

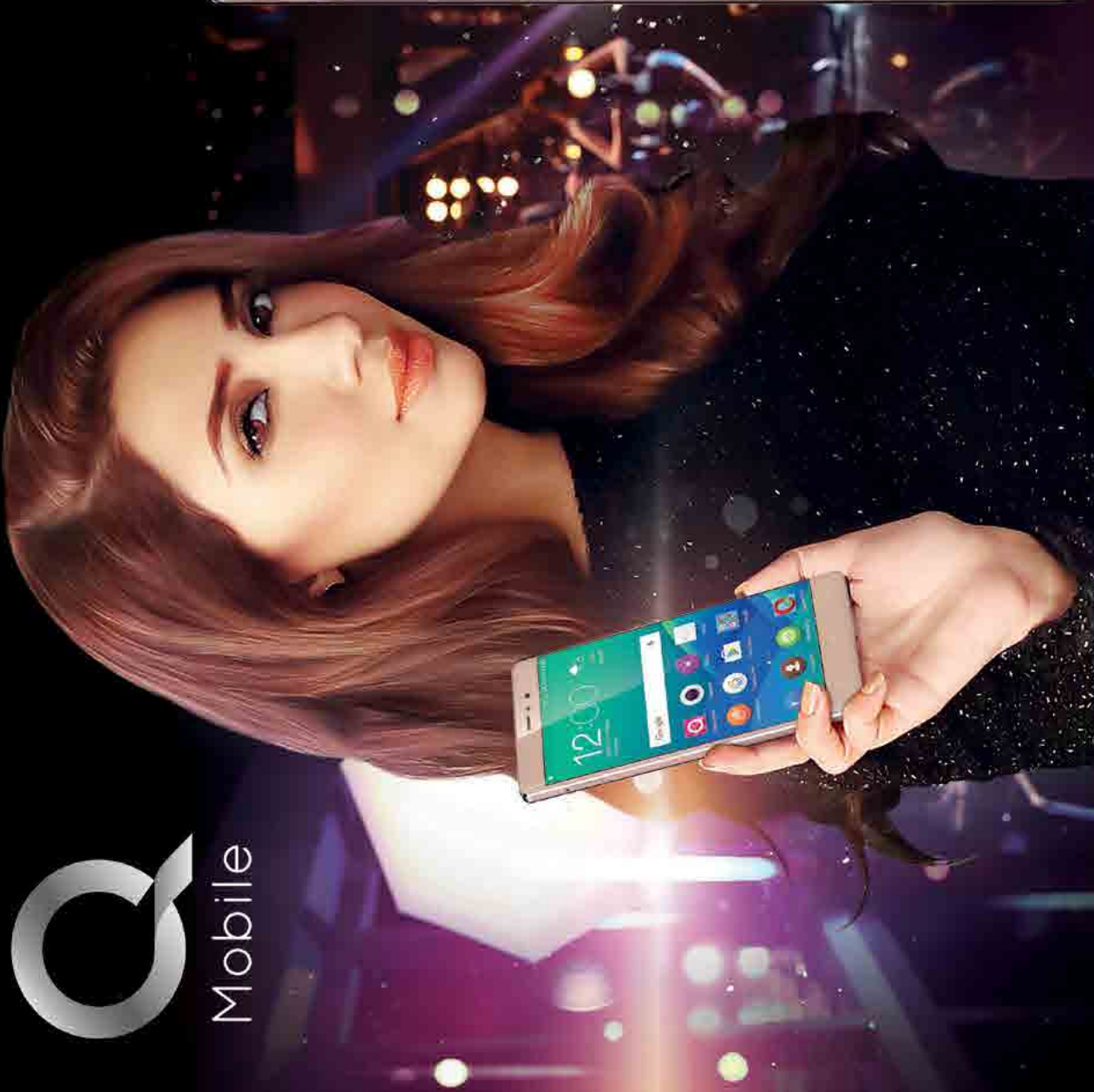


M. Ali Khan
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Adnan Khan
Managing Editor

Dear Readers,

Here we are, at the end of another great year filled with many achievements and successes. The highlight of this year was the increase in number of 3G and 4G mobile operators in Pakistan. Mobilink-Warid merger took its final shape by launching combined brand, Jazz-Warid. Mobilink premium users started using 4G service while Warid users got to enjoy 3G for the first time. On the other hand, Telenor won the 850 MHz spectrum auction and started using its 4G services in selective cities of the country. From policy & regulatory stand point, this year was especially good in terms of policy formulation. Pakistan's first Cybercrime law was approved this year, Telecom policy also came in to light whereas, and a draft for IT policy was also presented for public feedback. We have covered other documents in great details in our previous magazine issues so this time we have tried to make a brief analysis of recently introduced draft IT policy of 2016 and gave few suggestions for improvement.

In today's competitive and strong market, gaining and retaining customers has become a challenging task. Each mobile operator is trying extra hard to capture bigger market chunk. Telenor has recently introduced an innovative online movie to market its data services and increase customer engagement. Whereas, Mobilink incorporated both brands i.e Jazz and Warid to launch its new brand identity; a move employed to satisfy customers of both networks. We have evaluated these marketing strategies of both operators to examine how successful they have been in their marketing approaches.

PhoneWorld Magazine has always played an active role in facilitating the subscribers by providing reliable and accurate data regarding the telecom and ICT products and services. We have once again prepared a detailed comparative analysis of upgraded 3G data packages offered by all mobile operators so that, our readers could get a better understanding of each operator's offering in terms of price and data. A special interview of Muhammad Ali Khan, is also a part of our current issue, to better understand operator's strategy for devices.

Like always, our regular sections including phone reviews, Smart moves, TVC reviews, top applications and smartphone wish list are also part of our current issue. 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.

Enjoy Reading...!!!

Thank you,
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Contents

Regulatory

10 Draft National IT Policy 2016 : Will IT Deliver?

National

15 Smart Moves for Smarter Nation

20 Pakistan Mobile Operators' 3G Data Tariff Strategies & Comparison

Infocus

32 Muhammad Ali Khan, Director Data & Devices Mobilink

Phone Review

16 QMobile Noir J7

34 Telenor Infinity A

44 Infinix Zero 4

International

42 3D Printing Technology : The Next Revolution

Wishlist

48 Phone Express - New Arrivals

Telecom Campaign

50 A Critical Review of the Latest Ad Campaigns

App World

52 Applications and Games for Your Smartphones

Tech Twists

25 Fun Tech Facts



Jazz-Warid: Merging the Brands and Branding the Merger

18



Kuch Kar Kuzar - A Quantum leap in Innovative Content Development

26



Network Shutdowns : Making Matters Worse

28



ICT Personality
Sergey Brin
The successful life of Google cofounder

31



Big Hits of 2016

36



The role of technology in Medicines

38

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Issue 23

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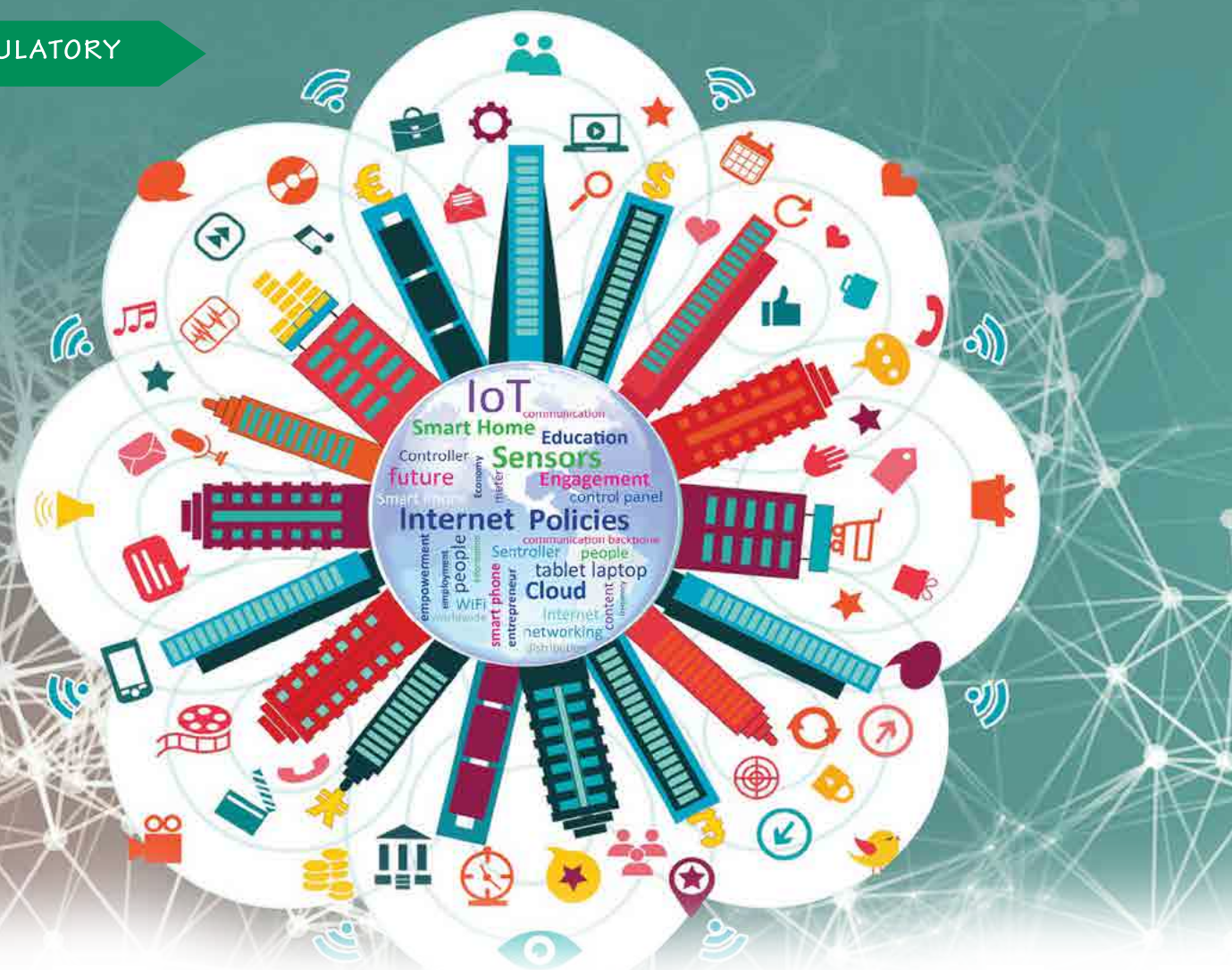
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DRAFT NATIONAL IT POLICY 2016: WILL IT DELIVER?

A country's Policy formulation is not an easy task as it needs an entire sector to work hard and come up with something that can uplift a country's overall performance. After formulation of a policy, the next important thing is its implementation without which, even a well-devised policy will simply lose its worth. Focusing primarily on the Information & Communication Technology (ICT) sector, we must accept that due to the emerging technological advancements, IT has become an integral part for the progress of all sectors and industries be it health, education, governance etc. Therefore, it requires even greater attention on policy implementation.

The Ministry of Information Technology & Telecom (MoITT) in the past has generally come up with reasonable policy frameworks, although sometimes with delay. One such example is the recently announced "Draft National IT Policy, 2016". There are some fundamental questions that the document must answer in order to establish its relevance and

effectiveness. Such as How far has Pakistan achieved the envisioned goals as described in its policies from 2000 to 2016? How many of the significant technological areas/initiatives are still pending and need more attention? And what other reforms need to be introduced in order to get prepared for the future?

Then and Now: A Comparative Analysis of 2000 and 2016 IT Policies

At the onset, it is a quite strange phenomenon that while the Global ICT industry has moved towards convergence of policies, our policy makers are doing just the opposite by splitting the IT and Telecom sectors. It would have been much better if a holistic ICT Policy was introduced since huge time and resources were invested to come up with the much awaited Telecom Policy in 2015 and now the draft IT Policy. Still hopes remain high that both policy documents will act in a more compensational way



By Saima Ibrahim

that will fulfill the required future needs of entire IT industry.

ICT has become an integral part for the progress of all sectors and industries be it health, education, governance etc. It requires greater attention on policy implementation

Let's begin with some broad analysis of Draft IT Policy of 2016 and compare it with achievements and fallbacks of previous IT policy of 2000. It would be equally important to suggest some recommendations that we believe should be part of future and final IT policy document. The following chart provides a quick glance of similar points of both these policies and also, the latest additions in the IT 2016 policy by the MoITT this year.

Shared Areas of IT Policy 2000 & 2016	Additional Areas Added in Draft IT Policy 2016
HR Development	Cloud Computing and Big Data
IT Education, Training & Awareness	Persons with Disabilities (PWDs)
Infrastructure Development	Mobile based Value Added Services
Development of Local Software Industry & Promotion of Software Export	Cyber Space Security
Urdu & Regional Language Software Development	Entrepreneurship and R&I in IT Sector
Hardware Industry Development	Open Source

Shared Areas of IT Policy 2000 & 2016

Some of the areas of previous IT Policy of 2000 reappeared in 2016 IT Draft Policy but with more committed approach so that the Government can put more efforts and come up with better results. The Government intends to increase role in training the Human Resource, providing best IT education and produce a workforce with relevant skills set at all levels in the country. This is to be managed through Corporate Advisory Council (CAC) in major universities, build upon the work already being carried out by HEC. The Government also aims to provide counseling regarding intellectual

property rights, technology transfer, regulatory compliance and tax requirements in 2016 Policy so that, individuals can be properly trained to make contribution in the national development. Regarding the "Infrastructure Development" the 2016 Policy, other than IT Parks & Incubation centers, aims to facilitate access to workspaces, common services, funding and promotional agencies, university R&D facilities and professional training.

The well-planned "Development of Local Software Industry" can enhance the performance of this sector hence; the Government will create jobs and contribute in the improvement of software exports and IT remittances. It will also concentrate on the promotion of emerging areas of mobile applications, responsive web applications and animation.

The Policy makers probably have realized the importance of Cloud Computing & Big Data at the right time & intend to take it to the next level with a policy framework

The development of software in regional languages is very significant in order to reduce digital divide. For this purpose, the 2016 IT Policy has come up with more realistic approach and will support creation of content in regional/local languages, promote national themes in IT and Apps usage.

Both 2000 and 2016 IT Policies highlighted the need to establish a Hardware Development Fund (HDF) to finance IT hardware related R&D and manufacturing activities in the country. Alongside with this, the Government will also encourage and reward improvements in the hardware sector depending on the level of hardware productions by local manufacturers; this will result in increased local value addition and competitiveness in the market. Already MoITT has exempted tax on IT exports till 2019 hence, there is a huge opportunity for investors to invest in the market. These are just some of the core areas on which the Ministry of IT has been working since 2000. Now the additional areas also need to be highlighted here as MoITT has timely added them in the Draft IT Policy 2016.

Additional Areas Added in Draft IT Policy 2016

Cloud Computing & Big Data

Cloud computing and big data has multi-advantages

for emerging economies of the world. The Policy makers probably have realized its importance at the right time and intend to take it to the next level with a policy framework going forward. This will help the federal Government and the provinces to a greater extent by linking their databases in order to prevent any type of duplication and also ensure synergy in all departments. Also the provision of cloud based citizen centric services to the general public will pave the way for e-government and subsequent transformation to m-government at all levels.



Working on this area will improve the communication between Government and the citizens. It will also improve the efficiency and innovation; which will result as a milestone step in coming years. How Government will expedite big data adoption in Pakistan will be an interesting feat.

Persons with Disabilities (PWDs)

Persons with Disabilities (PWDs) need special attention and must not be ignored in any field of life. A proper support for PWDs will help them contribute to the national development in IT sector. The National IT policy will boost their struggles through effective strategic measures in this regard as mentioned in the Draft. The Ministry envisioned to set up an "ICT Accessibility Unit" within public sector and also to encourage private sector. It will help to establish an equivalent unit in rural and urban areas to coordinate activities within and outside agencies. The government will also focus on the training of PWDs. Through such initiatives, disable people will get good opportunities in ICT sector and along with local language support they will be able to play their roles in the progress of Pakistan.



Cyber Security

The previously leftover area of "Cyber Space Security" being included in the Draft IT Policy 2016. The Government policy envisages developing a broader policy framework for it in order to promote indigenous development of suitable security processes and technology through local development and deployment of IT products and processes. The important point is that the Government needs to align IT policy initiatives with its recently approved Cybercrime Bill that shall require extra diligence from the Ministry.



Entrepreneurship and R&I in IT Sector

In order to promote and support start-ups especially after the 3G/4G roll-out, the Government under the IT Policy aims to introduce trainings, relevant platforms and fund raisings so that creative individuals can play their roles in the ICT development. This is a very important aspect as Pakistan produces more than 25 thousand IT graduates every year and this resource needs to be harnessed and nurtured to reap the dividend of ICT and make an impact on a global scale.

MolTT envisions to set up an "ICT Accessibility Unit" for PWDs within public sector & to encourage private sector to establish an equivalent unit in rural & urban areas

More specifically in addition to traditional fields, the policy touches upon advance Entrepreneurship and Research and Innovation activities to be focused in emerging fields as well such as biotechnology, renewable energy and nanotechnology etc.

Open Source

Another worth mentioning addition in the Draft IT Policy is the increased emphasis on "Open Source". Generally, "Open Source" refers to a computer program in which the source code is available to the general public for use and/or modification from its original design.

Open source is getting traction for last many years due to its benefits like cost effectiveness, interoperability, avoidance of vendor lock-in etc. That is why MolTT has

rightly planned to focus on it so that Pakistan can also take use of it. For this purpose the Ministry will encourage and promote R & D and training on Open Source in both private and public sectors through its collaboration with educational institutions.



For ideal implementation of Open Source system in the country, MolTT will separately devise a framework that will focus on common language for Govt. departments and ministries in the procurement and can overall ensure delivery of cross-agency services, identification of duplicate, re-usable and sharable services. This well-developed framework will also provide standards, principles and templates to ensure cost effective ICT procurement.

Digital Transformation of Industries (DTI)

The MolTT has also appreciated the significance of IT intervention in to different sectors of human life and the future IT Policy aims to work on "Cross-Sector Collaboration" in coming days. The Digital Transformation of Industries (DTI) analyzes the impact of digital technologies on business and society, to better understand digital transformation opportunities and risks in industries and their related sectors. The cross-industry sectors will be Platform Governance, Impact of Policy & Regulation, Societal Implications, and Impact of Emerging Technologies. The contemporary global world is taking advantage of technology in different sectors and the main areas for 2017 will even include Chemicals, Mining & Metals, Oil & Gas, Insurance, Aviation & Hospitality, Professional Services and Retail. The DTI focus in the policy is a good addition.

IT Policy 2016: Carrying the Baggage from the Past

Implementation of policy is as important as its development since the success of any policy depends on it. Not only policy development has been an issue for MolTT but its implementation has also been quite a challenge in the past which is why, new IT policy of 2016 has to carry certain element as a baggage from the past. Comparing with the first decade of 2000, no doubt Pakistan has improved a lot in the IT sector. In the absence of internet proliferation especially prior to the 3G/4G auction Pakistan was the 4th most

unconnected country in the world (as per World Band Report) its IT ranking was something that not many were proud off. The policy implementation did not exist back then that made the country lag behind even when compared with regional peers. The lack of Policy Implementation has remained the main reason for the country's lack of progress in this important sector.

Getting policy implementation right is very important, poor implementation cannot only result in heavy losses in terms of finance, HR and time but most importantly the opportunity loss is colossal

Following are some of the most important areas that should have been improved over the years but no positive development can be seen even today especially when it comes to implementation.

e-Government	The draft of "e-Government Standards" framed in 2009 is still a draft and the NIRTB has failed to deliver
Policy Review & Implementation	No sincere policy review system exist which then leads to unsatisfactory implementation

Policy Review and Implementation has always been the weakest point of successive Governments. Getting policy implementation right is very important, poor implementation cannot only result in heavy losses in terms of finance, HR and time but most importantly the opportunity loss is colossal. For this purpose, while the MolTT has mentioned in Draft 2016 that it will need to undergo a drastic capacity building exercise to ensure that substantial efforts are made to achieve policy objectives through collective efforts, this would need very close monitoring for the policy to succeed.

The IT paradigm has changed significantly with new technologies and ideas such as IoTs, Cloud Computing, Big Data, Connected Cars, Drones, and Robots etc. have taken the forefront. Hence, the policy formulation demands serious review structure so that it can be ascertained that what has been achieved and what is still left.

Looking Ahead in Technology; What More Needs to be Done?

With rapid transformation of technology, there

is dire need to be futuristic and lay the grounds for adoption of upcoming technological advancement. For the said purpose, ICT policies must be formulated by keeping in mind both, the present and the future waves of technology changes. 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.

The performances of PITB & KPITB have been commendable as it has introduced many smart initiatives in different sectors just in a short period of time

Policies must incorporate futuristic technologies so that the intervention of latest tech advancements take place without any delay. Similarly, with the Internet of Things (IoT) expected to reach 50 billion connected devices by 2020 (IDC), demanding a well-devised policy. A national strategy supported by strong and stable regulatory framework for the Smart Cities, if designed and implemented correctly, would maximize the opportunity for the Internet of Things to deliver substantial social and economic benefits in Pakistan. The present Draft IT Policy aims to further introduce many smart initiatives in Pakistan but it has to provide more clarity on policy and regulatory framework for smart homes, connected cars, smart gadgets, robots, drones etc. in specific terms so that these futuristic needs could proliferate in the country. With fast paced technology developments in Pakistan, we can expect that in a year or two we will be seeing many of these innovative technologies in Pakistan. Therefore, a proactive approach is very important to reap maximum benefits.

Provincial IT Policies

Presently, Provincial IT Boards and Directorates including Punjab Information Technology Board (PITB), Khyber Pakhtunkhwa Information Technology Board (KPITB), Baluchistan Science & Information Department and Sindh Information Technology Board (SITB) are responsible for introducing ICT setups and initiatives in their respective provinces. Interestingly, some of the provincial boards are found to be more committed to the digitalization of provinces as compared to others. The performance of Punjab Information Technology Board (PITB) has been commendable as it has introduced many smart initiatives in different sectors of human life covering health, police, education, agriculture and finance in the province just in a short period of time. Recently, Punjab also came up with its first draft of "IT Policy"

and opened it up for public and stakeholders consultation. The Policy circulates around six fundamental "Es" of different areas including Education, Economy, Empowerment, Employment, Entrepreneurship and Engagement; whereas, the outline of the Punjab IT Policy include Industry, Start-ups and Miscellaneous Small & Medium Enterprises (MSMEs), Health, Governance and Citizens. PITB is expected to finalize its IT Policy by the end of December, 2016. Apart from PITB, the KPITB has also shown commitment in digitalization of the province and introduced many such initiatives.



The most relevant and important question that arises is how the Provincial IT Boards will incorporate the National IT Policy structure in their respective ICT Policies and will build a framework through which efforts could be collaboratively done and not duplicated. The IT draft did not mention that how the Provincial Governments and their IT Boards will be indulged and develop policies for themselves and what role Federal Government will play in this regard; indicating a loop hole on the collaborative approach of Government. There should be a National IT Policy that should sink well with the Provincial IT boards & vice versa and also develop a system through which IT Asset could be shared amongst other provinces as well.

The overall performance of the MoIT has been satisfactory during last few years but it needs to keep pace with the changing technology trends

The overall performance of the MoIT has been satisfactory during last few years but it needs to keep pace with the changing technology trends. The Draft National IT Policy 2016 needs more realistic yet futuristic approach so that the IT sector of Pakistan is well-prepared to face future challenges beforehand. Although, the present signs indicate a step towards the right path but there is always room for improvement. Let's hope that the coming year 2017 embarks upon a new era of development in Pakistan.



By Saima Ibrahim

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 all initiatives taken by government to make Pakistan a Smart Society.

Establishment of "Restaurant Invoice Management System (RIMS)"

PITB's web based monitoring tool is a "Restaurant Invoice Management System (RIMS)", which enables real-time capturing and monitoring of invoices issued by the restaurants to ensure proper declaration of Punjab sales tax on services collected. This move has performed well after its implementation in the province while helping the tax department in collection of taxes.



Inauguration of Smart Patrol Force in KPK

CM KP Pervaz Khattak inaugurated Patrol Force in Peshawar with cameras installed in their uniforms and 20 vehicles with tracking system will be provided. The force will patrol the city while ensuring law and order situation in the city. Using technology for security purposes will definitely make the system more efficient and effective.



Establishment of Police Integrated Command & Control Center

Punjab Govt. introduces smart lab and multimedia classrooms. In these classrooms, teachers will use digital content having videos, animations, imitations and assessments to assist self-learning. The project includes a lab of 50 tablets for the nominated school. Students would be then capable to access the digital content. Monthly tests of students will also be piloted at the lab and the dashboards will show results online and in real time. Almost 600 plus students will profit from this venture while parents enthusiastically greeted the initiative.



QMobile

Noir J7

The Bigger and Faster smartphone

QMobile has launched the new J series with better features and some improved technologies. This time we are going to discuss a device from its J series "QMobile Noir J7", which is an upgraded version of Noir J5. Here is the detailed Review.

Display

Since QMobile J7 is an upgraded version of J5, therefore, they both look quite same. The phone features a 5.5 inch HD IPS display and 720 pixels resolution. It supports a pixel density of 320 dpi. The screen offers very cool colors with decent image quality and icons look very cool and composed.

Design

QMobile Noir J7 has dimensions of 152 x 71.3 x 8.1 mm and weight is 182 grams. The 5.5 inch screen size makes it hard for you to carry it with a single hand. The shiny gold colored bezel layer has cover all four sides of the phone making it look very appealing.

The back cover of QMobile J7 has a plastic metallic body with some shiny pattern. This amazing design at the back makes it look very attractive. however, it resembles a little with Samsung S6 Edge

Memory

QMobile Noir J7 is a rich device when it comes to the memory section with 3GB RAM and internal memory of 32GB that ensure that no delay or lag occurs during multi-tasking.

Camera

The camera house of QMobile Noir J7 is packed with best lenses. The back camera of QMobile Noir J7 has 13MP lens with LED flash light. The 13MP sensor produces soft images with little noise but brightness is well balanced in every environment. It captures images with high detail and rich color in daylight moreover in low light it also produces very good results. Low light images has visible noise and soft details if we zoom in the picture. Video can be recorded in full 1080 pixel resolutions.

The front camera of QMobile Noir J7 has 5MP lens with screen flash light. It produces very detailed and natural-looking shots although it has some noise effect but only in low lights.



Battery performance

The power house is packed with removable 3100 mAh Li-Po battery that provides incredible battery time. We have 2V charger for quick charge.

Processor

QMobile Noir J7 is featured with fast octa-core 2.2GHz processor and it has Media Tek MT6595 chipset. This chipset is world's first octa-core 4G LTE smart phone chip with the new ARM-Cortex A17 processor. It works brilliantly when multi-tasking and while playing games. No heating issue is observed while testing the device.

Interface

QMobile Noir J7 is featured with latest android version 6.0 (Marshmallow). Icons have clear suitability and they have with cool colors. There is no application manager available in it, just a slider is available to look for any specific application.

The lock screen of the phone has automatic wallpaper option which means that the wallpaper changes after a few minutes. Some bloat-ware applications are already installed on in such as QAppStore, Chameleon, Theme park, game loft and some others.

Network / Connectivity

The QMobile Noir J7 is packed with the best connectivity section. It is 4G supported smartphone and supports all bandwidth of networks in Pakistan. The speed limit over 3G and LTE is CAT. 150/50 Mbps.

Other connectivity options include Wi-Fi, Bluetooth and FM radio. Wi-Fi supports 802.11 b/g/n while Bluetooth version is 4.0. MicroUSB port 2.0 is available for data transfer and to charge, the device also supports OTG.

This Noir edition device is dual SIM supportive with dual stand by that means we can use both SIMS at same time.

By Muhammad Awais

OS: Android, v6.0 (Marshmallow)

Display: 5.5 inches

Battery: Removable Li-Po 3100 mAh

Dimensions: 152 x 71.3 x 8.1 mm



Camera: 13 MP, autofocus, dual-LED flash

Memory: 32 GB, 3GB

Processor: Octa-core 2.2 GHz ARM Cortex-A17

Price: PKR. 18500/-

Vellamo Benchmarking

The vellamo analysis is a scheme of test series that run tests and gives the detailed assessment of smart phones. Vellamo has tested QMobile Noir J7 and multi core test has scored 2385 points while in metal test it scored 1676 points. Its Chrome browser scored 2274 points.

Antutu Benchmarking

Antutu provides us the best information regarding efficiency of smart phone. We have tested QMobile Noir J7 with Antutu benchmarking test and it has scored 56541 points because of its fast chipset. MediaTek chipset MT6595 good ranking in antutu benchmarking.

Good

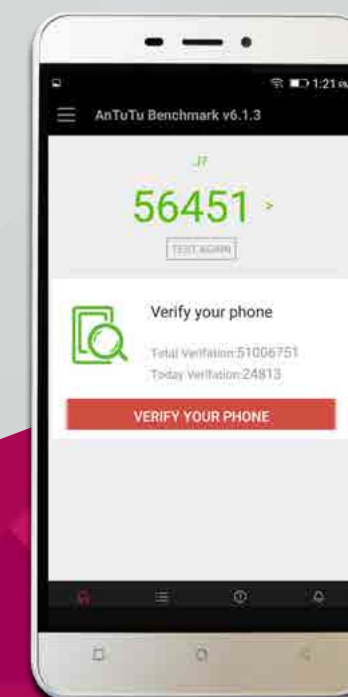
- LTE enabled device
- Fast octa-core processor
- 13MP and 5MP camera
- Android 6.0 (Marshmallow)

Bad

- No Secondary mic
- Heavy weight

Final Verdict

QMobile Noir J7 is a massive 4G device with 3GB RAM and 32GB ROM. The device is rich in features and it can easily compete with giant devices of Samsung like J7, A7 etc.



Merging the Brands and Branding the Merger

Mergers and acquisitions hold great importance

for a company since they create an uncertainty not only for customers but also for employees. Therefore, post-merger marketing initiatives should focus on providing a sense of security. Whenever a merger and acquisition takes places, there are numerous critical decisions that have to be made to direct the future. Leadership especially has to make choices about combined portfolio and branding as goodwill is the most important non-tangible asset of a company.

The much hyped merger of two telecommunication giants, Mobilink and Warid merger can be termed as the biggest event in telecom sector of Pakistan

The much hyped merger of two telecommunication giants, Mobilink and Warid merger can be termed as the biggest event in telecom sector of Pakistan. It is one of its kind in Pakistan and will surely shape the future of the industry in coming years. This merger is not only important from business point of view but it will also serve as the stepping stone in the digital revolution in the country. Mobilink has announced some big plans for future, now that it has completed its merger. According to Vimplecom's own statement, the combined Mobilink and Warid entity will be the leading telecommunications provider of 2G, 3G and LTE services in Pakistan, providing higher quality national voice and data coverage, faster downloads, and a wider portfolio of products and services.

Mobilink has decided to go with "Jazz-Warid" brand to announce its new identity with a bang-on tagline, "Dou Network, Ik Awaz". How effective this new branding strategy will be for Mobilink in the future is the main idea behind this article. So let's explore what other



options Mobilink had as far as branding is concerned and if Mobilink has made the right move or not.

Mergers are the turning point for any organization. That's the time when organizations reinvent their strategies and business portfolio. After finalization of merger deal, Mobilink had to go through similar process. One of the most important factor in re-strategizing practice is branding the new business. The decision is crucial because company not only has to take a decision that will be profitable for them in the future but it also has to make sure that customers and employees are also satisfied with the changes.

There are few branding options that companies can opt after merger, where each option has its unique pros and cons. Big companies do an extensive research to gauge customers' response before selecting any option. Rebranding is the number one reason that creates brand confusion; to avoid that marketers and leaders have to come up with a solid strategy.

There are three main options that companies pick from the post-merger planning.

Backing the stronger horse

In this strategy the combined entity adopts the identity of one of the brands. Normally the brand that is stronger in the market is selected as the new identity. We have seen some big companies opting this strategy in the past. DHL when acquired Airborne Express used its own brand for merged entity whereas, NorthWest used WellsFargo's brand as its new identity after merger.

In telecom industry, acquiring operators mostly use their own brand as new identity. When American mobile



By Rizwana Khan

operator AT&T Wireless merged with Cingular in 2004, it used AT&T as its merged brand identity.



Business as usual

Following this strategy, both brands continue to use their names on products and services, but only one is used at corporate level. For example even incorporated in P&G, Gillette and P&G still use their own brands in the market.



Sprint after acquiring Nextel, renamed its business to Sprint Nextel Corporation but When Softbank acquired the company it returned to using simply Sprint Corporation.



Fusion

The third option for companies in terms of rebranding is fusion. It is technique through which elements of both brands are incorporated in the new brand name. Famous example of this type of rebranding include HP, ExxonMobil and AOL Time Warner. In some cases, combination of one company's name and other company's symbol is also incorporated to create a new brand identity i-e United Bank of Switzerland (UBS) with Swiss Bank Corporation symbol, Citigroup with Travelers' logo.



Mobilink has also used this rebranding strategy and came up with "Jazz Warid" brand. In the current situation this was certainly the best possible option for Mobilink. If Mobilink had opted for first strategy of "Backing the stronger horse" and used its own brand name, it would have lost all Warid brand equity and associated goodwill of customer and employees. Besides that, their immediate cost of rebranding would have also increased. Whereas, if it had continued its business as usual with separate identities it would have not only impeded the post-merger integration but would have also resulted in increased long-term cost to maintain two separate brands.

Mobilink has decided to go with "Jazz-Warid" brand to announce its new identity with bang-on tagline, "Dou Network, Ik Awaz"

So, using the fusion strategy, Mobilink will not only get greater market power but will also manage to cut down its long-term cost. But the most important advantage that Mobilink will achieve while going forward with fused identity is that it can preserve the brand equity and goodwill of both brands. Using both names in parallel will also help to create awareness among the less aware customer base of far flung areas who do not have access to advanced media. Besides, the "Dou Network,

Ik Awaz" tagline is very powerful and solid that people who knew nothing about the merger before now easily understand the big change in telecom market.

Mobilink and Warid merger is a monumental event for the telecom sector of Pakistan and Mobilink will especially reap great benefits from it in the future. Before the merger, Mobilink and Telenor were neck to neck but after the finalization of this deal Mobilink has once again become the biggest mobile operator of the country. Not only its subscriber base has increased but it has also secured greater spectrum chunk. Also, they got the state of the art network infrastructure of Warid. Mobilink made a huge investment to secure all this but to reap benefits to the fullest depends on how effectively Mobilink devises its future strategies. Rebranding its new identity was perhaps the most crucial decision for the company because it can have long-term effects on its business. Mobilink recently rebranded itself and brought back its old popular brand Jazz. But even after more than a decade, Jazz holds strong brand identity and people still recognize it as a number one mobile brand.

Mobilink made a huge investment on this merger but to reap benefits to the fullest, it depends on how effectively Mobilink devises its future strategies

Mobilink Jazz and Warid are said to have the most loyal customer bases so, to ensure post-merger brand portfolio is most successful, it is very important to create a brand strategy that prioritizes consumers above everything else. That's what Mobilink has done by recognizing the customers of both brands as the most important stakeholder.

Mobilink's financials have greatly improved lately. It has posted a massive growth of 17% on its YoY organic revenue for the third quarter of 2016. This ascent was mainly driven by a data revenue growth of 71% mainly due to successful data monetization initiatives, including attractive bundle offers and the unification of the tariff portfolio, together with continued 3G network expansion. It's Mobile Financial Services and device market has also become stronger this year. All in all, Mobilink has become quite aggressive in recent times and giving special attention to all areas of operation. With right marketing strategies, Mobilink can not only retain but also upturn its customer base. It has already started its integrated packages and 4G service for customers of both brands. Mobilink and Warid should wait as they will surely get a great treat in future....!!!



Pakistan Mobile Operators' 3G Data Tariff Strategies & Comparison

The launch of 3G & 4G services have opened doors for many opportunities in Pakistan. All mobile operators are making the provision of internet services more accessible and affordable. The availability of internet has also witnessed a huge turn in the industry from revenue point of view. The telecom sector managed to make revenues of about Rs. 333.2 billion alone during July 2015 to March 2016, revealed by the Economic Survey (2015-2016), with tax revenues up to 105.92 billion. PTA analysis indicates that the total number of 3G/4G subscribers alone have increased to 35 million as of October, 2016 with the total population of Pakistan estimated around 191.71 million. Now the time is ideal as we can surely make room for higher future returns in the telecom sector only if we manage to take full advantage from 3G/4G services.

According to Economic Survey (2015-2016), the telecom sector managed to make revenues of about Rs. 333.2 billion during July 2015-March 2016, with tax revenues up to 105.92 billion

Similarly, the Mobile operators have been centering all their concerns to capture the markets of the 3G/4G subscribers due to the growing m-services trends in the country. For this reason, major focus has been driven to the competitive "Data Tariffs". Operators have gone to every limit in order to increase their subscriber base like mergers, re-branding, attractive marketing strategies etc.

PhoneWorld Magazine has always played an active role in facilitating the subscribers by providing reliable and accurate data regarding the telecom and ICT products and services. We have only compared 3G tariffs in this analysis whereas, a detailed 4G data tariff benchmarking will be done in our next issue. The purpose of this analysis is to facilitate our readers in selecting the best data package according to their needs and requirements.

Pre-Paid Data Packages

Daily Data Packages

Telecom market has become very competitive and has forced mobile companies to adopt affordable pricing strategies despite heavy taxation. Operators have made various changes in their data packages and pricing. We have done this analysis for a clearer understanding of each operator has customized its packages and pricing, making them more customer friendly.

By Mariam Zafar

Total number of 3G/4G subscribers have increased to 35 million subscribers as of October, 2016; indicating that now the time is ideal as we can surely make room for higher future returns in the telecom sector

Let's start with the daily 3G packages offered by the four operators:

package which was priced at Rs.15, had a quota of 50 MB whereas, it now offers its cheapest package for Rs.12 that gives 75 MB. The higher priced package was daily plus bundle priced at Rs.25 and had the data limit of 100 MB which is now changed to 75 MB package for Rs.15. Telenor has adopted a similar strategy by doubling its per rupee unit data from 3 MB to 6 MB for its lowest daily data packages. While it only made an incremental change in its highest daily data packages i-e from 4 MB to 5 MB per rupee.

In the packages and pricing war, Ufone seems least

Daily Packages								
Network	Lowest Package				Highest Package			
	Old prices		New prices		Old prices		New prices	
	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
ZONG 4G	4	4	5	20	20	80	25	200
telenor	15	50	12	75	25	100	15	75
ufone	5	50	5	50	10	40	10	40
Mobilink	5	5	5	30	15	50	12	50

Source: Phoneworld

As evident from the above chart, all operators have made major changes in their pricing and packages. All these packages have improved that offer more MBs for lesser prices, making the competition tougher for operators.

competitive. It did not make any changes to its daily packages and stuck to its previous price chart with the strategy that the more users pay, the more speed/data they get.

Average per Rupee MB's served				
Network	Lowest Package		Highest Package	
	Old	New	Old	New
	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.
ZONG 4G	1	4	4	8
telenor	3.33	6.25	4	5
ufone	10	10	4	4
Mobilink	1	6	3.33	4.17

Source: Phoneworld

Zong's minimum daily data package was offered at 4 MB for Rs. 4 while, the daily premium package was priced at Rs. 20 with the data limit of 80 MB. According to the latest pricing, 200 MB data is available for Rs. 25. Zong previously offered 1 MB per rupee with average and now offers about 4 MB per rupee on its lowest daily 4G data package. Similarly it doubled its package data from 4 MB to 8 MB at the same price charged previously for its highest daily packages.

Telenor has continued with its two daily packages. The old cheapest package was the daily bundle

Mobilink previously offered two 3G daily bundle but now offers three daily 3G bundles. Earlier, the cheapest package had a data cap of 5 MB and priced Rs. 5 which is now changed to 30 MB for Rs.5.





All operators have made major changes in their prices & packages. Daily packages have improved and offer more MBs for lesser price, making the competition tougher for operators

The other package that was more expensive was the 3G daily bundle, offered for Rs. 15 and had a data limit of 50 MB. The current cost of this package is Rs. 12.





The graphs below give a comparison of the old and new data packages offered by four mobile operators, illustrating maximum and minimum MBs offered per rupee in cheapest and premium daily packages.

Weekly Data Packages

We have also made an overall comparison of old and new weekly packages. Here are the details:

Weekly Packages								
	Lowest Package				Highest Package			
	Old prices		New prices		Old prices		New prices	
	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
	70	280	70	700	70	280	100	2000
	75	500	75	750	75	500	100	1200
	50	250	50	250	125	250	125	500
	60	300	50	300	60	300	75	500

Source: Phoneworld

Average per Rupee MB's served				
	Lowest Package		Highest Package	
	Old	New	Old	New
	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.
	4	10	4	20
	6.67	10	6.67	12
	5	5	2	4
	5	6	5	6.67

Source: Phoneworld

Zong now offers two weekly data packages instead of one. Previously, Zong offered the cap of 280 MB at Rs. 70 but now 700 MB is offered at the same price. On the other hand, its premium package offered 2000 MB at Rs. 100. A huge difference can be seen in average MB per rupee. Initially 4MBs were offers per rupee but now 20 MB are offered at the same price.

Telenor also adopted a similar strategy like Zong and has introduced two weekly bundles, it offers more for less by going from 7 MB per rupee to 10 MB per rupee

Telenor also adopted a similar strategy and introduced two weekly bundles, it offers more for less by going from 7 MB per rupee to 10 MB per rupee. Again Ufone made no substantial change in its 3G data prices,

slight improvement can be witnessed in its premium package where its 2 MB data per rupee increased to 4 MBs. Mobilink also made slight upgradation in its average MBs offered per rupee.

Telenor, Ufone and Mobilink do not offers any weekly data packages for its post-paid customers

Monthly Data Packages

Below is the Comparative analysis of the new and old

prices for the prepaid monthly data bundles:





There are varieties of monthly data packages offered by mobile operators to choose from when it comes to monthly tariff.

Zong offers six different monthly packages. Among these, the lowest packages prices seem to remain unchanged whereas, a minor difference in old and new price of its highest data package can be seen.





Telenor has recently offered 4 monthly data packages. With no change in its prices and number of units served at per rupee.

Ufone now offers three monthly data packages where premium package has intensely improved, offering 10 MBs per rupee instead of 2.

Mobilink made remarkable changes in its data packages by increasing number of MBs offered per rupee.

Monthly Packages								
	Lowest Package				Highest Package			
	Old prices		New prices		Old prices		New prices	
	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
	50	150	50	150	650	4096	3500	20000
	400	3000	300	2250	1000	8000	1195	10500
	200	1024	250	1024	1500	3072	1000	10240
	150	500	140	2000	600	4096	1200	13000

Source: Phoneworld

Average per Rupee MB's served				
	Lowest Package		Highest Package	
	Old	New	Old	New
	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.
	3	3	6.30	5.71
	7.5	7.5	8	8.79
	5.12	4.096	2.048	10.24
	3.33	14.29	6.83	10.83

Source: Phoneworld





Post-Paid Data Packages

Weekly Data Packages





Starting from weekly data packages, Zong has the same weekly data package for both pre-paid and post-paid customers which costs Rs. 70 and has a data cap of 280 MB. Same changes have been made as per its Pre-Paid 3G Data Packages. Whereas, Telenor, Ufone and Mobilink do not offers any weekly data packages for its post-paid customers.

Following tables show the per rupee unit being served by the operators for the weekly data packages:

Telenor, Ufone and Mobilink do not offers any weekly data packages for its post-paid customers

Weekly Packages								
	Lowest Package				Highest Package			
	Old prices		New prices		Old prices		New prices	
	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
	70	280	70	700	70	280	100	2000
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0

Source: Phoneworld

Average per Rupee MB's served				
	Lowest Package		Highest Package	
	Old	New	Old	New
	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.
	4	10	4	20
	0	0	0	0
	0	0	0	0
	0	0	0	0

Source: Phoneworld

Monthly Data Packages

Zong has the same monthly data bundle for its post-paid customers as it has for its pre-paid customers and same changes are made in post-paid monthly packages. The cut-rate package that Zong previously offered was of Rs. 50 with the data limit of 150 MB. The most expensive data package by Zong was of Rs. 650 and had a data cap of 4096 MB (or 4 GB). According to its newly introduced packages, the most expensive package is now available for Rs. 3500 and has the data package of 20 GB.

package offered 1 GB for Rs. 200 (speed up to 256 Kbps) but the same data package is now available for Rs.300, which means, 5 MB were offer per rupee which now decreased to 3 MB. Whereas, more per rupee MB is now offered under premium package.

Mobilink has also introduced two new monthly post-paid 3G data packages with minimum package priced at Rs. 500 that offers 3GB while the premium 3G data package is available for Rs. 1000, with the data package of 8GB.

Monthly Packages								
Network	Lowest Package				Highest Package			
	Old prices		New prices		Old prices		New prices	
	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
ZONG 4G	50	150	50	150	650	4096	3500	20000
Telenor	200	300	100	150	1000	8000	600	4000
Ufone	200	1024	300	1024	1200	3072	1200	10240
Mobilink	0	0	500	3000	0	0	1000	8000

Source: Phoneworld

Average per Rupee MB's served				
Network	Lowest Package		Highest Package	
	Old	New	Old	New
	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.	Avg unit per Rs.
ZONG 4G	3	3	6.30	5.71
Telenor	1.5	1.5	8	6.67
Ufone	5.12	3.41	2.56	8.53
Mobilink	0	6	0	8

Source: Phoneworld

Telenor's previous lowest-cost package was available for Rs. 200 with 300 MB data limit and the most expensive package was of 8000 MB (or 8 GB) at the cost of Rs. 1000. Currently Telenor's lowest 3G package costs Rs. 100, with 1.5 GB data offered per rupee. So on average, the monthly lowest data package has remained unchanged.

Higher ARPU is directly related to bundled services offered by telecommunication companies, so the more affordable and attractive data tariff is, the more it will earn for the company

Ufone has deployed a different strategy to bundle up data with data speed caps. The most economic Ufone

Conclusion

Without advancements and innovations, long-term targets cannot be achieved in any field of life. Similarly, the loyalty of customers is deeply linked with the more affordable packages. The four mobile networks in Pakistan have definitely changed their pricing strategies when it comes to data packages, with an ever increasing subscribers.

Higher Average Revenue per User (ARPU) is directly related to bundled services offered by telecommunication companies, so the more affordable and attractive data tariff is, the more it will earn for the company. But above all is the consumer satisfaction with the services is important. Just affordability without quality of service will affect the consumer experience. Hence, all mobile operators must introduce data tariffs while also ensuring the best connectivity services for their subscribers.

By Rizwana Khan

TECH TWISTS



QWERTY Was Designed to Slow You Down

There are actually two theories to this. The first one starts to make sense when you look at manual typewriters. If someone typed too fast, the keys would jam. QWERTY placed common alphabets at a distance from each other and slowed typists down. Another theory is that telegraph operators designed the QWERTY layout because it was easier (and faster) to decipher Morse code.

World Wide Web's 50 Million Mark

While it took the radio 38 years, and the television a short 13 years, it took the World Wide Web only 4 years to reach 50 million users.



Domain Name Registrations Were Free Till 1995

Nobody really knew what the internet was capable of back then and this was a huge opportunity for people to own all kinds of domain names. It was in 1995 that a company called Network Solutions was granted the rights to charge people for domain names. And it was expensive too: prices typically started at \$100 per two years of registration.

Google Highest Amount of Electricity Every Year

Google uses an estimated 15 billion kWh of electricity per year, more than most countries. However, Google generates a lot of their own power with their solar panels.



A Computer User Blinks Only 7 Times a Minute on Average

A person normally blinks around 20 times per minute and this is sufficient for the eye to be replenished with tears containing oxygen, whilst at the same time getting rid of unwanted debris. However when we are surfing away on our computers, we tend to blink a lot less, around 7 times which is more than half the average.



Oye Kuch Kar Guzar--- is not just a name but probably the beginning of a new era of innovative content development in Pakistan.

Importantly, we are witnessing a complete change in the mindset of mobile operators. As technological forces are shaping the economy, the telecom industry as a whole and organizations at individual level are evolving. Slowing up of economic environment and decelerating growth, especially the ARPU depletion is putting lot of pressure on all the telecom operators to alter the way they operate. As the growth rates decline and core markets shrink, telcos need to rejuvenate their growth platforms to ensure future profitability. Telcos are forced to face a host of challenges like introduction of new technologies, maturing markets, greater competitive pressure, expanding and proliferating product offerings, and most importantly, the increasing pressure to meet changing customer expectations. Therefore, all the operators need to adopt new tactics to extract more value from their existing services. If they continue to be dump pipes, they may not survive for long.

Slowing up of economic environment and decelerating growth, especially the ARPU depletion is putting lot of pressure on all the telecom operators to alter the way they operate

One of the potential growth strategies that the operators will need to pursue is content development

to move from a dump pipe mindset into more intelligent and profitable entities.

With first of its kind online movie initiative "Oye Kuch Kar Guzar", Telenor Pakistan has probably taken the first step and opened new venues for innovative content development that will act as a stepping stone to strengthen the digital transformation process of all industries in the country.

With first of its kind online movie initiative "Oye Kuch Kar Guzar" Telenor Pakistan has probably taken the first step and opened new venues for innovative content development

The operator's idiosyncratic approach to introduce this sort of online content in the form of a movie establishes the fact that it is trying to do business at an accelerated pace and in a distinctive direction. Telenor Pakistan also came up with "Digital Pakistan Report" to explore the data market of the country and has always played an active role in initiating moves toward digital transformation of Pakistan. The realization of Easy Paisa and the way it has moved the Telco into commerce space (that, for decades has been dominated by the conservative banking channels) is definitely a success story that many can learn from. Also, how it is expanding its wings in other mobile services is quite impressive. This time, it has taken another leap and explored completely different market i.e interactive online movie making. The move by the telco might have gone unnoticed by

 By Minayel Zia

some but it does ring bells on how this will modify the future business model for the rest of telcos.

Although, sometimes back Telenor used similar technique while repositioning its Talkshawk brand. Back then, Telenor launched its Lollywood themed webisode series, "Razia Ghundo me Phans gayi" which unfortunately failed to capture viewers' attention and was heavily criticized for its loud and rough storyline. Now just after two years, the company rebounded by venturing into online film making with Oye Kuch Kar Guzar; featured solely on YouTube. Besides the apparent aspect of entertainment, there are also some underlying ideas that have been touched upon through this movie.

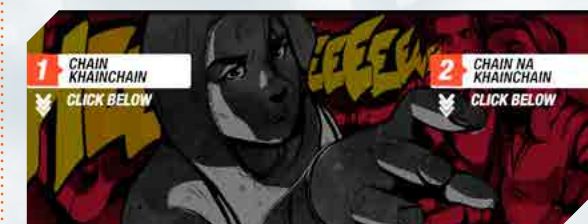
The movie makers have employed big screen movie making techniques and at the same time provided a new dimension to online movies. Although there are numerous YouTube users who make short YouTube films and Vlogs but the level of refinement we saw in Oye Kuch Kar Guzar is quite remarkable. The production quality, music, acting and direction is up to the mark, making the movie suitable for all screens. The conventional way of story writing has been replaced with a new and interactive method that encourages readers to develop a story of their own. Such an online content is not only a great source of entertainment but a very strong marketing tactic to promote and trigger customer engagement.



The Voice and SMS revenues are getting jeopardized due to availability of free OTTs including Whatsapps, Skype, Line, Snapchat etc. This probably is less problematic for developed markets with relatively higher ARPUs where data bundling is common and prices are high. So, it does not affect the operators' revenues as seriously as in emerging market like Pakistan. Therefore, it has become imperative to compensate for lost revenue in voice/SMS through other ways. Since small data packages at competitive price do not generate enough revenues, Telenor is acting smarter through proliferation of Data by utilizing its data-centric brand Djuiice that targets youth segment.



To keep viewers interested and engaged, movie has been made in series of small clips. At the end of each clip viewer is given an option to select what the character should do next, hence engaging the viewer in the story. This interesting and interactive story telling urges viewers to move from one clip to the next and watch the whole series of videos. By developing such a never-seen-before content, the operator has actually increased the on-line activity of viewers hence, triggering the data usage. So through this online movie, Telenor is not only engaging its existing customers but at the same time further expanding its market by creating awareness about its services.



"To succeed in a fiercely competitive market like that of Telecom, operators must employ proactive strategies that enable the delivery of an improved customer experience". With the launch of 3G/4G technologies in the country, the technology uptake has improved tremendously and has created many new opportunities, especially in digital sphere. Now a large portion of population has gotten access to technology. Internet has become the next big thing, not only for entertainment purpose but also for usability and effectiveness due to its mass reach. During, this phase when the customers have been well exposed to mobile broadband, its a perfect time to introduce such online innovative content.

Earlier telcos only used social media for marketing and promotion but this time a unique initiative is introduced i.e online movie

Since telecommunication is evolving at a breakneck speed and customer demands are keeping pace with these sweeping changes. Meeting future challenges require the operators to metamorphose uniquely in terms of their marketing stratagem. The online movie 'Oye Kuch Kar Guzar' or 'take the plunge' can be considered a message for rest of the operators. Earlier telcos only used social media for marketing and promotion but this time a unique initiative is introduced i.e on-line movie. Such marketing tactics will become essential in the coming decades for in order to keep up with the fiercely competitive market scenarios and cleverer customers.

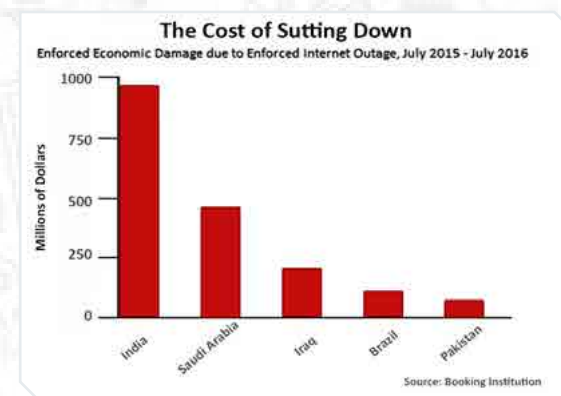


NETWORK SHUTDOWNS Making Matters Worse

In today's digital world, communication technology has taken up a monumental role in progress of every country. The importance of internet in the social and economic life has led the United Nations to enact a resolution supporting the "promotion, protection and enjoyment of human rights on the Internet". The resolution specifically "condemns unequivocally measures to intentionally prevent or disrupt access to or dissemination of information online in violation of international human rights law and calls on all States to refrain from and cease such measures." But government officials in many countries around the world are doing opposite of that. They not only block mobile service but also block access to online services and apps, completely ignoring the social and economic damage these internet service disruptions bring to their countries. Governments can cut off citizens' Internet access for a variety of reasons, including to quell dissent or force a company to comply with

a law. In 2011, the Egyptian government shut down access for five days to prevent communication between protesters, while more recently, Brazil blocked the messaging app WhatsApp after it refused to comply with requests for user data.

As economic activity heavily relies on the Internet, these kind of disruptions are very counter-productive.



Sufyan bin Azam

According to a study by Brookings Institution that estimate the cost of disrupting a nation's online activities, during the past year, 81 disruptions in 19 countries cost those economies at least \$2.4 billion. Besides these economic losses it also put lives in jeopardy, separates people from friends and family, and erodes confidence in the governments that take such drastic and ill-advised steps.



In some countries in Africa where people rely heavily on mobile money, the ramifications of network shutdown are especially severe. Since there hasn't been much analysis of the economic cost, government leaders may not even be thinking about it. But when governments shutdown mobile network, they are shooting their economies in the foot by closing door to the online world.

Government officials in many countries around the world block mobile services and access to online services and apps, completely ignoring the social and economic damage these internet service disruptions bring to their countries

Pakistan is one of those countries where network shutdown has become a normal affair. There are 134.41 million cellular subscribers and 34 million mobile broadband subscribers who suffer from network shut down. If political authorities continue to disrupt internet activity it will be difficult for impacted nations to reap the full benefits of the digital economy.

The growing scope of internet disruptions is creating detrimental impacts on economic activity. Pakistan telecom market has become highly competitive and data has become the new cash cow for mobile operators. Therefore, the network shutdowns drastically hit the data revenues of all mobile operators. As the digital economy expands

and number of 3G/4G subscribers increase, it will become even more expensive for nations to shut down the internet. Without coordinated action by all stakeholders in the industry, the damage of network shut down is likely to accelerate in the future and further weaken economic development. Even this year, phone services were blocked for more than 12 days at different points of time for various reasons.

Many experts consider network shut down as the violation of basic human rights and they consider it unnecessary and inappropriate response to potential terror activities. Ensuring the security and law and order situation is the utmost responsibility of the government but using network shutdowns as the main strategy to curb terrorism is not the right thing to do. The governments need to improve other methods of investigation to prevent any mishap. Whether their apparent motivations are public security or political self-preservation, government officials should understand the wide-ranging and destructive consequences of these moves. Relying on network shutdowns to prevent terrorist attacks deprive both citizens and law enforcement alike the opportunity to use communication tools in the fight against terrorism.

Pakistan's industry has taken a major shift over the past few years, from an agriculture driven economy to service sector with a total percent of 57.7 share in the industrial sector which is one of the fastest growing industry in recent years

Pakistan's major concern right now in the country is the political instability and distress among the nation due to terrorist attacks. Being a third world country with a total population of 191.71 million, it has been showing an upward trends with its GDP growth rate of 4.71, placing Pakistan at 8th in the world. Pakistan's industry has taken a major shift over the past few years, from an agriculture driven economy

to service sector with a total percentage of 57.7 share in the industrial sector which is one of the fastest growing industry in recent years.

The 6 internet shutdowns occurred in Pakistan cost the country's economy an astounding \$69.7 million, contributing to a total global cost of \$2.4 billion (July 2015 – June 2016) - Booking Institutions

However, political instability in the country has been an alarming situation due to terrorist activities, making the business industry slow and investors reluctant. Again taking into focus the telecom industry alone, the revenues made by the telecom sector during July 2015 to March 2016 are estimated at Rs.333.2 billion, revealed by the Economic Survey (2015-2016). With a massive amount of revenue that has been generated due to the telecom industry and a total tax generation of about 105.92 billion, we often seem to forget the impact jammers or telecommunication shut down for an hour or a day does to our industry.

Pakistan ranks at 138 out of 189 countries in the ease of doing business index, making it even harder for IT companies to make profit

With each hour of network shutdown the company loses approximately 38 million in revenue generation in the telecom industry alone. Not to forget the tax revenue that could have been gained by this loss of telecom revenue rounding up to 12 million. These numbers show a loss of an "hour's" shut down in the country, not even taking into account a whole day. A new study from the Brookings Institution quantifies the economic cost of internet shutdowns around the world over the past year have created a hype all over the internet. The study was conducted by the vice president of the institute Darrell West, examined 81 short-term shutdowns in 19 countries over the past year, estimating their impact on the economy of each nation.

According to the report the aftermath of the 6 internet shutdowns occurred in Pakistan cost the country's economy an astounding \$69.7 million, contributing to a total global cost of \$2.4 billion (July 2015 – June 2016). The table below consists of the 19 countries observed:

Country	Total Dollars
India	\$968,080,702
Saudi Arabia	\$465,280,632
Morocco	\$320,456,034
Iraq	\$209,578,705
Brazil	\$116,038,230
Republic of Congo	\$72,514,694
Pakistan	\$69,769,394
Bangladesh	\$69,178,309
Syria (ISIS areas)	\$47,945,886
Turkey	\$35,142,917
Algeria	\$20,504,794
Vietnam	\$11,921,178
Ethiopia	\$8,539,355
Syria (non-ISIS areas)	\$8,323,938
Chad	\$3,712,931
Uganda	\$2,160,617
Bahrain	\$1,246,616
Libya	\$414,194
North Korea	\$313,666
Total	\$2,431,122,803

Source: Booking Institutions

The Economic losses include \$968 million in India baring the most loss, followed by Saudi Arabia with the loss of \$465 million, placing Pakistan on the seventh with \$69 million loss, the rest as follows.

Internet disruption has become the biggest cause of economic instability in many countries. It not only effects e-commerce activities but it also costs governments tax revenue, weaken innovation, and undermine consumer and business confidence in a country's economy. Pakistan already ranks at 138 out of 189 countries in the ease of doing business index as companies struggle to make enough revenues that can incur taxes and can end up with profit. Harsh as it may sound, are we making ourselves even more unattractive as a country to be invested in? Indeed!

The successful life of Google co-founder, Sergey Brin

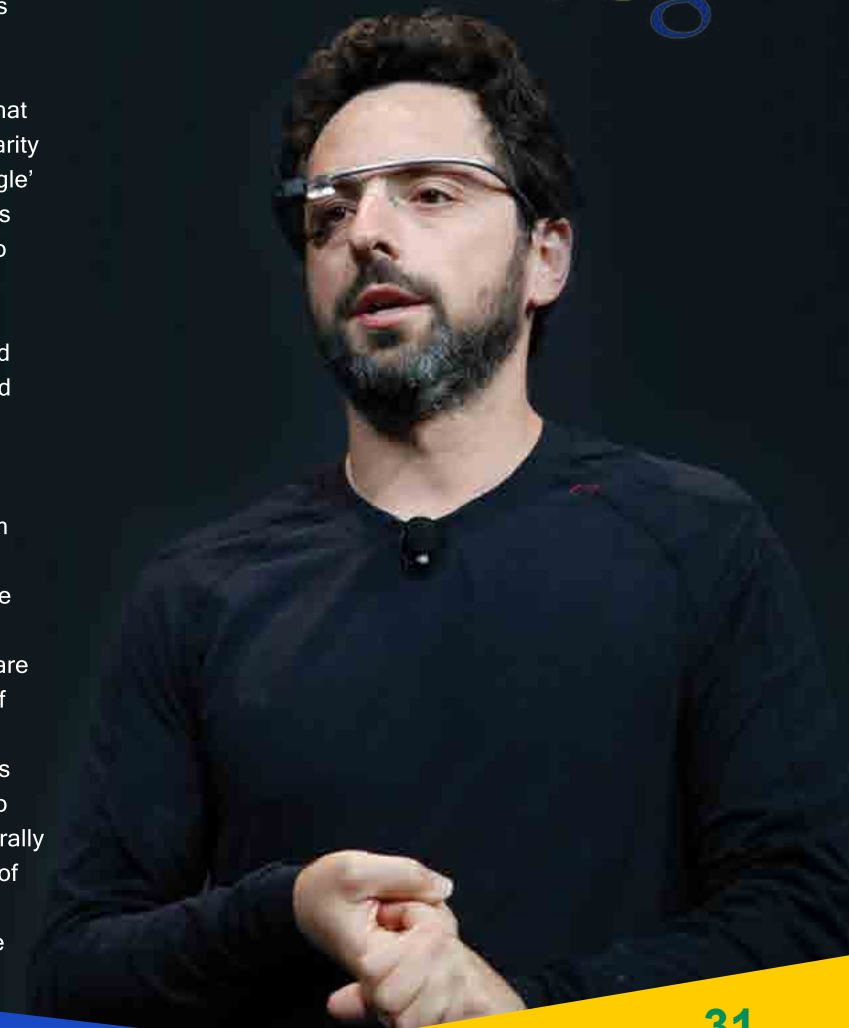
Ranking on number 30th on the Forbes List of Powerful People, number 10th on the Forbes 400 and on number 13th in the Forbes list of Billionaires, Sergey Brin, the Co-founder and Director of Special Projects at Google, is one of the most influential business magnates in the world and has proven so with his exceptional entrepreneurial skills.

Sergey Brin was born on 21st August 1973 Moscow, Russia. In order to escape from the Soviet oppression he immigrated to United States with his parents at the age of 6. He enrolled in the University of Maryland at College Park and graduated with a degree of Bachelor of Science in 1993. Brin then won a scholarship from the National Science Foundation and went to Stanford University where he studied computer science. To continue with his studies, Brin went to Stanford again to do a PhD in computer science but left on a leave to work on his project that later became known to the world as Google.

Brin met Larry Page at Stanford during his PhD program at Stanford. They became good friends and found a common interest that led to the development of Google which was initially a research project. They made a search engine that gave out a list of results according to the popularity of the web pages. They derived the name 'Google' from a mathematical term 'Googol' which means a 1 followed by hundred zeroes. This name also reflected their goal to organize the vast amount of information under a single platform. They collected funds and investments from family and friends and on gaining a million dollars launched their company in 1998. Since that time Google has been the number one search engine. It is the most popular and most used search engine and over 200 million searches are conducted on it every day. Its headquarters are in the Silicon Valley where Brin and his partner Page continue to work on their brainchild in order to make it better and more advanced. Both colleagues share the responsibilities of the work as the director of Special Projects.

Brin has been honored with many awards for his immense contribution to the world for it is due to his efforts (along with Larry Page) that have literally changed the way the world works. He was one of the top 100 innovators in the world aged below 35. He got an honorary MBA for 'embodying the

entrepreneurial spirit and lending the momentum to the creation of new businesses'. He received the Academy of Achievement's Golden Plate Award in 2004. The same year he also received the 'Highest Award in Engineering', the 'Marconi Foundation Prize'. In 2009, Brin was included in the National Academy of Achievement' and was also ranked as the 5th most powerful person in the world. His net worth is 37.1 billion dollars making him the 13th richest person of the world. Sergey Brin also helped orchestrate Google's massive restructuring. The move made Google a subsidiary of a new holding company called Alphabet, run by Brin as president and Page as CEO. The restructuring frees the founding duo from the nitty-gritty details of running the massive company, instead allowing them to focus on exploring inventive new "moon shot" projects and ideas. With top talent and an abundance of resources at their disposal, the company has already made automated homes and self-driving cars a reality.



By Kanwal Ayub

Jazz X is a part of Mobilink's evolution to become a complete mobile communications solution provider: **M. Ali Khan**

Director Data & Devices Mobilink

Mobilink is one of the oldest mobile operators of Pakistan with largest subscriber base of 40 million mobile users. After the recent ground breaking merger with Warid Telecom, Mobilink has further strengthened its position as the number one player in the market. The combined Mobilink and Warid entity that is branded as Jazz-Warid is now the leading telecommunications service provider of 2G, 3G and LTE services in Pakistan.

With progression in telecom services, Mobilink has also entered the device market with its Jazz X series which is giving a tough competition to other smartphone brands. Recently, our Phoneworld team (PW) got a chance to

have a candid conversation with Muhammad Ali Khan (MA) who is the Director Data and Devices at Mobilink. He is a Product and brand specialist with history of building and managing cross-functional teams and played an active role in the success of Jazz X brand.

In first quarter of coming year Mobilink would be in much better position to provide 4G service in major cities of Pakistan

PW: After the finalization of Jazz-Warid merger, people are anxiously anticipating new 4G services. When will Mobilink commercially launch its 4G network?

MA: Mobilink-Warid merger is the biggest event in telecom history of

Pakistan. The expectations of our customers have become even higher. Therefore, we want to bring state-of-the art quality of service for our customers. Initially, we started the service for our employees, in second phase we have provided the facility to our premium customers, still being in the testing phase. In first quarter of coming year we would be in much better position to provide 4G service in major cities of Pakistan.

PW: SIM replacement becomes quite a difficult task for an operator since most customers show reluctant behavior and consider it a tedious job. How is Mobilink handling that?

MA: At this stage, we have requested our customers to walk in to our service centers where

free SIM replacement is done. So far, we have gotten a very good responses from our customers since most of our subscribers are active data users. In addition to 4G SIM replacements, we have also started 3G SIM distribution for Warid customers who have also shown willingness for our 3G services.

PW: Mobilink launched its own 3G smartphone brand when it rolled out its 3G services. Now than Mobilink has entered 4G market, will it follow the similar strategy and launched 4G smartphones series as well?

MA: Although we are new in handset business but from the end of 2015, we started to aggressively pursue this domain. Our Jazz X partnership with QMobile is getting superb response from market and we were building upon that. One of our main objectives is to promote smartphone penetration. Moving forward, obviously 4G smartphones will be the next step for us in handset market as well.

We are planning to launch around 10 to 12 4G handsets in the first quarter of 2017

Our two 4G smartphones are already lined-up and will be launched in February next year. We are planning to further expand our 4G device portfolio and we are also planning to bring lot of SKUs (stock keeping unit) in 2017. We are planning to launch around 10

to 12 4G handsets in the first quarter of 2017 that will surely shake up the market with amazing features and great quality products at affordable prices.

PW: 4G smartphones are comparatively more expensive, how do you plan to tackle that issue & maintain your affordable pricing target?

MA: We entered the smartphone business by introducing entry level smartphones in order to reach bigger market. Right now, our price range is less than ten thousand Rupees. We plan to use similar strategy for our 4G devices as well so that maximum customers can make use of it.

PW: Jazz X is a youth-centric brand but when we talk about youngsters, they want more power and better features. Keeping in view changing customers' demand will Mobilink introduce any flagship device or still focus on entry-level smartphone market?

MA: Catering the needs of all market segments is definitely our priority. I think exploring new market segments with different and innovative products is a gradual process and we don't want to rush it. Ideally speaking we don't want Jazz X limited to just one segment rather we want to explore more segments but at the same time we want to do it with a solid strategy.

Our device market expansion is based upon our brand mileage, image and acceptance in market, once that's up to the market we will definitely look in to other segments as well. Let me assure you that it

won't take long since the response we have gotten so far in the market is quite impressive. We want to grab even bigger market with our premium devices; for 2017, our target price would be \$100 to \$150.

PW: Zong is the first 4G player in the market, whereas, Telenor has the biggest mobile broadband market share. How Mobilink plans to compete in such strong and competitive 4G market?

MA: 4G is comparatively a new technology in Pakistan and none of the players have gotten a strong foothold in the market so far.

Whoever brings innovative and high quality service at better price package will capture the 4G market and I strongly believe that Mobilink has everything it takes to become the ultimate champion

Therefore, it's a level playing field for everybody. Besides, whoever brings innovative and high quality service at better price package will capture the 4G market and I strongly believe that Mobilink has everything it takes to become the ultimate champion.

PW: Any message for our readers?

MA: Our mission is to bring innovation not only in our telecom services but also in our device portfolio. So keep a look-out for better and smarter technology by Mobilink.



telenor Infinity A

Telenor has launched first 4G LTE supported device series with Telenor Infinity. Telenor infinity A is the first 4G LTE phone in the Infinity series.

Display

Telenor Infinity A is probably the first proper smartphone from Telenor that comes with HD IPS display, the size of display is 5" with 720p resolution and 320ppi. The display has good color penetration however, the blackish saturation of pixel makes it slightly dim. The screen has decent visual readability from different angles. Overall, HD IPS is suitable display for Telenor Infinity A. The capacitive display supports multi-touch upto 5-point.

Design

The Telenor Infinity A has Ashahi Enhanced Glass on both front and back side with Uni-body structure, though the body is polycarbonate, the sapphire color looks quite attractive. It is just a handy smartphone with 142 x 71 x 7 mm dimensions.

The back side is also covered with Ashahi Enhanced Glass, that might be a little risky move, you have to be extra careful while using and have to use flip cover, while the front need protector. The edges are painted with shiny sapphire color; while the edges are a bit chamfered.

Memory

Telenor Infinity A is giving standard memory package with 2GB RAM and 16GB ROM, however the internal storage can be expanded up to 32GB using SIM2 slot.

Camera

Telenor Infinity A has 13MP lens at back with LED flash while the front goes with 5MP camera. There are three tabs in setting, the general setting, still camera setting and video camera. The general Settings includes Geo-Tagging, Face Beauty for multi face, Exposure, scene mode, White balance for different situations, and anti-flicker. Overall, the results of both camera are quite satisfactory.

Processor

Telenor Infinity A comes with MediaTek MT6735 chipset for processing, The MT6735 is 4G LTE



supported chipset with clock rate of 1.3GHz on each of 4-cores. For image and graphic processing, Telenor Infinity A has Mali-T720 GPU that work efficiently for mid-range devices.

Battery

Telenor Infinity A packs 2350mAh Li-Ploy fixed battery, which I personally consider less than the standard capacity for 4G supported device, it could have been at least 2500 or 2600mAh power capacity. The provided charger in box charges the Infinity A in 2 and half hours.

Interface

Telenor Infinity A runs on Android 6.0 (Marshmallow). Telenor Infinity A is pre-loaded with Office suite 8 which supports PDF, Excel and Word format. It also has Mobile anti-theft application to find the lost/stolen android smartphone. SHAREit application is already installed to share your content like photos, videos, music, contact, etc.

Network / Connectivity

The Telenor Infinity A is packed with all standard connectivity configuration, it supports all 4G LTE band in Pakistan including 850MHz band.

For local connectivity, the infinity A offers Wi-Fi b/g/n, Bluetooth 4.0 and hotspot.

For Global positioning, it is provided with A-GPS module. The physical connectivity has audio jack, microUSB for charging and data transferring.

OS: Android 6.0 (Marshmallow)

Display: 5 inches

Battery: Embedded 2350 mAh, Li-Po

Dimensions: 142 x 71 x 7 mm

Camera: 13MP AF with LED Flash

Memory: 2 GB RAM + 16 GB ROM

Processor: 1.3 GHz, 64-bit Octa-core

Price: PKR. 13,000/-



Benchmarking

Vellamo

In Vellamo tests Infinity A has shown good results as well. In single core section it scored 900+, while in multicore, it scored 1500+ points. The browser performance of Infinity A is also quite remarkable as expected with 2300+ score.

Antutu

Telenor Infinity A gave significant results in Antutu benchmark test. It scored 33K+ points which is kind of achievement for low-end mid-range device, thanks to its 1.3GHz Quad-core on cortex-A53 architecture.

Good

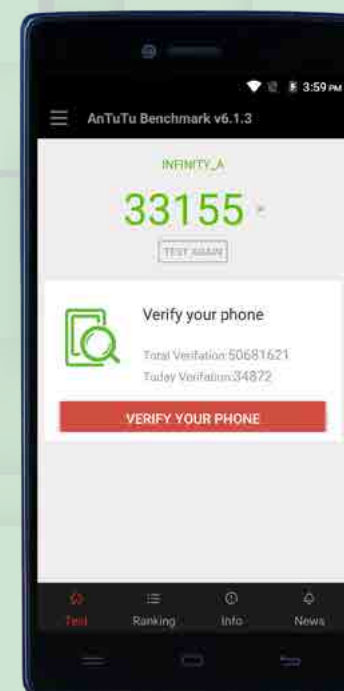
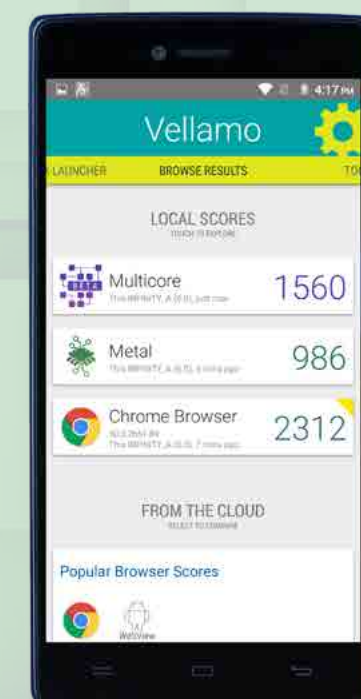
- Beautiful Design
- Elegant 13MP camera with 1080p video recording
- Smooth touch
- 4G LTE (1800/ 850MHz)
- Price 13,999/-

Bad

- No OTG
- Fragile Glass cover on the back, although it looks attractive

Final Verdict

Telenor for the time introduced smartphones in the truest sense. It is a great low-end device with some great specs. The performance of the device is also quite impressive as shown in the benchmarking tests. Additionally, it's a Telenor device so you will also get special bundled packages.



The BIG Hits of 2016

Technology is, no doubt, the most important part of life. We have become so attuned to technology that it seems impossible to think a life without it. With the human power and intelligence, technology is becoming more advance day by day, making us wonder, what's next? The world has reshaped our lives with latest technology and made our life more convenient. So, we have gathered some exceptional technology trends of 2016. Here are details of these remarkable technologies:

Ehang Passenger Drone

The world's first passenger drone, Ehang 184 was showcased at CES 2016.



The 184 was named for 'one' passenger, 'eight' propellers, and

'four' arms. EHang 184 is an electric-powered drone, looks similar to multi-copter. It can be fully charged in two hours and fly for 23 minutes with a maximum speed of 63 MPH.

The cabin has air conditioning and a reading light. For setting a flight, passenger only has to give two commands, "take off" and "land" through a tablet.

Oculus Rift VR

Oculus Rift is a virtual reality headset developed and manufactured by Oculus VR.



Oculus Rift is powered by windows 10 with 2160 x 1200 resolution and 8 GB+ memory. Oculus merges all types of entertainment through the power of virtual reality. It provides a 3D audio effect, rotational and positional tracking to enjoy the full virtual reality in the surroundings. Years after it shattered its Kickstarter campaign, the (now) Facebook-owned Oculus VR is finally shipping the consumer

CYBER CRIME LAW



version of the Oculus Rift VR headset this year.

Qualcomm's Snapdragon 835 SoC

Skipping Snapdragon 830, Qualcomm in collaboration with Samsung has launched next generation mobile System on a Chip (SoC) called the Snapdragon 835. As compared to its predecessors, 835 is 27-percent faster in performance with 40-percent less power consumption.



The Snapdragon 835 will be built on Samsung's 10nm FinFET node. Making the size of a chip so small to 10nm which is 1000 times smaller than the strand of a hair, provides more space to make phones thinner and batteries larger. Other companies, including Intel and TSMC, are working on 10-nanometer chips, Samsung and Qualcomm are the first to start building them.

Robotics 2016

Robots have always been very effective for precise and repetitive work. This year the world witnessed the Robots as major trend in all main technology events. Robots are also getting advance day by day by using Artificial Intelligence. RoboBrain is one of the innovative products in Robotics, which demonstrated how one robot could

By Onsa Mustafa

learn from another's experience. Similarly, Military Robots are advancing the military applications from transport to search & rescue and attack. One More Robot named "Omar" at GITEX 2016 grabbed the visitors' attention.



Another innovative robot is agricultural robot which was introduced this year by Blue River Technology in California, which can eliminate weeds without adding herbicides to food crops by modifying the seeds. There are also some cool robots for kids such as Sphero Star Wars BB-8 and Wonder Workshop's Dash.

Warid-Mobilink Merger

The merger of Mobilink and Warid was signed back in November, 2015 by the parent companies of both operators. But the completion of the transaction to merge both entities was finalized this year. Over 50 million customers in Pakistan will now benefit from high-speed mobile telecommunications and digital mobile network.



Mobilink has completed the acquisition of 100% of Warid's shares and given the CEO role to Aamir Ibrahim. This merger has enabled Mobilink to avoid having to pay an auction fee of USD 395 Million (base price). Mobilink and Warid will benefit from VimpelCom's \$1 billion investment into building one of the largest and most ambitious IT infrastructures in the country. This merger

will provide around 5,000 Jobs opportunity in Pakistan as well by establishing 1,500 retail stores and mini-franchises all over the country.

Cyber Crime Bill

The most awaited, Pakistan's first ever cyber crime bill passed this year. The Cyber Crime bill is imagined to deliver legitimate cover to the development of IT sector and stop any exploitation of IT system particularly for any anti-state activities.



The Bill will guarantee that digital deceit, blackmailing and anti-state activities are fully curbed. Cyber Crime Bill will help Federal Investigation Authority (FIA) to minimize the cyber crimes rate in Pakistan.

National Telecom Policy

With the advancement of technology, Pakistan IT and Telecom Industry is also flourishing at a rapid pace. One more ground-breaking step this year taken up by Pakistani Government was the approval of National Telecom Policy. The policy was finalized in late 2015 but MoITT presented the National Telecom Policy earlier this year.



No doubt, this policy lays out an adequate foundation for telecom industry. The ministry has also started working on National IT Policy which will hopefully be approved in coming year.

Telenor 4G Service on 850 MHz spectrum

Taking another major stride toward its digital inclusion and ecosystem development goals, Telenor Pakistan officially launched its 4G services this year, starting off with 6 Cities of Pakistan including Karachi, Lahore, Islamabad,



Peshawar, Multan and Swat. Telenor Pakistan won the technology-neutral 850 MHz spectrum license earlier this year and announced the launch of best-in-class 4G services in August 2016. It purchased the license at the base price of USD 395 Million, since no other operator participated in the bidding. Initially launched in six cities, Telenor is planning aggressive deployment in first half of 2017.

Pakistan's 1st ever DTH Auction

Pakistan's first-ever auction of Direct-to-Home licenses also took place this year through which government generated 14.694 Billion Rupees.



Eleven companies participated in the auction for three DTH licenses. The base price for the license was set at Rs. 200 million. Three operators managed to get the DTH license including Mag Entertainment, Shahzad Sky and Startimes Communication.

The role of technology in MEDICINES

The world of technology has tremendously changed over the last decade. In today's world, technology plays a key role in every industry along with our personal lives. Out of all of the industries, healthcare is certainly one of the most important. This unification is accountable for educating and saving innumerable lives all over the world.

Medical Technology is an extensive field where innovation plays a vital role in supporting health. Areas like biotechnology, pharmaceuticals, and information technology, the

development of medical devices and equipment, have made some noteworthy contributions in improving the health situation for many.

According to EU, by 2017 a projected 3.4 billion people around the world will own a smartphone and half of them will be using mHealth apps

From "small" innovations like adhesive bandages, ankle braces, wearable sensors and health trackers to more

compound technologies like MRI machines, artificial organs, and robotic prosthetic limbs, technology has certainly made an unbelievable impact on medicine.

As a result of the progress of these wonderful innovations, healthcare specialists can find ways to improve their practice - for better finding, surgical procedures, and enhanced patient care. In today's world it is not unusual for patients to hold video conferences with doctors to save time and money. With growing hospitals and practices using medical technology like mobile devices on the job, physicians can now have any kind of information they need

including drug information, research and studies, patient history and more within a matter of seconds.

From "small" innovations like adhesive bandages, ankle braces, wearable sensors and health trackers to more compound technologies like MRI machines, artificial organs, and robotic prosthetic limbs, technology has certainly made an unbelievable impact on medicine

The integration of medical equipment technology and telehealth has also formed robotic surgeries, where in some circumstances, physicians do not even need to be in the operating room with the patient when the surgery is performed. Rather, surgeons can operate out of their "home base", and patients can have the process done in a hospital or clinic to their own hometown, removing

the irritations and stress of health-associated travel.

Along with the medical technologies, mobile health is getting maximum popularity not only in medical community but also in Telecom and IT sector. Mobile Health (mHealth) refers to the practice of medicine and public health sustained by mobile devices and applications. Internationally, the phenomenon of mHealth is already well-developed but it is still in early stages in many under developed and developing countries. According to the European Commission, by 2017 a projected 3.4 billion people around the world will own a smartphone and half of them will be using mHealth apps.

The use of mobile devices by health care professionals (HCPs) has changed many aspects of clinical practice. Mobile devices have become normal in health care settings, leading to rapid evolution in the development of medical software applications for these platforms. Many apps are

available to support HCPs with many imperative responsibilities, such as: information and time management; health record maintenance and access; communications and consulting; reference and information gathering; patient management and monitoring; clinical decision-making; and medical education and training.

As Pakistan is a developing country with over half of its people living in rural areas, M-Health can greatly address the Health of people

Technology is playing an important role in medicine in Pakistan as well. As Pakistan is a developing country with over half of its people living in rural areas, M-Health can address the needs of the people. These areas neither have adequate health care facilities nor a strong set-up. The extension of ICT around the globe has set up an exceptional opening for

delivery of healthcare facilities and infrastructure in these rural areas of Pakistan along with other developing countries. In Pakistan \$9.3 is spent on each person's healthcare yearly, contrasted with the World Health Organization recommended \$60 per person, where rural patients are incapable to access even basic medical services. So by creating a linkage between rural patients and medical professionals, mHealth can bring healthcare within the reach of millions. According to the Socio-economic Impacts of mhealth 2013 report by Telenor, 75,000 mothers and children can be saved yearly with the help of maternal data services delivered through text messages in Pakistan.

In Pakistan \$9.3 is spent on each person's healthcare yearly, contrasted with the WHO's recommended \$60 per person

The advanced regions like Europe, Australia USA etc are attracting full advantages of mobile intrusion into health care as it is an easier way to accomplish health issues. Also connectivity is no more a dream; we are living in a technologically advanced world where things are easily explored. mHealth can have a strong affect in developing countries like Pakistan as it permits far-off locations to get access to medical care and get local awareness about health associated issues. Developed countries are spending capital towards the incorporation of ICT with health care systems.

Though there are financial limitations in the developing countries that hinder their evolution in mHealth.

According to a mHealth report by Telenor, 75,000 mothers and children can be saved yearly with the help of maternal data services delivered through text messages in Pakistan

Besides that, other important issues include the modifications in healthcare policy and understanding the implication of mHealth that can bring enhancements into the medical system on the whole. These are the issues that like other developing countries Pakistan also needs to work on. No government in the past has paid much attention to the health sector of the country and the strategy makers ignored the need of enlightening the people and providing them with the health care. But now the development of Information and Communication Technology (ICT) has set up an unprecedented opportunity for delivery of healthcare facilities. In the recent years, especially in post 3G/4G auction era many monumental changes in IT and Telecom have taken place in Pakistan that can be considered an important enabler of digital inclusion of the country.

Punjab Information Technology Board (PITB) was set up by the Government of Punjab as an independent body to use

collaborations of the IT industry, academic and government institutions. It also provides IT solutions to the government to improve transparency & ease citizens via state-of-the-art methods of digital governance. Its mHealth initiatives like Dengue Monitoring System, Disease Surveillance System, Health Watch, Hospital Watch, Monitoring and Evaluation Assistants (MEA) for Secondary Health and VET Inspect have won international recognition. The KPK Govt has also taken up some remarkable mHealth initiatives like Independent Monitoring Unit for Health Sector (IMU) with an aim to monitor the Health services in KP.

In post 3G/4G era, many monumental changes in IT and Telecom have taken place in Pakistan that can be considered an important enabler of digital inclusion of the country

Telecom operators have become a major stakeholder in mHealth by introuding various apps and initiatives. With a huge aggregated subscriber base, applications introduced by telecom operators cater wider group of people.

Following are some of the major initiatives and apps introduced by mobile operators in Pakistan:

Ufone UHealth

It offers health consultancy on a regular basis with professional advice on lifestyle associated diseases.



Warid Doctor's Helpline

It provides health related information whenever it's necessary.



Doctors Helpline is an IVR service where customers can subscribe to the service and get guidance on major diseases and get guidance on possible medications.

Warid Blood Bank Services

This is another unique SMS-based service. It helps in finding Blood Donors in different cities.



Warid Bima Insurance

This facility helps individuals secure their family's future with financial security.



Zong Insurance

This is Pakistan's first Accidental Insurance via Mobile phone service. It covers accidental death or disability caused due to accident or act of terror.



Mobilink mHealth

Mobilink's service allows users to get basic health recommendations, with a special focus on assisting people in areas where basic health facilities are a rare service. It provides tips and cautionary measures, people can have live discussions with doctors. They can get information in case of emergency and health alerts for Men, Women and Children as well. A comprehensive diet planner is also available to keep you physically fit and healthy.



Medical industry of Pakistan has been also pushing to incorporate technology and deliver advance healthcare for quite some time. Some of the most prominent medical and healthcare apps include Mytabeeb, Find my DOCTOR, PHARMAPEDIA PAKISTAN, ring MD, Marham etc. Trequant is also a healthcare watch that facilitates people suffering from shocks to monitor and manage their condition.

The government in collaboration with IT, telecom and medical industry should work together to create an encouraging eco-system to support mobile initiatives

Health issues in developing countries like Pakistan have increased at an alarming pace. The Government must plan such health polices in which the benefits of all stakeholders must be assured. If there will be good policies then mHealth sector of Pakistan will flourish and technologies will be helpful in managing health needs. The Government of Pakistan should take advantage of technology while planning steadfast mHealth systems through partnership between engineers and doctors to generate and appraise real mechanisms that can guarantee good health facilities.

Telecom operators have become a major stakeholder in mHealth by introuding various apps and initiatives

The government in collaboration with IT, telecom and medical industry should work in close collaboration to create an encouraging eco-system to support mobile initiatives since it has the potential to reduce per capita cost of healthcare while increasing care quality.



3D PRINTING TECHNOLOGY

THE NEXT REVOLUTION

The marvels of technology are unlimited, every other day we hear about some remarkable piece of technology, 3D printing is one such tech prodigy. In today's world, there would be hardly few people who still haven't used a 2D Printer. Software programs such as Photoshop, InDesign and Illustrator, which make it easy to edit photos, posters, designs, etc., have become incredibly widespread today. But what if you get all those photos' prototypes in your hands? This is what the 3D printing does, it makes three dimensional solid objects from a digital model.

Worldwide 3D printing industry is expected to reach revenues of \$12.8 billion by 2018, surpassing a whopping \$21 billion worldwide by 2020

Invented by a man named Chuck Hull back in 1986, 3D

printing is a process of taking a digital 3D model and turning that digital file into a physical object.

Future versions of smartphones will probably also have integrated 3D scanners

However, his invention was concentrated solely on a fabrication process called Stereolithography (SLA). But later on, different types of 3D printing technologies were introduced, which process different materials in different ways to create the final object. Some important 3D technologies are Fused Deposition Modeling (FDM) / Fused Filament Fabrication (FFF), Selective Laser Sintering (SLS), PolyJetting and others. Among them, FDM/FFF or SLA processes are mostly used because these technologies are cheaper and easier to implement with machines.

Now just think about 3D printed car, human body part, medicines or more surprisingly 3D printed Hamburger. Although it sounds somewhat silly, but it is true. Recently 3D printed Hamburger

has been developed which will take cooking to the next level. Now the question is how a 3D printer works? It all starts with making a virtual design of the object you want to create. This virtual design is for instance a CAD (Computer Aided Design) file.

Education, specifically science, technology, engineering and Mathematics, will benefit enormously from 3D printing technologies

This CAD file is created using a 3D modeling application or with a 3D scanner (to copy an existing object). A 3D scanner can make a 3D digital copy of an object. So, the three basic steps of 3D printing are;

3D SCANNERS: it uses different technologies to generate a 3D model. Examples are: time-of-flight, structured / modulated light, volumetric scanning and many more. Recently, companies like Microsoft and Google enabled

their hardware to perform 3D scanning, like Microsoft's Kinect.



3D MODELING SOFTWARE: These are industrial grade softwares that cost thousands a year per license, but also free open source software, like Blender, for instance.



3D PRINTER: The next step is to print that 3D model, this step is also called slicing. In this process, 3D model is divided into hundreds or thousands of horizontal layers. When the 3D model is sliced, 3D printer creates a three dimensional object.



According to recent research from Wohlers, the worldwide 3D printing industry is expected to reach revenues of \$12.8 billion by 2018, and to surpass a whopping \$21 billion worldwide by 2020. In fact, 3-D printing technology

is advancing at a staggering rate. 3D printing helps the visually impaired persons in educational purposes as well. They can print a 3D version of a photograph and visualize it via touch and it will surely help them to understand the things what they are studying. The Cortex exoskeletal cast is a 3D-printed casts for fractured bones. It is light, washable, breathable and recyclable as compared to the traditional plaster cast.

The main challenge of 3D technology to evolve is the lack of in-house additive manufacturing resources

The 3D printing of a drive-able plastic car in 44 hours heralds a new world in which motor companies can 3D print entire cars, in one piece. Education, specifically science, technology, engineering and Mathematics, will benefit enormously from 3D printing technologies. NASA is considering to assemble space vehicle motors through 3D printing. Fuel injectors printed from metal alloys have been tested successfully.

Despite these trends, the 3-D printing industry faces challenges. Companies are still struggling to find ways to incorporate the technology into their product development and manufacturing operations. The main challenge of 3D technology to evolve is the lack of in-house additive

manufacturing resources. Also the lack of expertise and/or training among workforce is one of the biggest challenges. Equipment costs, Limited materials availability, Post-processing requirements and Manufacturing costs are the main challenges that one can face during 3D printing evolution.

However, 3D printing is gaining popularity day by day. It is predicted that this technological development will change the nature of commerce, because end users will be able to do much of their own manufacturing rather than engaging in trade to buy products from other people and corporations.

With effects on energy use, waste reduction, customization, product availability, medicine, art, construction and sciences, 3D printing will entirely change the manufacturing world

Future versions of smartphones will probably have integrated 3D scanners. With effects on energy use, waste reduction, customization, product availability, medicine, art, construction and sciences, 3D printing will change the manufacturing world as well.

Infinix Zero 4

Infinix has hit the market with another massive device that is loaded with great features. It is the flagship device of Infinix Company and upgraded version of Infinix Zero 3, available in Pakistan with the price range of PKR 22,999/-. Let's look at the Infinix Zero 4 Review in detail to reveal its big features.

Display

Infinix Zero 4 is 5.5 inches device that supports Full HD IPS display while the supportive resolutions are 1920 x 1080 pixels. The pixel density is 480 dpi that means you will have very clear icons and text.

It has Mali-T720 as its graphic processing unit that works for graphics mainly. It increases energy efficiency by 150% more than other graphics unit.

Design:

The Infinix Zero 4 has 5.5 inches screen size while the dimensions are 152 x 75.3 x 8.1 mm and weight is 168 grams. It has non removable li-ion battery of 3200 mAh but still it is not heavy. The device has overall decent design and from front side it has little bit resemblance of iPhone 6.

The back body has metallic cover whereas, finger print authenticator is displayed in the middle. The 16MP back camera with dual LED flash light is present at the top center. The camera is placed much higher as compare to usual mobile cameras and it creates balance issue when you place it somewhere.

Memory

The Infinix Zero 4 is the flagship device so it comes with massive memory. It has 32GB internal memory and supportive RAM is 3GB. It could have been better if they give 4GB RAM then it could have easily contended with Samsung Galaxy series.

Camera

The camera section has best combination of lens in which it has 16MP lens for back camera and 8MP for front camera. Both cameras are accessible with flash light moreover the back camera can record videos in full 1080p while the front camera can record in 720p.

Infinix Zero 4 back camera supports optical image stabilization and laser focus. OIS is used to get the more clear focused pictures plus it has laser focus so it gives us a very good result with the help of these two advanced features.

Processor

Infinix Zero 4 has 1.3 GHz octa-core processor while



Infinix Zero 3 had 2.2 GHz processor. It has chipset of Media tek MT6753 and it is based on the architecture of ARM Cortex-A53. Infinix Zero 4 has 64 bit type processor with 3GB RAM. We have not observed any kind of lags and delays during multi-tasking.

Battery

Infinix Zero 4 has non-removable battery of 3200 mAh. It provides efficient battery timings but it mainly depends on how bright you have the screen and how much you use the phone.

It has octa-core processor with media Tek chipset that will help save the battery life. It comes with 2A charger to charge the device plus it supports fast charging which will completely charge the mobile in approximately one hour and 30 minutes.

Network & Connectivity

Infinix Zero 4 is a dual SIM LTE supported device just like Infinix Zero 3. Other connectivity options include Wi-Fi, Bluetooth and FM radio. Wi-Fi supports a,b,g,n a/b/g/n standards while the Bluetooth version is 4.0.

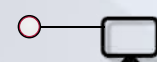
Interface

Infinix Zero 4 has 5.5 inches screen size with FHD IPS display that runs latest android version 6.0 (Marshmallow) with interface of XOS chameleon version 2.0.0. Color accuracy of the screen is top-notch moreover the brightness is very well-balanced. Brightness can be automatically adjusted in sunlight as well as in night scene. Icons and backgrounds have clear visibility and colors are very well used. Many bloatware applications are already installed on it such as Carl care, compass, magic movie, palm chat and many others.

OS: Android v6.0 (Marshmallow)



Display: 5.5 inches



Battery: Non-removable Li-ion 3200 mAh



Weight: 168 grams



Camera: 16 MP, OIS, Dual LED flash



Memory: 32 GB, 3GB



Processor: Octa-core 1.3 GHz ARM Cortex-A53 (64-bit)



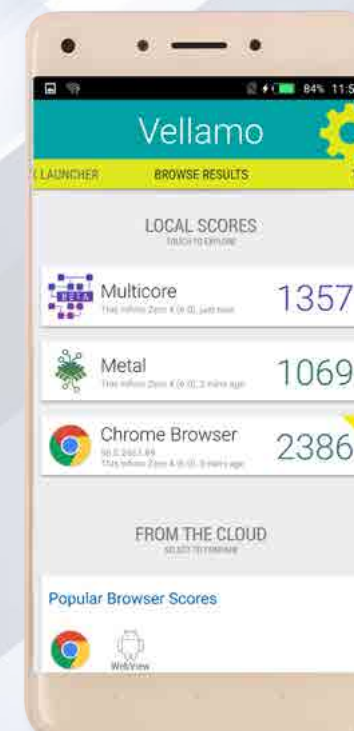
Price: PKR. 22,999/-



Benchmarking

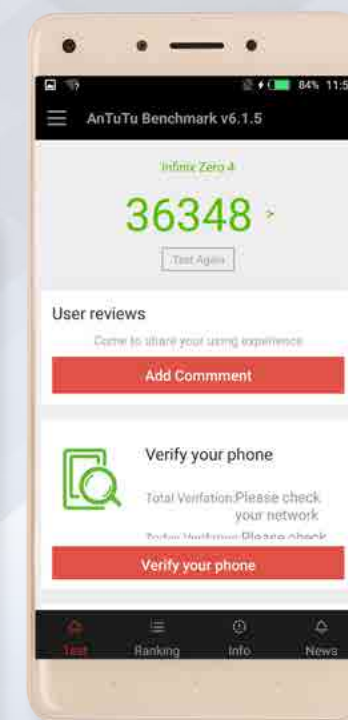
Vellamo

Vellamo conduct three tests to check the device performance. These test include multi-core test, metal test and Chrome browser test. It has scored 1357 points in multi-core test, 1069 points in metal test and 2386 points in Chrome browser test. All the tests have been passed with notable score since it is flagship device.



Antutu

We have tested Infinix Zero 4 with Antutu benchmarking and it has scored 36348 points. It has got very good ranking position among all other smartphones.



Good

- Optical Image Stabilization
- 16MP back camera and 8MP front camera
- Fingerprint Authentication
- Efficient Battery Timing
- Android Marshmallow with XOS interface
- Supports Fast Charging
- OTG Supportive

Bad

- Lesser Processor than Infinix Zero 3

Final Verdict

Infinix Zero 4 is an upgraded version of Infinix Zero 3 which came with 2.2 GHz processor while Zero 4 has 1.3 GHz processor other than that, Zero 4 is a great device with some massive features. The 16MP back camera, 8MP front camera, fingerprint, OIS and many other features are enough to compete with the other giant devices like QMobile Z14, Samsung S6 and others. Infinix Zero 4 has all the massive features at an affordable price so those users who like to spend less money but want full package of entertainment, this is the device for you.

HUAWEI Live finale

Huawei Crowns the Next Musical Sensation

Good things always come to an end and so did the Huawei Live campaign. With popular judges like Nabeel Shaukat, Ali Sethi, Amanat Ali and Adeel Chaudhry on Huawei Live's panel, the spirit of the competition remained sky high throughout. These heartthrobs started off by making exciting live appearances in top universities of Pakistan. The purpose was not just promotion but also to audition students who have the God-gifted talent of singing. A creatively designed Float was stationed at all well-known institutions and markets providing an easy access to those who wanted to be a part of this singing competition. Not to forget, the Huawei Live Application also played its due role effectively.

The initiative, Huawei live, itself has been so impactful that it simply took the country by storm with the great hype and excitement it created amongst the youngsters. The cherry on top of was the final round that happened in Alhamra Open air on Saturday 26th of November. The larger than life event managed to gather a rousing audience of music lovers from all over the country. In the semi finals that happened earlier in the day three, top candidates were picked by the judges. As the night kicked off, the musical extravaganza began with amazing performances one after the other with the final punch being the live performances by the talented judges.

Just like the whole campaign, the grand Finale was equally exciting and thrilling. It was a memorable moment for the Finalist to sing in front of the whole nation. At the very end "Muneeb" from the university of Gujrat was the crowned winner. The three finalists were not only given nation wide coverage and prizes but also an opportunity to become part of future Huawei activities and campaigns. The top contestants were handed prizes by team Huawei which included the General manager Mr. Blue king and Deputy General Manger Mr. Fraz Khan.

Mr. Fraz Khan stated in his final message "Huawei firmly believes that Pakistan is blessed with hardworking and talented youth who can excel in any field, provided they are given a proper platform and guidance to showcase their talents." Huawei has always been a step ahead in CSR activities engaging youth. Hence, this is evident from their initiative Huawei Live, that engaged youth through a singing competition which not only provided entertainment but also encouraged them to opt for singing as their career.



THE NEXT ELEMENT

GSMA Launches 2017 Mobile World Congress

The GSMA has announced the first details of the 2017 Mobile World Congress, including exhibitors, sponsors, programmes and activities taking place at the annual mobile industry event. Under the theme "Mobile: The Next Element", Mobile World Congress will be held 27 February - 2 March 2017 at Fira Gran Via in Barcelona, with events also taking place at Fira Montjuic. The GSMA expects that more than 101,000 professionals from across the mobile industry and adjacent industry sectors will attend Mobile World Congress 2017.

Exhibition Puts Spotlight on Innovation

As always, the exhibition at Mobile World Congress brings together the leading players from across the mobile ecosystem, as well as adjacent industry sectors such as automotive and consumer electronics, putting the spotlight on the innovative products, services and technologies that are shaping the mobile landscape. More than 2,200 companies will exhibit at Mobile World Congress 2017.

NEXTech: The New Mobile World Congress Destination

New for Mobile World Congress 2017, NEXTech is one of the event's most exciting destinations, with pavilions and experience zones showcasing cutting-edge technology trends, as well as theatres hosting a range of partner events and educational sessions. NEXTech Pavilions will bring together the companies leading innovation in areas such as artificial intelligence, drones, the Internet of Things (IoT), robotics and virtual reality/augmented reality, among others

Mobile World Congress Conference Programme

The conference at Mobile World Congress will be held 27 February - 2 March and will explore topics such as connecting the unconnected, digital commerce, digital content, disruptive technologies, enterprise mobility, financial services, IoT and connected living, mobile identity and privacy, next-generation networks and security, among others.

MWC Tours: Maximising Attendance at Mobile World Congress

Building on the success of the inaugural programme in 2016, GSMA will again offer the MWC Tours, a series of topic and exhibition-focused tours to address the specific needs of different audiences at Mobile World Congress. The 2016 programme included tours that focused on specific technology areas such as 5G, the IoT and mobile media, as well as tours designed to help new Mobile World Congress attendees navigate the venue and identify the exhibits, activities and programmes that will meet their individual requirements.

World's Largest Carbon Neutral Trade Show

In July, the 2016 Mobile World Congress was officially certified as carbon neutral and Mobile World Congress was recognized by Guinness World Records as the world's largest carbon neutral trade show for the second year in a row. In 2017, the GSMA is focused on further reducing the environmental impact and carbon footprint of the event, offsetting any outstanding emissions as necessary.

QMobile Noir J7

OS: Android, v6.0 (Marshmallow)
Display: 5.4"
CPU: Octa-core 2.2 GHz
Camera: 13 MP, Autofocus, LED flash
Memory: 32 GB, 3 GB RAM

HTC 10

OS: Android, v6.0 (Marshmallow)
Display: 5.2"
CPU: Quad-core (2x2.15 GHz & 2x1.6 GHz)
Camera: 12 MP, Autofocus, dual-LED flash
Memory: 32/64 GB ROM, 4 GB RAM

QMobile Noir i5.5

OS: Android, v6.0 (Marshmallow)
Display: 5.5"
CPU: Quad-core 1.3 GHz
Camera: 8 MP, LED Flash
Memory: 8 GB ROM, 1 GB RAM

Huawei Nova

OS: Android, v6.0 (Marshmallow)
Display: 5.0"
CPU: Octa-core 2 GHz
Camera: 12 MP, Auto Focus, LED flash
Memory: 32 GB ROM, 3 GB RAM

Samsung Galaxy J7 Prime

OS: Android, v6.0 (Marshmallow)
Display: 5.5"
CPU: Octa-core 1.6 GHz
Camera: 13 MP, Autofocus, LED Flash
Memory: 16/32 GB, 3 GB RAM

Oppo F1 Plus

OS: Android, v5.1 (Lollipop)
Display: 5.0"
CPU: Octa-core (4x2.0 GHz & 4x1.0 GHz)
Camera: 13 MP, Autofocus, LED Flash
Memory: 64 GB ROM, 4 GB

Telenor Infinity A

OS: Android, v6.0 (Marshmallow)
Display: 5.0"
CPU: Octa-core 1.3 GHz
Camera: 13 MP, LED Flash
Memory: 16 GB ROM, 2 GB RAM

QMobile Noir J5

OS: Android, v6.0 (Marshmallow)
Display: 5.0"
CPU: Quad-core 1.3 GHz
Camera: 8 MP, Autofocus, LED flash
Memory: 16 GB, 2 GB RAM

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Flat No.306, 3rd Floor Dossul Arcade, Jinnah
Avenue, Blue Area, Islamabad

QMobile Noir S6 Plus

OS: Android, v6.0 (Marshmallow)
Display: 5.5"
CPU: Quad-core 1.3 GHz
Camera: 8 MP, Autofocus, LED Flash
Memory: 16 GB ROM, 2 GB RAM

Apple iPhone 7

OS: iOS 10.0.1
Display: 4.7"
CPU: Quad-core 2.34 GHz
Camera: 12 MP, Autofocus, Quad-LED (dual tone) flash
Memory: 32 GB ROM, 2 GB

QMobile X2 Lite

OS: Android V4.0 (Kitkat)
Display: 3.5"
CPU: 1.0 GHz
Camera: Smart camera, LED-flash
Memory: 512MB ROM, 256MB RAM

Huawei Honor 8

OS: Android, v6.0 (Marshmallow)
Display: 5.2"
CPU: Octa-core (4x2.3 GHz & 4x1.8 GHz)
Camera: Dual 12 MP, laser autofocus, dual-LED (dual tone) flash
Memory: 32/64 GB ROM, 4 GB RAM

Infinix Zero 4

OS: Android, v6.0.1 (Marshmallow)
Display: 5.5"
CPU: Octa-core 1.3 GHz
Camera: 16 MP, laser-auto-focus, LED flash
Memory: 32 GB, 3 GB RAM

Samsung Galaxy J5 Prime

OS: Android, v6.0 (Marshmallow)
Display: 5.0"
CPU: Quad-core 1.4 GHz
Camera: 13 MP, Autofocus, LED flash
Memory: 16 GB ROM, 2 GB RAM

Oppo F1s

OS: Android v5.1.1 (Lollipop)
Display: 5.5"
CPU: Octa-core 1.5 GHz
Camera: 13 MP Autofocus, LED flash
Memory: 32 GB ROM, 3 GB RAM

QMobile Noir S6

OS: Android, v6.0.1 (Marshmallow)
Display: 4.95"
CPU: Quad-core 1.3 GHz
Camera: 13 MP Autofocus, LED flash
Memory: 16 GB ROM, 2 GB RAM

TELECOM CAMPAIGNS

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.

5

Jub Internet Tezi Se Saath Nibhaye
After "Rawaan", Telenor has released another amazing TV campaign "Jub Internet Tezi Se Saath Nibhaye" that focuses on the recently launched 4G services in Pakistan. Three of the TVCs are featured in family-setups while the last one is filmed in library indicating 4G benefits for students. Apart from story-line; the background, music and above all the performances by the actors are brilliantly adding fun factor to the entire message of advert.
Verdict: A well-directed TVC!!!



4.5

QMobile J Series
QMobile always seems committed when it comes to its promotions and marketing strategies. By introducing stunning "Maya Ali" for promotion of "Noir J5 & J7"; QMobile has definitely caught the eyes of the audience. The plot superbly explained the specifications of both smartphones which are always important for customers. The music and overall background is also well-tuned with the basic storyline.
Verdict: Message Effectively Conveyed!!!

4

Alfa Mobile App
Directing a TVC these days is not an easy task as every brand has realized the potential of video campaigns for their product or services. Similarly, Bank Alfalah has put their best efforts to re-introduce its mobile App via heart-throb model "Bilal Ashraf ". The fundamental purpose of banks are usually to target their corporate customer that is why the storyline evolves around businessman. Hence, the environment, music and script perfectly narrates the features of App to convince the Bank Alfalah customers to use
Verdict: No Doubt, A Way Forward Ad.!!!



4.5

A New Hope
The TVC "A New Hope" by Zong narrates the story of Zong's initiative of setting a 4G lab for the street children of an unprivileged segment of Pakistan. The background music of our sacred national anthem perfectly blends with this act of patriotism by Zong. Zong's move to use its corporate responsibility initiatives for creating awareness and its marketing is altogether a new idea which completely symbolizes its new vision, "A new Dream".
Verdict: Thumbs up!!! To the Thoughtfulness!!!

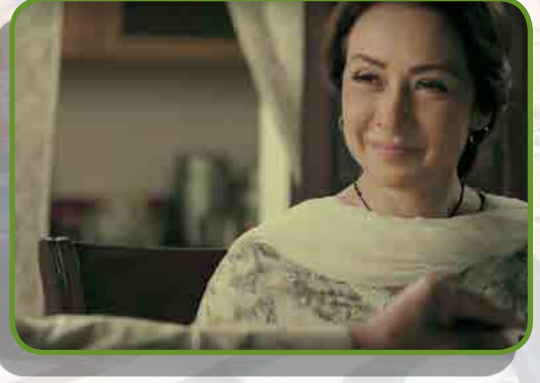


5

Dou Network, Aik Awaaz
Finally the first TVC of Mobilink-Warid merged identity is out now with a very strong tagline, "Dou Network, Aik Awaaz". Mobilink & Warid customers welcomed each other in regional languages while showing in background the cultural landscapes of Pakistan hence adding more attraction to the campaign. Despite unknown performers, the creativity factor is very highly appreciable. Music of TVC has further increased the effectiveness of the message.
Verdict: As Expected, You Guys Really Rocked!!!

4.9

EasyPaisa Limit Barhgayee
The new TVC by EasyPaisa "Limit Barhgayee" conveys the message of upgrading the transfer limit to Rs. 50,000 in a very mellow manner. The old song by "Noor Jehan" used in the background has lyrics and tone that comply with the message „Limit Bargayee" beautifully. The whole scene touches the heart of audience empathetically. The curiosity for the mother leaves a long lasting effect of knowing the suspense.
Verdict: We Are Left Touched Yet Happy!!!



TOP MUST HAVE APPLICATIONS & GAMES FOR YOUR SMARTPHONE

Weather & Clock Widget Android

Rating : 4.4 Price: Free

Weather & Clock Widget for Android, provides detailed current weather observation and weather forecast for all world locations, it searches for your address automatically, and provides the current temperature in Celsius and Fahrenheit. It also provides current weather condition, relative humidity, atmospheric pressure, visibility distance, precipitation in different unites, ultraviolet Index (UV index), dew point, wind speed and direction, in addition to ten days future forecast and hourly weather forecast.



Guess the Word

Rating : 4.2 Price: Free

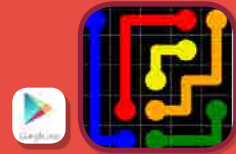
Random Logic Games is proud to present our version of the classic 4 pics 1 word style of trivia game! It is a fun and addicting game that will challenge your logic and reasoning abilities while entertaining you at the same time. If you love to solve problems and consider a good puzzle to be fun then you'll love Guess The Word. All of the 4 pics will have one word in common, and it's up to you to figure it out what that is!! As with all of our games, the beginning is quite easy but the game gets harder over time!



Flow Free

Rating : 4.3 Price: Free

IFree play through hundreds of levels, or race against the clock in Time Trial mode. Flow Free gameplay ranges from simple and relaxed, to challenging and frenetic, and everywhere in between. How you play is up to you. So, give Flow Free a try, and experience „mind like water“!



All Language Translator

Rating : 4.0 Price: Free

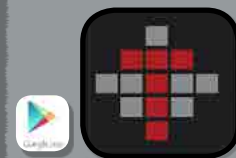
All Language Translator Apps let you translate what you say in more than 50 languages. Features are zero translation cost, You don't have to pay any cent and translate between more than 50 universal language. Translate words and phrases with high accuracy, and also text to speech support. Speech Recognition support, Translate spoken text. You can also share your text. This application also saves translations.



TPL Trakker

Rating : 3.9 Price: Free

Only for TPL Trakker Ltd. registered customers! Please make sure your SIM number is registered with TPL Trakker before downloading the application. TPL Trakker Ltd. has introduced a mobile application that is designed to offer tracking services round the clock. With its exceptional features, you can stay updated on the go! So no matter where you are or what time it is, we know the location of your vehicle. To receive your car location: Enter your Vehicle Registration Number (VRN) to locate on the map instantaneously.



DARAZ Online Shopping & Deals

Rating : 4.2 Price: Free

Sometimes shopping is not an easy task to do. Your boss calls in a meeting at the last moment, the roads are jammed and you are stuck in traffic, friends are not around to advise you on the right outfit or you simply cannot find the best deals and discounts on the items you are looking for. Now there is the perfect solution for you. Download The Free Shopping App from Daraz to make your shopping easy.



E-Services Pakistan

Rating : 4.2 Price: Free

Now its easy to find out all E-Services provided by Govt. of Pakistan as well as its very easy to get benefit from them through your Android phone. Services include : Vehicle tracking, Tracking no. of SIMS registered on your CNIC, Check your Electricity, Sui Gas abd PTCL bills, Get access to complete details (Contact number, Address etc) of all MNA's and MPAs of Pakistan, Tracking CNIC/Passport application status, Getting Electricity bill alerts on your phone.



My Tabeeb

Rating : 4.3 Price: Free

My Tabeeb - Health in your hands is Premier Healthcare Solution of Pakistan that helps you find a doctor (s), Consultant (s), Physician (s), Clinic (s) or Hospital (s) with all necessary details. The app provides Mobility, Proximity and Smarter Search results. Use our Smart Search Filters to look for Doctors related to your concern and even share the contact information of the doctor with your friends and family easily.



Quran for Android

Rating : 4.7 Price: Free

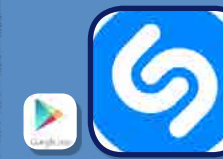
Quran for Android is a free Quran application for Android devices. There are many features under development. Quran for Android provides the following features are crystal clear Madani compliant images, gapless audio playback, ayah bookmarking, tagging, and sharing, night mode and many more.



Shazam

Rating : 4.3 Price: Free

Shazam is one of the world's most popular apps, used by hundreds of millions of people each month to instantly identify music that's playing and see what others are discovering. All for free. And that's just the beginning: One-tap access to video clips, song lyrics, related tracks and streaming services, where you can listen to your Shazams in full or buy them.



Disconto

Rating : 4.2 Price: Free

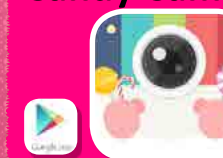
Disconto is a location-based smartphone application that allows you to avail discounts at the outlets around you. Your favourite brands create exclusive deals for you... and you just get to know instantly through Disconto that your favorite brand has a discount for you.



Candy Camera

Rating : 4.4 Price: Free

Let's take a selfie! With Candy Camera's beautifying filters and silent mode. You can take beautiful selfies anywhere and anytime. Don't miss out on Candy Camera's amazing filters – 7,000,000 people taking selfies with Candy Camera every day.



Pharmapedia Pakistan

Rating : 4.7 Price: Free

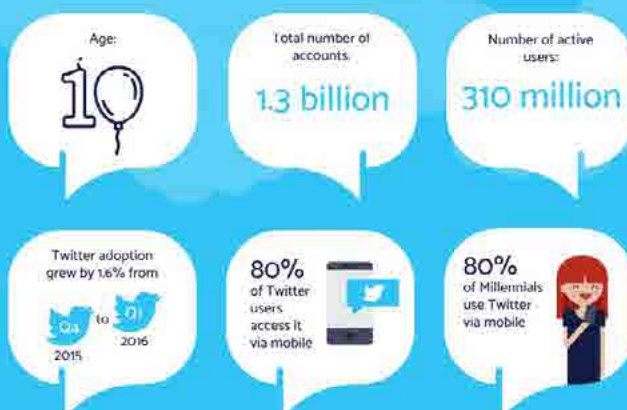
Pharmapedia Pakistan gives you free, offline access to information on generic drugs (dosages, indications, more), medicine brands in Pakistan with prices and available forms, alternate brands and much more. All of this without requiring any key or annoying ads — just install and dive into the medical knowledge sea, no internet required!



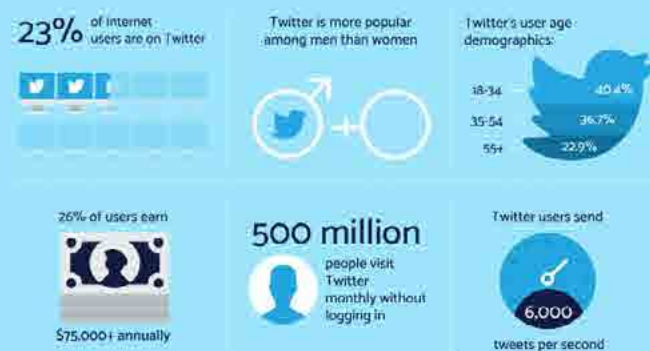
Why Twitter Matters to Marketing

Twitter is a huge social network with hundreds of millions of users. This is what you need to know about it.

Twitter Information



Twitter users



Each Twitter user is worth

\$118

Each visitor to your site from Twitter is worth

62 ¢

Most retweeted tweet:

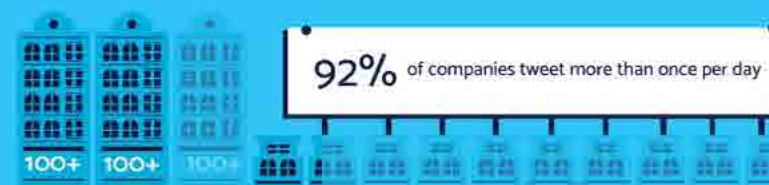


Most followed user:



@katyperry
(90 million)

Twitter & Brands



2/3 of US companies with 100+ employees use Twitter

Twitter's paid ad engagement grew

208%



25% of advertiser budgets goes to mobile only



52% of users say they've bought a product they first saw on Twitter



81% of users say Twitter impacts their purchasing decisions more than TV



Customers from Twitter spend on average

\$46.29

Most retweeted brand tweet:



User-brand interactions

85% of followers feel more connected to a business after following

84% of followers who interact with a brand share positive experiences



77% of Twitter users feel better about a brand when it replies to their tweet



Companies using Twitter for customer service see a **19%** increase in customer satisfaction

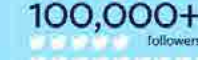
70% of small business followers retweet content



72% of brand followers are likely to buy in the future



58% of brands have **100,000+** followers



Promoted tweets boost offline sales by

29%



Times to tweet

12:00 a.m.
Best time for favorites

1:00 a.m.
Best time for replies

2:00 a.m.
Best time for clicks

3:00 to 4:00 a.m.
Least popular time to tweet

12:00 to 1:00 p.m.
Most popular time to tweet

9:00 p.m.
Best time for overall engagement

11:00 p.m.
Best time for retweets

Brand engagement is **17% higher** on weekends

What to tweet

Tweets with one hashtag



29% more overall engagement

Tweets with more than one hashtag



17% less overall engagement

Tweets with links



2x better chance of being retweeted

Tweets with images



✓ 18% more clicks
✓ 89% more likes
✓ 150% more retweets
✓ 5x overall engagement

Tweets with images and links



150% more overall engagement

Tweets with videos



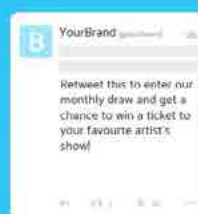
✓ 1.9x more favorites
✓ 2.5x more replies
✓ 2.8 more retweets



3 Tweet regularly



4 Ask for retweets



5 Use hashtags



6 Use images



7 Retweet & favorite other tweets



8 Monitor Twitter Analytics



WebpageFX

Sources: Adweek | Buffer | Brandwatch | CIO | Entrepreneur | Expanded Ramblings | HubSpot | Jeff Hume | PewInternet | Sherry Awards | Statista | Telegraph | Visual.ly

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- ✓ **ICT Events**
- ✓ **Telecom Market Updates**

AN EVENT OF
**MOBILE
WORLD CAPITAL
BARCELONA**

THE NEXT ELEMENT

Mobile has become fundamental to our everyday lives. It has inextricably changed how we communicate, interact, work and play as individuals. It is transforming entire industries, bringing new levels of productivity and efficiency to enterprises.

Over three decades, mobile has evolved from an emerging communications technology to a phenomenon that is now at the foundation of everything we do. How can we describe the role of mobile in today's world?

Elemental.

Mobile is revolutionary, dynamic, ever adapting. It's the force behind every emerging innovation, every forward-thinking enterprise. Join us in Barcelona for Mobile World Congress 2017, where the world comes together to showcase, celebrate and advance mobile.

GSMA **MOBILE**[™]
WORLD CONGRESS

BARCELONA 27 FEB - 2 MAR 2017

#MWC17

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in Bangladesh-2015-16

G'FIVE L3

- 5000mAh
- 10 Hours Movies
- 24 Hours Calling
- Standby King



STANDBY KING



- Network: 3G Supported
- Style: Smart Mobile Phone
- VR/OTG Supported
- CPU: Quad Core 1.3GHz
- SIM Card Slot: 2 SIM
- Rear Camera Pixel: 8.0MP AF
Rare Camera with LED Front Flash
- Front Camera Pixel: 2.0MP
- RAM/ROM Capacity: 16GB+2GB
- Data interface: Micro USB

- Support Frequency: Quad-band, GSM/CDMA, WCDMA
- Standard: HSPA+
- Screen Size: 5.5" HD (720x1280 Pixels)
- Operation System: Android EOS 6.0 (Marshmallow)
- Main Screen Resolution: HD 720*1280
- Screen Material: IPS
- Navigation Technology: GPS
- Battery Capacity: Ultra Long Lasting 5000mAh
- Available Colors: Champagne Gold, Rose Gold & Gray



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- 2.2 GHz Octa core
- 3GB RAM
- 32GB ROM
- 5.5 Inch HD IPS
- 3100mAh Battery
- Android 6.0

