	217	76.41
Radio	12	3.08	19	6.69
Television	58	14.91	183	64.44
Internet at home , workplace and others	12	3.08	79	27.82
Friends or Family	40	10.03	79	29.2
Total	389	100	284	100

(Multiple Answer)
 Source: Field Survey

The non-users were accessing education and employment related information from newspapers (76%), television (64%), social network (29%) and accessing Internet (28%) at other than cybercafés (Table 8).

Intermediaries like internet users, friends/colleagues, family members, operators or owners of cybercafé were also disseminating information related to education, income, social welfare etc through informal discussions. The operators and non-users revealed that in town people gathered at tea stalls or some food joints to read newspapers, watch sports & news on television

collectively and share information among each other in the informal chat. Some cybercafés were also serving beverages, printing services, fax, photocopy & scanning, sale of mobile cards, telephone, training facilities, assistance in preparing documents & job work, air & railway tickets and tour conducting. People who visit these cybercafé for availing these services also collect information by informal discussion with internet users and venue operators.

3.4 Impact on Educational Activities

As stated earlier, maximum number of users (62%) go to cybercafés to access educational related information in towns. Three fourth of the users reported accessing educational related information for themselves and rest for their wards or relatives. The educational information users can be put in three categories, one accessing on-line tutorials, another, collecting admission related information and third, taking assistance for their project work or assignments.

Around one third of them (31%) were learning or downloading tutorials related to word processing, college tutorials, assignments and reading material from university or college websites like Indira Gandhi Open Universities (IGNOU), Sikkim Manipal University (SKU), Punjab Technical University (PTU), Central Board of Secondary Education (CBSE), Wikipedia and others. Three-fourth of them reported gained skills and information after accessing the tutorial and other material on-line (Table 9).

Table 9: Using Internet at Cybercafés for Education

	N	%
Accessed Education related information	242	62.2
<i>Education Related Activities</i>		
Classes or tutorial on-line	78	30.5
Gain skills and knowledge	58	74.4
Found information related to admission or courses	240	99.2
Information enable them to make decision about applying	155	64.6
Finally, applied	101	65.2
<i>Information Source</i>		
Via Email	126	52.5
Family	35	14.6
Websites/Assistance	79	32.9
Total	240	100

Source: Field Survey

The operators told that local doctors also come to cybercafé to get valuable information on symptoms of various diseases or innovations in the field of medicine. Some lawyers also found to be accumulating information on new acts, amendments and past court rulings. Almost all (99%) sought information on higher education for themselves or their wards. They were satisfied with the information they found regarding higher educational opportunities. Majority of them (65%) took the decision to apply for admission on the basis of information received (Table 9). The third category of education related them were those, who take assistance for their project work or assignment. Only 4% of them got assistance for their project work or assignments. All of them got the information related to their project work and assignments. Educational related information was provided to most of the users by their social network of colleagues/friends/family via e-mail or personal contact (67%), (Table 9).

3.5. Impact on Income Related Activities

More than two-fifth of the users (44%) gathered income and Income related information at cybercafé. The employment related activities involved searching for jobs, applying for job through popular website like *naukri.com*, *monster.com*, *timesjob.com* etc. and information of job interviews etc. In addition, users also prepared resume and did preparation for job-interview and other related skills. Almost all of them (93%) found information related to employment and 97% applied for the job by getting information through their social network (64%), (Table 10).

The other income related activities involved trading activities of finding new customers, searching new product design, sales promotion, reporting and handling customer queries etc.

Table 10: Using Internet at Cybercafés for Income Related Activities

Overall Impact	N	%
Income Related	170	43.7
Employment	140	93.3
Business	33	19.4
Employment Related Activities		
Find information on employment	140	93.3
Apply for a job (out of who accessed employment related information)	136	97.1
Information Sources		
Via Email	79	56.4
Family	8	5.7
Websites	53	37.9
Total	140	100
Business Related Activities		
Find the information on new products, technology & clients	15	48.4
Earn more money	9	60
Information Source		
Via Email	4	25
Family	1	6.3
Websites	11	68.8
Total	16	100

Source: Field Survey

Users mainly contacted their existing clients and prospective clients, sending or receiving quotations (prices or quantity of products) through e-mails and accessing latest designs and information for their own business or employers. Sale workers of private enterprises or companies used cybercafés to send their daily sales report to the head offices, mainly situated in metro big cities. Many small entrepreneurs were busy in sending their proposals (designs of glass works and carpets) to prospective clients and other business partners (B to B or B to C) within the country and overseas through emails. Some users attended customers' queries, doing on-line business and purchasing on-line railway and air tickets, etc. Only 19% users reported involved in business or trade activities and got successes in getting new clients or customers. Majority of them reported earning more money (60%) by contacting new customers, others able to access new designs for the carpets and glass wares at cybercafés (69%), (Table 10).

3.6. Impact on Welfare or Government Services

E-governance is a way for government to use new technologies to provide people with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in the democratic institutions and processes. Indian government is investing heavily in e-governance and e-government systems, driven by the promise of efficiency and transparency in governance.

Only 15% of the users reported accessing government related information at cybercafés. Out of them 92% accessed information for themselves on various issues, ranging from government jobs, scholarships, to government welfare schemes. Around 85% of them learnt about the use of government services, 43% applied for the services and only half of them finally availed these services (Table11).

Table 11: Using Internet at Cybercafés for Welfare Scheme

	N	%
Government services activities	140	14.7
Find information on government services	44	91.7
Leant how to use government services	39	84.8
Information resulted in more knowledgeable	32	82.1
Apply for government services	16	43.2
Got the services (out of those applied)	9	56.3
Information Source		
Via Email	28	63.6
Family	8	18.2
Websites	8	18.2
Total	44	100

Source: Field Survey

The users also informed that instead of applying off-line, now they could apply on-line to avail government services, and the instant acknowledgment saved their time and money. In few cybercafés, some users were downloading and filling the forms on-line for various government related services, either themselves or with assistance of venue owners or operators.

Similarly, operators told that users were also availing services like government orders or other official orders, on-line railway enquiry, on-line bus enquiry, application for scholarship, job vacancies, results, court cases and others reports are available on a click away. Few government officials found updating their reports on-line or sending through the mail to their head offices.

The state government official told that recently, government of Uttar Pradesh established information centres 'JAN SUVIDHA KENDRA' for the rural masses in some selected six districts, namely Gautambudh Nagar, Ghaziabad, Gorakhpur, Sitapur, Rae Bareli and Sultanpur. This centre provides integrated citizen centric services like information and grievances regarding Certificates, Pension, Public Distribution System, Right to

Information, Revenue Court Services, Employment registration, etc, to the villagers (<http://edistrict.up.nic.in>). This is a welcoming step taken by government that will enhance the use of internet in smaller towns with more knowledge and information in future.

3.7. Challenges

The study clearly brings out that cybercafés have empowered people in towns and villages several ways. However, there are several obstacles or barriers still exists in accessing internet at cybercafés in towns. These barriers differ significantly between overall and female. Overall infrastructural barriers in the form of slow internet speed or server problem (57%) and limited power availability (26%) were the major hurdle in towns. Users also reported high cost and far away place (9.2%); not enough computers and space at cybercafé (3.3%) were the other challenges. However, female were facing social and cultural restrictions (17%), unfavourable environment (9.2) at cybercafés and have no extra time due to multiple household responsibilities (Table 12).

Table 12: Challenges in accessing Internet at Cybercafés

Challenges	N	%
Slow Internet Speed and Server problem	380	56.5
Limited availability of Electricity or power failure	175	26.0
Social and cultural restriction	115	17.1
Cost and distance	67	10.0
Unfavourable environment	62	9.2
Others	22	3.3
Total	673	100

Source: Field Survey

Note: The qualitative responses were categorized further to make the above table. Above broad categories includes:

1. Social and Family Restriction include: Family does not allow at all or no family support; Parent gets worried

if get delayed or have to report them; Parents allows only with male members of family; No need of Internet; Lack of time due to household duties; Others cultural factors

2. *Unfavourable environment at cybercafés: Male crowd at cybercafés; No toilet facility; inappropriate content on desktop; no female attendant; Security problem;; long queue at busy hours due to not enough space and systems.*

3. *Cost and Distance: Distance from home; cost of accessing internet at cybercafés including transportation and internet access cost*

4. *Infrastructure: Power cut or electricity cut; No backup facility; slow internet connectivity and server; transportation problem*

5. *Others: No Basic knowledge of English language; not important*

6. Conclusions and recommendations

The analysis clearly revealed that cybercafés acts as a platform through, which people of towns and rural areas have been initiated using the Internet. The numbers of touch points are already on a rise but more needs to be done by setting up proper infrastructural such with high availability of electricity, faster Internet connection with providing more space at appropriate place. Therefore, setting up core infrastructure is extremely important. The government should ensure proper and regular power facility and also provide people for alternative power facilities like solar or others.

Further, investments in core infrastructure such as setting up optic fibre connectivity through the SWAN scheme in smaller town and villages are still absent, which need urgent attention. The appropriate technology includes the backbone of Internet hardware. It includes broadband connection, Wi-Fi, Wimax, optical fiber, DSL etc connection at appropriate speed and regulation. These essentials should to be targeted differently for smaller towns and villages for an overall expansion of Internet access at cybercafé in particular. Understanding the requirements of the people and delivering them over the Internet is required to increase the usage. The content should be made available in local language and more relevant to local people to understand the importance of internet. The government should encourage the campaign for their public awareness programmes made available on the net at disseminate through cybercafés for its wider access than other media.

There is urgent need for public and private partnership between cybercafés operators and other existing knowledge networks. Multi-stakeholder partnerships

have proven very effective in mitigating risks and enhancing the demand for knowledge at cybercafés. Partnerships between knowledge networks and various local/national/regional/global networks can strengthen sustainability of cybercafés. Government should encourage them by providing the utility services like bill payments of electricity & telephone, e-ticketing and other public welfare programme. This will help in sustainability and wider access of cybercafés by disadvantaged people of all social and economic strata like women and poor people.

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¹ <http://www.internetworldstats.com/top20.htm>

² Census of India, 2011