PAKISTAN ICT INDICATORS SURVEY, 2014

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

PAKISTAN ICT INDICATORS Survey 2014

TOPLINE FINDINGS

Presented at
NATIONAL ICT R & D FUND (Islamabad)

19 February 2015

AGENDA FOR THE MEETING

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

- **INTRODUCTION TO THE TEAM**

PART 1 : WHAT HAPPENED WHEN AND HOW

Section 1: **Understanding the OBJECTIVES AND Scope of Work INCLUDING METHODOLOGY**

Section 2: **Key Findings of Pakistan ICT Indicators Survey**

Section 3: **Comparison 2001and 2014**

Section 4: **Snapshot: Regional and International Comparison**

Section 5: **Forecasting Broad ICT Trends (Brief)**

PART 2 : Policy Recommendations and Summing Up by Dr I Gilani

WAY FORWARD – Q&A

ABOUT GALLUP PAKISTAN

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

Established in 1980, Gallup Pakistan draws upon its rich experience of over 35 years and continues to bring innovation and technology to business opinion and socio-economic research. We offer a unique combination of business acumen and technical know-how, which helps our Clients translate customer perceptions into effective business strategy. By transforming large amounts of data into insightful reports and analysis, we help our Clients better understand their professional needs and requirements.

Gallup Pakistan is the country's most respected opinion and socio economic research organization and is widely quoted in national and international media.

Being an affiliate of Gallup International we have close collaboration with Gallup associates all around the globe and enjoy the benefit of drawing upon an international pool of knowledge. Successful marketing relies upon the marketer's ability to translate customer needs and demands into an effective business plan that targets the right audience, and reflects their wants and desires. Gallup Pakistan is an expert in business research.

Through its insightful Marketing and Information Consultancy in the area of Business Research, it delivers valuable knowledge to its enterprising Clients, which forms an integral part of their Marketing plans.

ABOUT GALLUP PAKISTAN

Affiliation

GP is the sole representative of Gallup International in Pakistan. Gallup International operates in more than 50 countries across the Globe.

Years of Experience

GP is operating in Pakistan since 1980 thus bringing in more than 35 years of professional experience.

Presence

GP stands out as a marketing and survey research agency that has a comprehensive national presence. Following are the offices:

FULL SERVICE OFFICES

- Karachi
- Lahore
- Islamabad

FIELD OFFICES

- Karachi
- Sukkur
- Jacobabad
- Bahawalpur
- Sahiwal
- Gujranwala
- Sargodha
- Jehlum
- Islamabad
- Hyderabad
- Quetta
- Multan
- Lahore
- Faisalabad
- Gujrat
- Rawalpindi
- Peshawar
- Mardan

ABOUT GALLUP PAKISTAN

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

For more information please visit our website www.gallup.com.pk or write to

Islamabad:

H.45, St. 52, F-7/4,
Islamabad Pakistan
Phone: +92-51-2655630
Fax: +92-51-2655632
Email: info@gallup.com.pk

Karachi:

Shaheen Chambers KCH Society,
Karachi, Pakistan
Phone: +92-21-4532953-54, +92-21-4543606
Fax: +92-21-4541396
Email: info@gallup.com.pk

Lahore:

64, K/1, Model Town,
Lahore, Pakistan
Phone: +92-42-5830547, +92-42-5830615
Fax: +92-42-6830814
Email: info@gallup.com.pk

Gallup International:

Gallup International Association Ringstrasse 7,
Post Box 149,CH-8603 Schwerzenbach - Zurich,
Switzerland Tel: +44 806 66 50
Email: info@gallup-international.com
www.gallup-international.com

SECTION 1:

Understanding the Scope of Work

SCOPE OF WORK AND DELIVERABLES FROM TOR

4 KEY OBJECTIVES AS DEFINED BY by TOR

OBJECTIVE 1 Analyze the progress made in the ICT sector during the last decade – BENCHMARKING WITH 2001 KPMG-GALLUP STUDY.

OBJECTIVE 2 provide the Nation's leaders and policy makers with an updated data set –GATHERING INFORMATION WITH RESPECT TO 81 INDICATORS ALREADY LISTED

OBJECTIVE 3 benchmark our progress against other developing countries and societies.

OBJECTIVE 4 identify any areas or geographies which lag far behind others

SCOPE OF WORK AND DELIVERABLES FROM TOR

Scope of Work

a.Finalization of methodology and work plan including finalization of appropriate sources and methodology for determining a particular indicator.
b. Collection/collation of data/information
c. Field survey and interviews
d. Data compilation and analysis
e. Preparation of draft report
f. Final Report design and printing

Deliverables

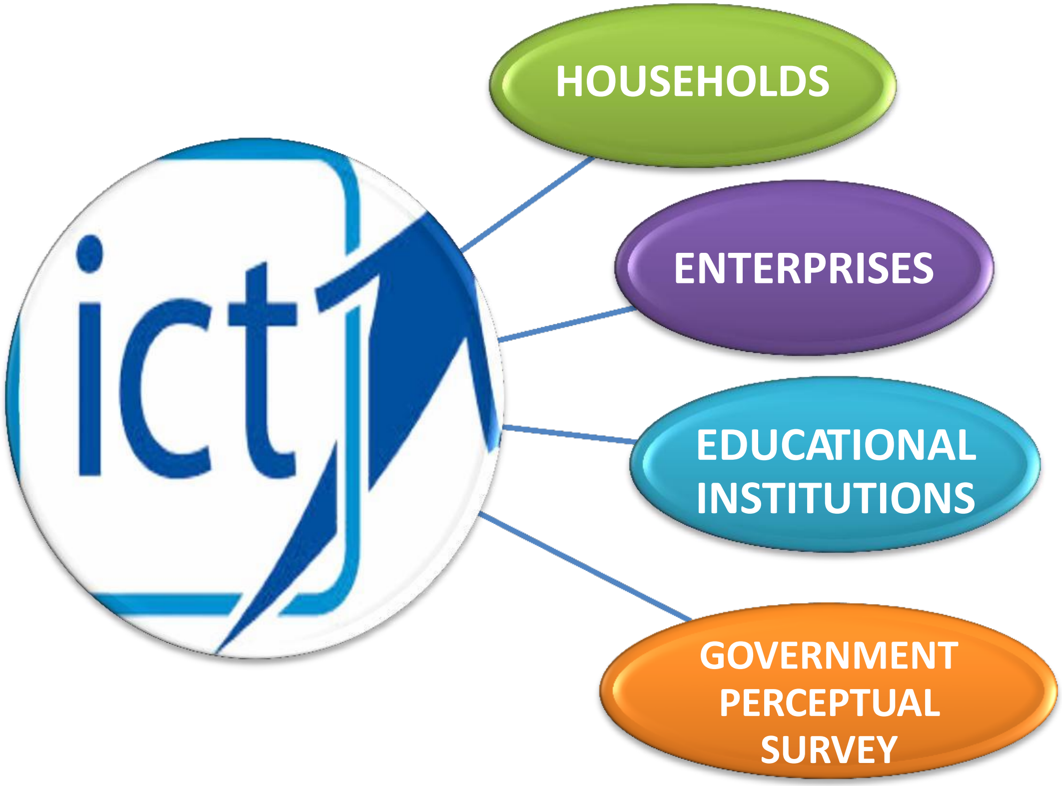
The deliverables include data and baseline indicators on
a. ICT infrastructure and access
b. ICT access and use by households and individuals
c. ICT access and use by enterprises
d. Core Indicators on ICT (producing) sector
e. Trade in ICT goods
f. ICT in education
g. ICT in government

UNDERSTANDING THE INDICATORS FOR THE STUDY

Lense 1 to Understand Indicators

The diagram below provides a structural overview of the broad indicators covered in the Study. Data is available and provided for sub-indicators in each of these categories. The total number of indicators covered is 81, with detailed division as follows:

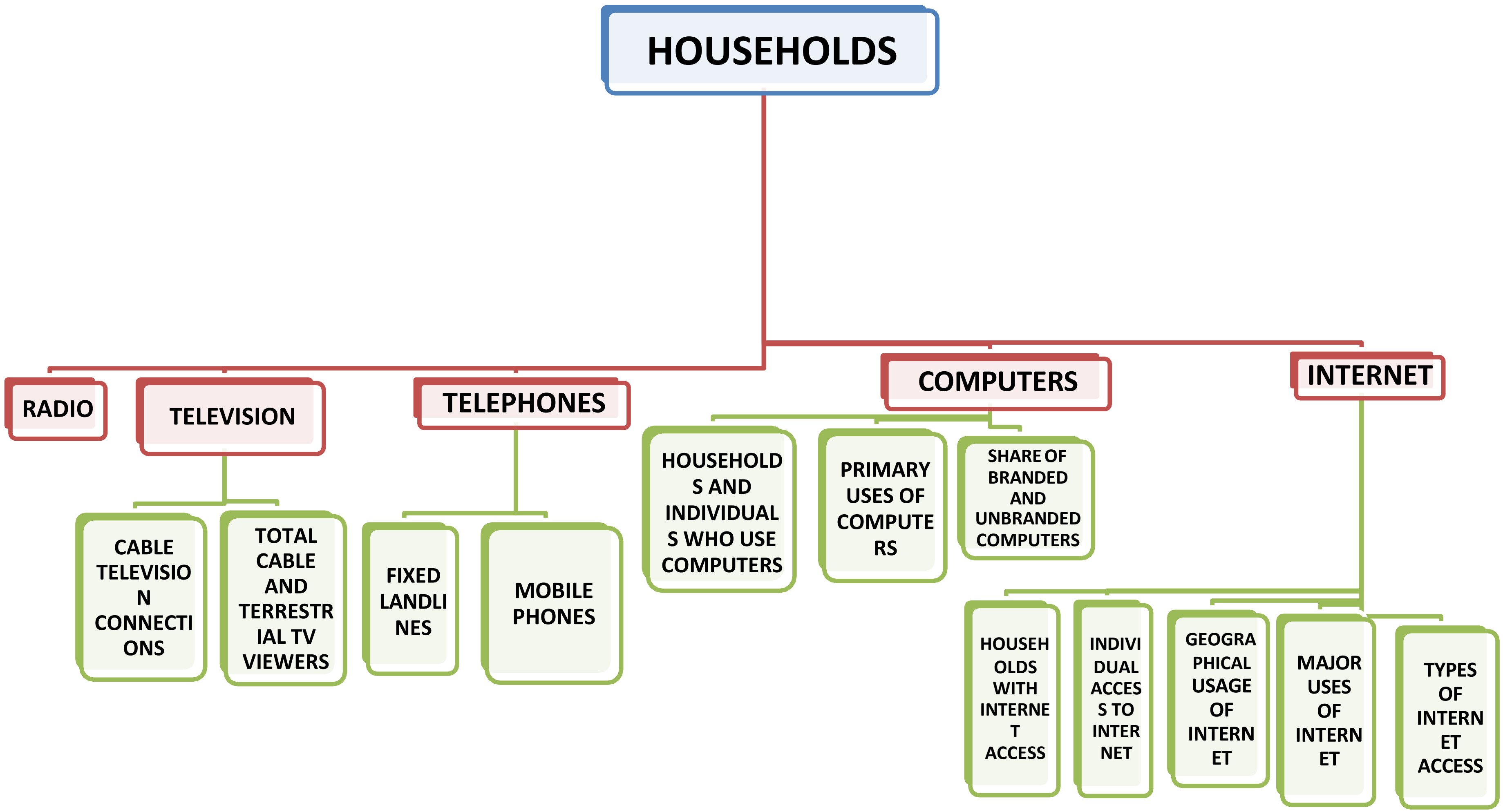
HH based indicators (41), Education Institutions indicators (10), Enterprise Indicators (14), Production Indicators (9) and Government Indicators (7).



1.1Thematic Skeleton: Households

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

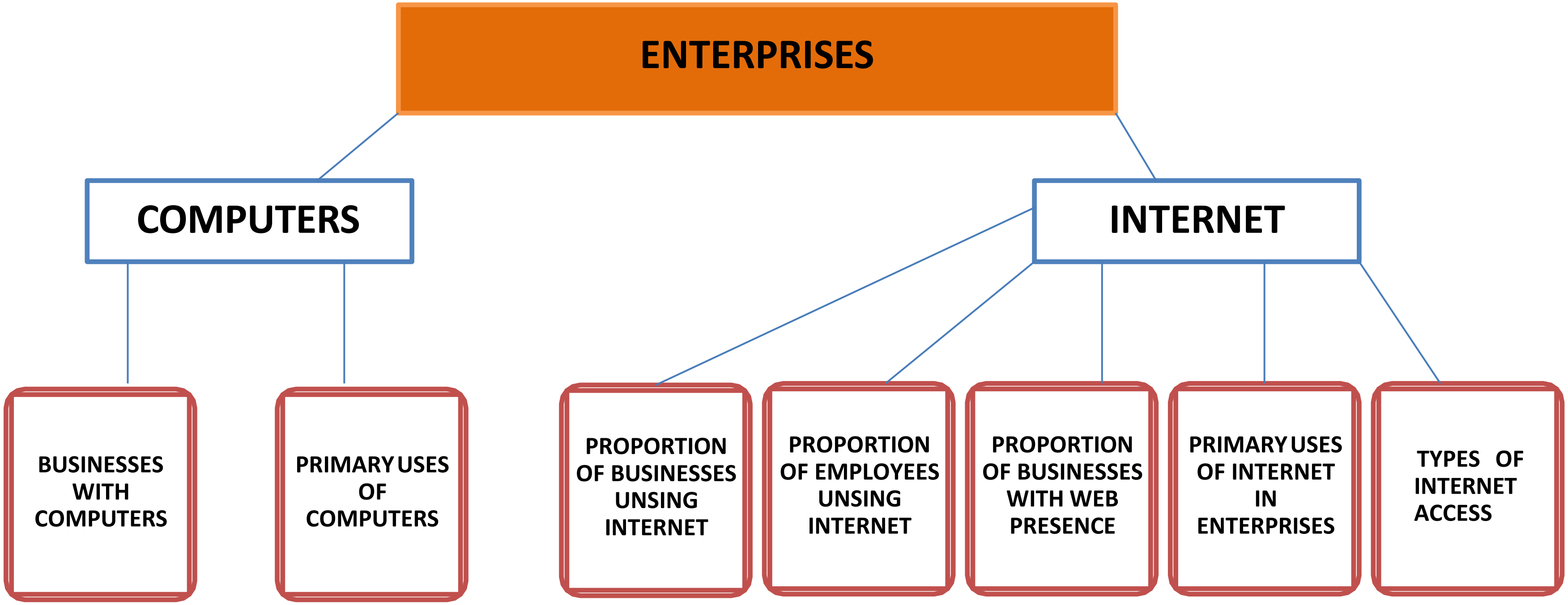
The diagram below provides a list of sub-indicators covered under Households



1.2Thematic Skeleton: Enterprises

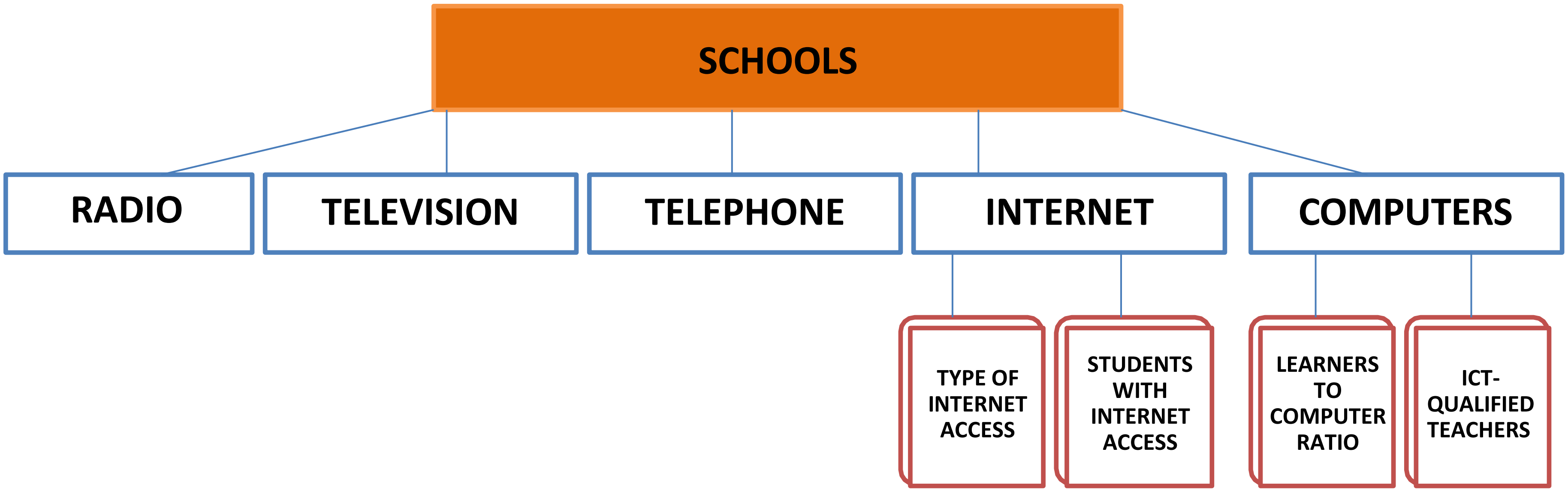
GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

The diagram below provides a list of sub-indicators covered under Enterprises



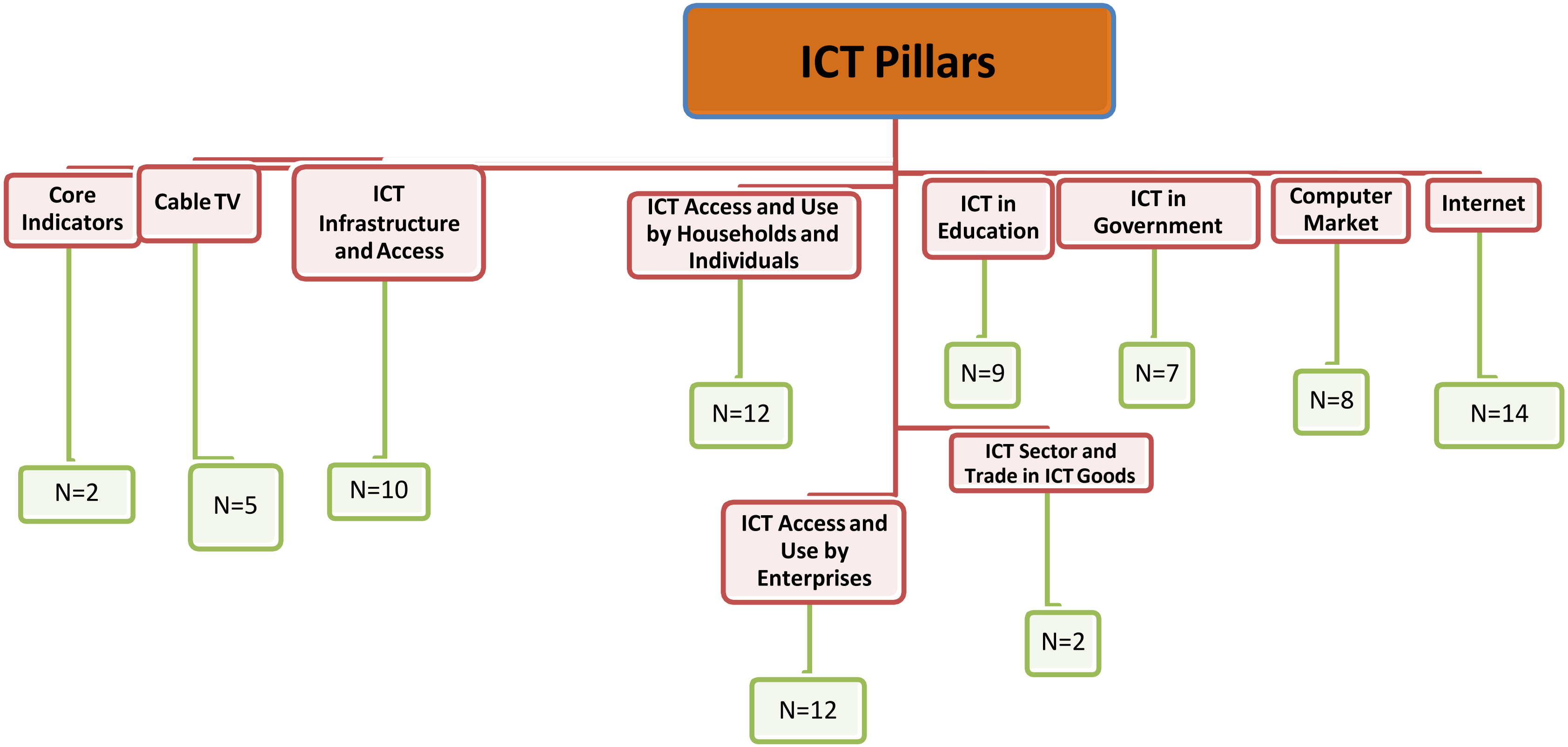
1.3Thematic Skeleton: SCHOOLS

The diagram below provides a list of sub-indicators covered under Enterprises



Lense 2 : to Understand Indicators

The diagram below provides a list of indicators as per RFQ



SURVEY METHODOLOGY :

A BRIEF SNAPSHOT

SURVEY DESCRIPTION

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

PRIMARY DATA COLLECTION and SAMPLE SIZE

Module 1: **HH SURVEY WITH** 3000 HH's across Urban and Rural Pakistan , covering all 4 Provinces

Module 2: **EDUCATION SURVEY WITH** 500 Educational Institutions (with 500 teachers and 500 Students)

Module 3: **ENTERPRISE SURVEY WITH** 500 Enterprises in Urban Pakistan.

Module 4: **GOVERNMENT PERCEPTUAL SURVEY** ..

SURVEY DESCRIPTION

Urban / Rural Profile of Survey – Households

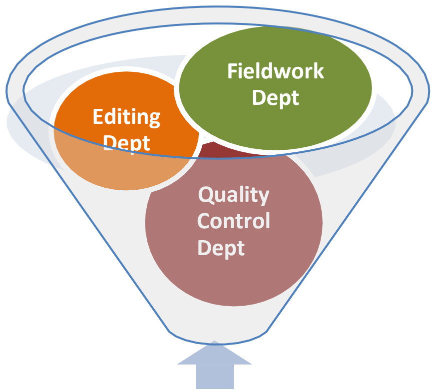
Urban Areas (33% of the population)

Rural Areas (67% of the population)

Metropolitan Cities (Karachi, Lahore, Islamabad/Rawalpindi)	Large Cities	Small Cities	Towns	Large Villages	Medium Villages	Small Villages

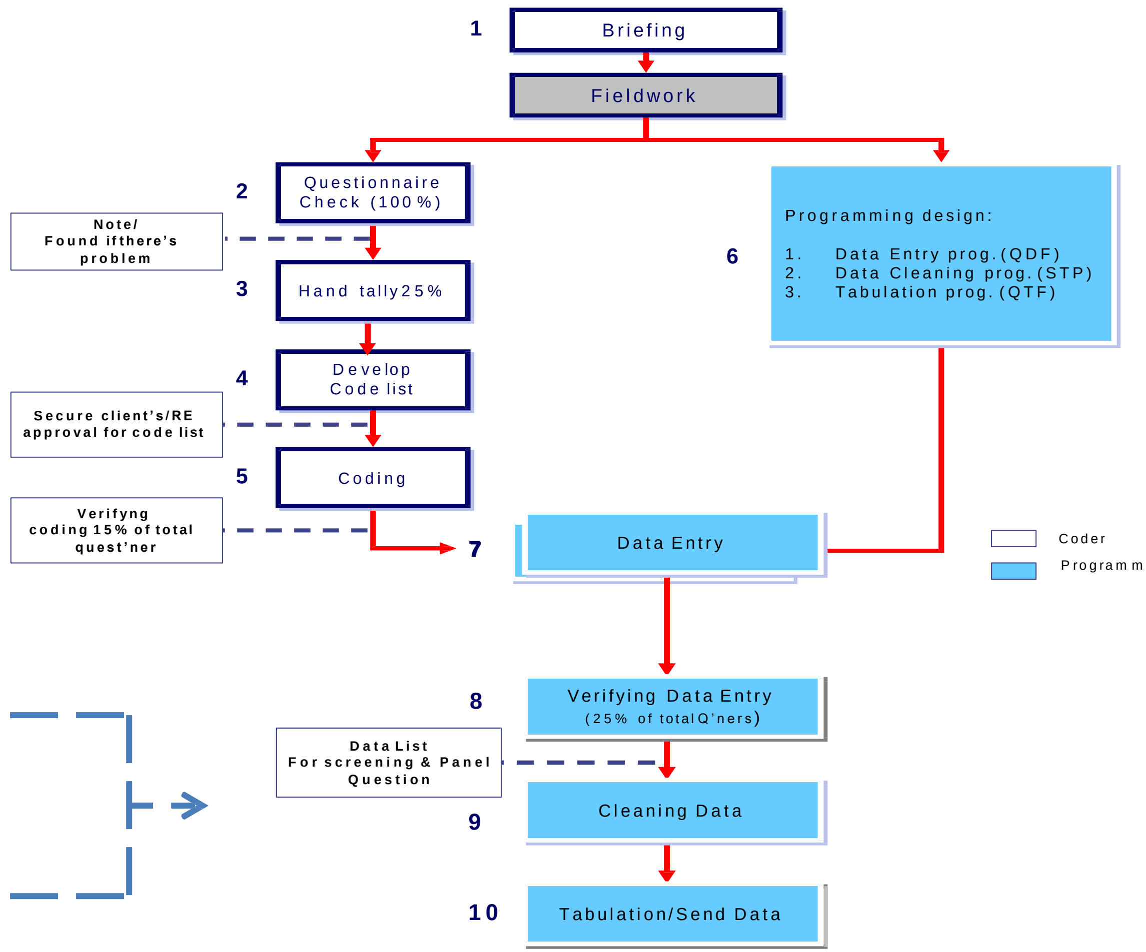
Detailed Quality Assurance Steps

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab



To ensure the quality of the data, Gallup has implemented 3 independent departments to control the quality level.

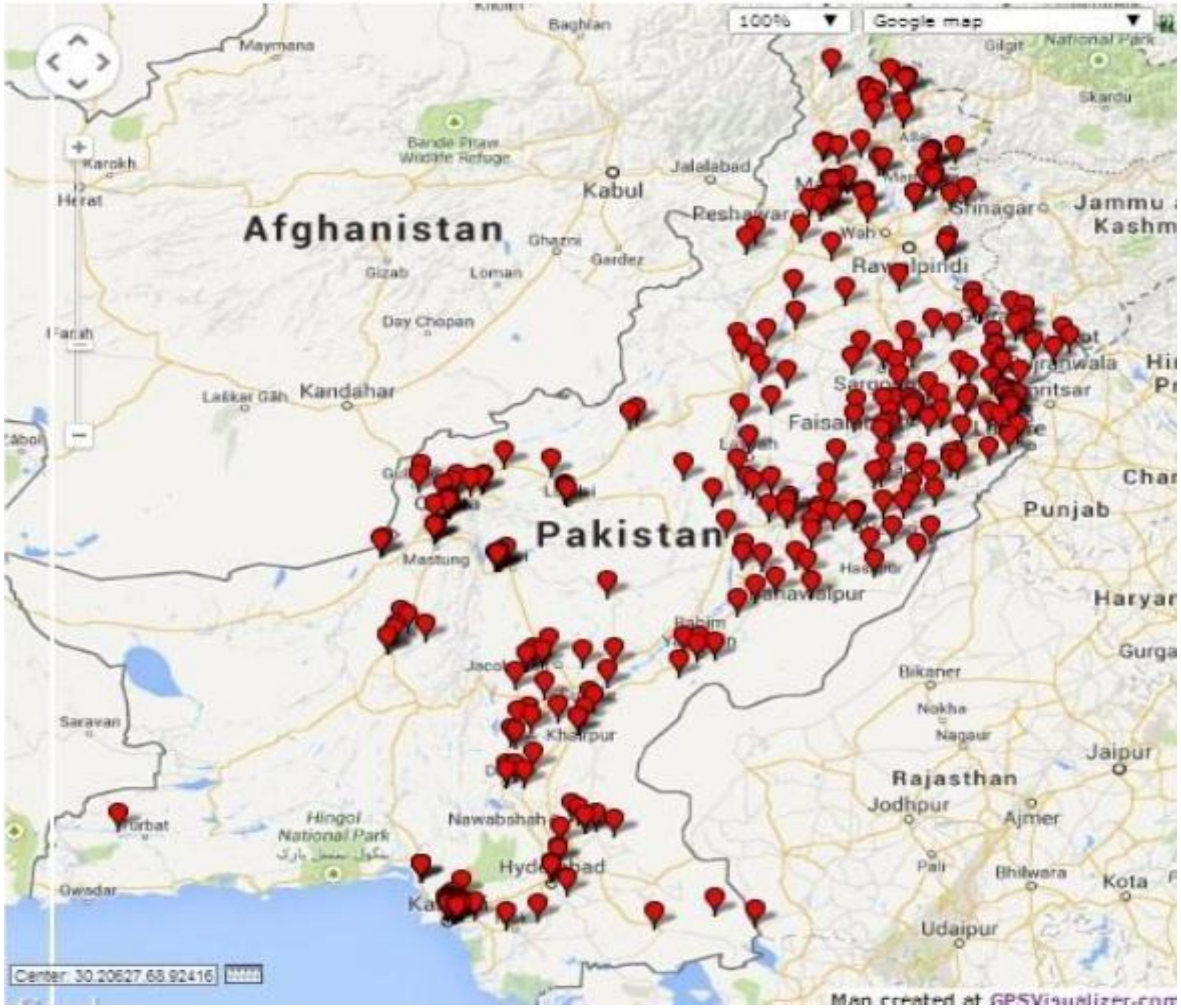
Notes:
Fieldwork Department and QC Department:
- 10% witnessing by Supervisor to ensure all the procedure already done.
- 20% back checking by independent QC
- Applicable to all interviewers to ensure all interviewers are represented in QC procedures.



SURVEY DESCRIPTION

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

GPS Map with coordinates (Household Module)



Consultancy Process

UNDERSTANDING THE CLIENT NEEDS THROUGH FACE TO FACE MEETINGS

DESIGNING AN APPROPRIATE RESEARCH DESIGN AND SURVEY INSTRUMENT

CONDUCTING FIELD WORK , DATA ENTRY AND DATA PROCESSING INCLUDING USE OF QUALITY ASSURANCE STEPS AND SOPHISTICATED DATA PROCESSING SOFTWARES

Validation of Data Exercise through Statistical Means as well as Stakeholder Consultations

Writing and vetting of the Report

Dissemination Strategy so that maximum use can be made of the study

A Quick Run Through of the Final Report – 5 minutes

SECTION 2:

KEY FINDINGS OF THE ICT INDICATORS SURVEY

KEY FINDINGS HOUSEHOLD

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

The Table below provides the complete list of indicators covered in the nationwide ICT baseline Study

HOUSEHOLD INDICATORS	Proportion of Households with a radio	27%		
	Proportion of Households with a television	80%	Households with Cable TV Connections	13,954,009
			Total Population watching Cable TV	63,415,266
			Total Population watching terrestrial TV	49,774,216
	Proportion of Households with landline telephones	19%	Fixed Landlines per 100 inhabitants	3.224
	Proportion of individuals who have used a cellular telephone in the last 12 months	99%	Percentage of population covered by mobile cellular network	92%
			Mobile Cellular Subscriptions per 100 inhabitants (2013)	72
	Proportion of households with a computer	22%	Proportion of individuals who used a computer in the last 12 months	19%
			Percentage share of branded computers	54%

KEY FINDINGS HOUSEHOLD

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

The Table below provides the complete list of indicators covered in the nationwide ICT baseline Study

HOUSEHOLD INDICATORS	Proportion of Households with Internet Access	8%		
	Proportion of individuals who used internet in the last 12 months	9%	Total number of internet users in Pakistan (2013)	15,313,846
			Location of internet access (Home)	78%
			Most urban internet users	Karachi (35%)
	Proportion of Households with internet access (type of access)	DSL (38%)	Frequency of internet usage	At least once a day (43%)
	Mobile Cellular Internet Users	11%	Percentage of Broadband Internet Access	88%
	Broadband Internet Access Tariff (US$)	$11.23 per month	Internet Growth rate in Pakistan (2013)	85.19%

KEY FINDINGS : ENTERPRISES

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

The Table below provides the complete list of indicators covered in the nationwide ICT baseline Study

ENTERPRISES INDICATORS	Proportion of Businesses Using Internet	77%		
	Proportion of Businesses Using the Internet	63%	Proportion of Employees routinely using the Internet	46% (less than a quarter of the workforce
	Proportion of Businesses with a Web Presence	49%		
	Most common use of Internet in Enterprises	Emails (54%)		
	Most common Type of Internet Access	Wireless Local Loop (69%)	Proportion of Businesses with an intranet	48%
			Proportion of Businesses with an extranet	66%

KEY FINDINGS SCHOOLS

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

The Table below provides the complete list of indicators covered in the nationwide ICT baseline Study

EDUCATIONAL INDICATORS	Proportion of educational institutions using Radio for educational purposes	1%
	Proportion of educational institutions using television used for educational purposes	1%
	Proportion of Schools with a fixed landline telephone service	42%
	Proportion of learners with access to internet at school	10%
	Learner to computer ratio in all educational institutions	20:1
	Proportion of Schools with ICT-Qualified teachers	75%

SECTION 3:

COMPARISON – 2001 and 2014

ICT INDICATORS: 2001-2014

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

Gallup-KPMG conducted the first national ICT indicators study in 2001. Using that study as the benchmark for possible comparisons, the following table provides a snapshot of the changes in key ICT indicators between 2001 and 2014

Growth in Internet Penetration	227%
Growth in total number of internet users in the country	680%
Increase in average monthly expenditure on internet	59%
Percentage increase in the share of branded computers	53%
Increase in the total revenues generated by the IT Sector	444% (US$ 1.6 billion in 2014)

COMPARISON WITH 2001 BASELINE STUDY (Gallup-KPMG Study)

Household Internet: 446,460 connections in 2001; 2,113,567 today

According to the ICT survey in 2001, there were **446,460** internet connections in Pakistani households. By 2014, this figure had increased to approximately **2.1 million**. Today about **8%** of Pakistani households have internet access which means that there has been a growth of **227%** between 2001 and 2014.

Overall Internet Users: 1086% increase; 15.3 million users

In the survey conducted in 2001, there were **1.2 million** internet users in Pakistan and today this number is **15.3 million**, meaning that the country has witnessed a staggering **1086%** increase in internet connectivity in the past 12 years. In Urban locations the users have increased from **1.2 million** to **10 million** representing a **680%** growth.

Location of Internet Use: 45% at home in 2001; 78% today

In 2001, approximately **45%** of internet users accessed internet from home compared to **25%** who used cyber cafes. Today, **78%** of internet users access the facility from home and the percentage of users using cyber cafes has dropped down to **7%**.

Continued……..

ICT INDICATORS: 2001-2014

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

Internet Use: 17% for emails in 2001 and 60% today

For the ICT Survey in 2001, **51%** Pakistani households' main purpose of using the internet was to chat, **17%** for emails and **17%** for internet calling. **6%** said they used it for browsing whereas **9%** said other activities.

In 2014, a majority (**72%**) of internet users say they use the facility for downloading, followed by educational purposes (**67%**) and emails (**60%**). Today, **43%** more Pakistani internet users use the facility for email communications.

Internet Expenditure: Rs. 715 in 2001; Rs. 1140 today

Between 2001 and 2014, the average expenditure on internet connections has increased by **59.44%** from **Rs. 715** in 2001 to **Rs. 1140** in 2014.

PC Ownership: 93.75% non-branded in 2001; 31% today

According to the data, in 2001 **6.25%** of PC owners had a branded PC compared to **93.75%** who had a non-branded computer. In 2014, this divide is **59%** for branded and **31%** non-branded computers.

Continued……..

Revenue Generation: Rs. 29.8 billion in 2001; Rs. 162.4 billion in 2014

The revenue generation by the IT sector in 2001 stood at **Rs. 29.8 billion** whereas the GDP contribution was **Rs. 6.6 billion**. Today, the revenue generation is **Rs. 162.4** billion which represents a **444%** increase.

Enterprise Internet Activity: 77% Emails in 2001; 54% emails in 2014

In 2001, **77%** of Pakistani businesses used the internet for email purposes, **48%** for fax and **25%** surfing the web. Today email accounts for **54%** of total internet activity and information about goods and services is second at **37%**.

SECTION 3: **REGIONAL AND GLOBAL COMPARISIONS**

Cellular Subscriptions/100 inhabitants: 71.7 in Pakistan; 96 in World

Pakistan's performance remains low in cellular subscription per 100 inhabitants at **71.7**. The only figure lower is that of Africa at **63**. The developing world averages at **89** whereas the developed world stands at **128** and the global average is **96**.

Continued……..

ICT INDICATORS: 2001-2014

Cellular Subscription Growth Rate: 7.01% for Pakistan; 5.40% for the world

In Pakistan the growth rate for mobile cellular subscriptions (**7.01%)** has been much higher than the developed world (**3.70%**), the global rate (**5.40%**) as well as the rate of the developing world (**6.10%**).

Internet Penetration: 39% global rate; 9% for Pakistan

Internet penetration in Pakistan remains quite low. Where the global rate is **39%** and the developing and developed world are at **39%** and **77%** respectively, the rate of internet penetration in Pakistan is only **9%.** This rate is lower than the African continent (**16%**), the Arab States (**38%**) as well as the Americas (**61%**) and Europe (**75%**).

Men: Women Internet Usage: 33:29 Developed; 12:6 Pakistan

The gender imbalance in internet usage in Pakistan also exists. **12%** of men compared to **6%** of women use the internet. In the developing world this ratio is **33%** to **29%** (men to women) and in the developed world at **80%** to **74%** (men to women).

Continued……..

Household Internet Penetration: **8% in Pakistan; 28% Developing World**

The internet penetration at the household level in Pakistan is also limited. Only **8%** of Pakistani households have internet access compared to the average of **28%** in the developing world and **78%** in the developed world. Regionally, only Africa has a lower rate at **7%** as Europe (**77%**), Americas (**61%**) and Asia Pacific (**33%**) all post a higher rate.

SECTION 4:

FORECASTING BROAD TRENDS IN THE ICT LANDSCAPE

2015-2018

One of the objectives of this research is to provide a forecasting analysis on the future growth trend in ICT indicators over the next five years (2015-2018).

Forecast Framework

The following predictive model shows the three broad factors that will determine the course for ICT growth in the country in the next five year phase:

Hardware Infrastrucutre

- Computer Penetration
- Mobile Phone Penetration
- Mobile Broadband Connectivity

Social Demographic Factors

- Literacy
- Youth Bulge
- Income

Meta-level Factors

- Electricity
- Regulations/Policies
- Social Perceptions
- M Governance

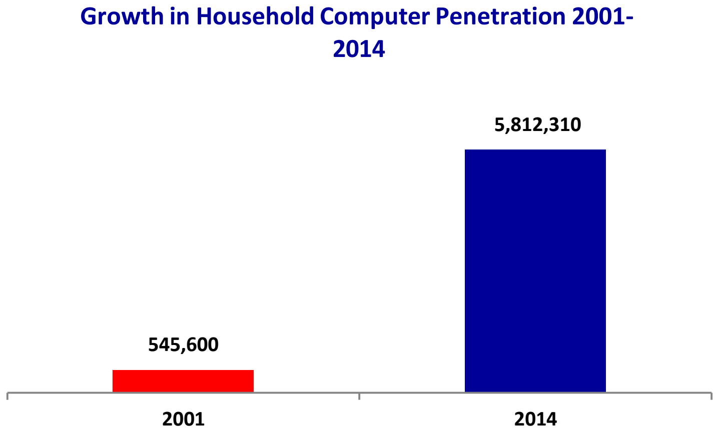
GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

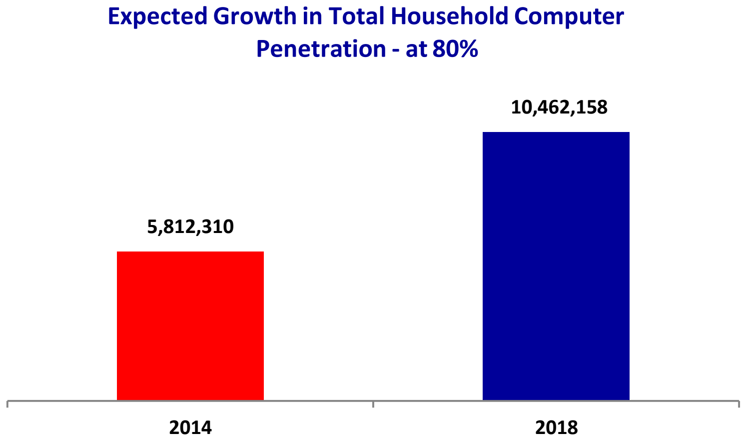
1. HARDWARE INFRASTRUCTURE

- **Computer Penetration**

Over the twelve year period analyzed (2001-2014), the per annum increase in computer penetration at the household level was 80.4%. The overall computerization of Pakistani households has witnessed significant expansion.

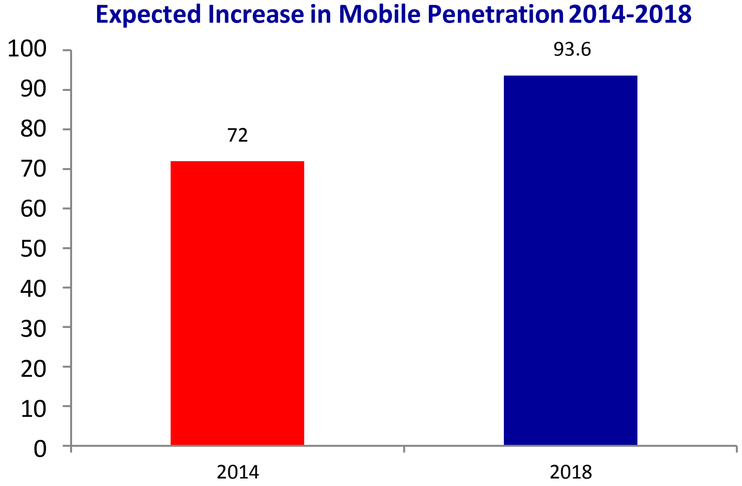
If the 80% expansion rate is maintained in the short term (2014-2018), this would translate into a total household computer population of 10,462,158 in 2018.





• Mobile Phone Penetration

Between 2009-2014, mobile penetration levels in the country increased by 31%.
This growth translates into an average of 6.2% (2009-2014). If the conservative pace of expansion of 6% in national mobile penetration is maintained, Pakistan will reach 93.6% penetration level in 2018.



• Mobile Broadband Connectivity

As of 2014, 1,684,523 internet users accessed the internet through their cellular phones. This translates into a tiny 1.3% of the total cellular user base. In the next four years, the expected increase in the penetration of advanced cellular hardware should bring about An increase in the number of mobile cellular Subscribers who use data services

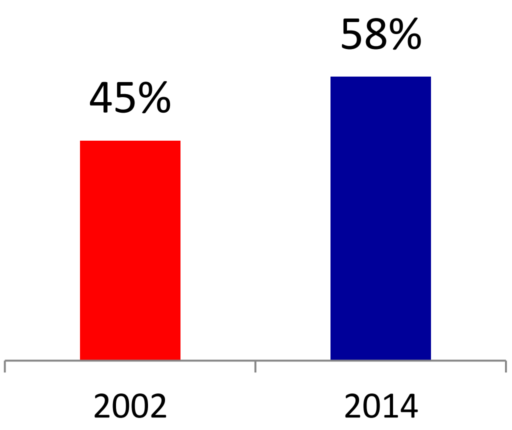
1,684,523

Internet users via cellular phones in 2014

2. SOCIAL DEMOGRAPHIC FACTORS

- **Literacy**

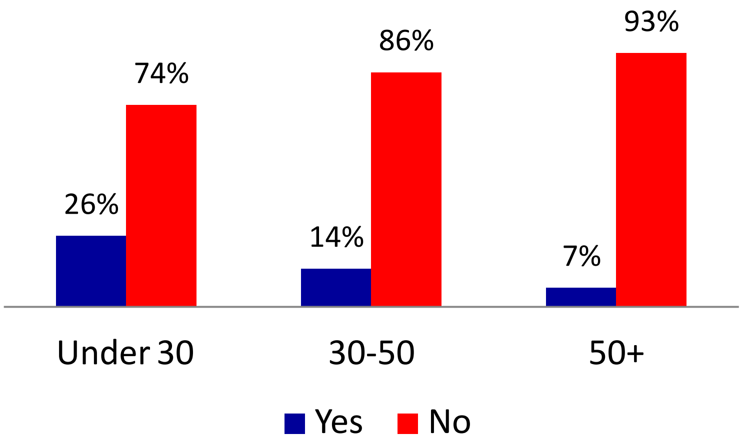
In 2014 the literacy rate in the country was 58%. This rate shows an increase from 2001-02 when literacy rate in the country was at 45%. ICT usage increases in intensity and quality with rising educational levels. This implies that as literacy rates improve in quantity and quality in the country, it can be reasonably expected that an uptake in ICT usage will also be recorded over the next four years. **As education increases from Low to High in households, internet usage increases from 1% to 35%, and computer usage increases from 6 to 48% in 2014. Based on this correlation, it can be reasonably expected that with increases and deepening in literacy rates, ICT usage will increase significantly**.



- **Youth Bulge**

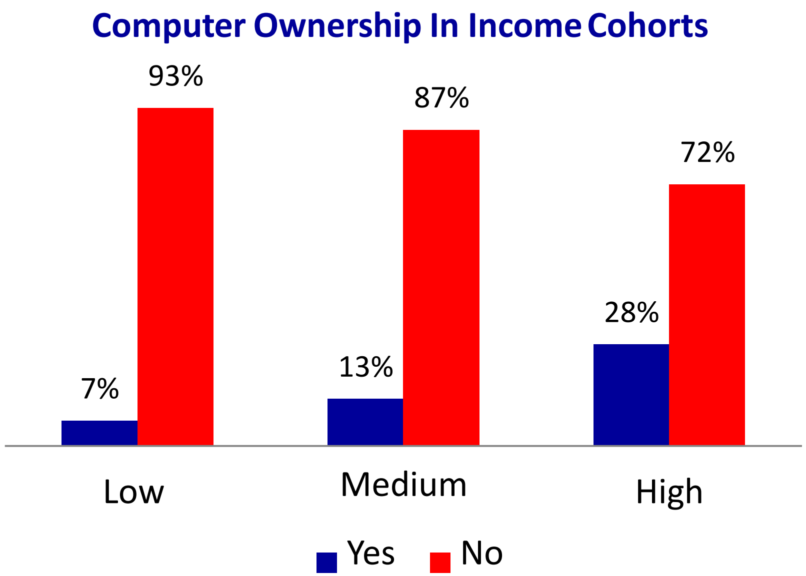
By 2030, Pakistan's total population is expected to reach 242.06 million, with 119.52 million in the age group 15-44 (49.37% of the total population). The highest incidence of computer usage in Pakistan's population is in the age group under 30 years – 26%. This association implies that between 2015 and 2018, ICT usage in Pakistan will also expand as a consequence of the youth bulge in the country.

Computer Use In Age Cohorts



- **Income**

Households that fall in the higher income quintile are more likely to own a computer in Pakistan. Over the next four years (2015-2018), ICT usage in the country will expand commensurate with the increase in income on two levels. **First**, on the national level, income and the general economic performance will determine the scale of ICT penetration in the country. **Second**, increasing national income would incur increase in household income levels. As more households join the middle and upper income quintiles, their spending power would increase.



3. META-LEVEL FACTORS

While demographic and infrastructural dynamics play a key role in determining ICT penetration and growth, a host of meta-level forces – unique to Pakistan's circumstances – will also bear down on the country's ICT usage. The factors identified in this discussion are rooted in the current conditions in the country.

- **Electricity**

The core hardware technologies in ICT landscape are heavily dependent on a stable supply of electricity for power. A brief glance at the official Government of Pakistan statistics and records shows that Pakistan is currently undergoing acute power crisis. The current power crisis in the country inhibits growth in the ICT sector by dampening economic growth, and removing incentives for additional commercial and industrial investments in the sector. If energy shortages in the country persist over the short and medium term, growth and expansion in nation-wide ICT usage can be expected to be stunted. However, the current government has outlined its policy priorities by placing the energy crisis at the top of its agenda. Prioritizing and resolving this critical issue over the next three to four years will help remove the limitations imposed by a national shortfall in energy generation and distribution.

- **Regulations And Policies**

The Government of Pakistan has made the auctioning of spectrum licenses for Next Generation Wireless Network services a key telecommunication priority. With the potential accessibility and networking services made available to Pakistani mobile cellular consumers through 3G and 4G platforms, the rate and penetration of ICT usage in the country should pick up significantly. These telecommunication technologies also offer hope that the current digital divide between Pakistan and other developing and developed economies can be bridged. An optimal policy environment will encourage and incentivize existing and new investors enter Pakistan's sizable consumer market and tap the immense, unrealized potential that could be extracted if ICT penetration and usage increases in the country. This will determine the magnitude of growth in Pakistan's ICT landscape between 2015 and 2018.

- **SOCIAL PERCEPTIONS**

Pakistan's ICT usage is greatly refracted by the prevailing social perceptions on some of core technologies and services in the ICT landscape. For many Pakistani citizens, integrating ICT usage in their social behaviours and communications is a matter of concern: the tremendous communicative networking potential poses challenges to personal, cultural, gendered, familial, and ethnic boundaries. Social incredulity towards

ICTs in Pakistan is also reflective of a global trend: the internet's boundless communicative landscape is also a space without privacy. In order to make rapid advances in ICT integration in Pakistan over the short term, social perceptions need to be carefully managed so as to ensure that the personal and cultural sensitivities of the Pakistani society remain protected. In this context, educating the public on the structure and potential of ICTs can play a significant role in placating the subtle socio-cultural and political perceptual negativities attached to the internet.

- **M-GOVERNANCE**

One of the influential effects of the emergence of ICTs around the world has been the induction of ICTs in government institutions around the world. Transforming governance through ICTs yields benefits to states such as active citizen partnership in the governance processes and participatory, accountable, and sustainable development. Pakistan has been outperformed in e-governance by most developing countries with similar socio- economic and demographic characteristics. A complementary solution has been proposed by experts as a more feasible and applicable framework, namely "m-governance" or mobile governance. It incorporates strategies and processes for delivering public services through wireless and mobile technologies. Moving governance services to the mobile cellular network can further deepen investments in this sector, while simultaneously inducting productivity and efficiency gains in the public and private sector interactions.

Policy Recommendations and Summing Up by Dr I Gilani

SOME THOUGHTS ON POLICY ROAD MAP

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

- Across the board facilitation of ICT uptake by consumers, businesses, and governance institutions.
- Take the lead in deepening synergies between currently discrete operations and systems in the country.
- Capitalize on the 3G shift, and growing uptake of mobile ICT services.
- Lobby State Bodies and Authorities to shift their operations and services online for greater public engagement, transparency, and flow of information e.g. PITB.
- Help form ICT incubators and services amongst educational institutions at all levels.
- Create a knowledge economy by facilitating and empowering the local IT industry.

Way Forward

PROPOSED Way Forward

- **Launch Event** in Islamabad with Stakeholders from different Sectors within ICT Industry in March 2015

- Gallup Pakistan would facilitate in holding of **Dissemination Workshops** and Seminars across Pakistan in which Academia can also be asked to utilise the data

- A possible **Dissemination Portal** where Data can be stored .

- A possible **Repeat Study** after 2 Years

Acknowledgement

The **Pakistan ICT Indicator Survey 2014** has been prepared by Gallup Pakistan for the **National ICT R&D Fund**, which is a part of the Ministry of Information Technology, Government of Pakistan. This survey was designed over a range of indicators to adequately assess the ICT landscape in Pakistan.

Gallup Pakistan would like to thank all the National ICT R&D Fund Team involved in this study including but not restricted to following: **Mr. Wasim S. Hashmi Syed, General Manager (Monitoring), Mr. Jawad Azfar, Manager (Monitoring), Mr. Ihsan Ellahi, Manager (Monitoring), Mr. Muhammad Idrees Awan, Manager (Project Evaluation), Mr. Asfand Yar Khan, Deputy Manager (Monitoring), Mr. Mohsin Mahmood, Deputy Manager (Coordination).** The Monitoring team has also been supported for various activities by **Mr. Muhammad Jehanzeb Shahid, Assistant Manager (Monitoring).**

Various references were consulted for this publication. The publication from the **Partnership on Measuring ICT for Development**, by the United Nations Statistics Division, OECD and Eurostat was especially helpful for measuring and understanding ICT indicators. Other material includes a similar survey conducted by Egypt for measuring its ICT penetration along with a report from INSEAD on global ICT infiltration.

For benchmarking purpose Gallup-KPMG study 2001, commissioned by Ministry of Science and Technology has been extensively used. Similarly for international benchmarking World Bank Data Portal has been widely used and quoted.

Gallup Pakistan would also like to thank over 5000 men and women across Pakistan who agreed to be part of the survey work conducted for the study. We wish to acknowledge their trust and generosity, expressed to Gallup's Male and Female interviewers.

Q & A

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab

GALLUP PAKISTAN
Affiliated with Gallup International
Pakistan's Foremost Social Research Lab