

## **Managing Urban India through leveraged Technology**

### **Introduction**

Urban India is multifaceted since traditional parts of the city vie with the emerging urban sprawls for resources and attention and often needs an integrated approach to manage the change as well as preserve the past. This article looks at technologies that have been leveraged from other disciplines to manage the fast changing landscape of Urban India.

### **Managing space and movement**

This was the first logical target for technologies such as GIS, remote sensing and related communication technologies which have been used effectively to create and manage land databases, maps, monitor airspace and traffic movement synchronization. A lot of these technologies have been leveraged from space and defence departments. Police departments in cities use communication technology effectively to manage traffic bottlenecks, handheld devices to check speeding and issue tickets. Even parking meters have started appearing on major roads that use embedded technology and smart cards based parking is a common sight in most Indian cities. All toll roads in cities like Mumbai and Delhi use pre-paid smart cards to manage toll collections and can be recharged through banks.

### **Managing resources, transportation and utilities**

The next logical target for technologies has been to manage urban natural areas, water management, utilities networks (electrical, telecom etc), waste monitoring & management. Technologies used combine GIS, remote sensing and special equipment that can detect utilities beneath the road surfaces. Cities like Bangalore and Hyderabad have extensively used these technologies for water resources management whereas cities like Mumbai, Delhi and Bhopal have used GIS extensively for urban planning. Several cities have buses fitted with technologies that allow tracking through GPS/GPRS, fleet speed governance and radio paging for call taxis. The internet has further revolutionized travel by allowing online booking, ticketing and check in for air, rail and bus transport and therefore reduced queues at the place of boarding.

### **Services automation**

Large metros have citizen service centers where several public amenity services can be accessed 24/7 which include payment of property taxes, land records access, registering births and deaths and utility complaints. A visible example is Bangalore One centers. Additionally, several metros have centralized revenue collection and monitor it online (Andhra Pradesh and Karnataka were again pioneers here). Several cities also have electricity and water bills generated and payments collected using hand held devices. Additionally, mobile telephony has also helped automate utility payments through banks. Even banks have used technologies for monitoring their collections in cities very effectively. Additionally, one of the most visible technologies is electronic voting which is the most widely prevalent in Urban India.

### **Public information and communication**

This is an important aspect for every urban citizen and the pervasiveness of the internet has spawned several self help and information kiosk across public places, banks, malls, hotels, museums etc. that has helped cut down queues significantly. SMS is being used to communicate at large (public and police announcements), e-filing by individual and companies of tax and company matters and several government plans, policies and public debate subjects being available online. Several contact centers using sophisticated voice communication technologies have sprung up in several cities and are used by both public and private sector to service customers, handle complaints, provide triaging services (in healthcare) and also provide niche services such as helplines and counseling.

### **E-commerce, trade and logistics**

Tendering, trade and logistics has significantly gone online and it is common for us to content with online bids, auctions, buying and selling of almost any commodity, equipment or service. This has helped reduce a lot of paper traffic and made procurement more transparent. These technologies have been aided by commodities and futures exchanges that impact downstream services such as transport and logistics. The urban citizen therefore, is very well informed. Electronic post, money orders and telegrams are the order of the day. Electronic fund transfers are common place today with an RTGS backbone.

### **News and entertainment**

Last but not the least, is online newspapers, magazines, satellite radio and television broadcasts which are relatively new to the urban Indian and are fast catching on to complete our digital lifestyle. Using technology, we can order movies, food or several other services from the comfort of our homes or simply choose to work from home.

### **To conclude.....**

As can be seen, technology has been significantly leveraged across the country but is today present only in pockets as communities wait for success before implementing it elsewhere. Care for more technology? – how about food reserves, building security, disaster management, healthcare, online education, home security.....the list is endless!!

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