PHONE WORLD

Exceeding Expectations
Pakistan Leads Regulatory Regimes of South Asia

PTA

Xiaomi is more than a smartphone brand,
it's a digital revolution of Pakistan

Making the most of Digital Transformation
through Cultural Change

Device Review
Q Mobile
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Adnan Khan
Managing Editor

Dear Readers,

The remarkable progress in IT and telecommunication is set to revolutionize all industries. Failing to keep up with the industry trends shall result not only in slowness in growth but also impact investments, digital experience of customer and most importantly it would lose its value on the top. Since the telecommunications are now indispensable to socioeconomic activities, the role of telecom regulator has become far more important today. Fortunately for Pakistan, the MoITT and PTA are spearheading the phenomenal rise of technology advancement in the country. In our feature article, "Exceeding Expectations: Pakistan Leads Regulatory Regimes of South Asia" we have analyzed the ITU's latest ICT Regulatory Tracker report, according to which Pakistan is the only South Asian Country that achieved G4 status for its responsive regulatory regime.

Fraud management has emerged as a critical issue for telecom operators worldwide. In one of our articles, "Revenue Assurance and Fraud Management: The Life Line for Telecom Sector" we have deliberated how fraud and scam are denting operators' revenues and what measures they can take to control that. Digital Transformation and culture are directly related to each other in a way that change in culture impacts digital transformation whereas; a boom in digital transformation affects the cultural development of a society. The important role of culture on digital transformation is also discussed in one of our articles.

Xiaomi recently launched its smartphone devices in Pakistan and has managed to gain a strong foothold in the market despite competition from very strong and well-established players in the local market. The reason behind the huge success of Xiaomi is due to their different approach in terms of marketing and strategizing that varies from giants such as Samsung and Apple. Phoneworld team had a chance to meet the dynamic Xiaomi team to further discuss the company's future plans for Pakistan.

Our regular sections include phone reviews, Smart moves, TVC reviews, top applications, tech twist, personality corner and smartphone wish list. We always try to bring something new and interesting for our readers, we hope you guys will appreciate our efforts and give us your feedbacks so that we can improve further.
In the end, Phoneworld team would like to wish a very happy Eid to all our readers.

Enjoy Reading…!!!

Thank you,
Adnan Khan
Managing Editor

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Midrange 14nm Chip

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By Rizwana Khan   Khalid Khan

Exceeding Expectations
Pakistan Leads Regulatory Regimes of South Asia

Information Communication Technology (ICT) worldwide is the fastest growing sector and Pakistan is no different. Its adaptability across various sector of the economy has been the key driver behind its growth. From research to applied sciences, its eco-system has made the telecom industry to revisit its strategy. Today, the complexity of problems (challenges) is pushing the telecom operators to look beyond their position and grow into a fully grown up ICT solution and service provider to meet the ever-changing needs of the customer. In Pakistan, we already see the telcos undertaking the digital initiatives backed up by strong mobile financial platforms. The changing environment in the telecom and ICT domain pose a direct challenge for the Regulator i.e. to be visionary to understand the future landscape, to ease the growth through timely and technology friendly policies and be able to monitor each service on quality and other parameters.

Failing to keep up with the industry trends shall result not only in slowness in growth but also impact investments, digital experience of customers and most importantly it would lose its value on the top.

Pakistan digital scene in recent years have witnessed MBB penetration as high as 27% mainly due to the recent 3G/4G auctions by PTA

This article is based on the recent benchmarking done by ITU for regulators globally, where we looked at Pakistan relative position with its peers in the region and have also highlighted how regulators worldwide have adopted technology to redefine their role and how we can benefit from their experience.

Pakistan: the only South Asian G4 Country

Over the past couple of years PTA and Ministry of IT and Telecom have taken some very commendable steps for the industry. Since 2014, three auctions for provision of Next Generation Mobile Services (NGMS) i.e. 3G, 4G/LTE, were conducted by PTA. The auctions resulted into a paradigm shift in the provision and consumption of mobile broadband services. Overall, broadband subscription languished below 4 million till June 2014 shot up to above 44 million within 3 years. The long awaited telecom policy, IT policy and Cyber Crime law were also approved during the same time period. IT, freelancing, startups, e-commerce and mobile application are playing an active role in boosting the future of the country. This IT boom has resulted in increased broadband penetration from 3% to 27% in last two years. With the phenomenal growth in IT and Telecom sector, Pakistan is

expected to be the first country in South Asia to test 5G system deployment and its performance for future spectrum release and roll out. Most importantly, the regulator organizationally is geared up to accept the changing environment where it has to play a role for reaching out to the industry and other horizontal industry players beyond its traditional role.

ITU recently released its first ICT Regulatory Tracker results according to which Pakistan with 88 points is the only country in South Asia with G4 level regulation

The positive role played by Pakistan's current regulatory regime has been recognized on

many international forums. International Telecommunication Union (ITU) recently released its first ICT Regulatory Tracker results according to which Pakistan is the only country in South Asia with G4 level regulation (not to be confused with 4G). The tracker categorizes each country in one of the four generation of regulation

according to the role of its respective regulatory authority in the industry.

According to the ITU Tracker, Pakistan's regulatory regime showed a steady improvement in its overall score right from the start although its rank fluctuated over the years. It has improved

Pakistan's ITU Tracker performance Since 2007

Overall Score — Rank

76 77 81 81 84 85 85 85 88

22 31 30 36 33 33 41 43 37

2007 2008 2009 2010 2011 2012 2013 2014 2015
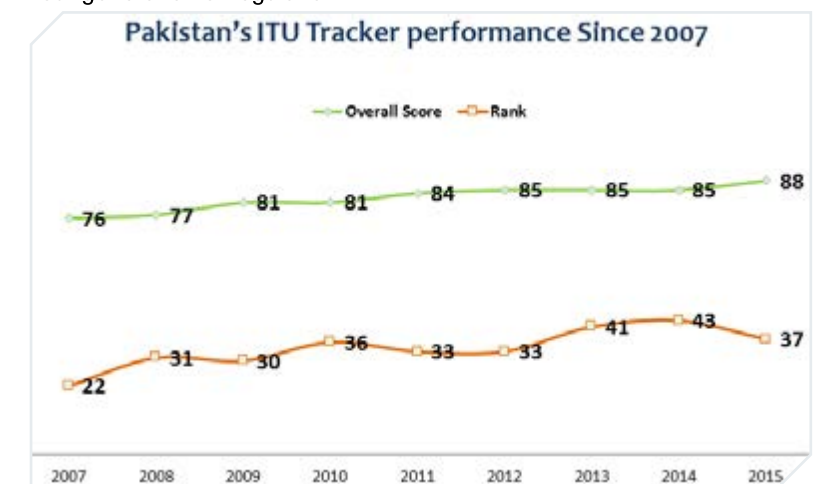
Source: ITU

its position by a further 3 points in 2015 when it auctioned MMB spectrum to reach all time high, making it the only G4 country in South Asia. Now even after three years it is still the only G4 country of the region with highest overall score. Its worldwide rank also improved to 37 position in 2015, up from 43rd position in 2014.

policy makers and regulators better understand the evolution in ICT and make regulations accordingly. The tracker is based on self-reported information gathered yearly via the ITU's World Telecommunication Regulatory Survey and desktop research. Through extensive qualitative and quantitative

indicators grouped into four clusters:

1. the regulatory authority
2. regulatory mandates
3. the regulatory regime
4. The competition framework in the ICT sector

ICT Regulatory Tracker 2015: South Asia

Cluster	C1: Regulatory Authority	C2. Regulatory Mandate	C3. Regulatory Regime	C4. Competition Framework	Overall Score
Max Score:	20	22	30	28	100
Country					
Afghanistan	13.00	20.00	22.00	16.67	71.67
Bhutan	13.00	19.50	16.00	12.67	61.17
Brunei Darussalam	17.00	17.00	17.00	10.00	61.00
India	16.00	14.50	19.00	23.00	72.50
Iran (I.R.)	18.00	19.00	21.00	13.50	71.50
Maldives	13.00	20.00	10.00	4.33	47.33
Nepal	16.00	18.50	11.00	22.00	67.50
Pakistan	20.00	19.00	22.00	27.00	88.00
Sri Lanka	18.00	19.00	13.00	10.33	60.33

Source: ITU

To better understand the ITU tracker and what its means, we have tried to comprehend its mechanism and results.

ICT Regulatory Tracker
To evaluate the performance and role of each regulator around the world, International Telecommunication Union started a survey back in 2007.

Regulatory Tracker is a global benchmark survey conducted each year by ITU to evaluate the performance and role of regulators in their respective countries

The purpose of this ICT regulator tracker is to provide a tool to help

research the Tracker makes possible benchmarking and the identification of trends in ICT legal and regulatory frameworks.

Source: ITU
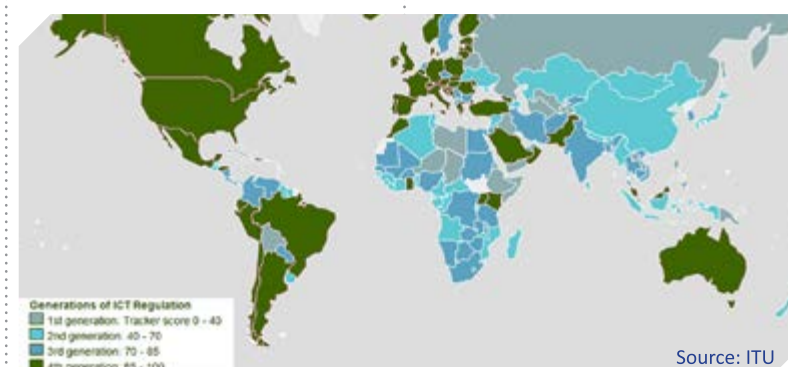
It also helps identify the gaps in existing regulatory frameworks to introduce further reforms. The Tracker covers between 186 to 189 ITU Member States over the period 2007 - 2015.

Scope
The ICT Regulatory Tracker is composed of a total of 50

Under these four major clusters, wide-ranging areas were discussed and analyzed.

The regulatory authority:
This cluster focuses on functions of the separate and independent regulator. It deals with issues related to nature of regulatory authority itself. Independence and autonomy heightens the effectiveness of a regulator. Separation from other governmental agencies/

ministries and service providers is generally seen as a factor that enables decisions to be taken in an impartial, fair and transparent manner. The regulatory authorities should be accountable for their actions to ensure effectiveness in legislation and enforcement of rules as well as impartiality in decision making.

Regulatory mandates:
This cluster includes the indicators that signify what entities are responsible for what tasks. The role of a regulator includes quality of service monitoring, licensing, interconnection rates and price regulation, radio frequency allocation and assignment,

G4 countries have integrated regulation, led by economic and social policy goals. The higher level of regulatory effectiveness and efficiency makes them most advanced and receptive to technological development

Spectrum Monitoring and Enforcement, broadcasting (radio and TV transmission) and comparative tariff information, consumer education and handling consumer complaint etc. Which authorities are responsible to handle such key issues is very important to analyze the regulatory environment of a country.

Therefore, these issues are analyzed in great detail by the ITU.

The regulatory regime:
Regulatory regime holds great importance for analysis of regulatory environment of any country. It gives an insight in the

growth of IT and telecom and throws light on the regulation that exists in major areas.

The competition framework in the ICT sector:
The indicators included in this cluster highlight the level of competition in the main market segments including Local and long distance (domestic and international) fixed line services, IMT (3G, 4G, etc.) services, Cable modem, DSL, fixed wireless broadband, Leased lines, International Gateways and Status of the main fixed line operator (public, partially or fully private). Also, foreign partnership/ownership is included as an important part in this cluster.

Score Breakdown
After coding the originally qualitative information, all indicators are given a score between 0 and 2.

The benchmark for the scoring is what is considered the best possible scenario based on the internationally recognized regulatory best practices that were adopted by the global community of regulators at the annual ITU Global Symposiums for Regulators. The event started

back in 2000 but the tracker survey started later on in 2007. Following table showes the number of indicators and their maximum score in each cluster.

ICT Regulatory Tracker structure, 2007-2015

Cluster	Name	Number of indicators	Max score
1	Regulatory authority	10	20
2	Regulatory mandates	11	22
3	Regulatory regime	15	30
4	Competition framework	14	28
	ICT Regulatory Tracker	50	100

Source: ITU

Each country is categorized in one of the four generations of regulation according to its aggregate score out of 100. Openness and flexibility in regulations ensure effectiveness for the industry. Each generation is graded according to the level of flexibility in regulatory regime and its effects on the industry.

The countries with less than 40 points lie in G1 category. In such countries regulated public monopolies are enacted that follow command & control approach hence resulting in limited openness and flexibility in policies.

Pakistan's regulatory regime showed a steady improvement in its score in all categories of regulatory standards. ITU

In G2 category, countries that secured 40 to 70 points are included. Such countries have Open markets, partial liberalization and privatization across the layers whereas, G3 countries with score between 70 to 85 points have enabling investment, innovation and access; dual focus on stimulating competition in service and content

delivery, and consumer protection. G4 is the most advanced category in terms of regulation.

G4 countries have integrated regulation, led by economic and social policy goals. The level of regulatory effectiveness and efficiency is highest in such countries, making them most advanced and receptive to technological development as compared to the rest.

The world has witnessed a new era of digital revolution. The rate of change continues and governments and institutions need to keep up with the pace. In future the epitome of regulation will be based on collaborative regulation where inclusive dialogue and a harmonized approach across all sectors will be introduced. The stages of generations of regulation and tracker score breakdown can be understood through the following graph.

Source: ITU
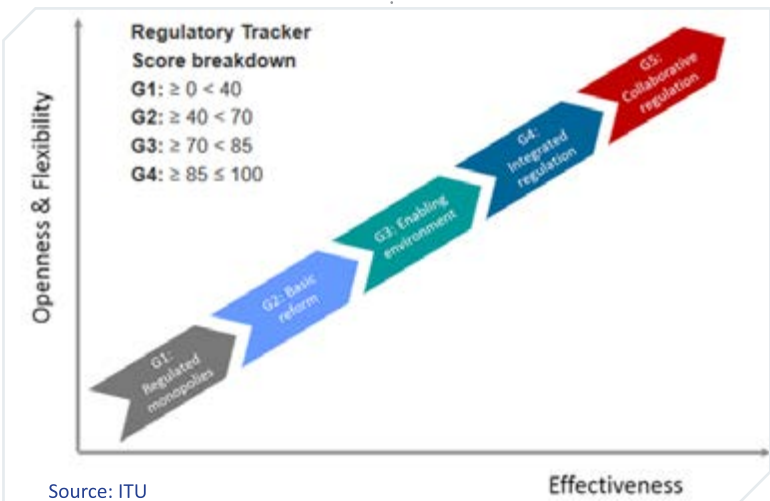
Cooperation and Collaboration: The way forward for the Industry

With the developments and advancements in the telecom industry, countries have started to replace traditional state-owned monopolies with private-led and

increasingly competitive market structures. In the technologically evolving regulatory environment regulatory holds critical importance, especially in early stages of evolutionary process. It is highly important to understand the current trends and challenges across ICT markets and regulatory frameworks.

It is very important for regulatory authority to establish itself as a credible entity by adopting transparent regulatory processes and use its authority and resources effectively

The ITU's ICT regulatory Tracker has provided useful insights and a clear evidence-based perspective that can help address the gaps and capitalize on unexplored opportunities. The government and the industry are working together to connect everyone

and everything for a better future which is why continued investment and innovation in the industry is required as an ongoing process.

To further improve its position, government and PTA will have to be vigilant about the new competitive frontiers and market complexities as failure to do so can distort competition, stifle innovation and negatively impact consumer welfare. MoITT and PTA should introduce firm foundation of law that is based on collaborative structure. The regulatory regime should try to strengthen its role as a referee since its core job is to facilitate all stakeholders and promote competition. It is highly important for regulatory authority to establish itself as a credible entity by adopting transparent regulatory processes and use its authority and resources effectively.

To further improve its position, Government and PTA will have to mantain growth continuity, be vigilant about the new competitive frontiers and market complexities

Pakistan's regulatory regime has shown a remarkable growth over the previous few years. The track record of current regulatory regime of Pakistan is highly impressive and hopefully it shall be able to maintain this continuity and momentum of growth and will further improve the regulatory environment of the country for all stakeholders.

QUALCOMM Announces Snapdragon 450
Midrange 14nm Chip

Qualcomm has unveiled Snapdragon 450 for mid-range and entry-level phones. The new chipset will likely replace its predecessor Snapdragon 435. Qualcomm highlighted major improvements in 450 over the previous generations. In new processor, Qualcomm has made obvious improvements in CPU and GPU speed. The chipset giant has revealed that Snapdragon 430 is 25 percent faster than 435.

Snapdragon 450 offers four extra hours of battery life as compared to S435. The new processor is likely to handle more advanced camera systems with support for either dual cameras at 13 megapixels each or a single camera with up to 21 megapixels. The new chipset features 8 Cortex-A53 and it will enhance Adreno 506 GPU which will offer a 25% boost in gaming performance.

	Snapdragon 435	Snapdragon 450
Process	28nm (LP)	14 nm
CPU	8x Cortex-A53 (1.4GHz)	8x Cortex-A53
GPU	Adreno 505	Adreno 506
Camera	Up to 21MP	Up to 21MP / 13MP + 13MP
Video	1080p @ 30fps	1080p @ 60fps
Max screen res	1080p	1080p
LTE	300Mbps / 100Mbps	300Mbps / 150Mbps
Wi-Fi	802.11ac (433Mbps)	802.11ac (433Mhz)
USB	USB 2.0	USB 3.0
Quick Charge	3.0	3.0

The add-on of the new chip is that it's built on a 14nm process which is the first among 4 series. Qualcomm expects that power drawn while gaming will be reduced to 30 percent.

By Shaheer Riaz

QMobile Noir A1

The Big Selfie Camera Smartphone

Display

QMobile Noir A1 is bigger device with 5.5 inch FHD IPS LCD capacitive touch screen and ~73.1% screen to body ratio. The A1 has pixel density of 480 dpi with 1080p resolutions.

The device is covered with 2.5d gorilla glass and the display is better than all previous QMobile devices. Pure colors have been used and brightness is very well-managed. The device has a smooth touch and it has scored full 10-points in multi-touch test.

Design

The QMobile A1 has dimensions of 152.3 x 75.2 x 8.2 mm. The weight of the device is 182 grams which makes it little heavier because it carries non removable Li-Ion 4010 mAh battery.

Camera

The rear camera of Noir A1 has 13 mega pixels lens that supports full video HD up to 1080p. The back camera gave amazing results in every aspect, from color schemes to brightness, everything looks crips & clear. It also has flash light.

Ultra-pixel mode takes five times the maximum pixel HD pictures. It is specifically for camera lovers who want to try out their photography skills.

The front camera features 16MP lens and LED flash light. Front camera can make videos up to 1080p quality. Many different modes are available like HDR, professional, smart scene, time-lapse, panorama, macro and many others. Ultra-pixel mode is not accessible for front camera. Sharp and bright colors give energy to every picture.

Memory

The internal storage of QMobile A1 has 64GB which is more than enough for normal usage. If you want to extend your memory, you can extend it up to 256GB with the help of memory card.

The QMobile A1 has 4GB RAM which is extraordinary.

Battery performance

QMobile A1 is packed with non-removable battery Li-Ion 4010 mAh which is present inside the fixed back cover. It comes with 2.0A charger which will quickly charge your device.

Processor

QMobile A1 comes with advanced 2.0GHz processor which is based on the architecture of ARM-Cortex A53 while, the chipset of Media Tek MT6755V/C is used in Noir A1.

Connectivity

The QMobile A1 is a dual SIM smartphone that supports all the bands of 3G and 4G in Pakistan. The speed limit over LTE and 3G network is CAT.4 450/50 Mbps.

The USB type for charging and data transfer is microUSB v2.0. Wi-Fi works at v802.11 a/b/g/n and Bluetooth is 4.0.

Interface

The QMobile A1 runs on a latest Android version 7.0(Nougat). The device has beautiful display and everything sets well with screen size and features.

Benchmarking

Velamo

Multicore	2234
Metal	1398
Chrome Browser	2227

Antutu 49721

Specs

OS: Android OS v7.0 (Nougat)

Display: 5.5 inches

Battery: Non-Removable 4010 mAh battery

Weight: 182 g

Camera: 13 MP, LED flash light

Memory: 4 GB RAM + 64 GB ROM

Processor: 2.0 GHz, Octa-core

Price: PKR.27,900

Good

- 64GB ROM and 4GB RAM
- Big Battery
- Fingerprint Sensor

Bad

- NO LED notification light
- No separate slot for memory card

Final Verdict

A great high-end device at an affordable price.

By Ahmad Nadeem Syed

Revenue Assurance and
Fraud Management
The Life Line for Telecom Sector

Telecom is a unique business in nature, where money is earned through invisibles; one does not see voice, SMS, email or data that travels through air or cables from one device to the ultimate destination on another device. The time stamping, the volumes and the numbers are recorded at various machines/customers that eventually are translated into cash in the hands of operators in advance or arrears. But how are the operators sure that, they are getting the actual money back, against what they have sold to their customers? The reality is that nobody could ever claim having such "two plus two

equals four" mechanism in place. There always remains some differential between the earned and what should have been earned. The prevention of such leakage is extremely critical particularly in the markets like India, Pakistan and Bangladesh, where competition is severe, ARPUs are low and profit margins are slim.

There are following four core systems which are involved in revenue generation and collection directly or indirectly.

1. Sales and Customer Relations Management System (CRM)

2. Telecommunication network for service delivery

3. Billing and charging system

4. Collection system

Each of the above systems has many subsystems which work with each other either in tightly or loosely integrated form under certain work flow processes. The problem is that in the rapidly growing markets the management's main focus is always towards subscriber and network growth with lesser attention to have proper processes and procedures. This approach enhances the risk for both revenue leakage and frauds. The following diagram reflects the relationship among various system elements and processes depicting (💧) over 20 major risk areas.

A few examples are; incorrect charging definition on IN platform, where, international calls are routed on international routes but according to charging definitions the call is treated as local.

The IRSF is considered the world's largest fraud from financial perspective both in mobile and fixed networks

In another case, the problem in transfer of CDRs from Mobile Switching Center (MSC), SMS Mobile Switching Center and (SMSC) and GMSC to Intelligent Network (IN used for prepaid) or to mediation system for processing
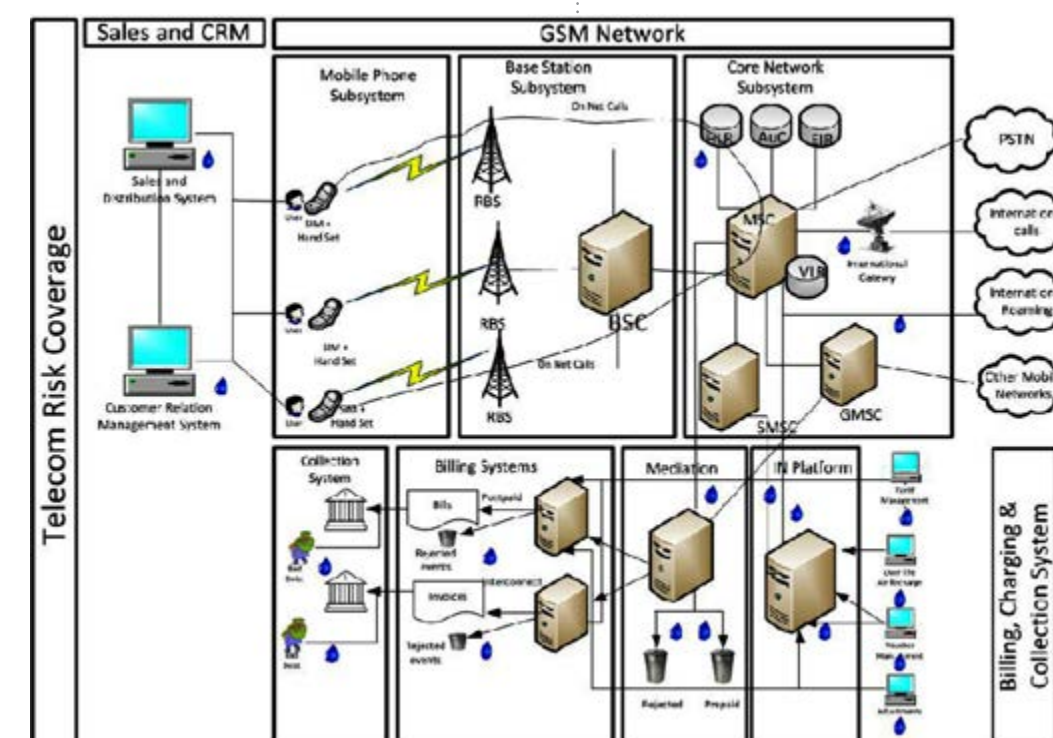
One possible reason could be non-recording or incorrect placement/routing of certain events. Such occurrence could be attributed to negligence, weak processes and nonexistence of proper monitoring systems.

In the rapidly growing markets the management's main focus is always towards subscriber and network growth with lesser attention to have proper processes and procedures

postpaid and interconnect data could lead to non-billing or non-charging to the customers because of missing CDRs. Making mistakes in tariff definitions is very common, given the complexity of bouquet of services being offered by the companies under various packages with free bundles.

Home Location Register (HLR) is the most critical element of the system allowing any customer to make a call who may not be registered in the billing system (in postpaid case) and incorrectly tagged in IN in prepaid case.

The companies, in the severe competition phase, generally formulate such sales and commission policies, which may increase their customer base but not necessarily add proportionate revenue which can justify customer acquisition cost. The net beneficiaries generally are the franchisees, distributors or internal sales staff. Similarly, weak credit control and collection system has proved to be another major revenue leakage source on account of sales proceeds, postpaid customers and interconnect billing. The chances of bad debt arises many folds in the absence of adequate security deposits, credit limits and an efficient credit and collection monitoring system.

The week process flows, existence of manual and non-integrated systems, flawed commission policies and week monitoring systems provide an opportunity to committing fraud, both to internal and external elements

Fraud is the third major source of revenue loss. The week process flows, existence of manual and non-integrated systems, flawed commission policies and week monitoring systems provide an opportunity to committing fraud, both to internal and external elements. The telecommunication sector is faced with two categories of frauds, namely network fraud and business operations fraud.

The Network Fraud is related to activities related to network features, call and charging flows. The fraud could be at a smaller scale such as making changes in customer calling rights (from local to international) and at a massive scale such as premium rate service, by pass traffic, and free or low rate charging frauds. The earlier two frauds are committed as a planned activity, where the fraudster could be a group or an individual, who enters the network using small scale parallel system, make money and disappear. In the low rate or free of charging case, the customers at large use the system massively whenever any charging mistake by the operator is committed. Interestingly, awareness about such mistake spreads like jungle fire. The companies suffer huge losses, by the time the fact is known and problem is fixed. There are three major network related frauds currently taking place namely

- International Revenue Share Fraud (IRSF)

- By-pass or grey traffic fraud

- International roaming fraud

The IRSF is considered the world's largest fraud from financial perspective both in mobile and fixed networks. This is very organized crime, where there is chain of partners with a cascaded mode of payments between origination and destination networks. In most of the cases the latter provides both International Premium Rate Number (IPRNP) and expensive Premium Rate Service (PRS) contents. The fraudsters or partners in the traffic value chain abuse network operator's services, not paying for traffic generated to IPRNP. The major cause of such frauds is lack of proper controls to avoid fraudulently obtained subscriptions and hacking. Very interestingly, most of such destination networks have been found in the countries, where usage of PRS is common and rates are high, like Latvia, Bulgaria from Eastern Europe, Congo, Gambia from Africa and in few cases from Western Europe.

In case of by-pass traffic, the fraudsters set up a small gateway and SIM box substation having connectivity with international carriers outside. The traffic is received and routed through the SIM box with multiple SIMs making it a local on-net call for any operator selecting cheap bundle or free minute offers. The companies lose on the deferential of high cost of international termination rate and cheap tariffs opted by the by-pass traffickers.

In case of by-pass traffic, the fraudsters set up a small gateway and SIM box substation having connectivity with international carriers outside

International roaming is another area, where chances of fraud are high. The operators generally avoid providing such service to prepaid customers as many of them do not have arrangements with the host networks for real time charging for prepaid. A similar risk exists in case of post-paid customers also as the time delay between calls generation and data transfer back to the home operator is a known fact and provides perfect opportunity to the fraudsters. The home operator cannot recover the amount from its customers, it still has to pay to the host operator.

In case of business fraud, the sales and distribution channels, taking advantage of flawed commission

policies, indulge in fake sales and in certain cases fake number portability as happened in Pakistan. This is a very organized fraud, where the distribution channels do not remain exclusive (behind the scene) and play the game for all the operators. The new customers are maintained on one network for the mandatory period and then shifted over to other operators.

The main features of a good preventive mechanism include implementation of well-defined processes with the engagement of all the stakeholders; integrated automated systems with electronic data flows and change management system

The companies remain unaware of the consequences of this widespread activity for long time. In certain cases, at a limited scale the internal staff, colluding with the external sales channels makes money by tempering records and maneuvering reports. The customer service staff is generally found involved in subscription fraud, where customers are provided with the facilities; may be without proper securities or entitlement against some money. Such customers end up compiling huge bills and running away.

In case of business fraud, the sales and distribution channels, taking advantage of flawed commission policies, indulge into fake sales and in certain cases fake number portability as happened in Pakistan

To avoid the huge prospective losses, the telecom sector world over, is focusing on a having an effective and dynamic Revenue Assurance and Fraud Management (RAFM) function, which requires a very close co-ordination and support from all the other departments in addition to requisite tools, authority and empowerment from the top management. The framework for such a system is constituted by four activities as explained below:

Prevention
The best strategy for any operator to avoid revenue leakage is to adopt strong preventive techniques. The main features of a good preventive mechanism include implementation of well-defined processes with the engagement of all the stakeholders; integrated automated systems with electronic data flows and change management system providing relevant logs where RAFM department is able to monitor and questions certain critical activities.

The biggest threat to current telecom networks comes from non-existence of cross checking system for change management, network security control and possible malware attacks given the heavy dependence on software applications. A dynamic and well defined monitoring system in addition to hierarchal password system is the first line of defense against any fraudulent activity.

A good detection system can minimize the losses provided the requisite data provisioning such as Call Data Record (CDR), subscription data is ensured in an automated environment at a predefined frequency

Detection
One key activity for any RAFM department is to have an early error/fraud detection mechanism. This is done through a system which can generate alarms on abnormal behavior/activity of customer usage or charging based on certain thresholds and trends in real or near real time or at a frequency as desired. It is a realty that no matter how good a preventive system is, the mistakes do happen because of circumvention of procedures to meet quick business requirements and the fraudsters are always on the lookout to meet their greed level.

A good detection system can minimize the losses provided the requisite data provisioning such as Call Data Record (CDR), subscription data is ensured in an automated environment at a predefined frequency. Given the growing sense of securing against revenue stealing,

By Rizwana Khan

the companies are investing heavily in conducting gap analysis and deploying efficient and dynamic RAFM systems developed by international solution providers.

Investigation

Once the revenue leakage and fraud is detected; it is a mandatory requirement of any RAFM function to investigate the incidence thoroughly based on 5 Ws as described below:

What? – The nature of activity. Is it usage, charging or status related? Is it a mistake or fraud?

Where? – The location of activity being local or international? Internal or external?

When? – The timing of the activity.

Who? – Who did it? Employee, franchisee or collusion? Own customer or roamer?

Why? – Knowing the motive. Determining, whether the activity should be categorized as fraud or a result of mistake

More effective and efficient support from other departments is better ensured if the top management is aligned and committed to the objectives of RAFM function

The strong investigation system is always an essential supplement to preventive system. This requires proper set of tools, a group of analysts, readily available data and dedicated support from

other departments. A good investigation mechanism is a must to know and fix the problem, identify the system weaknesses and devise preventive controls from future occurrence. Unlike internal audit, the investigation in RAFM is a dedicated and perpetuated activity, which is initiated immediately on occurrence of any alarm even if such alarm is proved to be false at the end. It is an interesting and proven fact that investigation of any incidence has always led to unfolding some other unknown weaknesses and/or incidences which remain hidden given the diversity and complexity of telecom networks and systems.

Correction

The stoppage of revenue leakage is largely dependent on a quick and effective correction system. It is a combination of strong and tractable follow up functionality within RAFM and action oriented dedicated resources in other departments such as customer services, IT and technical. It is however observed that more effective and efficient support from other departments is better ensured if the top management is aligned and committed to the objectives of RAFM function.

Effectiveness of RAFM function is measured by maturity assessment model as devised by TM Forum having five maturity levels (I being lowest and 5 the highest) with three dimensions as explained in the table below.

Given the significant role, RAFM has played in saving the revenue leakage, having deployed effective tools; the telcos are expanding this activity to converge into business assurance function which now includes opportunity, cost and margin assurance. One school of thought suggests internal audit to be part of this function reporting directly to CEO or even board of

Dimensions Maturity Level		Strategy	Organization & Team	Processes & Tools
1	**Dependent**	Informal with limited influence	Undefined Individual/ small team efforts	Reactive with manual tools
2	**Recurring**	Informal with some measures	Early formalized with low influence function	Basic tasks with Fragmented automation
3	**Defined**	Formalized and supported by management	Defined and recognizable team with multidimensional skills	Major processes covered with some automation
4	**Managed**	Formalized supported by agreed SOPs	RAFM activities spread across organization monitored by RAFM team	All leakage and fraud processes covered with widely available tools
5	**Optimized**	Risk based including cost reduction and integrated with	RAFM in monitoring and advisory role having auditing skills	All aspects covered with optimized automation

Smart Moves for Smarter Nation

Keeping in view the world wide advancements in technology, Pakistan is also trying to improve its system with the help of latest technologies. All provincial Governments have started working on many projects of e-Governance & m-governance by making use of latest ICT developments. The provision of technological services will no doubt revolutionize the performance of Pakistani Government from many perspectives. In this section we will discuss few of the initiatives taken by government to make Pakistan a Smart Society.

Telenor Pakistan and PITB Join Hands to Digitize Agriculture Sector

Agriculture Department of the Government of Punjab and the Punjab Information Technology Board (PITB) has collaborated with Telenor Microfinance Bank for the flagship program "Connected Agriculture Platform Punjab." The Connected Agriculture Platform Punjab (CAPP) aims to revolutionize agriculture practices across the province by connecting all stakeholders in the Agriculture Value Chain including but not limited to agriculture input providers, research institutions, commodity buyers, supply chain services provider, and agriculture extension workers.

As part of CAPP Program, 500,000 plus eligible farmers will also get 3G/4G-enabled smartphones along with free SIM cards and data bundles. To enable farmers to utilize the full potential of this platform, hundreds of facilitation centers and booths will be established across the province and training of thousands of farmers and creating Digital App Gurus at each Mosa/Village level.

Online Vehicle Registration Card (ETO – Islamabad)

After the successful launch of chip-based National Identity Cards, a new smart system for the vehicle

registration has finally been introduced by NADRA. Excise and Taxation Department has started to issue the Vehicle Registration Cards; which replaced the old book with the chip-based Vehicle registration card system.

The information of both vehicle and owner is provided in the Smart Card for Vehicle system. Vehicle Registration Card is developed by NADRA in collaboration with excise and Taxation Department.

PITB starts E-Rozgaar Initiative to Promote the Technological Entrepreneurship in Pakistan

Central Depository Company (CDC), with the active support of the banking system and guidance of Securities and Exchange Commission Pakistan (SECP) has introduced the concept of Centralized E-IPO system (CES). The E-IPO system will allow retail investors to apply for subscription of shares electronically through internet, mobile phones or ATMs etc.

The initiative of earning through internet and opting for freelancing as a profession is new in smaller cities of Punjab. Keeping in view this Government has taken initiative to groom graduates from different backgrounds. Young graduate will be able to earn Rs. 40,000 to Rs. 80,000 per month via work from home.

By Onsa Mustafa

PAKISTAN'S GROWING CAB-HIRING APP MARKET

The days of standing at the corner of a street and waiting for a rickshaw or taxi have now become a thing of the past. In just a short period of five years, ride-hailing service has become a major transportation movement from just a compelling idea. People now prefer to use ride-hailing service instead of taking a conventional taxi or public transport as they have now become more concerned about money, safety, time and ease. Basically, ride-hailing service is an "innovative transportation strategy that enables users to gain short-term access to transportation modes on as-needed basis". Ride-hailing service offers a unique experience that is accessible, reliable, and flexible. When you use a ride-hailing service, you know you are getting in the car with someone who has passed both criminal and driving background checks. All ride-hailing services are more secure because of its GPS based apps.

RIDE-HAILING SERVICE IS AN "INNOVATIVE TRANSPORTATION STRATEGY THAT ENABLES USERS TO GAIN SHORT-TERM ACCESS TO TRANSPORTATION MODES ON AS-NEEDED BASIS"

Users can choose the track as well as driver of their own choice. They can also get bonus points using apps and because of its faster speed, they can save money as well.

PAKISTAN, BEING A HUGE MARKET WITH MORE THAN 20-30 MILLION PEOPLE WHO COMMUTE DAILY THROUGH PUBLIC TRANSPORT HAS CAUGHT THE ATTENTION OF MANY INTERNATIONAL SERVICES

Just like users, drivers don't need to hunt for customers; customers contact the drivers through ride hailing application. The most promising advantage of this service is that drivers are non-employees, which provide them the ease of working at any hour. Due to the Feedback system available in apps, highly skilled drivers also get bonus points hence promoting professionalism.

Many international ride-hailing services like Uber, Careem, Limofied, Lyft, Sidecar are not only providing such services in their respective countries but are also expanding in other emerging countries as well. Pakistan, being a huge country with more than 20-30 million people who commute daily through public transport has caught the attention of many international services. Such services have gained popularity due to their low fares, safety and punctuality but Careem and Uber have

emerged as two of the strongest rivals in the Pakistani market. Both companies first launched their services in big cities of Pakistan like Lahore, Islamabad and Karachi but later on the services were also made available in other cities as well.

After accessing the response that Uber and Careem got, many other national and international companies have also started providing ride-hailing services in different cities of Pakistan. Limofied, an Australian Ride-hailing service, has started working in Pakistan last year. After following international companies, many local companies have also started providing ride-hailing services in different cities of Pakistan. Daewoo Bus service has also launched its cab service.

CAREEM AND UBER HAVE EMERGED AS TWO OF THE STRONGEST RIVALS IN THE PAKISTANI MARKET; PROVIDING RIDE-HAILING SERVICES IN DIFFERENT CITIES AT LOW FARES

Pakistan's one the most famous TV channels ARY, has also started ride-hailing service.

Other famous local services include Shahi Sawari, Paxi, Go Rickshaw, Metro cab etc.

COUNTRIES AROUND THE WORLD ARE FACING DILEMMA OF REGULATING ONLINE SERVICES TO BRING THEM UNDER LEGAL FRAMEWORK

In Pakistan, where many people still use feature phones instead of smartphones, such services are required which do not require smartphones and internet connection. Keeping in mind this untapped market, Pakistan's one of the leading telecom company, Jazz, has started its own car-hailing service, m-lift in all cities of Pakistan. Paxi is also offing services through call centre and SMS. Besides Paxi, the company is also launched a women-exclusive ride hailing service called 'Pink Taxi'. Here is a brief comparison of some popular ride-hailing services in Pakistan on the basis of

	Coverage Areas	Services	Base Fare
UBER	• Lahore • Karachi • Islamabad/Rawalpindi • Gujranwala • Hyderabad • Faisalabad	• Uber Go • Uber Auto • UberX	• Rs. 45- 110
Careem	• Lahore • Karachi • Islamabad/Rawalpindi • Gujranwala • Hyderabad • Faisalabad • Multan • Peshawar • Sialkot	• Careem GO • Careem GO+ • Careem Tezz • Careem Business	• Rs. 65-160
Otaxi CAB	• Lahore	• Cab only	• Rs.100
DAEWOO CAB	• Lahore • Rawalpindi/Islamabad • Karachi • Multan • Peshawar • Abbottabad • Sialkot • Faisalabad • Sukkur	• Cab only	• Not Fixed
METRO CAB	• Karachi • Islamabad • Lahore • Multan • Bahawalpur	• Cab only	• Not Fixed
PAXI	• Karachi	• Bike-taxi • Paxi-taxi • Pink-taxi(for women)	• Not Fixed
mLift	• Rawalpindi/Islamabad	• Cab only	• Not Fixed
SHAHISAWARI	• Lahore	• Rickshaw only	• Rs. 9.87/km

coverage areas, types of services providing and base fare. App hailing services are undoubtedly a blessing for many people but sometimes problems do arise that not only affect the customers but also the business.

Ride-hailing services face some legal challenges in the countries, as these services are not regulated by the government. All countries are facing this dilemma of regulating such online services to bring them under a legal framework.

Pakistan is also one such countries; in the past these services were shut down and companies were asked to meet the service criteria of local transportation regulations but the services were restarted only after couple of days since there were no specific regulations in place to handle online services.

IN PAKISTAN, WHERE MANY PEOPLE STILL USE FEATURE PHONES SUCH SERVICES ARE NEEDED THAT DO NOT REQUIRE SMARTPHONES AND INTERNET CONNECTION

Unlike other traditional taxi drivers, these drivers do not fulfill all requirements, they just need to meet an age requirement, have a regular driver license and fully functioning car. There is an unfair competition between taxi drivers and these ride-hailing services as taxi drivers follow strict pricing model while Uber and Careem's prices change.

There is no denying the fact that these

ride-hailing services have adjusted themselves according to the Pakistani market with their cash payment options, anti-sexual harassment trainings and special attention to safety features.

RIDE-HAILING SERVICES HAVE ADJUSTED THEMSELVES ACCORDING TO THE PAKISTANI MARKET WITH THEIR CASH PAYMENT OPTIONS, ANTI-SEXUAL HARASSMENT TRAININGS AND SPECIAL ATTENTION TO SAFETY FEATURES

To further improve the service and security, access to ride-hailing service data would allow city officials to better understand this new mobility option, both as a stand-alone service and as part of the larger transportation ecosystem. Police departments can work with ride-hailing services on quick turnaround requests for information of passengers if needed. This can only be done when a comprehensive regulation framework is in place.

By Shaheer Riaz

ViVO Y53

Affordable performer in a handy package

Vivo, a global technology company that specializes in smartphones and internet services has announced to launch its products in Pakistan. Initially, the company has launched three smartphones in market that offer top of the line specifications. We have selected Vivo Y53 for review; here is what we found out.

Design
Vivo Y53 has sleek design with touch screen that not only is a delight for your eyes but it also feels wonderful while holding in hand. The dimensions of device are 144.2 × 71.4 × 7.64mm and weight is 137.00 gm.

The Back body of the Vivo Y53 is delicate and simple.

Display
Vivo Y53 is 5.0 inch device with the supportive resolutions of 540 x 960 pixels while the density per pixel (dpi) is 240 that gives clear visibility to icons and texts.

Vivo scored full 10 points in multi-touch test which is amazing. The graphic card in Vivo Y53 is Adreno 308 which is used for graphics and games.

Memory
As far as the memory is concerned, Vivo Y53 comes with a 16 GB ROM and a 2 GB RAM. The expandable memory option is also available results are up to 256 GB.

Camera
Vivo Y53's 8 MP camera comes with a LED flashlight. The camera is satisfactory, but it captures great pictures in low light. It can record videos in 1080 pixels quality. Additionally, the camera comes with some built in modes like HDR and panorama etc.

Front camera has a 5 MP lens and captures amazing images in low light. It automatically

detects your face and adjusts itself accordingly. Moreover, you can further beautify your pictures with the help of face beauty feature.

Processor
Vivo Y53 has a 1.4 GHz Quad-core processor and contains Qualcomm 425 Snapdragon chipset. This chipset is based on the architecture of ARM Cortex-A53 and it provides best connectivity as compared to others.

Battery
Vivo Y53 has removable Li-po battery of 2500 mAh. It has 2A charger that completely charges the device in almost one and half hour and provides standby time of 8-9 hours.

Connectivity
Vivo Y53 is a dual SIM 3G/4G supportive device. Other connectivity options include GPS, Wi-Fi, Bluetooth, and USB. Wi-Fi supports the standards of a/b/g/n/ac while Bluetooth version is 4.2.

Interface
Vivo Y53 runs on Android 6 (Marshmallow). Bloat ware applications installed on the phone include lock, iManager and compass. Facebook and WhatsApp.

Benchmarking

Velamo

Multicore	1352
Metal	1053
Chrome Browser	2185

Antutu 36008

Specs

Dimensions: 144.2 × 71.4 × 7.64mm

Display: 5" LCD

Battery: Li-po 2500 mAh Removable

Weight: 137 g

Camera: 8 MP f2.0 Aperture

Memory: 2 GB RAM, 16 GB ROM

Processor: 1.4 GHz, Quad-core

Price: PKR.16,999/-

Good
- 4G Device
- Qualcomm Chipset

Bad
- 540 pixels only

Final Verdict
The Vivo Y53 is mid-range device with reasonable features, the best part of Vivo Y53 is the Qualcomm Chipset which makes it better than many other mid-range devices.

By Rizwana Khan | Onsa Mustafa

& Strategy and Yasir Altaf (YA), Director Operations for a short interview. Here is what they said about Xiaomi's plans for Pakistan.

PW: Tell us about your entrepreneurial journey? How is your experience in Pakistan so far?
ZA: Xiaomi globally is a young company as compare to other giants like Samsung, Huawei etc. In this very short time, it has evolved into one of the biggest giants in the world. As far as our journey is concerned, we have started with a very rapid growth. The pace at which Xiaomi is growing is unprecedented in Pakistan and we have tremendous support from our customers.

PW: What were the initial challenges Xiaomi has to face when it started off in Pakistan?
YA: The biggest initial challenge that we faced was creating customer knowledge about our brand. Every new customer buying our product helps us in strengthening our brand identity.

Our relationship with our customers is getting better day by day and we not only hope to meet but rather exceed their expectations

Xiaomi is not just a smartphone brand; we aim to create a complete eco-system. When we started off in Pakistan, we only had 5000 Mi fans, but only within few months our community grew to almost 25000 Mi fans. So we are very satisfied with our overall performance.

PW: Understanding customer demand is quite a difficult task, how has Xiaomi identified its target customer?
ZA: A lot of homework has been done regarding consumers' behavior through extensive researches being done in our Beijing Headquarters. headquarters in Beijing. As far as Pakistan is concerned, our team has a lot of experience of this industry as we all had the opportunity to work with other brands here. So when we teamed up for Xiaomi we already knew about the trends of our local market but every day is a new challenge and a new learning experience.

AB: Our relationship with our customers is getting better day by day and we not only hope to meet but rather exceed their expectations.

PW: Mobile market has been dominated by few large companies for a very long time but now many new brands are also entering the market. How do you see this evolution and how far do you think Xiaomi has been successful in making its mark?
ZA: We are aware that we are in competition with some very strong brands like Samsung, Huawei and OPPO. But we believe that our products are very unique from the rest. Unlike other brands, we have not restricted ourselves to just smartphones rather we have a wide product portfolio of smart devices.

Unlike other brands, we have not restricted ourselves to just smartphones rather we have a wide product portfolio of smart devices

In coming months we are going to launch 40 new products including smart bikes, smart weighing scales, air purifiers, LEDs, smart watches etc. We are also considering the possibility of introducing drones but that largely depends on local laws and policies. Xiaomi plans to switch-on its full throttle mode in future and that is definitely going to shake up the competition.

PW: So what other smart devices and gadgets should we expect from Xiaomi?
YA: There are different smart devices that we are planning to launch in Pakistan. From a small device like a power bank to a smart scooter, Xiaomi offers everything a tech savvy customer wants. This will also create a huge opportunity for mobile network operators as it will dramatically increase the mobile broadband uptake in the country.

This will also create a huge opportunity for mobile network operators as it will dramatically increase the mobile broadband uptake in the country

The great thing about Xiaomi portfolio is that our products are very suitable for Pakistani

Xiaomi is more than a smartphone brand,
it's a digital revolution

Xiaomi is a well-renowned smartphone brand with 5th largest market share in the world. One of the first devices that came out of Xiaomi was Mi2. This was the first device that featured the revolutionary and famous Qualcomm Snapdragon chip. The device sold close to 10 million units within the first 11 months of its inception, thus allowing Xiaomi to gain a foothold in markets such as Australia, United States, Europe and New Zealand.

Xiaomi recently launched its smartphone devices in Pakistan and has managed to gain a strong foothold in the market despite competition from very strong and well-established players in the local market. The reason behind the huge success of Xiaomi is its different approach in terms of marketing and strategizing that varies from other tech giants such as Samsung and Apple.

The pace at which Xiaomi is growing is unprecedented in Pakistan and we have tremendous support from our customers

Phoneworld team had a chance to meet the dynamic Xiaomi team including Ahmed Butt (AB), Director Marketing, Zain Aftab (ZA), Director Sales

market from price perspective. We plan to offer affordable solutions for average Pakistani consumer and that's the key strength we are relying on for our eco-lifestyle launch expected by the end of December 2017. If we talk strictly about smartphones, we have recently launched our flagship devices Mi 6 and Mi Max 2 in August. Our Mi Max 2 is the only phablet in the world that supports 6.44 full HD display whereas; Mi 6 is the third fastest phone in the world right now thanks to Qualcomm's latest Snapdragon 835 chipset.

Mi 6 is the third fastest phone in the world right now thanks to Qualcomm's latest Snapdragon 835 chipset

PW: Although Xiaomi is one of the top smartphone brands of the world but the name is newer to Pakistani market. Why Xiaomi didn't go for a huge media campaign to launch itself?
ZA: Xiaomi does not believe in celebrity endorsement. We don't think that it's a bad thing and we also might do a media campaign in future but we believe that it is no substitute for quality and value. For us, product excellence is above everything else. Our prices and product quality is so good that we are sure that it will make a mark in the hearts of our customers and that's something which is timeless and permanent unlike celebrity endorsement and huge media campaigns.

PW: What is your take on the mobile market of Pakistan? What are the main changes that you witnessed in device ecosystem in recent few years?
ZA: Lot of changes have taken places in Pakistani Industry in the recent past. Internet penetration has increased many folds that has resulted in enhanced tech-culture in the country.

In this new era of Internet of Things, smartphones have taken the center stage. This is the reason why more and more smartphone brands are now entering Pakistani market.

PW: Xiaomi took some really amazing initiatives right from the start; they collaborated with Daraz.pk and Zong to launch its devices. How helpful it was to establish itself in Pakistani market?
YA: One of our key strategies is make big brand alliances. Earlier, we collaborated with Zong and

now we also have signed a MoU with Jazz to launch some eco-devices in Pakistan whereas, negotiations with Telenor are also in the pipeline. The industry has welcomed us with open arms because they are aware of our global portfolio. To capture bigger market and increase our product penetration we have also joined hands with Hyper-star and Metro. We have also collaborated with PakWheels and Bank Alfalah whereas; collaboration with Soneri Bank and JS Bank is also in the final phase. Through such partnership with banks, our customers will be able to buy our smartphones on installments. Every company has a unique clientele and we would love to work with all market segments.

PW: Tell us something about Xiaomi's distribution and service centers in Pakistan?
ZA: Initially, we have established service centers in Lahore, Faisalabad, Peshawar, Karachi and Islamabad. We are going to build new service centers in Multan, Rawalpindi and Hyderabad. So our network is already as strong as any other brand. We are also planning to launch three to five Mi-Stores in Pakistan. Initially we will launch these stores in Faisalabad, Lahore and Karachi, after that we will expand our chain to other cities as well. In these Mi-Stores, our consumers will be able to experience entire Xiaomi portfolio.

Our prices and quality are so good that we are sure that it will make a mark in the hearts of our customers and that's something which is timeless and permanent unlike celebrity endorsement and media campaigns

Online store is one the fastest growing industry in Pakistan and it has the potential to capture up to 20-30% Pakistani market. We are working aggressively to improve our online presence for Pakistani customers. We have successfully completed our flash sale campaign and soon we will introduce all our products to consumers directly from our website. Besides Cash on Delivery and credit card payment method, we are planning to take Telenor onboard for its Easypaisa solutions as well.

Flash sale was a totally new concept for Pakistani market and we got amazing response, we managed to get worth 7 million sales in just 2 hours.

In this new era of Internet of Things, smartphones have taken the central stage

PW: Why should customers go for Xiaomi smartphone over other brands? What are the top three reasons in your opinion?
ZA: Best technology, Quality and customer care.

Customer satisfaction is the center point of all our activities. To facilitate our customers and to provide them an ongoing support, Xiaomi devices have a preinstalled app that provides software related support.

Flash sale was a totally new concept for Pakistani market and we got amazing response, we managed to get worth 7 million sales in just 2 hours

Also Xiaomi has a local community of more than 25 thousand members and fans called Mi-family where our customers stay updated with Xiaomi news and happenings.

PW: Any special plans for Pakistani market?
ZA: The biggest plan for Pakistani market is to give consumers an outclass experience and make Xiaomi the central part of their life style. So once we achieve that, we will be able to introduce various other products in Pakistan. Hence the acceptability will become more rapid.

PW: Lastly, what would be the one liner for Xiaomi smartphones?
ZA: Xiaomi nailed it…!!!!

PW: Any message for the industry and our readers?
ZA: We should all stay positive, help each other and work for growth of our industry and let the consumers decide which the best brand is.

By Fizza Atique
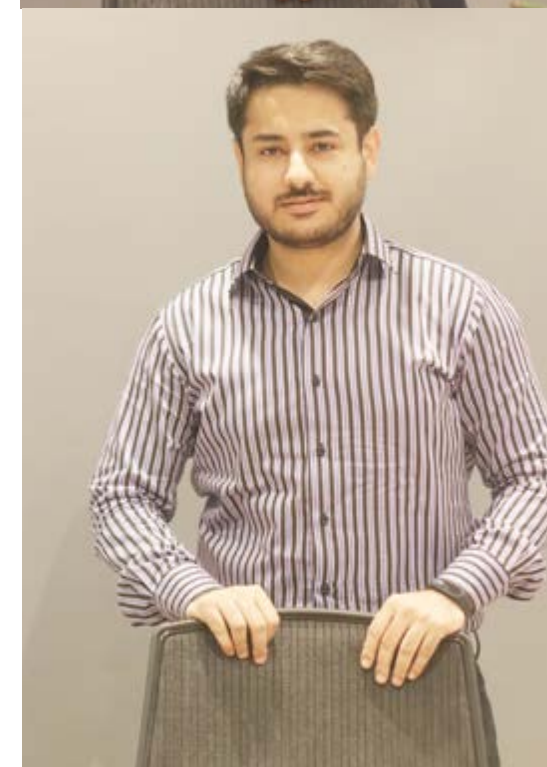
Making the most of DIGITAL TRANSFORMATION through Cultural Change

Culture, society, and technology cannot be separated from human life as they have a cyclic dependence on each other. In our daily life, we take help of technology even to do a meager task; it helps us to communicate, learn and to do business. It also helps us to live a comfortable life but at the same time; it has caused many concerns as well. For this, we need to determine what kind of future we need and then should create relevant technologies and regulations in order simplify our lives. However, in this entire race, we cannot forget that culture creates a huge impact on technological and digital transformations.

Digital transformation requires a cultural and technological shift. Digital Transformation and culture are directly related to each other in a way that change in culture impacts digital transformation whereas; a boom in digital transformation affects the cultural development of a society. When we talk about digital and technological transformations, Consumer, Vendor and Service providers are primarily connected to each other and in return influence digital transformation of a country. Many tech experts refer to culture as the air to the road of digital transformation: you cannot see or feel it but it is very necessary and always present.

> ## Digital Transformation and culture are directly related to each other in a way that change in culture impacts digital transformation whereas; a boom in digital transformation affects the cultural development of a society

Communication is the heart of socialization which is the key aspect in cultural transmission. Technologies impact manners of communication which influence our socialization hence, affecting our culture and building new digital habits. Nowadays as consumers are adopting digital lifestyle quickly, every society should mold itself accordingly and must adopt new ways to interact with people on daily basis. Many Tech gurus believe in changing technologies and infrastructure while forgetting the role of the human element. This will not bring positive results or lasting changes will not happen until a favorable culture for technology adoption is not created in a society.

Pakistan is the world's sixth most populated country having 194.9 million people. Rural population in Pakistan is reported at 61.24% according to World Bank collection of development indicators. More than 50 percent of the population residing in rural areas creates a major hold up in achieving the status of a truly digital society due to the fact that many people don't even know about new technologies.

Despite such obstructions, mobile Phone penetration is very high in Pakistan with 90% geographical coverage and over 141 million subscribers since 2014.

The IT sector exports have reached over USD 2.5 billion and the Broadband penetration has jumped from 3% in 2014 to some 27%.The IT and Telecom sectors are also generating new jobs as businesses utilize modern ICT technologies such as e-commerce, e-education, e-banking, e-health, and business related to IT applications. Tech and IT entrepreneurship are on the rise for past many years. Public and private sectors are showing full support to young entrepreneurs to bring their innovative ideas into a reality. Therefore, the fact of the matter is although Pakistan is on the right track for technology development but requires a cultural change to achieve complete digital transformation.

Most of the Pakistani citizens do not know the full potential of internet despite being connected to the internet as for them internet still means access to social media alone. While there is also a section of society who are well-versed with the hi-tech advancements of internet and modern technology but are still unaware about the developments taking place in their own country.

> ## Many Tech gurus believe in changing technologies and infrastructure while forgetting the role of the human element. This will not bring positive results or lasting changes will not happen until a favorable culture for technology adoption is not created in a society

The technology is there, but its use is still uncommon in the country. Government has started many mobile services to facilitate the

By Rizwana Khan

citizens but people still follow the conventional methods of personally visiting government offices for solution of their problems. The reason being, either they do not know about the services or don't know how to use such services. While, there are also such kind of people who do not trust online services. All of this shows that from cultural perspective, we are not ready for a digital transformation yet.

More than 50 percent of the population residing in rural areas creates a major hold up in achieving the status of a truly digital society

With the quick transformation of technology worldwide, we terribly need to be futuristic and lay ground for adoption of upcoming technological advancements and overcome digital divide. It's easier to change the digital culture because the digital market segment comprises of people who are open to change but incorporating the change in an actual culture of the society is a much difficult task that requires patience and constant vigilance. There are some key elements needed for Government to adopt digital culture. For this purpose, ICT policies must be made by keeping in mind the present and future waves of technological changes.

With the quick transformation of technology worldwide, we terribly need to be futuristic and lay ground for adoption of upcoming technological advancements and overcome digital divide

Hence, if we look at the developed nations, their policy makers are working on many futuristic areas that are overlooked in the recent policy draft formulated by our Government.

Creating awareness about the digital services is of vital importance. When KPK police started their online and mobile services it ran a huge media campaign on all platforms resultantly, not only the people of KPK are familiar with the KPK Police reforms but also the rest of the Pakistani citizens also know about that. In the same way, mobile financial services like easypaisa, JazzCash and Upaisa have reached the far flung areas of Pakistan; the reason once again being, effective awareness campaign. Creating awareness among people and sensitizing them with the new technology is extremely necessary for adoption of new digital services and digital evolution. Therefore, similar kinds of initiatives are also required by other provincial governments and federal government as well as private businesses.

Digital transformation is inevitable and the benefits are too compelling. The success of digital transformation requires more than just outstanding software and services. It requires a sense of humanity for the people being served.

Creating awareness among people and sensitizing them with the new technology is extremely necessary for adoption of new digital services and digital evolution

The journey of transformation is hard, especially for a country like Pakistan where people and entities are traditionally maintaining less technology savvy culture and are more inclined to resist transformation process. Therefore, the biggest challenge of all is to sell the idea of change itself.

We need to build a culture that supports technology adoption. It will take time but the sooner we act, the more quickly we will be able to compete in today's fast-paced, digitized, multichannel world. The bottom line is very clear: Culture is the most important and vital enabler of digital transformation. Without people, Tools will not make any difference.

TECH TWISTS

VCR
Created in 1956, the first ever VCR was the size of a piano.

Tech companies in New Zealand
Tech companies often test new products in New Zealand. The reasons for this? The country is diverse, its residents speak English, and if a product is a flop, news doesn't spread as fast because it is relatively isolated.

Japan's Robot Factory
There is a factory in Japan which can run unsupervised for 30 days at a time -- it's almost entirely manned by robots.

WiFi Bins in Mexico
In Mexico City, there are special bins that offer free WiFi to people who properly dispose of their dog poop.

Fake Apple stores of China
There used to be fake Apple stores in China. They were so fake, in fact, that even the staff was convinced they were working for Apple.

By Shaheer Riaz

Xiaomi MI 6
A Pocket DSLR

Display
The Xiaomi Mi6 has the best display among all other Xiaomi devices. It supports 1080 x 1920 pixels resolution with the dpi of 480. It has three different color calibrations for your lighting situation. If you are using it in dark light, it would automatically brighten up your screen. Another great thing about Mi6 display is its 10 multi-touch test.

Design
Xiaomi Mi6 has a ceramic body. Ceramic body smartphones are a bit slippery and not very easy to handle. The dimensions of the Xiaomi Mi6 are 145.2 x 70.5 x 7.5 mm while the weight is 168 grams. It is a bit heavier because of its fixed battery of 3350 mAh. The body is slim and sleek with no bezel layer around it.

Camera
Xiaomi Mi6 is loaded with a dual back camera lens of 12MP while the front one is packed with the 8MP lens. Both can record the video in full 1080p quality. Its telephoto lens gives a longer focal length than the standard camera lens while the back camera lens is packed with an IMX386 sensor with 27mm f/1.8 lens and 1.25µm big pixels.

The results of Xiaomi Mi6 are surprisingly the best among all other smartphones because it gives more detailed pictures. The white balance is amazing with great energy in the colors. Dynamic range works best even without using HDR mode and the blur effect for the background goes well with pictures. Xiaomi Mi6 results are nothing less than Samsung Galaxy S8 and iPhone 7s.

Memory
The Xiaomi Mi6 comes with giant 6GB RAM and 64GB ROM. The internal memory is enough even without memory card that's why Xiaomi has not given card slot option.

Interface
Xiaomi Mi6 is packed with latest Android version 7.0 with the interface of MIUI 8.2. The color balance is great and well-balanced.

Processor
The system of Xiaomi Mi6 has 2.4 GHz octa-core processor with the chipset of Qualcomm MSM8998 Snapdragon 835. Qualcomm Chipsets works better in every field either it is battery or network connectivity. It gives better experience for audio, video files and even in 3D applications.

Network / Connectivity
A Xiaomi Mi6 is packed with all network connectivity ports except audio jack. It supports 4G/3G connectivity other options includes wi-Fi, Bluetooth etc. Wi-Fi supportive standards are a/b/g/n/ac, dual-band, Wi-Fi Direct, DLNA, hotspot. Bluetooth version is 5.0.

Benchmarking

Velamo
Multicore	3538
Metal	2749
Chrome Browser	6689

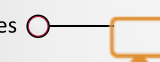**Antutu** 141772

Specs

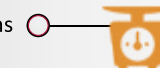**OS:** Android v7.1 (Nougat)

Display: 5.15 inches

Battery: Non-Removable Li-po 3350 mAh

Weight: 168 grams

Camera: Dual 12 MP, Auto focus, dual-LED flash

Memory: 6 GB RAM, 64 GB ROM

Processor: 2.4 GHz Octa-core

Price: PKR 46,999/-

Good
- 6GB RAM and 64GB ROM
- Brilliant Camera Results
- Qualcomm Chipset

Bad
- Ceramic Body
- No Audio Jack

Final Verdict
A perfect device for camera lovers.

By Zainab Saeed

Intensifying Smartphone Market:

vivo Comes to Pakistan

In the post 3G/4G era telecom and IT sector of Pakistan has witnessed a tremendous growth. It has not only created opportunities for the telecom operators but has paved new ways of growth for the smartphone manufacturers and distributors as well. The competition has reached its peak as many local and international brands have entered the market, offering wide variety of feature phones and smartphones.

The growth rate of Smartphone usage in Pakistan is continuously increasing day by day. If the current trend follows, Pakistan will have 160 million smartphone users by the end of 2017. This significant boost in smartphone market has further intensified now that Chinese brands are penetrating the market and manufacturers are making low-end smartphones at affordable prices.

Vivo, a global technology company that specializes in smartphones and internet services is the latest entrant in the Pakistan market

Telecom operators are not only providing high speed internet but are also collaborating with local and international smartphone manufacturers to promote smartphone use in the country.

Vivo, a global technology company that specializes in smartphones and internet services is the latest entrant in the Pakistan market. Vivo is a globally leading smartphone company, originated from China. In 2009, this brand was founded as a sub-brand of BBK Electronics however, it started manufacturing and marketing of smartphones in 2011 and launched their first smartphone in 2012. After gaining great success in China, Vivo entered other countries as well.

Significant boost in smartphone market has further intensified now that Chinese brands are penetrating the market and manufacturers are making low-end smartphones at affordable prices

Vivo has already managed to capture a decent market share in India, Malaysia, Indonesia, Thailand, Myanmar, Vietnam and Philippine. Currently, it is the 3rd most popular brand in China and ranks among the top 5 global smartphone brands in terms of sales.

Vivo is a trendy brand that takes pride in providing the best user experience with top-notch performance and hi-fi music. We can see a lot of unique and innovative features that Vivo has introduced in the past. It was the first Chinese brand to launch a smartphone with 3D curved-glass screen. Vivo's Hi-Fi music technology, Dual Cameras with Blur effects and the front Moonlight Selfie camera are few other innovations to name. Vivo has also showcased world's first Under Display Fingerprint Scanning Solution that eliminates the need of a dedicated button. The company has also previously launched series of world's thinnest smartphones.

It is because of such exceptional and innovative offerings that Vivo currently stands as the fifth leading smartphone brand of the world. According to IDC'S Q1, 2017 report, the company ranks among the top 5 smartphone brands in the world. Vivo sold 18.1 million units in the first quarter of 2017 and managed to capture 5.2 % market share; increasing from 4.4 percent in first quarter of 2016. Vivo hasn't performed much in American and European market but it surely has emerged as one of the strongest smartphone brand of South-East Asia.

Vivo stores in India as well. On the other hand, it has promised consumers single-day phone repairs as a differentiator to the competition in Indonesia.

Vivo has also entered Pakistani market with a unique strategy. Initially, it has launched three smartphones and offers one year local warranty through its exclusive after-sales centers. It is the first smartphone brand in Pakistan that offers 15 days replacement warranty, that too for free of cost. Moreover, it also offers a 6 months warranty for the accessories provided with the smartphones.

With great features and specs, coupled with exclusive after sale services, Vivo

Vendor	1Q17 Shipment Volume	1Q17 Market Share	1Q16 Shipment Volume	1Q16 Market Share	Year-Over-Year Change
SAMSUNG	79.2	22.8%	79.2	23.8%	0.0%
Apple	51.6	14.9%	51.2	15.4%	0.8%
HUAWEI	34.2	9.8%	28.1	8.4%	21.7%
OPPO	25.6	7.4%	19.7	5.9%	29.8%
vivo	18.1	5.2%	14.6	4.4%	23.6%
Others	138.7	39.9%	140.0	42.1%	-1.0%
Total	347.4	100.0%	332.9	100.0%	4.3%

Top Five Smartphone Vendors, Worldwide Shipments, Market Share, and Year-Over-Year Growth, Q1 2017 Preliminary Data (Shipments in Millions)

Vivo has employed a very specific strategy in each market which has contributed majorly in its worldwide expansion. In China, Vivo relied on a key model x9 that continued to generate a lot of hype around its selfie camera features, targeted at the under-30 crowd. Whereas, in India Vivo has stepped up its marketing game to create brand awareness. It was not only the sponsor of biggest cricketing event of the country i.e. Indian Premier League 2017 but it has also increased the number of exclusive

has managed to successfully create a stir in the smartphone market of Pakistan. It has received a positive response from the local market due to its impressive hardware specifications, perfect selfie cameras and a smooth user experience with Funtouch OS, that too at an affordable price. Will Vivo be able to continue its similar growth pattern is a question thats answer lies in the future.

TELECOM CAMPAIGNS

By Rizwana Khan   Fizza Atique

The advertising campaigns play a vital role in promoting a brand/product. A truly memorable campaign creates a visceral response – but one bad campaign can ruin it all. PhoneWorld keeps a close eye on the latest ad releases in telecom industry. Here is a critical review of the latest telecom campaigns.

Qmobile E2 Phone of Your Dreams

3

After Qmobile Noir S1 and Z12 commercials, Mahira Khan is now features in Qmobile E2 TVC. It is more or less like the previous QMobile Noir S1 TVC. There is nothing new in the TVC, Mahira Khan is shown roaming around in some foreign city telling us about the cool features of E2 smartphone. The TVC is not bad but since it is similar to most of the previous QMobile TVCs therefore, it didn't create much buzz.

Verdict: An okay TVC!!!
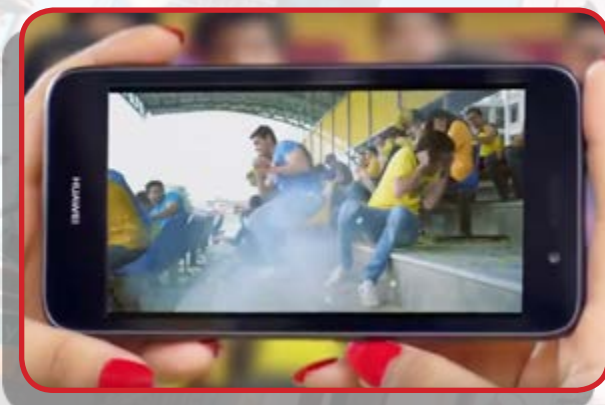
Huawei Y5 - Scene On Hai

2.5

Huawei has released a musical TVC to promote its Huawei Y5 smartphone. Despite an upbeat and colorful song the TVC is rather boring. The advert seems more like a musical video than a promotional campaign. Overall, it is an ineffective and unsatisfactory advert.

Verdict: A disappointing advert…!!

Tum Se Hai Azadi

4.5

Telenor has released a special TVC to celebrate 70 years of Independence by giving a patriotic message of re-discovering endless possibilities in Pakistan. It is a simple and hear warming TVC that explains the true meaning and purpose of freedom.

Verdict: A great TVC with a strong message…!!!

Dil ho tou Paksitani

4.5

We rarely see TVCs of online shopping platforms but Daraz.pk is now getting into competition by releasing commercials to promote its online platform. This time Daraz has come up with an excellent TVC on the 70th Independence Day of Pakistan with message, "don't give away Pakistan style". This TVC features different actors who highlighted Pakistani way of living; be it taunting mother, Ice Cream k Dabbay mein koftay, desi games etc. overall, it is a creative and well balanced TVC.

Verdict: TVC ho to aisi!!!

Zameen.com

5

Okay where do we start? Amazing actors, beautiful storyline, soothing music and reassuring voiceover, Zameen.com's latest TVC is a complete package. Home and family are the two most important parts in any individual's life which is beautifully explained in this TVC.

Verdict: A Bang on effort…!!

Jazz & Warid

4

Jazz has released this new awareness TVC for Warid customers featuring Fahad Mustafa. The TVC is quite simple but it successfully explains the strengths of Jazz brand in Pakistan. Biggest customer base, widest network coverage, outstanding branchless banking and leading data service provider , these are all the qualities that Jazz takes pride in and now Warid customers can also enjoy all of this. That's the message that this TVC has attempted to convey to Warid users.

Verdict: An effective advert…!!

By Shaheer Riaz

NOKIA 5
A Pure Android Smartphone

Design
Crafted from a single block of 6000-series aluminum, the Nokia 5 has a surprisingly premium construction for a phone with such a low price tag. It feels like a more expensive phone when you pick it up, and that's great. The dimensions of Nokia 5 are 149.7 x 72.5 x 8 mm whereas; the weight is 159 grams with screen to body ratio of 69%.

Display
The Nokia 5 has 5.5 inch screen with IPS LCD capacitive touchscreen. It supports the resolution of 720 x 1280 pixels whereas; the supportive colors are 16M. It has 320 dpi for the clear visibility of icons and texts.

Nokia 5 scored full 10-points in multi-touch test. The color sense, display size, brightness is prefect according to the screen size and resolution.

Memory
Nokia 5 has 16GB ROM and 2GB RAM. Internal memory can be increased up to 256 GB with the use of memory card and the best part in Nokia 5 is separate memory card jacket.

Camera
Camera section of Nokia 5 is packed with 8MP lens for its front camera while back camera has 13MP lens. Back camera and front camera can record videos in full 1080p quality. Interface of camera section is very simple and easy to use.Its

camera results are much better than its predeccossor's i-e Nokia 3.

Processor
Nokia 5 has Octa-Core 1.4GHz processor with the chipset of Qualcomm MSM8937 Snapdragon 430 based on the architecture of ARM-Cortex A53.

Connectivity
The Nokia 5 is powered with micro USB 2.0, USB On-The-Go. This port is mainly used to charge the device and to transfer the data via laptop. Nokia 5 is a LTE enabled device that supports all the bandwidths of networks in Pakistan. Wi-Fi connectivity is dual-band Wi-Fi and supportive standards are b/g/n. Bluetooth is 4.1 and Nokia 5 also has FM Radio.

Interface
As we all know Nokia was associated with windows system but this time it did a comeback with Android system. Nokia 5 has latest android version 7.0 (nougat).

Benchmarking

Velamo
Multicore **1377**
Metal **1165**
Chrome Browser **2019**
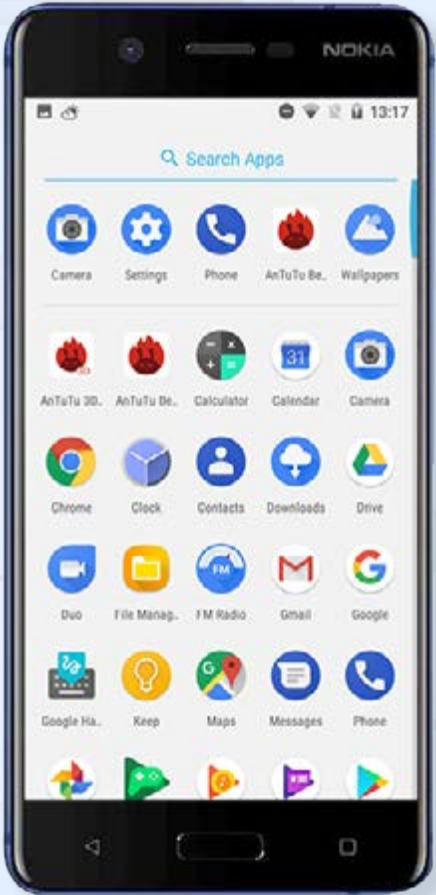
Antutu **45281**

Specs

Dimensions: 149.7 x 72.5 x 8 mm

Display: 5.2" LCD

Battery: Non-Removable Li-ion 3000 mAh

Weight: 159 g

Camera: 13 MP, phase detection, auto-focus, dual-LED flash

Memory: 2 GB RAM, 16 GB ROM

Processor: Octa-Core 1.4 GHz

Price: PKR.21,900/-

Good
- Affordable Price
- Qualcomm Chipset
- Fingerprint sensor
- Aluminum body

Bad
- No LED notification light
- 720p resolutions only

Final Verdict
Nokia 5 is an upgraded version of Nokia 3. It has fingerprint scanner which is a plus point. Overall, it's a great mid-range device.

HUAWEI concludes its Grand
Promotional Campaign

Huawei recently completed its latest campaign which was primarily focused on celebrating the joys sharing with their valued customers. The campaign was rightfully kicked off in the Holy month of Ramadan and continued on well past Eid. Starting in mid Ramadan, the company gave its customers the amazing opportunity to win gifts simply by purchasing any Huawei devices, whereby they also automatically entered the Grand Lucky Draw.

This grand campaign covered 10 major clusters in a total of 6 cities across Pakistan. The last in a series of weekend Grand Lucky Draws was held 15th July. Apart from the small selfie sticks and Huawei merchandise the customers won on the spot. Certain lucky customers got the opportunity to win much bigger prizes like Television Sets, Motorbikes etc through the Grand Lucky draw. The last grand ceremony was held across Pakistan in all big technology clusters such as Hafeez Center and Hall Road Lahore on 15th July where these prizes were distributed.

Mr. Blueking - Country Manager of Huawei in Pakistan stated: "Huawei is not just a big name in the technology world; it is a socially embedded organization. By this campaign, we aim to provide the Huawei customers with exciting gifts and prizes, to make their life more joyfull and exciting."

Huawei Pakistan keeps on delivering its promise of providing more than just quality devices to its users though these social campaigns. According to Huawei officials they plan to launch some more exciting nationwide campaigns later this year through which users will get the opportunity to not only win big prizes but also get a chance to showcase their talents to the world.

Evan Spiegel
One of the Youngest billionaires in the World

Evan Spiegel is an American Internet entrepreneur who co-founded Snapchat, an image messaging and multimedia mobile application. Interested in technology from a young age, he gained a reputation of being a nerd while in high school. After being educated at the Crossroads School for Arts and Sciences in Santa Monica, he was accepted into the prestigious Stanford University. It was at Stanford that he met fellow students Bobby Murphy and Reggie Brown with who he would one day form Snapchat.

When Snapchat launched on the App Store it was called Pictaboo, and Spiegel drew the now famous Ghostface Chillah ghost icon. The app wasn't popular; it only had 127 users by the summer of 2012. By March 2012, the app had more than 100,000 daily active users. With rising server costs – Spiegel and Murphy were paying US$5,000 out of their own pocket to keep the app going – Lightspeed Ventures Partners gave Snapchat its first cheque.
Spiegel dropped out of Stanford just a few credits short of graduation to work on Snapchat full time. The team developed the bulk of the disappearing messages app in 2012, while headquartered at Spiegel's dad's house. Snapchat's rise soon gained the attention of Mark Zuckerberg. The Facebook CEO came to Evan Spiegel with an offer: $3 billion for the company. Spiegel famously said no.
It finally added a chat function and launched Live Stories. By July, investors valued the company at $10 billion. In three years, it had gone from a million-dollar idea to a $10 billion dollar one. Snapchat also started welcoming outside content in. In January 2015, it added the Discover section, which allowed publishers to post Snapchat-friendly news items. Snapchat also found a way to make money – much to the relief of its investors. While Snapchat took off, Spiegel and Murphy

started working on a new secret project: sunglasses. Snap Labs was so secretive that only a few people knew that it was working on a hardware project at all. It was only when Snapchat finally unveiled the Spectacles – a surprise to employees internally – that it also revealed that it changed its name to Snap Inc. in September 2016. On February 2, 2017, Snap Inc. finally filed to go public – ending a drought in tech IPOs. More than 158 million people use the app daily.

Source: arabianbusiness.com

PHONE EXPRESS

Pakistan's First Online Phone Store With Official Warranty

QMobile Noir I8i

OS: Android v6.0, Marshmallow
Display: 5.0"
CPU: Quad-Core 1.2GHz
Camera: 5 MP, LED Flash Light
Memory: 8 GB ROM , 1 GB RAM

Vivo Y55s

OS: Android v6.0, Marshmallow
Display: 5.2"
CPU: Quad-Core 1.4GHz
Camera: 13MP, LED Flash, Autofocus
Memory: 16 GB ROM, 3 GB RAM

QMobile Noir A1 Lite

OS: Android OS v7.0 (Nougat)
Display: 5.5"
CPU: Octa-Core 1.3GHz
Camera: 13 MP, LED Flash, Autofocus,
Memory: 32 GB ROM, 3 GB RAM

QMobile M350

OS: Android v6.0, Marshmallow
Display: 5.2"
CPU: Quad-Core 1.3GHz
Camera: 8 MP, LED Flash, Autofocus
Memory: 16 GB ROM, 2 GB RAM

Telenor Infinity A2

OS: Android v7.0, (Nougat)
Display: 5.3"
CPU: Quad-Core 1.3GHz
Camera: 13 MP, LED Flash, Autofocus
Memory: 16 GB ROM, 2 GB RAM

Nokia 5

OS: Android v7.1 (Nougat)
Display: 5.2"
CPU: Octa-Core 1.4GHz
Camera: 13 MP, dual-LED flash Auto-focus,
Memory: 16 GB ROM, 2 GB RAM

Vivo Y53

OS: Android v6.0, Marshmallow
Display: 5.0"
CPU: Quad-Core 1.4GHz
Camera: 8 MP, LED flash
Memory: 16 GB ROM, 2 GB RAM

Lephone W11

OS: Android, v6.0 (Marshmallow)
Display: 5.0"
CPU: Quad-Core 1.3GHz
Camera: 8 MP, LED Flash
Memory: 16 GB ROM, 1 GB RAM

QMobile LT600 PRO

OS: Android v7.0 (Nougat)
Display: 5.0"
CPU: Quad-Core 1.25GHz
Camera: 8 MP, LED flash
Memory: 8 GB ROM, 1 GB RAM

Vivo V5s

OS: Android OS v7.0 (Nougat)
Display: 5.5"
CPU: Quad-Core 1.5GHz
Camera: 13 MP, LED Flash, Autofocus
Memory: 64 GB ROM, 4 GB RAM

QMobile QNote

OS: Android v7.0, (Nougat)
Display: 6.0"
CPU: Quad-core 1.3 GHz
Camera: 5 MP, LED flash
Memory: 8 GB ROM, 1 GB RAM

QMobile i6 Metal

Lephone W7 Plus

OS: Android, v6.0 (Marshmallow)
Display: 5.0"
CPU: Quad-Core 1.3GHz
Camera: 5 MP, LED flash
Memory: 8 GB ROM, 1 GB RAM

OS: Android OS v7.0 (Nougat)
Display: 5.0"
CPU: Quad-Core 1.3 GHz
Camera: 13 MP, LED flash,
Memory: 8 GB ROM, 1 GB RAM

Lephone W12

OS: Android, v6.0 (Marshmallow)
Display: 5.0"
CPU: Quad-Core 1.3GHz
Camera: 8 MP, LED Flash
Memory: 16 GB ROM, 1 GB RAM

Telenor Infinity E2

OS: Android OS v7.0 (Nougat)
Display: 5.0"
CPU: Quad-Core 1.1GHz
Camera: 18MP, LED flash
Memory: 16 GB ROM, 2 GB RAM

QMobile X29

OS: Android OS v7.0 (Nougat)
Display: 4.0"
CPU: Quad-core, 1.3 GHz
Camera: 2 MP, LED flash
Memory: 8 GB ROM, 512 MB RAM

TOP MUST HAVE APPLICATIONS & GAMES FOR YOUR SMARTPHONE

City Van Simulator 3D

Rating : 4.1 **Price: Free**

Let's get ready for a real fun of Simulation in Berlin. A real fun of adventurous dragging become when you drive your CITY VAN in Berlin city and overtake the traffic rush to collect all the checkpoints and reach to destination in given time. A real challenge of driving is ready to thrill you with asphalt speedy traffic tracks and nitro racing turbo engine. So start your CITY VAN and drive to collect checkpoint with this free 3d game and enjoy a free real sim of Berlin city with CITY VAN and other gmc nitro cars.

Snake VS Block

Rating : 4.2 **Price: Free**

Swipe your finger to guide a snake of balls and break the bricks. Try to break as many bricks as possible. Get additional balls and make the biggest snake ever!

Podcast Player

Rating : 4.6 **Price: Free**

Everything you want (audio books FM music streaming radio podcast) is available for free. Podcast is with you by providing audio content covering both entertainment and education during daily playback scenarios (commute, sport, chores, relax, etc.)

30 Day Fit Challenge Workout - Lose Weight Trainer

Rating : 4.8 **Price: Free**

Workout at home, suited for anybody at any time. The 30 Day Fit Challenge Workout, designed by a professional fitness coach, is scientifically proven to help improve fitness and health. Also, this app can synchronize with burned calorie data on Google Fit. Stick with the program, and you will see amazing results.

Cupslice Photo Editor

Rating : 4.2 **Price: Free**

Cupslice is easy-to-use mobile photography app that offers lot of filter, frame and badge with added basic editing tool combine with up-to-date stickers. Its polished and compact nature makes it stand out among the rest. Cupslice knows different photos need different filters, it offers an impressive collection of photo filters. Cupslice comes with a powerful filter options. In addition to that, most of the filters are highly customizable.

Face Changer 2

Rating : 4.4 **Price: Free**

Better, stronger, funnier! After 50M happy users, comes the new and improved Face Changer 2!
Take a selfie and start having fun! Swap faces between friends and with your favourite characters. Morph heads, add face parts, funny hats, silly glasses and hundreds of accessories, stickers, backgrounds and more.

Best English Status 2017

Rating : 4.3 **Price: Free**

Now you would not need to ask your friends to forward picture status, quotes, sayings etc bcoz now you can find all of them at one place with a single click only through „Best English Status" and that too completely free. You do not need to search quote or a whatsapp status anymore, this app will satisfy all your needs.

musical.ly

Rating : 4.4 **Price: Free**
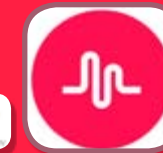
musical.ly is the world's largest creative platform. The platform makes it super easy for everyone to make awesome videos and share with friends or to the world. Top categories on musical.ly include: music, comedy, talent (sing, dance, magic, etc.), fashion & beauty, vlog, animals.

Logo Quiz Superb

Rating : 4.4 **Price: Free**

Make the most of your display with beautiful wallpapers and advanced features. Choose one of your own photos, an image from the Google Earth collection, a scenic landscape from Google+, and more. Change it as often as you like, so your phone always represents your style.

ICC Cricket - Women's World Cup 2017

Rating : 4.3 **Price: Free**

Our latest version is packed with updates to help fans follow the action as excitement builds ahead of the ICC Women's ICC World Cup!

XE Currency

Rating : 4.4 **Price: Free**

All the world's currencies at your fingertips! This free edition of the XE Currency Converter App not only provides live exchange rates and charts, you can also set an XE Rate Alert to monitor your favorite currencies for immediate notification.

New Emoji Keyboard Pro 2017

Rating : 4.2 **Price: Free**

The emoji keyboard 2017 for Android is a popular third party keyboard. This is the newest emoji keyboard for Android, the New Emoji Keyboard Pro 2017. This new emoji keyboard is perfect for text messaging and since it is more than a classic emoji keyboard. It has the latest 2017 emojis and even prediction for emojis. Type and get the perfect emoji immediately.

PicMix - Photos in Collages

Rating : 4.2 **Price: Free**

What happened when two top photo apps combined? One app to rule them all! PicMix now has integrated powerful photo editing functions from the famous Camera360. Enhance your photo collage into the best collage the world has ever seen. Try it for yourself now!

zapier

Search Smarter

30+ Advanced *Google Search* Tricks

Level up your Google-fu.

Instant Answers

Sometimes you don't even need to click through to a website to get an answer; it'll be next to search results or even in your browser's address bar.

Calculations

Input text calculations directly into the search bar.

Arithmetic
- 5x7 + 36+9 + 62

75

$3.00
$23.00

Specific Calculators
- calculator
- tip calculator
- mortgage calculator

Advanced Calculators

Trigonometric Graphs
- cos(3x)+sin(x)

Pythagorean Calculator
- a^2+b^2=c^2 calc a=4 b=7 c=?
Use to find c.

Right Cylinder Calculator
- what is the volume of a cylinder with radius 4cm and height 8cm

Graph for cos(3*x)+sin(x)

Conversions

[first unit] to [second unit]

1   1.60934

You can convert:

Area | Data transfer rate | Speed | Time | Digital storage
Energy | Frequency | Fuel economy | Length | Mass
Plane angle | Pressure | Currency | Volume | Temperature

Travel and City Information

See Google Flights information
[city] to [city]

See distance and ETA information
[city] to [city] distance

Find things to do [city] events | See trip suggestions [country or continent] destination [country or continent] vacation | Find timezones time [city]

More Quick Searches

Shopping
[company name] customer service
Gets you the customer service phone number.

[company name] [your product tracking number]
Gets you a delivery update.

Language
define [word or phrase]
Gives you the dictionary definition.

etymology [word or phrase]
See its origins.

[word or phrase] in [language]
Translates the word.

definition

Nutrition
[food name] facts
[food name] calories
[food name] carbs
etc

210 calories

Time Zones Conversion
[time] [location] in [other location]
e.g. 9AM Tuesday Bangkok in SF
Gives you "7:00 PM Monday"

Stock prices [stock symbol] e.g. APPL for Apple Inc. | Timer set time for [amount of time] | Sunset and sunrise sunrise [location] sunset [location]

Stopwatch stopwatch | Dates of Holidays [name of holiday] [year] | IP address IP address

Drag & Drop Searches

Drag & drop a highlighted word or phrase.

Google

Drag an image from your computer or a web page to the search box at https://images.google.com

Drag a URL or link to a new tab position.

Connect Your Apps and Automate Workflows

Use Google's Search Tabs and Tools

The search results page contains tools to further narrow down your search.

Type of Information
View specific media types.
- All
- Videos
- Images
- News
- Shopping
- More:
  - maps · books · flights · apps

Content Date
Search tools (tab) > Any time (drop-down menu)

Filter Images:
- Size
- Color
- Type
- Time updated
- Usage rights
- Tags (from "adorable" to "creepy")

View Cached or Similar Pages
Click the drop-down arrow next to each search result URL.

Search Specific Sites

The search boxes on most websites aren't as good as Google.

Search a Specific Website
site:[website address] [your search phrase]

Try: "site:zapier.com trello"

Create a Custom Site Search
Consider using if you search particular websites or sections of websites regularly.

Search Internationally

Use the country-neutral Google
http://www.google.com/ncr
(NCR = No Country Redirect)

Google

Use Search Operators

Tell Google to omit words from results, include an exact phrase, and more.

*
Placeholder for an unknown keyword.

–
Use before a word to exclude it from search results.

"
Surround a phrase in quote marks to search for exact matches.

..
Search within a range of numbers. e.g. 2..5

allintitle:
Subsequent keywords must be in the title of all results.

allintext:
Keywords must be in the body of the page

allinurl:
Keywords must be included in the URL.

site:
Limit search results to a specific website.
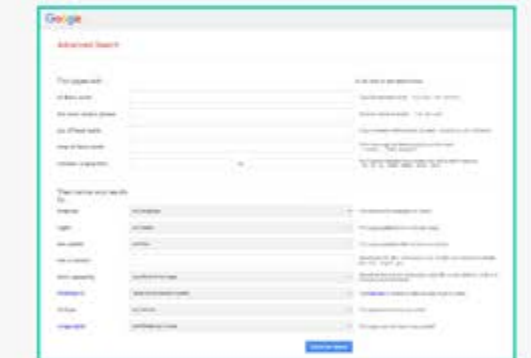
related:
Find sites similar to a specific website

filetype:
Limit results to a certain file format, such as PDF or DOC.

Google's Advanced Search Page
You don't have to remember all these search operators. Use the search form at **Google.com/advanced_search**

Tweak Google Search Settings

Go to Google.com/preferences

- Turn on instant search predictions (necessary for doing some of the tricks mentioned above).
- Change the number of results shown per page, up to 100.
- Choose to open results in new browser window.
- Turn off SafeSearch, which blocks explicit material search results.
- Access your Search History.

Bonus: Google Easter Eggs

Type any of the following into Google, and enjoy.

The answer to life | Do a barrel roll | Atari breakout
Zerg rush | Festivus | Super Mario Bros
Flip a coin | Roll a die | Google Pacman
[actor name] + "bacon number" | Blink HTML

Happy Googling!

Read more here: www.zapier.com/blog/advanced-google-search-tricks/ or visit our website: www.zapier.com

zapier
makes you happier :)

PHONE WORLD

Live

Pakistan's 1st webcasting Channel @
www.phoneworld.com.pk/live

- ✓ ICT Policy
- ✓ Twitter Trends
- ✓ Technology News
- ✓ Regulatory Analysis
- ✓ Webinars
- ✓ Product Reviews
- ✓ ICT Events
- ✓ Telecom Market Updates

Q Mobile

Make Life Happening

X33

3G Enabled

Rear Camera 2MP Front Smart Camera	8GB ROM 1GB RAM	4.0" LCD Display	1.2GHz Quad Core Processor	Android 6.0 Marshmallow	Powerful Battery

Phone of your Dreams!

QMobile

E2

Quick Charge
10 mins charge
200 mins talk time

4000mAh Battery

RAM 3GB RAM