INCIDENCE OF INFORMATION TECHNOLOGY CONNECTIVITY AND DIGITILISATION IN CHANDIGARH

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ABSTRACT

The past two decades of globalisation have reshaped the way urban environments are perceived. The concept of 'smart cities' has pioneered digitalisation and digital innovation to model 'ideal' and 'efficient' urban smart cities. A city can be defined as being smart when it uses digital tools to substantially enhance efficiency for public services, utilise innovative and disruptive technology for creating and delivering services to citizens. In a developing country like India, robust digitalisation assumes paramount importance because it has become critical to deliver growth and wellbeing. The present primary data based survey study aims to investigate the level of satisfaction of different socio-economic backgrounds about the availability and quality of IT Connectivity and Digitalisation which caters to the needs of the residents of Chandigarh as well as its surrounding regions. The present concludes that the pre-existing digital infrastructure in Chandigarh needs to be upgraded and overhauled to fulfil the pre-requisites of a Smart City.

INTRODUCTION

The past two decades of globalisation have reshaped the way urban environments are perceived. The concept of 'smart cities' has pioneered digitalisation and digital innovation to model 'ideal' and 'efficient' urban smart cities. A city can be defined as being smart when it uses digital tools to substantially enhance efficiency for public services, utilise innovative and disruptive technology for creating and delivering services to citizens. In a developing country like India, robust digitalisation assumes paramount importance because it has become critical to deliver growth and wellbeing. The Digital India campaign aims to ensure improved access to Government's services through online infrastructure to the citizens. With this background, the 'Smart Cities Mission', a flagship programme was launched which sought to make 100 selected cities 'smart', primarily through an 'Area-Based Development' model under which the city would be upgraded by retrofitting or redevelopment.

To provide for aspirations and needs of the citizens, urban planners under the ambit of the Smart Cities Mission, aim at developing the entire urban ecosystem, which is represented by the four pillars of comprehensive development- Institutional Infrastructure, Physical Infrastructure, Social Infrastructure and Economic Infrastructure. Institutional Infrastructure as a subset of the infrastructure sector primarily includes activities that relate to governance, planning and management of a city. The evolving nature of the Information and Technology (IT) in a developing

country like India carries immense importance by providing a novel facet to the existing system as it encourages integration of citizen participation in governance.

RESEARCH METHODOLOGY

The present primary data based survey study aims to investigate the level of satisfaction of different socio-economic backgrounds about the availability and quality of IT Connectivity and Digitalisation which caters to the needs of the residents of Chandigarh as well as its surrounding regions. The source of primary data that has been used in this study are the individual respondents per each household. The source of secondary data that has been used in this study is the Official Website of the Chandigarh Administration and the Census of India 2011. To gauge their opinion, the respondents have been administered a questionnaire orally and his/her response noted down. Keeping in time the restraints of time and resources the sample size has been limited to 100 respondents. A total of 100 respondents were interviewed on a structured questionnaire, out of which 68 were males and 32 were females. The survey was largely conducted in some of the northern and southern sectors of Chandigarh, rehabilitated colonies of Sector 25 and village Dhanas. Efforts were made to make the data collection representative of the population so that various categories of respondents were adequately represented.

ROBUST INFORMATION & TECHNOLOGY CONNECTIVITY AND DIGITALISATION: RESULTS OF THE ANALYSIS

Chandigarh lags behind most of the other developed cities in the country in the aspect of availability of public Wi-Fi to its residents. This underscores the need to highlight this issue and recommend solutions which can alleviate the problem.

TABLE 1: DISTRIBUTION OF SAMPLE RESPONDENTS ON THE BASIS OF AREA OF RESIDENCE AND EASY AVAILABILITY OF PUBLIC Wi-Fi

AREA OF RESIDENCE	AVAILABILITY OF PUBLIC Wi-Fi		TOTAL
	YES	NO	
URBAN	03 (5.2%)	55 (94.8%)	58 (100.0%)
RURAL	0 (0.0%)	22 (100.0%)	22 (100.0%)
REHABILITATED COLONIES	0 (0.0%)	20 (100.0%)	20 (100.0%)

| TOTAL | 3 (3.0%) | **97 (97.0%)** | 100 (100.0%) |

Source: Field Survey (2016)

The Table shows that the availability of public wi-fi in the city is almost nil. Currently free wi-fi is not available in public spaces. Only 5% of the respondents from the urban areas have an easy access to public wi-fi at some colleges and the Elante Mall. Sector 17 has been picked for the area based development along with sector 22, 53 and 43 in the revised smart city proposal. The area between the sector 17 Bus stand and the bank square was also to be developed as a free internet zone. In smart city proposal. In the revised smart city proposal, administration has proposed to provide Wi-Fi hotspots for free internet access for a limited time period in a public spaces. The department has been aiming to create hot spots enabling users to avail the Wi-Fi service in a radius of at least 100 metres with minimum bandwidth of 2Mbps on any Wi-Fi enabled devices such as laptops, mobile phones and tablets. At Sukhna Lake, the department had planned to cover the area from its entry point till the regulatory end, while the complete area of Rajiv Gandhi Chandigarh Technology Park was to be made a Wi-Fi zone.

Public Wi-Fi will become available to passengers at the Chandigarh Railway Station from June this year. However, there is no deadline for the Wi-Fi at the Chandigarh International Airport. Also, the hospitals do not have easy availability of public Wi-Fi for the patients and attendants. Thus we can conclude that Chandigarh lags behind most of the developed cities in the country in the aspect of availability of public wi-fi to its residents.
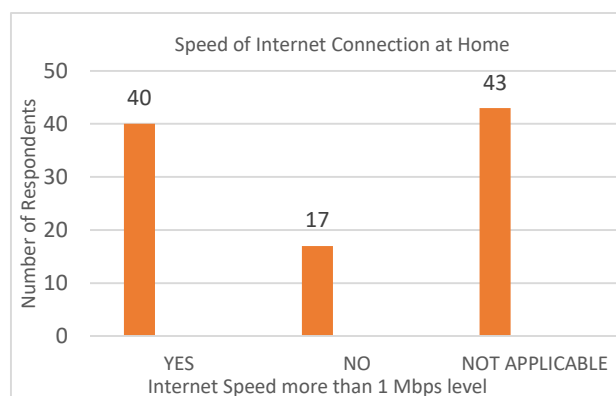
TABLE 2: DISTRIBUTION OF SAMPLE RESPONDENTS ON THE BASIS OF AREA OF RESIDENCE AND INTERNET CONNECTION AT HOME

AREA OF RESIDENCE	INTERNET CONNECTION AT HOME		TOTAL
	YES	**NO**	
URBAN	**54 (93.1%)**	04 (6.9%)	58 (100.0%)
RURAL	03 (13.6%)	19 (86.4%)	22 (100.0%)
REHABILITATED COLONIES	0 (0.0%)	20 (100.0%)	20 (100.0%)
TOTAL	57 (57.0%)	43 (43.0%)	100 (100.0%)

Source: Field Survey (2016)

The Table shows that though more than half of the respondents have internet connection at their home, almost all these respondents (93.1%) are residents of the urban sectors. Majority respondents from the rural areas (86.4%) and all respondents from the rehabilitated colonies (100%) do not have internet connection at their home. This also shows that more much more number of respondents in the villages and rehabilitated colonies have smart phones as compared to internet connection at their home.

FIGURE 1: DISTRIBUTION OF SAMPLE RESPONDENTS ON THE BASIS OF AREA OF RESIDENCE AND SPEED OF INTERNET CONNECTION AT HOME

Source: Field Survey (2016)

The Graph shows that of the 57 percent respondents who have an internet connection at their home, around 70 percent have an internet speed level that exceeds 1 Mbps. This is a fairly considerable percentage given the fact that a smart city demands a quick working internet and its minimum level criteria for internet speed at homes are 1Mbps.

TABLE 3: DISTRIBUTION OF SAMPLE RESPONDENTS ON THE BASIS OF AREA OF RESIDENCE AND USAGE OF SMART PHONES

AREA OF RESIDENCE	USAGE OF SMART PHONES		TOTAL
	YES	NO	
URBAN	**50 (86.2%)**	8 (13.8%)	58 (100.0%)
RURAL	18 (81.8%)	4 (18.2%)	22 (100.0%)
REHABILITATED COLONIES	8 (40.0%)	12 (60.0%)	20 (100.0%)
TOTAL	76 (76.0%)	24 (24.0%)	100 (100.0%)

Source: Field Survey (2016)

The Table shows that 3/4th respondents (76 per cent) from the sample use smart phones. An interesting point to note is that a considerable number of respondents (40 per cent) from the rehabilitated colonies also use smart phones. Therefore, we can conclude that there is mass usage of smart phones in the city.

TABLE 4: DISTRIBUTION OF SAMPLE RESPONDENTS ON THE BASIS OF AREA OF RESIDENCE AND FREQUENCY OF USE OF FINANCIAL TRANSACTIONS ONLINE

AREA OF RESIDENCE	HOW OFTEN DO YOU UNDERTAKE FINANCIAL TRANSACTIONS ONLINE?			TOTAL
	ALWAYS	SOMETIMES	NEVER	
URBAN	03 (5.2%)	41 (70.7%)	14 (24.1%)	58 (100.0%)
RURAL	0 (0.0%)	03 (13.6%)	19 (86.4%)	22 (100.0%)
REHABILITATED COLONIES	0 (0.0%)	0 (0.0%)	20(100.0%)	20 (100.0%)
TOTAL	03 (3.0%)	44 (44.0%)	53 (53.0%)	100 (100.0%)

Source: Field Survey (2016)

The Table shows that there is not much awareness among the city residents on the availability and use of online applications for financial transactions. Even the respondents from the urban areas do not use the internet for undertaking financial transactions regularly and around 70 per cent casually do so.

TABLE 5: DISTRIBUTION OF SAMPLE RESPONDENTS ON THE BASIS OF AREA OF RESIDENCE AND USE OF INTERNET? (HOURS PER WEEK)

AREA OF RESIDENCE	HOW OFTEN DO YOU ACCESS THE INTERNET? (PER WEEK IN HOURS)				TOTAL
	No Use	0-4 hrs	5-8 hrs	More than 8 hrs	
URBAN	05 (8.6%)	24 (41.4%)	03 (5.2%)	26 (44.8%)	58 (100.0%)
RURAL	11 (50.0%)	11 (50.0%)	0 (0.0%)	0 (0.0%)	22 (100.0%)
REHABILITATED COLONIES	14 (70.0%)	06 (30.0%)	0 (0.0%)	0 (0.0%)	20 (100.0%)
TOTAL	30 (30.0%)	41 (41.0%)	03 (3.0%)	26 (26.0%)	100(100.0%)

Source: Field Survey (2016)

The Table puts forward an interesting observation. Even though 40 per cent of the respondents from the rehabilitated colonies own smart phones (and none of them has internet connection at home), a majority of them (70 per cent) do not use their smart phones to access the internet at all i.e. access to internet through smart phones is negligible in the rehabilitated colonies.

RECOMMENDATIONS AND CONCLUSION

In a developing country like India, robust digitalisation assumes paramount importance because it has become critical to deliver growth and wellbeing. A 100 Mbps internet backbone coupled with 100 percent coverage of the area with cell phone towers and for most services to be available online, a high level of telephone penetration will be essential in the proposed Smart City. Fibre optic connectivity to each home. Wi-Fi in all public spaces and educational institutions would be important features of the Smart City. The present study, therefore, concludes that the pre-existing digital infrastructure in Chandigarh needs to be upgraded and overhauled to fulfil the pre-requisites of a Smart City.

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