

## URBAN CONVERSATIONS

Internet and Cities: How it's Changing the Way we Live

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20<sup>th</sup> October, 2016

## A TYPICAL DAY IN THE LIFE OF THE INTERNET\*

**207** BILLION E-MAILS SENT



**8.8** BILLION YOUTUBE VIDEOS WATCHED



**4.2** BILLION GOOGLE SEARCHES



**2.3** BILLION GB OF WEB TRAFFIC



**803** MILLION TWEETS



**186** MILLION INSTAGRAM PHOTOS



**152** MILLION SKYPE CALLS



**36** MILLION AMAZON PURCHASES



\*April 4, 2015.

## NUMBER OF INTERNET USERS



**1**  
BILLION  
IN 2005



**3.2**  
BILLION  
IN 2015

## MOBILE PHONE OWNERSHIP



**80%**  
of people in  
developing  
economies



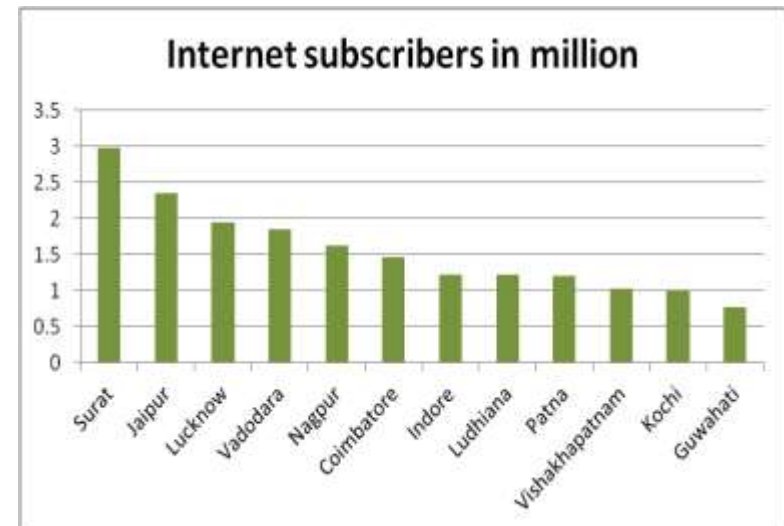
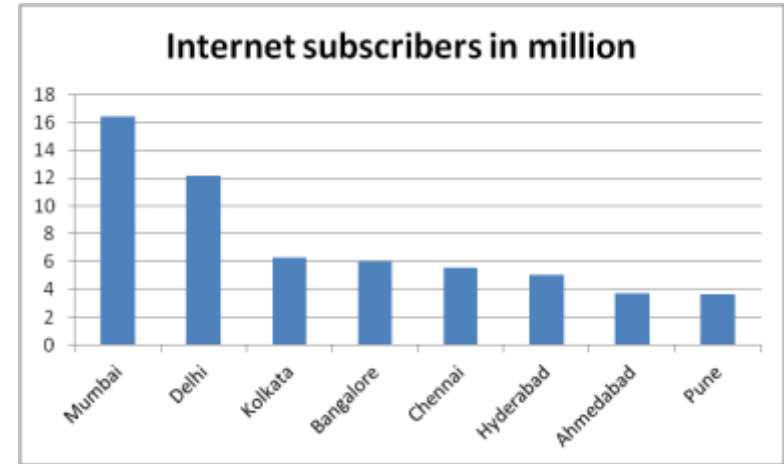
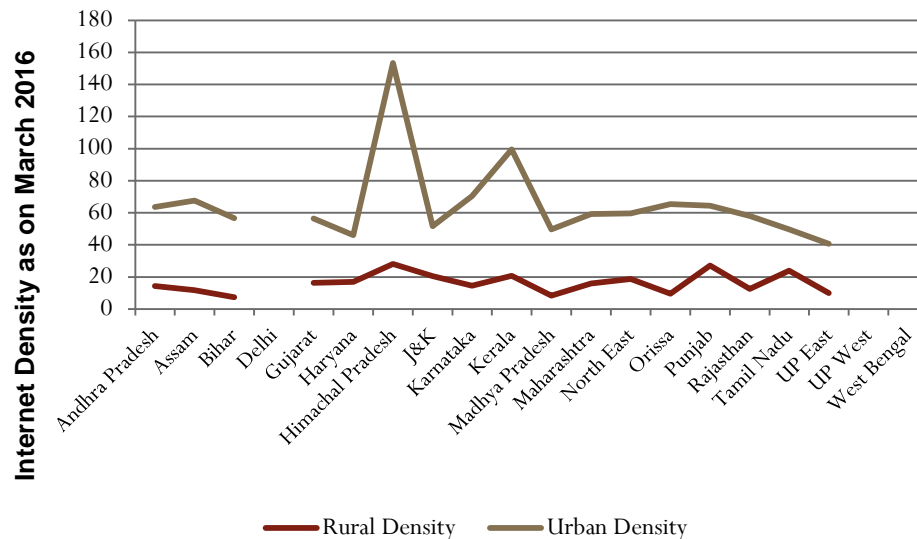
**98%**  
of people in  
advanced  
economies

# Internet Penetration in Urban India

94% internet subscribers are using wireless connections including mobile and fixed wireless (wi-fi, wi-max)

	Total	Rural	Urban
<b>Internet Subscribers (in million)</b>	342.65	111.94	230.71
<b>Internet Density</b>	26.98	12.8	58.28

In addition urban India is also maximizing the use of Internet through Public Wi-Fi hotspots. As of August 2016, there were 31,000 Wi-Fi hotspots installed in India (0.5% airports and railway stations, 41% hotels, 58% shopping malls, restaurants, shops and retail outlets)



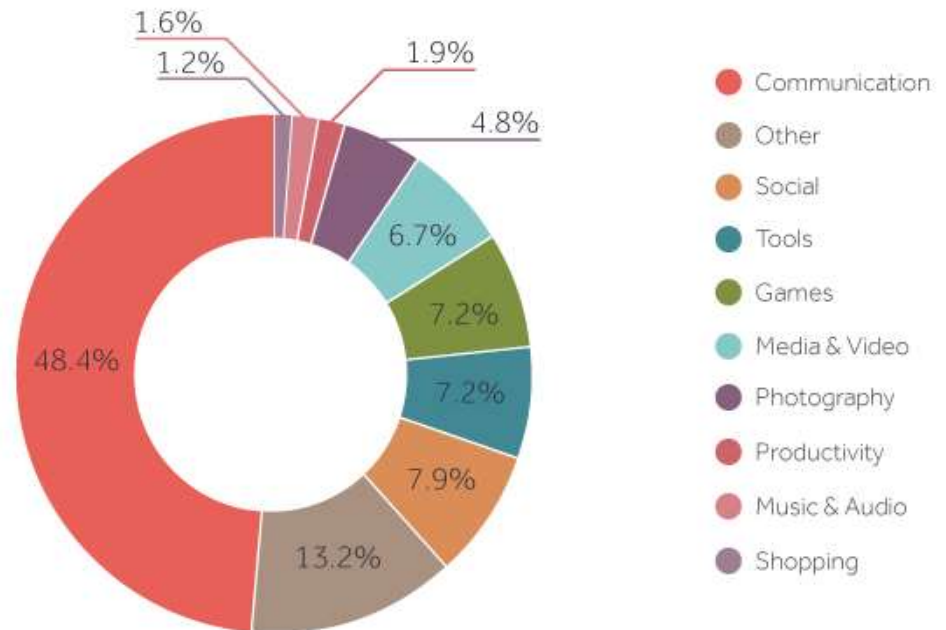
Source: IAMAI 2015

# Internet Usage in Urban India

- A user in India uses an average of **11 apps** in a day.
- A user in India spends an average of **3 hours** on a mobile phone in a day, which is one hour less than worldwide users and two hours less than US users.
- The ratio between male to female Internet users in Urban India is 62:38
- In Tier 2 and Tier 3 cities of India the consumption of mobile video content is much higher than that in bigger metros
- Smartphones are driving Internet usage in India - 60% YouTube views are from mobile phones.
- Children in urban India (between 9-17 years) spend about 4 hours a day on the Internet mostly on mobile phones.

Source: Reports by Google, Telenor, Quettra, and IAMA

Average Percentage of Time Spent Daily in App Categories in India



# **Planet of the phones: From Homo-sapiens to Phono-sapiens**

The Smartphone is

- Ubiquitous
- Addictive and
- Transformative

# Smart phones and Internet

- As of December 2015, >230 million smartphone users. The tipping point -Price dropped from \$100 to less than \$50, mostly Android. By 2020, estimated to have 702 million smartphones in use
- India being the second largest smart phone market accounts for 9% of the world's application downloads.
- Mobile app downloads increased by 129 per cent between 2014 and 2015 with the top three being shopping, entertainment and gaming applications.
- Travel apps witnessed fastest growth-474%, from 2014 followed by communication and social apps at 163%.
- Android growing at 75% y/y in 2015.
- Among the Android devices, Samsung, Motorola and Micromax were the top three devices of 2015.



# Advent and Evolution of the Internet (1994-2000 and After)



The Sound of Dial Up Internet

- Internet use sees its first round of increased adoption 1994-2000
- The first commercial site on the internet - Amazon.com
- August 14, 1995- VSNL launched India's first full Internet service for public access
- The Internet Service Providers Association of India (ISPAI) was set up in 1998 to promote the use of Internet
- Digital India, Smart City Mission and Bharat Net are direct government initiatives to improve digital infrastructure and adoption in the country
- At 2.5 mbps, India has the lowest average connection speed among the leading Asia Pacific countries (March 2016)
- Kochi based incubator StartUp village was the first in the country to get Gigabit (1000 mbps ) speed in 2012.
- Innovation in Content
- 27 million, or close to half of the 269 million Internet users in India, consume content in local languages (Source IMAI and IMRB International, 2015.)



# Communication



**Yesterday!**



**Today!**

- WhatsApp and Facebook-highest usage in terms of session numbers and session lengths. (Source: *A Day in the Life of Mobile Users in India*, Quettra)
- Facebook enabled USD 4 billion economic impact on the Indian economy and contributed to 335,000 jobs (Source: *Facebook's Global Economic Impact, January 2015*, Deloitte)
- Western Union sent its last telegram in 2006 and India post ended Telegram service in 2013.



# Travel and Navigation

- Uber, Ola and AirBnB - Shared economy, a new paradigm for ownership and delivery of services
- Decline in demand for travel agents with 8% in 2016 versus 11.2% in 2015 as users find convenient alternatives on travel websites to compare prices and book travel/accommodation (Survey by Yatra.com) **Up, up and away: 50% of travel transactions to be online by 2020**
- Crowd sourced feedback and holiday experiences on websites such as Trip Advisor are becoming popular; **from aspirational to real**
- Google Maps – not just routes and directions, it provides information on traffic, transit, terrains etc.



**Yesterday!**



**Today!**

# E-Commerce

- A 6 times growth over 5 years predicted for E-Commerce.
- There is a rise of the middle-class consumers and changing shopping habits. There is increased access to global products and services at a click of a button, and delivery to even remote locations.
- Tier II and Tier III cities indulge more in online shopping. (Source-IAMAI and Deloitte-CII on E-Commerce in India)
- Online grocery contributes less than 1% to the \$500 billion retail industry (70% of which is food & grocery), but is expected to climb to 2-3% by 2018. 30% of orders on Grofers for fruits and veggies come from tier-2 towns; 24% of value of total sales are fresh produce.



**Yesterday!**



**Today!**

# DRIVERS OF E-COMMERCE

## Demand Side



Convenience



Product range



Discounted price



Nuclear families  
and urbanisation



Growing number of  
women customers



Lack of brick and mortar  
retailers beyond large cities

## Supply Side



Growth in Internet  
penetration



Growth in use  
of smartphone



VC funding



Robust logistics  
infrastructure



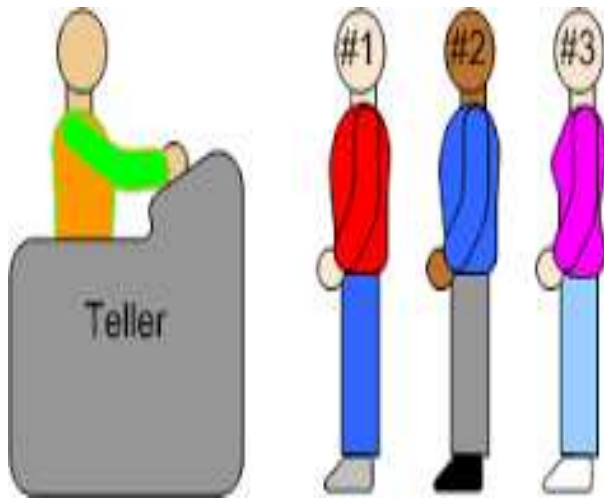
Varied payment  
options



Growing demand  
from semi-urban  
and rural areas

# Internet Banking, Mobile Wallets and Digital Payments

- Mobile wallet transactions jumped from Rs 10 billion in 2012-13 to more than Rs 490 billion in the year 2015-16. (Source: RBI)
- Digital payments industry in India is projected to reach \$500 billion, contributing 15% to India's GDP by 2020 (Source: Google and Boston Consulting Group (BCG) report on Digital Payments 2020)
- Number of mobile banking transactions has risen from 16.8 million in December 2014 to 39.5 million in December 2015 (Source: RBI)



**Yesterday!**



**Today!**



# Dating and Matrimonial Experiences

- 400% increase in **Tinder** downloads in 2015
- More active women than men
- **Tinder Social** introduced to expand and build new social circles.
- Jeevansaathi.com, Shaadi.com, Simplymarry.com are online matrimonial sites that are rapidly replacing traditional marriage match makers



**Yesterday!**

**Today!**

# Selfie!

- Selfie Apps: Installations of Selfie Apps in India (September 2015) YouCam Perfect – 5%, Candy Camera – 4%, PIP Camera – 6% and Beauty Plus – 13% about

BeautyPlus is the leader in India with a install growth rate of 0.9%. Its easy-to-use photo editing options along with added effects and touches has made it irresistible not only in India but in different parts of Asia such as Japan, Korea, and Malaysia.

More selfie deaths in India than anywhere in the world (about half of at least 27 deaths in 2015 in the world)



**Yesterday!**



**Today!**



# Education

- Massive Open Online Courses (MOOCs) serve as a complement to University education especially for those who may not otherwise have the time/ resources to access high quality education
- India is Coursera's second-largest market outside the US, after China, with almost 800,000 registered learners. Coursera has recently signed a partnership with the Indian School of Business, its first partnership in India
- A study reports that India has the second highest number of online enrolments in the world – 1,55,000 of the total 1.2 million world wide.
- MOOCS allows for skill development and employment opportunities



**Yesterday!**



**Today!**

# Jobs and Employment

- India is the second largest market for LinkedIn after US. 35 million users in India, nearly 10% of its total user base of around 400 million.
- The online jobs market is expected to double by 2020 with 63% consumers accessing jobs listed on digital classifieds.
- Bangalore, Mumbai, Delhi and Hyderabad are the top cities for online job searches and with maximum searches pertaining to government jobs.

*(Source: Google India and KPMG Study)*



**Yesterday!**

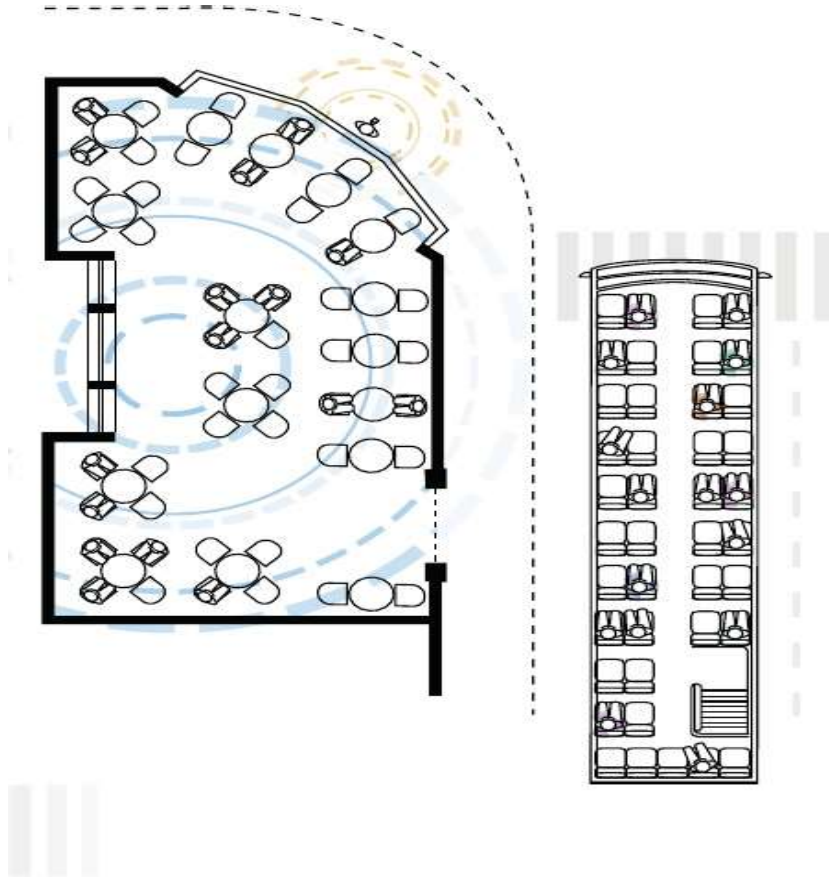
**Today!**

# Smart Cities and Internet of Things

- 20 cities and total investment of Rs.50,802 crore for five years
- DeitY in its draft policy, aims to create an IoT industry in India of \$15 billion by 2020.
- Total revenue generated from IoT industry worldwide - \$300 billion and the number of connected devices - 27 billion by 2020. India is assumed to account for 5-6% of the global pie. (Source: Gartner)
- Healthcare industry seeks to move from curative to preventive therapies with IoT. A potential algorithm can look at health history and provide care management in advance.
- Driverless cars will lead to potential changes in the urban city fabric - a shift from private car ownerships (Third Transport Revolution-John Zimmer)



# Public Space or Private Space



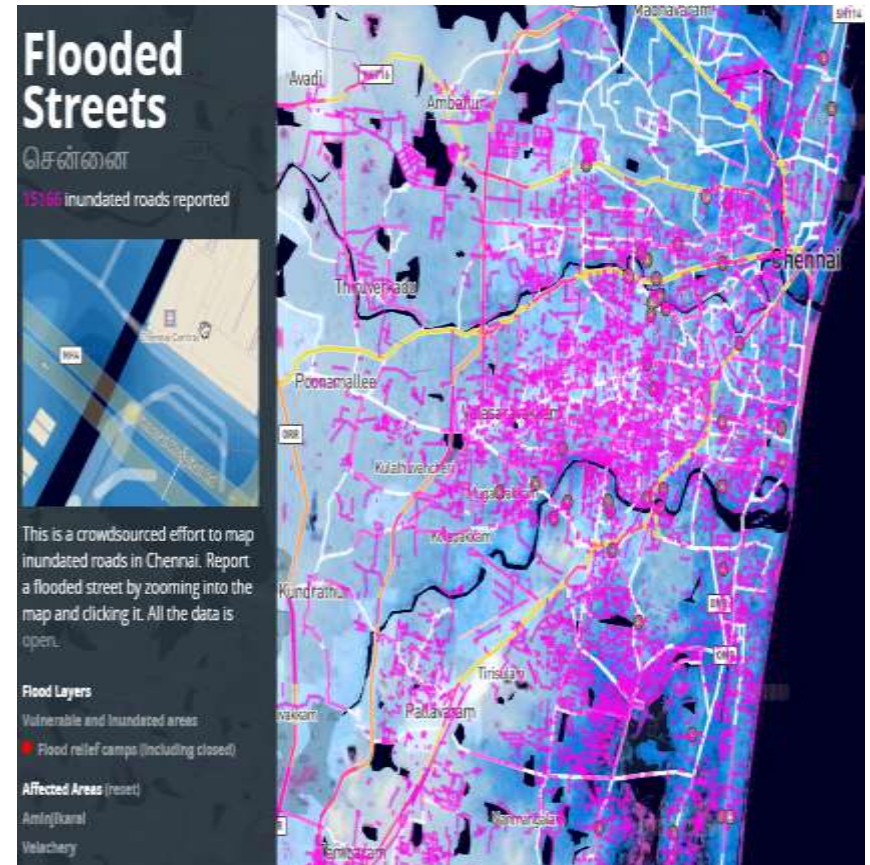
*“Technology created different types of virtual spaces. Sometimes people share the same music using record album and speakers like in coffee shop. However in other spaces they use headphones, where everyone listening to different kind of music.”*

Source: Between the virtual and physical spaces ; How does decentralization on virtual space affect social gathering in the city? Zahi Alrayyes



# Crowd Sourcing

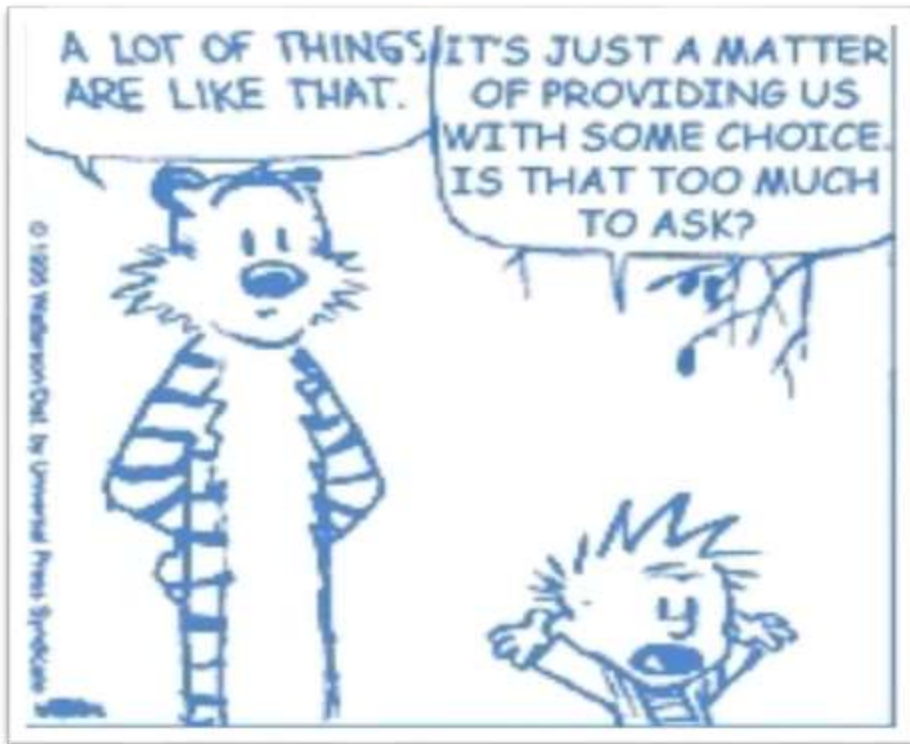
- Crowdsourcing coined in 2005 to describe how businesses were using the Internet to "outsource work to the crowd"
- Crowd sourcing for governance, business and society
- Wikipedia – perhaps the pioneers of crowdsourcing. The not-for-profit Wikipedia Foundation launched its free, web-based, multilingual and collaborative encyclopaedia in 2001. It has over 17m articles written collaboratively by the community and is the most popular reference site on the internet.
- Facebook Safety check - Chennai floods, Earth quakes etc
- Crowd sourced Health – Reviews on doctors, medicines and medical facilities



**To find out info on acco, food, relief:** [chennairains.org](http://chennairains.org)  
**Constant weather updates:** Action/ Chennai Rains on Twitter  
**For news updates and information on Facebook:** Chennai Memes, Chennai Rain Relief 2015 - CRR, Chennai Floods Hotline.

# Choice and Voice!

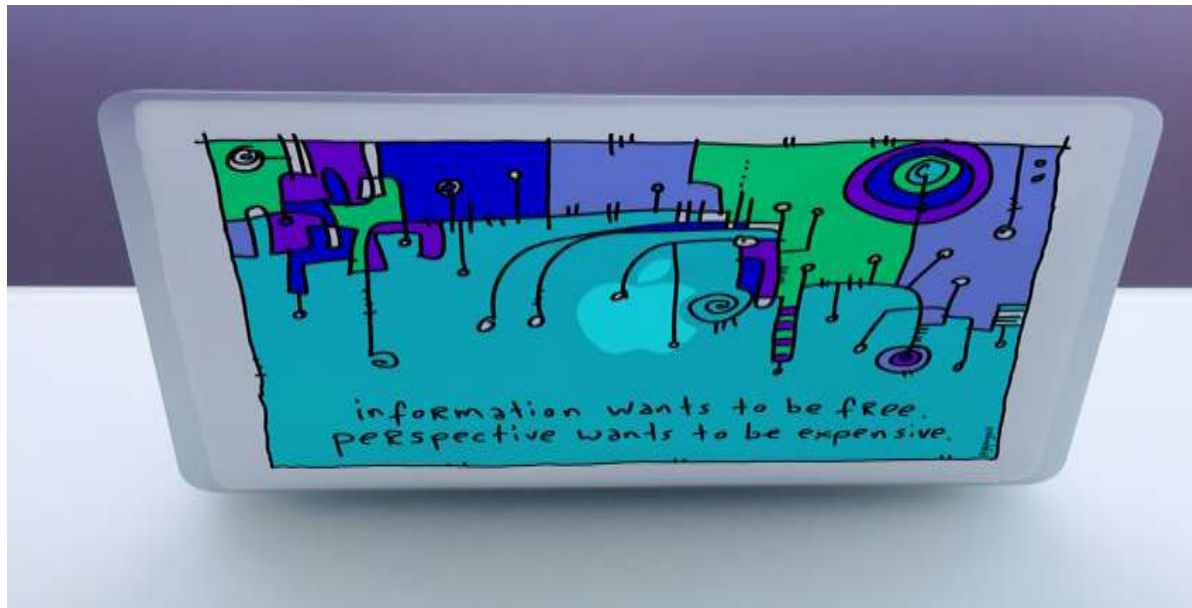
- The search for autonomy is a dominant cultural trend powered by the Internet. It leads to individuals asserting rights, active citizen engagement, rise in public opinion and networked democracy.
- **Swachh Map App**- an individual can flag garbage spots by clicking a photo and sending it to the Municipal Corporation. Gurgaon 4th city to adopt the Swachh Map App after Bhopal, Rajkot and Siliguri for effective waste management.
- AIB video and Net Neutrality
- Political leaders and groups with Twitter handles/Facebook pages to engage with the masses. Ministry of External Affairs, India is most active on Twitter.





# Informed or Misinformed?

- Information Overload: higher-than-ever expectations about being available, being up-to-date, having clever opinions and cute pictures to broadcast
- Decision based on limited information / decisions purely based on data
- Contractual Innovation and changing nature of consumption: Computer mediated transactions enabling customers to pay only for the outcome. Online advertising model of “you pay me if the consumer comes to your store”
- Humans’ special talents become increasingly valuable and productive as they combine with Artificial Intelligence.



“It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.”

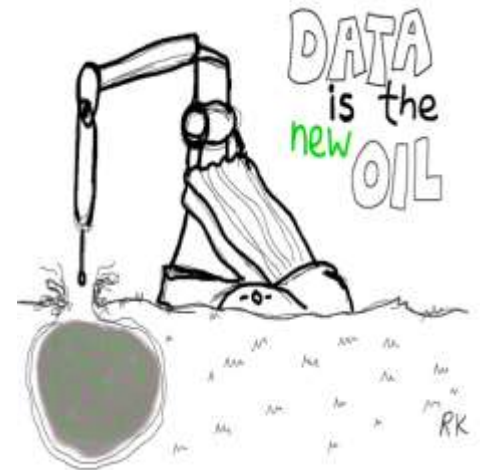
— Arthur Conan Doyle, Sherlock Holmes

# Challenges of Privacy and Big Data

- How does one balance collective security with individual liberty? From surveillance cameras and airport screening through free speech and internet access.
- To tweet or not to tweet....
- Google Transparency Report, says Indian law enforcement agencies had made 3,452 requests to get access to user data during January-June 2016. The requests affected 6,207 users (accounts) with Google producing information for 55% of the requests.
- Delhi High Court directed WhatsApp to delete all information and data collected from users in India up to September 25. (WhatsApp's new privacy policy under which it said it would share user data with web giant Facebook and its group companies. Facebook bought WhatsApp for \$19 billion in 2014.) No data privacy and security framework in India.

## Big Data

- Consumer data is most valuable when tied to specific individuals, as it enables a closer tracking of user behaviour.
- Every activity leaving a digital trail that can be exploited
- Amazon is predicting what you might like to buy next, Netflix-what you might want to watch and dating sites predict who you might fall in love with.



# The Dark Side

- 81% of Indian children between the age of 8 and 16 were active on social media networks and of these 22% reported being bullied online. Highest when compared to Australia, USA and Singapore being part of the survey (*Source: Intel Security Teens, Tweens and Technology Study 2015*)
- 1.5 trillion photos in 2015 from 80 billion in 2000, but the cost fell from about 50 cents to zero (film and developing). Such productivity, if at all, does not show up in GDP.
- Digital distraction: Finite attention span in an infinite space. Useless email and unnecessary interruptions cost the average knowledge worker one day a week in lost productivity. That comes to about \$1 billion a year for a company with 50,000 workers. (*Study by Nathan Zeldes in 2006 while working for Intel Corporation*)



# Internet in India by 2020

730 Mn Internet users



75% of new Internet user growth to come from rural areas

75% of new Internet users to consume content in local language



Mobile video content to grow at an **83% CAGR** in next 5 years



Number of online shoppers to become **175 Mn**, a **3.5X** growth over 2015



70% of e-commerce transactions via mobile phones

50% of travel transactions to be online



# The Kill Switch!



- How do we manage this value created by the internet
- Brookings (2016) estimates that Internet shutdowns cost countries \$2.4 billion last year
- 100 days of mobile internet suspension in Kashmir
- Gujarat, Nagaland and Manipur other states experienced shutdowns