

WORLD'S 7TH FASTEST GROWING MOBILE MARKET PAKISTAN OFF TO A BRIGHTER FUTURE





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Adnan Khan
Managing Editor

Dear Readers,

Every New Year brings new hopes and aspirations for the people. It is the time when we leave behind the accomplishments and failures of the previous year and start afresh with new resolutions and goals. 2016 was a good year for IT and Telecom sector of Pakistan, although we did face some difficulties but let's not fixate on that and look out for new challenges and opportunities. In our feature article, "7th fastest growing mobile market: Pakistan Off to a brighter future" we have tried to outline the major challenges and opportunities that our industry has to face.

Information Technology in Pakistan is a growing industry that has a lot of potential. In order to take full advantage of digital revolution we need to develop localized content. To shed light on the importance of local language content we have added a special article in our current issue that explains the potential benefits of content in local language and how it will help in increasing the internet uptake in the country. Cyber security has always been a great concern for online users but after the news of Russian infiltration in US networks to sabotage elections, the dangers of cyber warfare have become even more precarious. The dangers of cyber warfare is the theme of our another feature article, "Living in the Terrifying Age of Cyber warfare".

National Incubation Center is the first national incubation center in Pakistan that aims to provide startups with a free of cost workspace, digital platforms, funding and mentorship and best learning modules that will help startups succeed. In a prolific session with Zouhair Khaliq and Parvez Abbasi we have discussed the targets and ambitions of NIC and the role it will play in the digital revolution in Pakistan.

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...!!!

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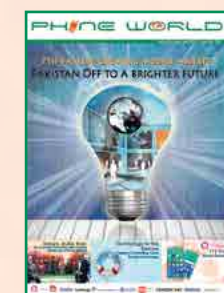
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By Rizwana Khan



WORLD'S 7TH FASTEST GROWING MOBILE MARKET PAKISTAN OFF TO A BRIGHTER FUTURE CHALLENGES AHEAD

Despite being a late entrant in mobile broadband world, Pakistan has become one of the fastest growing economies and newest destination for the ICT industry. The technology potential in Pakistan is so huge that it can supersede the technological evolution of the west, making the country one of the most digitally integrated economies in the world.

Digital development can drive upgraded engagement between individuals and institutions, offer huge growth potential and productivity gains in all sectors, and enable more advanced and hi-tech government services.

Technology potential in Pakistan is huge to make the country one of the most digitally integrated economies in the world

Therefore, with its Vision 2025 strategy, Pakistan targets to achieve a more knowledge based economy, creating a worldwide competitive and flourishing

country that carries a high value for the people. This vision is equally supported by the regulator's i.e. PTA own vision for the year 2025. There are few challenges that still need to be addressed on priority so that Pakistan could truly benefit from its actual ICT potential. So let's look at some of the major trends and the challenges that the Pakistan ICT industry is facing and that needs to be address in the near future.

MOBILE TRENDS: INTENSIFYING THE DIGITAL EXPLOSION IN PAKISTAN

In the last few couple of years, the growth in Pakistan's domestic ICT market has been quite impressive despite challenging political landscape. According to GSMA's Intelligence report in 2016, Pakistan was forecasted to add 22 million mobile subscribers during 2015 to 2020, ranking Pakistan as the 7th in the fastest market for mobile growth in the world.

However, local industry analysts feel that international media and even GSMA figures often understate the development whereas, the mobile industry phenomenal growth over the past two year proved it otherwise. The industry has not only surpassed those figures adding exactly 22 Million mobile subscribers but has also achieved 37.7 million broadband subscribers (almost double the mobile subscribers forecasted by GSMA). With more than 1/3 of the total population comprised of youth aged below 14 years (who are not supposed

to carry mobiles), the penetration of both mobile and mobile broadband subscribers will be much higher.

The existing and future Total Assessable Market (TAM) for mobile will further expand and likely to add an additional 20 million mobile broadband subscribers by 2020. In real terms this would be three times of the GSMA forecast and will probably rank Pakistan as the 4th most aggressive market in terms of growth potential. While we will continue to ride on the Pakistan ICT growth and the potential it presents, we need to support this growth by introducing related technologies in the country.

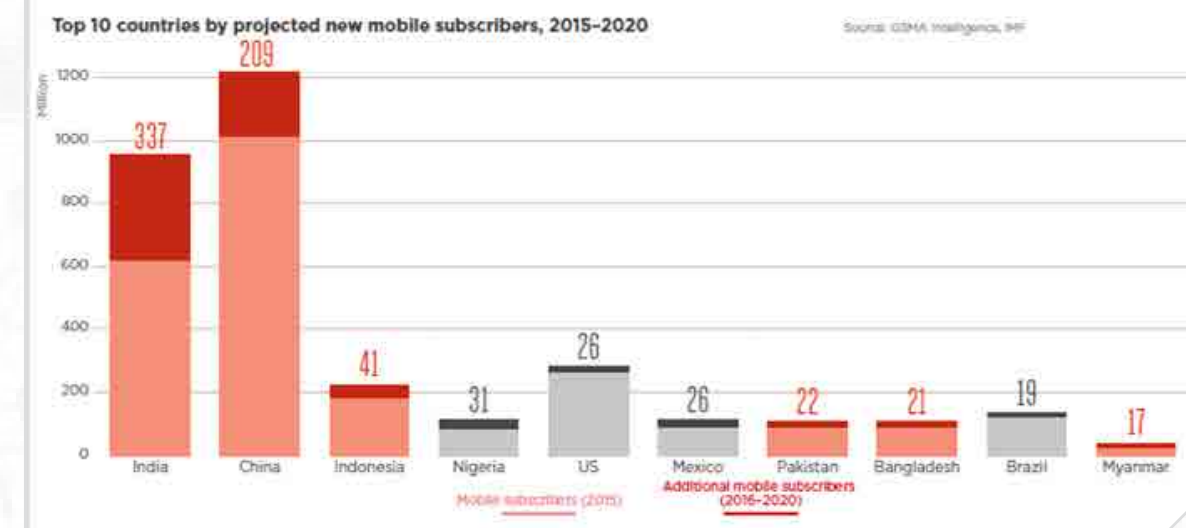
Most of the time Pakistan ICT growth figures are understated even then globally it ranks 7th Fastest market for mobile growth

Globally, 2017 will be a landmark of innovations within the IoT ecosystem. It will reshape the way businesses, consumers and governments will interact across various factors. IT boom is on rise worldwide, similar trends can happen in Pakistan as well; for that private and public sector will have to play its part.

GSMA Geographic shift in mobile user growth: Asia rising

Over 1 billion more people will use mobile phones by 2020 compared to 2015. Ten countries will account for 70% of this growth, with India leading an Asian charge that will account for 55% of global subscriber growth. This will rebalance the concentration of consumer purchasing power and technology innovation.

Note: size of stacked bar equals the total number of unique mobile subscribers in a country by 2020 (e.g. India = 952 million)



SAVING AND STRENGTHENING THE NATIONAL ICT ASSETS

In most countries, national operators and manufacturing hold the strongest position in the market as it is the responsibility of the Government to provide affordable and contemporary services to the people. But unfortunately over a period of time, this has slipped from our hands. Pakistan's national operator PTCL and its subsidiary Ufone, SCO and now NTC seem to be the weakest and most vulnerable among the fixed and mobile industry players. Similarly, TIP, the manufacturing arm for Telecom & related products has been on the decline for quite some time now and each year Government has to support it financially.

Mobile growth has surpassed all industry estimates reaching 37.7 million MBB subscribers

PTCL is the largest fixed operator in Pakistan offering an array of services including fixed line voice telephony, Wireline and Wireless broadband internet, multimedia services, variety of corporate solutions for businesses and enterprises but still its financial situation has nose-dived over the years. Similarly, Ufone has the weakest position among all mobile operators with the lowest number of subscribers after Warid merged into Mobilink.

Pakistan's national operator PTCL, Ufone, SCO and now NTC seem to be the weakest and most vulnerable among the fixed and mobile industry players

The turning point for Ufone was the failure to get reasonable spectrum in the NGSMA held in May 2014. Its subscriber base was around 18 million by the end of December, 2016; falling from 19 million in January, 2016, while other competitors grew tremendously in the same time frame. The row around USD 800 million of the unpaid

privatization proceeds between the shareholders continues to haunt the otherwise efforts made to recover both companies.

GoP needs to save Ufone & PTCL from shedding asset value or an eventual demise as well as enhance the mandate of the SCO and NTC to face the challenges of tomorrow

The important thing to realize is that if the status quo continues both the shareholders i.e. Etisalat, Government of Pakistan and importantly the company itself will have to lose more than the actual value of the dispute. It could soon find itself in a situation like PIA and Steel Mill unless salvaged on emergency basis. While the onus for fast recovery if any, rests on both shareholders, the Government should take initiative being the major shareholder to save it from shedding its asset value or an eventual demise. Similarly, the mandates of the SCO and NTC both need to be enhanced and their long term strategies chalked out to face the challenges of tomorrow. The other asset that has already depleted is the Telephone Industry of Pakistan (TIP). This could possibly be turned into a women IT University, IT Park or even better, a combination of both. It would be a win-win situation for all stakeholders i.e. Government, existing employees, ICT Industry and also the community.

UPLIFTING PAKISTAN'S ICT BRAND

Like Telecom, IT industry of Pakistan is also going through a major transformation. According to SBP statistics, the IT industry made \$560 million during FY 2015-16 in software growth and IT enabled services outsourcing. There are numerous Pakistani startups and IT entrepreneurs that got international recognition for powering global industry. Folio3, Pepper.pk, Cricket Revolution, Tintash, Mixit, Softech, TPS, Avanza, SiS, Electronic Services Pakistan (ESOLPK) and Kobat International are few of the companies that proved their metal in international gaming, health and financial service sectors.

Pakistan has more than 2500 software houses, pool of skilled and educated IT workforce, number of IT parks are also under development.

To promote the IT industry at home, government is offering exclusive incentives including 100% repatriation of profits and equity allowed to foreign investors, zero taxes on IT exports till 2019 and 7 year tax holiday for venture capitalists.

Letting the world know about the ICT potential and opportunities in Pakistan will provide the basis for attracting foreign investment and strengthening the industry

To further support the IT industry government needs to work on building a favorable image of Pakistani IT industry in the international arena to attract foreign investment. Pakistan has got more than its share of bad publicity and needs to present its true case for which brand elevation will certainly play a big role. The Government needs to play an active role in engaging with international IT companies and participate more proactively in international events such as MWC, GiTEX, CES, CeBIT, CommunicAsia etc. It should position CPEC as a major trade and commerce activity that will benefit ICT companies.

The sooner we embrace the new trends, the faster we will complete the digital transformation

While, the Indian Prime Minister, hyped up its 100 Smart Cities and played a monumental role in IT growth that practically didn't exist, we have a much better case to plead which is based on reality. We must engage with the Global IT Industry to attract them to take part in Pakistan's tech boom. Prime Minister Nawaz Shareef's recent meeting with e-commerce giant Jack Ma and Bill Gates are one such example and such interactions needs to be prioritized at all levels.

Letting the world know about the IT potential and opportunities in Pakistan will provide the basis for attracting foreign investment and strengthening our industry therefore, government needs to step up its efforts in marketing its IT potential.

IMPLEMENTING FUTURISTIC TELECOM AND IT POLICIES

Policy making is a serious and time consuming task as it requires the entire sector to work together and come up with something that can elevate a country's overall performance. Telecom Policy was finally approved back in 2015 whereas; IT Policy is still in the pipeline. It is important that upcoming IT policy incorporates all the global tech trends and new technologies as a proactive approach to keep abreast with the future technologies in the country. Development of a comprehensive policy, keeping in mind the future trends will overcome the need of policy revision in coming years, which again could be a resource and time consuming task.

It is important that upcoming IT Policy incorporates all the global tech trends and new technologies as a proactive approach to keep abreast with the future technologies in the country

Policy formulation is indeed an important task but its appropriate implementation is equally important. Therefore, the challenge for the ministry and especially the regulator which implements most of the policy directives is to develop a comprehensive policy time frame to ensure that process of policy implementation continues without any blows; for that proper allocation of monetary and human resources will be of utmost importance. It is highly important to allow opportunities so they won't become missed opportunities.

Pakistan Telecom and IT is going through a historical phase which will set the base for a digitalized society in future. With increased investments and trade barriers falling even further, Pakistan's untapped ICT industry presents a very lucrative market for the world. The sooner we embrace the new trends, the faster we will complete the digital transformation.

 By Fizza Atique

Pakistan's 4G Data Tariff Comparison

Fast internet has become the core of almost all fields of human life; be it health, education, agriculture, science, technology, government sector or even banking, we cannot deny the use of internet. In Pakistan, the 3G/4G subscribers according to PTA, has reached to 37.57 million till December 2016 just in 2.5 years of span. Pakistan has successfully increased its 3G/4G subscribers from 13 million to 37 million in the last 18 months. The stats reflect the success story of Pakistan's telecom industry.

Mobile operators in Pakistan are trying to make internet available to masses at an affordable price. Attractive data packages, convenience and affordability offered by network operators in collaboration with device manufacturers are main factors that are encouraging consumers to go for 4G devices. As a result the penetration rate of 4G devices is increasing day by day.

PhoneWorld magazine has always facilitated its readers by providing details regarding operators' packages and services. This time we have compared 4G data tariffs of all operators and have done general analysis so that our readers can select the best data package according to their demands and needs. Mobile operators are making 4G services more accessible and affordable for everyone. Attractive data packages, convenience and affordability offered by network operators in collaboration with device manufacturers are main factors encouraging consumers to go for 4G devices.

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

Revenues have greatly increased with the advancement of 4G in market. According to PTA analysis, the 3G/4G subscribers in Pakistan reached 37.57 million till December 2016. The country witnessed a rise of 8 million 3G/4G subscribers during 2016. PhoneWorld magazine has always facilitated its readers by providing all details regarding operators' packages and services. In our previous issue we did a detailed analysis of 3G packages while this time we have done a comparative analysis on 4G packages.

PRE PAID PACKAGES

Daily Data Packages

Despite heavy taxation, telecom operators are providing various packages to facilitate their customers. Daily data packages are basically for customers who don't use mobile too often or don't have enough credit to subscribe to bigger and expensive packages. In the coming few months it is expected that Jazz will formally launch its 4G services, right now it is offering its 4G services on its 3G packages.

In this analysis we have jotted down the highest and the lowest current packages of all operators providing 4G services.

In the coming few months it is expected that Jazz will formally launch its 4G services, right now it is offering its 4G services on its 3G packages

All operators are giving high number of MBs with respect to prices, making the competition tougher. According to latest pricing, Zong's daily package offers 100 MB at Rs. 15 in most economic package category while daily max package is priced at Rs. 35 with data limit of 500MB. Jazz is offering two daily packages namely daily social bundle and daily lite bundle. In daily social bundle, Jazz offers 30MB for 5 Rs, while 50 MB is provided for Rs 12 for Daily-lite bundle. Telenor offers 50 MB at Rs 12 for its cheapest package whereas; highest daily package is accompanied by 75 MB for Rs 12. Warid is offering volume of 50 MB priced at Rs. 12 whereas, in its premium Package it offers 100 MB for just Rs. 20.

Daily Packages				
	Lowest Package		Highest Package	
Network	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
ZONG 4G	15	100	35	500
Jazz	5	30	12	50
telenor	12	50	15	75
warid	12	50	20	100

Source: Phoneworld

Average MBs served per Rupee

As evident from the chart below, currently Zong offers the highest number of MBs per rupee for both daily lowest and daily premium packages. Jazz offers lowest number of MBs per rupees for its highest daily internet package bundle. Telenor and Warid are providing lowest number of MBs per rupee out of all operators in the lowest internet daily package category.

MBs Offered per Rupee		
Network	Lowest Package	Highest Package
ZONG 4G	6.7	14
Jazz	6	4.2
telenor	4.2	5
warid	4.2	5

Source: Phoneworld

Weekly Data Packages

Zong now offers two weekly data packages. For the lowest data package, Zong offers cap of 700 MB for

70 rupee. Its premium package offers 2000 MBs for 100 rupees. As far as Telenor is concerned, its lowest package offers 2000 MBs for rupees 70 whereas, highest package compromises 1200 MBs priced at Rs. 100.

Jazz provides its users with 300 MBs for Rs. 50 under its lowest package offer; for highest package, it offers volume of 1000 MBs for 110 rupees. Warid offers same number of MBs as Jazz when it comes to lowest package whereas, it provides volume of 1000 MB priced at Rs. 110 under its premium weekly package.

Weekly Packages				
	Lowest Package		Highest Package	
Network	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
ZONG 4G	70	700	100	2000
Jazz	50	300	110	1000
telenor	70	2000	100	1200
warid	50	300	110	1000

Source: Phoneworld

In the lowest package category, Jazz and Warid are providing lowest number of MBs per rupees i.e. 6 MBs per rupee.

Zong offers the highest number of MBs per rupee for both daily lowest and daily premium packages

Telenor gives highest number of MBs i.e. 29 MBs per rupee under its most economical prepaid weekly package. While Zong offers highest number of MBs under premium weekly package. Jazz and Warid again stood at last, as they offer minimum volume of 9 MB per rupee.

MBs Offered per Rupee		
Network	Lowest Package	Highest Package
ZONG 4G	6.7	14
Jazz	6	4.2
telenor	4.2	5
warid	4.2	5

Source: Phoneworld

Monthly Data Packages

There are variety of data packages offered by mobile operators to choose from, when it comes to monthly packages. Zong offers 7 exciting monthly packages for its prepaid customers. Its most economic package offers 500 MB for Rs. 150 while premium package comprises of 20,000 MBs for Rs. 3500. Jazz offers 1500 MBs for Rs. 160 in its cheapest package whereas, its

premium package includes volume of 13000 MBs priced at Rs. 1200. The lowest package of Telenor offers 2250 MBs for Rs 300 whereas, 10500 MBs are offered for Rs. 1195 under its premium bundle offer. Out of four monthly packages, Warid's lowest priced package offers 500 MB for Rs 75 but its highest package offers 8000 MBs of data priced at Rs.800.

Monthly Packages				
	Lowest Package		Highest Package	
Network	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
ZONG 4G	150	500	3500	20000
Jazz	160	1500	1200	13000
Telenor	300	2250	1195	10500
Warid	75	500	800	8000

Source: Phoneworld

A very huge difference is seen in breakdown of monthly data packages. Jazz wins by great margin by providing maximum volume per rupee for its highest and lowest priced packages. It offers 9.3 MB and 10.8 MBs per rupee for its lowest and highest packages respectively. Zong only offers 3.3 MBs under its lowest package and 5.7 MBs per rupee for its highest packages. On the other hand, Telenor offers 7.5 MBs under its lowest priced package and 8.7 MBs under its premium package. Warid gives 6.7MB per rupee in its lowest package however, in premium package volume of 10 MB is offered per rupee.

MBs Offered per Rupee		
Network	Lowest Package	Highest Package
ZONG 4G	3.3	5.7
Jazz	9.3	10.8
Telenor	7.5	8.7
Warid	6.7	10

Source: Phoneworld

POST PAID PACKAGES

All mobile operators are only offering monthly packages for their postpaid customers. So here is the comparative analysis of postpaid monthly packages by all four operators.

Jazz wins with great margin by providing maximum volume per rupee for its highest and lowest priced packages

Monthly Data Packages

Zong offers highest number of monthly prepaid packages to choose from. Its highest package remains the same as that for its prepaid customers however; lowest priced package is available for Rs. 50 with 150 MB data limit.

Jazz offers data limit of 1000 MBs priced at Rs. 140 under its cheapest package but its premium package provides volume of 25000 MB for Rs.2000. Telenor has slightly changed the packages for its postpaid users. Its most expensive package is of 8000 MBs at Rs. 3500 whereas; economic package provides 150MBs for 114 rupees. Warid has made slight changes in lowest monthly package for its customers by providing volume of 2000 MB priced at Rs. 250 whereas, its premium package is same as that for its prepaid customers.

Monthly Packages				
	Lowest Package		Highest Package	
Network	Price (Rs)	Volume (MB)	Price (Rs)	Volume (MB)
ZONG 4G	50	150	3500	20000
Jazz	140	1000	2000	25000
Telenor	114	150	1140	8000
Warid	250	2000	800	8000

Source: Phoneworld

For the most economic package, Jazz offers 7 MBs per rupee whereas; 12.5 MBs are offered per rupee under the premium package offer. Telenor offers lowest number of MBs under its cheapest package i.e. it give only 1.3 MBs for 1 rupee whereas, it has tried to balance the situation by providing 7 MBs per rupee for customers availing premium package.

Warid offers best per rupee offer under lowest priced package with 8 MBs per rupee

Zong is again on the losing side with least number of MBs offered at highest and lowest packages. Warid offers best per rupee offer under lowest priced package with 8 MBs per rupee.

MBs Offered per Rupee		
Network	Lowest Package	Highest Package
ZONG 4G	3	5.7
Jazz	7	12.5
Telenor	1.3	7
Warid	8	10

Source: Phoneworld

All operators are currently providing competitive data tariffs but this year will be especially crucial for 4G services in Pakistan now that Mobilink and Telenor have also entered the 4G market. The broadband growth in Pakistan is quite encouraging as now 4G market in Pakistan has finally started to take some shape. So we should expect better packages and offers from all operators in the future.



By Rizwana Khan

Reed Hastings the man who built NETFLIX

Netflix is one of the greatest underdog success stories at the crossroads of technology and television. What started as a DVD-by-mail rental service has now spawned a slew of award-winning original television series, made available hours of content, and virtually redefined what it means to watch, and create, TV. Reed Hastings, the man behind Netflix earned his master's in artificial intelligence at Stanford. He credits the school with turning him on to the entrepreneurial model.

In 1991, Hastings founded Pure Software, which developed a debugging tool for engineers. The company reportedly doubled its revenue every year and Hastings soon moved from his position as an engineer to CEO. Pure Software went public in 1995 and was eventually acquired by Rational Software. Hastings earned \$750 million from the acquisition and was able to cofound Netflix with Marc Randolph in 1997. The idea for Netflix came after Hastings was charged a \$40 late fee for an overdue rental from Blockbuster.

territory when it premiered its first original television series, "House of Cards." The show was nominated for a staggering nine Primetime Emmy awards and went on to win three - rivaling a number of traditional shows. By the end of that year, Netflix's stock had tripled in value. Netflix stocks have ridden a rocky road since the company went public in 2002. But as of August 2015, Netflix surged to an all-time high with shares up 9925% above the IPO price.

Netflix's leading man is not only paving the way for the future of television, he's also a staunch advocate for education reform in California. Hastings served as President of the California State Board of Education from 2001 to 2004 where he lobbied for charter schools. In December 2013, Hastings and John Doerr, of venture capitalist firm Kleiner Perkins, invested a combined \$14.5 million in DreamBox Learning, an online math program for elementary and middle school students.

Outside of Netflix, he's a board member on a handful

Source: Business insider

"We will come to see that linear TV declines every year for the next 20 years...and that internet TV rises every year for the next 20 years"

Ironically, Hastings offered to sell forty-nine percent of Netflix to Blockbuster in 2000 to act as an online arm for the video-rental giant. Blockbuster turned them down and Hastings returned home to promote Netflix as the rental underdog. Five years later the tables turned. By 2005, Netflix had 4.5 million subscribers and counting, beating out any online efforts made by Blockbuster. Netflix continued to grow into the online marketplace by offering on-demand streaming services - by 2010 it had 16 million subscribers. After a brief separation of the DVD rental and on-demand streaming portions of Netflix in 2011, Hastings rejoined the two after he regretfully admitted the division was a mistake. In 2013, Hastings moved Netflix into uncharted



QMobile Energy X2

A Mammoth Battery Smartphone

Energy X2 is the latest phone in QMobile's new series, Energy. The strongest point of this series is the super battery of 5000 mAh. You can use the phone for as long as you want and do not have to worry about going out of power.

Design & Display

QMobile Energy X2 has dimensions of 142.3 x 71.4 x 9.2 mm, a 5 inch screen size with approx. 68.3% screen to body ratio. Whereas, the device weighs around 184 grams which is a little heavy but that is probably because of the 5000 mAh powerful battery.

Energy X2 has a luxury metal appearance that gives a very classy look when held in hands. The device has a removable back with a texture that gives a look of horizontal lines all over the back.

Memory

As far as the memory is concerned, QMobile Energy X2 comes with a 16 GB ROM and a 2 GB RAM. Expandable memory option is also available which is up to 64 GB.

Camera

With all other great features, QMobile Energy X2 gives us an 8MP back camera. This 8 MP camera also features a LED flash light. The camera is however satisfactory, but it captures great pictures in low light. It can record videos in 720 pixels quality. Additionally, the camera comes with some built in modes like HDR and panorama etc.

The front camera has a 5 MP lens that captures amazing images in low light as well as in high light. It automatically detects your face and adjusts itself accordingly. Moreover, you can further beautify your pictures with the help of the face beauty feature. Also, one other amazing feature of the front camera is that it has a mode that's called "wide selfie", in this you can take selfies with a wider background.



Battery performance

This is definitely one of the strongest points of QMobile energy X2. The device contains a 5000 mAh long lasting battery. Moreover, the device has a 2.0a charger that can charge the phone fully in approx. 2 hours since it does not support fast charging. The battery can last for around 2 days with normal use and if put on standby, then it may live for even a week, which is great.

Processor

QMobile Energy X2 has a 1.3 GHz Quad core processor and contains a chipset of MediaTek MT6580. This chipset is based on the architecture of ARM Cortex-A7. It also has a 32-bit type processor with 2 GB RAM. The device can perform multi functions at the same time without the phone being stuck.

Interface

The phone has a 5 inch HD IPS display and runs the latest Android version 6.0 Marshmallow. The colors have been managed in a great way since they are all bright and therefore, icons are clearly visible.

Connectivity

QMobile Energy X2 is a 3G supportive device so you can enjoy a faster internet speed. It also has other connectivity options like GPS, Wi-Fi and USB. Furthermore, it has convenient connection of OTG Charging Cable which is definitely a shining point of Energy X2.

OS: Android, v6.0 (Marshmallow)



Display: 5.0 inches



Battery: Non-Removable 5000mAh



Weight: 184 g



Camera: 8 MP, LED flash, Front 5 MP



Memory: 16 GB ROM, 2 GB RAM



Processor: Quad-Core 1.3 GHz, 32-bit



Price: PKR.12250/-



Antutu Benchmarking

Antutu comprehensively tests all aspects of a device, including UX, GPU, RAM, CPU, I/O and more. Each item is individually assessed and given a score. We ran a test on Energy X2 where the device scored 22230 points. This is not a bad score though in its multi-touch test, the device scored 2 points.

Vellamo Benchmarking

In our Vellamo Benchmarking, where three tests were carried out, the device scored 1160 points in multicore test, 797 in metal test and 1433 in chrome browser test.

Good

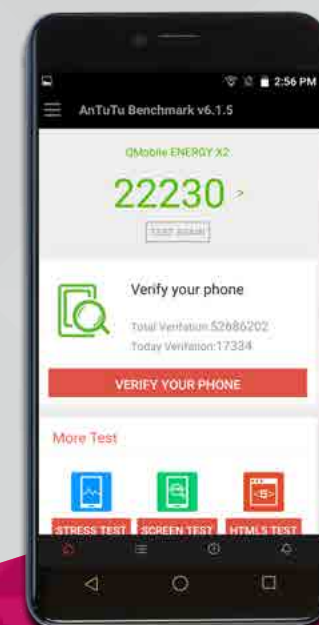
- Big Battery of 5000 mAh
- LED notification light

Bad

- 2-points in multi-touch

Final Verdict

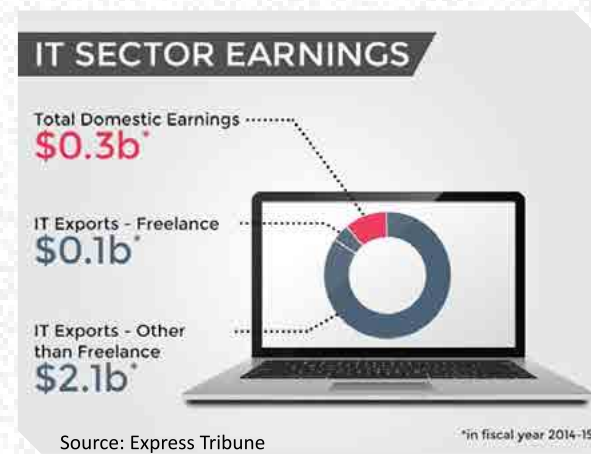
Qmobile Energy X2 is ideal for customers who want big battery devices at smaller price.





The Need of Local Language Content to Overcome Digital Divide

The field of Information Technology in Pakistan is a growing industry that has a lot of potential. Presently, Pakistan has 2000 registered IT companies and call centers, around 300,000 English speaking IT professionals and 14 Software Technology Parks; which shows that the technology sector has improved a lot as compared to the last decade. Not only this, Pakistan's IT exports have witnessed an increase of twenty folds over the last few years and reached up to \$2.2 billion. In addition to this, the annual revenues from freelancing and the domestic markets have reached to \$90-100 and \$300 million respectively



By Saima Ibrahim

Software development in Urdu and Regional languages should be explored so that Pakistan could meet the standards of digitalization

Whereas, the launch of 3G/4G services have further paved the roads towards development and prosperity. All these stats reflect a very promising IT landscape in Pakistan. With all these ongoing signs of development in the country, we cannot neglect the growing software industry of Pakistan. For this purpose, the Government of Pakistan has introduced some national programs to boost software development and exports via both Government and private organizations.

The digital professionals and tech-experts have come forward while utilizing their ideas and developed software to be used in education, supermarkets, health, business, agriculture, security departments etc. But in order to maximize the benefits of technology, the area of software development in Urdu and Regional languages should be explored so that Pakistan could meet the standards of digitalization.

Advantages of Software Localization

In this digital age, access to information is the right of every individual hence software development in regional and Urdu language will help the entire Pakistani community to get maximum advantage of technology.

Software Localization is "a process through which a software application is customized for a specific language/region"

Software Localization is "a process through which a software application is customized for a specific language/region". Some fundamental advantages of software localization includes:

- It can increase the productivity and usage of technology
- It reduces the "Digital Divide" in the society

• The creation of text-to-speech software for Urdu & regional languages can enhance the utility of basic mobile phone text messages and normal computer usage.

Hence, there is a growing need for software and programme development in the local languages. InPage, a computer software, was the 1st computer programme that was developed in Pakistan that specifically helped in creating pages in various local languages using local scripts and fonts. InPage, hence, made the software development process easy for many developers.

InPage, a computer software, was the 1st computer programme that was developed in Pakistan that helped in creating pages in various local languages

Recently, another development in this regard was introduced by the Linguistic technology expert, Dr. Agha Ali Raza and his team at ITU's Center for Speech and Language Technologies (CSaLT) laboratory. They released a corpus of Urdu sentences that covers all possible distinct sounds, called "phoneme" by linguists that are used in everyday speech. This corpus is comprised of 708 sentences that covers all 63 phonemes and will be soon available for download at the C-SALT website.

Government Efforts to Promote Software Localization

The Ministry of Information Technology and Telecom (MoITT) in this regard also intends to promote software localization and discussed in its "Draft National IT Policy 2016" that it will enable all the public websites with bilingual feature. MoITT will collaborate with local technology companies; academia and industry incubation centers to facilitate in sharing of the existing and future media based content to promote the localization of relevant content and its usage. As presently, our developers are more inclined towards English language software development, hence, the Ministry aims to promote R&D in the areas related to local language computing technology and content development.

Motivation for Multilingual Software Development

It is a fact, that both internationally and nationally, 80% software are developed in English language but it is about time that measures are taken in order to reduce the digital divide in Pakistan. For this reason, apart from Government efforts the individual developers also need to be motivated so that they can take part in localized content development. In neighboring countries like India and China, there is also local language programming environments too along with the English. But no such environment exists in Pakistan to assist students in the study of software development in Urdu.

MoITT intends to promote software localization and plans to enable all the public websites with bilingual feature

Unfortunately, our academia itself mainly focuses on only English language software development. So starting from very basic, universities need to introduce courses in local language software development and motivate the students by highlighting the benefits of software localization.

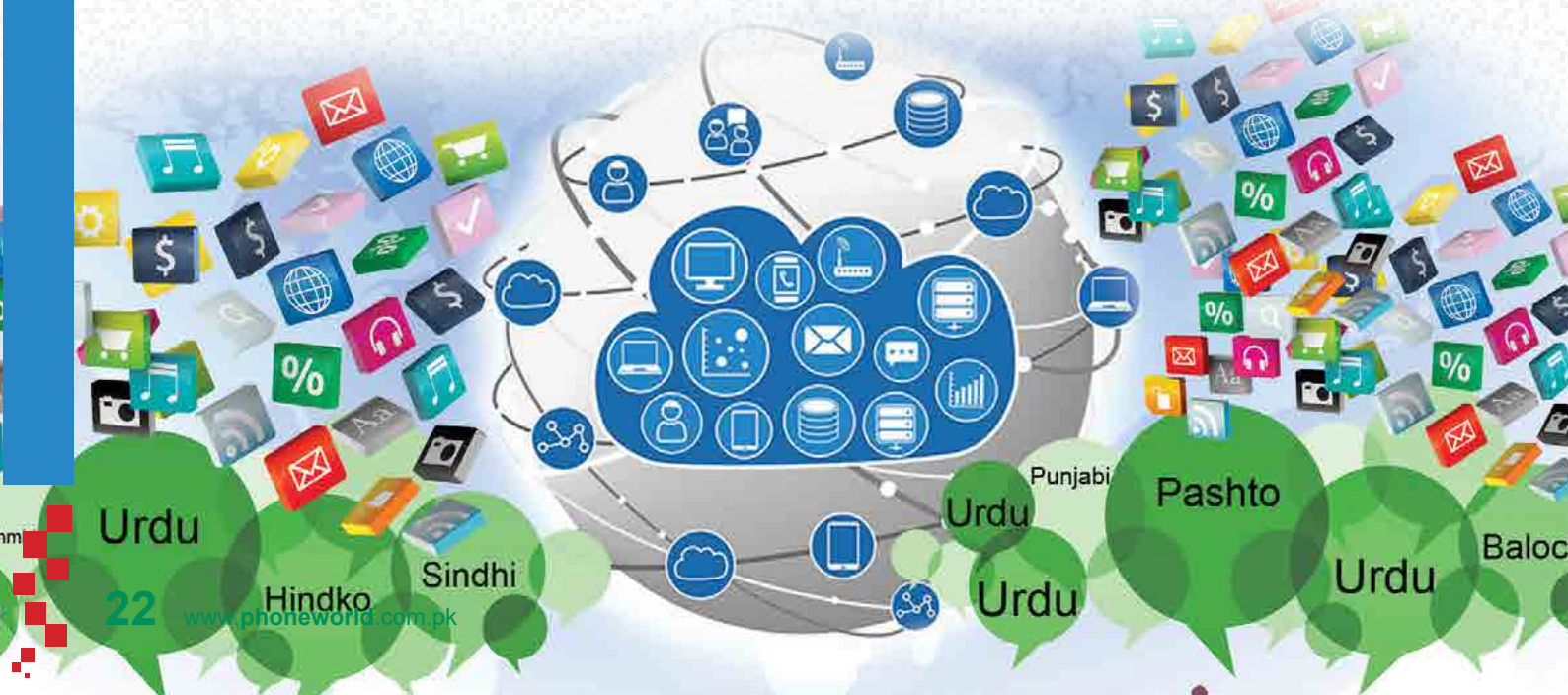
So, the idea is that as long as the masses do not use technology, the true benefits of the IT revolution will remain elusive. Unless software are not available in the languages local people understand, digitalization would not happen. There is dire need to create and facilitate environment for "software localization" in Pakistan.

Pakistan has one of the lowest literacy rate in the world. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), it is 55% till June, 2016, ranking Pakistan at 160th position.

The availability of software in Urdu and regional languages has huge potential and needs appropriate investments and guidance by both public and private sector

Urdu and regional languages are widely spoken with most of the population still unfamiliar with English language that decreases the ratio of usage of technology in the country. Apps and software developed in regional languages will be accessed by even uneducated people of Pakistan. Collaboration with software market leaders (private companies) for making their software products available in Urdu and regional languages can play significant role in this area. Research and Development at all levels for the availability of content in local languages can be a useful step. The launch of "e-Services" in Urdu for public use at banks, hospitals, schools, colleges and other public places can help Pakistan to become more digitally advance country in the world.

Availability of software in Urdu and regional languages, conversion of the electronic knowledge from other languages to Urdu and research and development activities are some of the areas where huge potential exists and appropriate investments and guidance is required in this regard by both public and private sector.



By Rizwana Khan

TECH TWISTS



Computer that ran on water

Russia built a computer that ran on water: in 1936. Adjusting taps and plugs altered the flow of water (and changed variables) while the end result was seen by measuring the level of water in certain tubes. It was also called a Water Integrator and was originally designed to solve the problem of cracking in concrete. It's now found in Moscow's Polytechnic Museum.

A typist's fingers travel 12.6 miles on Average

On average a typist's fingers will travel 12.6 miles!! That's nearly half a marathon – who said that office workers don't get enough exercise.



The first call made on a mobile phone by Martin Cooper

The first Call made on a mobile phone was in 1973 on April 3rd by Martin Cooper, a former Motorola inventor. He is affectionately known as the 'father of the Cellphone'.

Nokia 1100; bestselling mobile phone of all time

The bestselling mobile phone of all time was the Nokia 1100, made in Finland and selling a staggering 250 million units. This also makes the phone the top selling electrical gadget in history, slightly ahead of the Playstation 2.

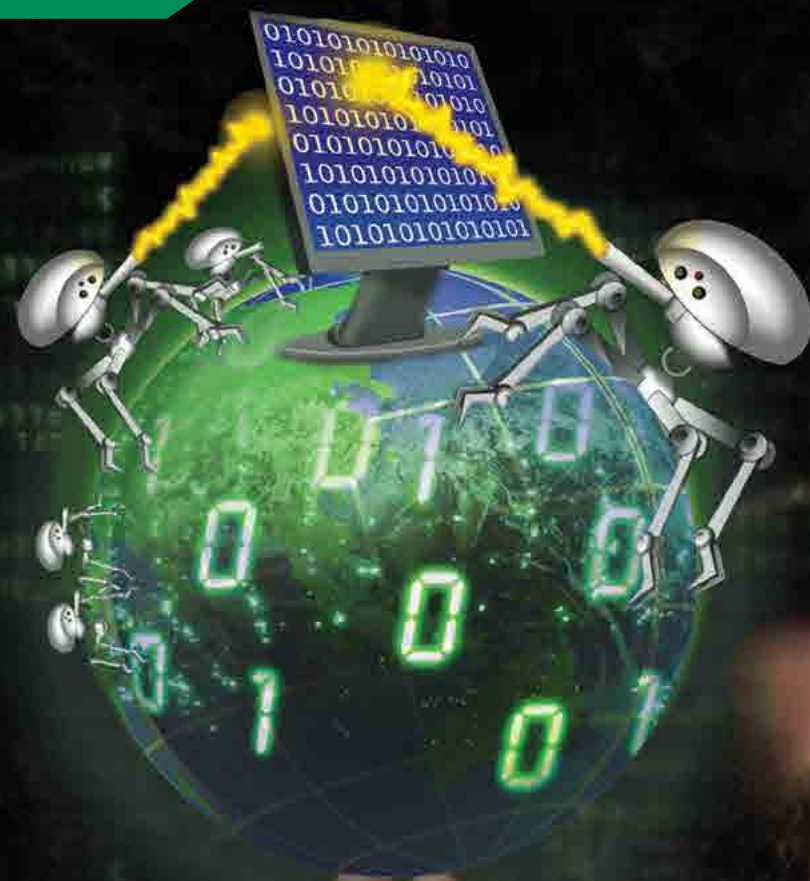


Jonathan James a skilled hacker

Between August and October of 1999, Jonathan James used his skills as a hacker to intercept data from the Defense Threat Reduction Agency or DTRA (a division of the US Dept. Of Defense). He had access to over 3,000 messages, usernames and passwords of DTRA employees. He also obtained source code for the International Space Station (to control temperature/humidity).



By Rizwana Khan



LIVING IN THE TERRIFYING AGE OF CYBER WARFARE

With the evolution in high-tech developments, many new notions are materializing in to reality that, a decade or two back were even hard to imagine. But this evolution in technology has also exposed the world to the biggest threat in the form of Cyber warfare.

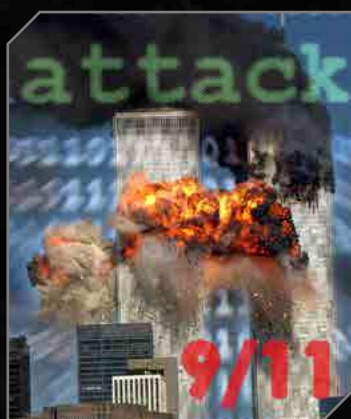


The first known incidence of cyber-attack was conducted in 1998, when United States hacked into Serbia's air defense system to compromise air traffic control and facilitate the bombing of Serbian targets. But the major wave of cyber assault started back in 2007 when Russia bombarded

Estonia with cyber warfare, disabling the websites of government ministries, political parties, newspapers, banks, and companies.

But after the recent news of Russian hacking of the Democratic Party's computer networks and interference with the US presidential election, cyber warfare has taken the central stage in the global arena. Experts are calling it "the political equivalent of 9/11" to delineate the seriousness of the problem.

Cyber warfare is an extreme form of electronic offense in which a state or any international organization attempts to damage another nation's computers or information system via systematic



attacks through computer viruses or denial-of-service attacks. Cyberspace not only provides opportunities for innovation and advancements but it also raises issues of cyber vulnerabilities.

Cyber warfare is an extreme form of electronic offense in which a state or any international organization attempts to damage another nation's computers or information system via systematic attacks through computer viruses

Over the decade, governments and non-state hackers have become highly sophisticated in their cyber-attacks, moving from basic hacking to security breaches in critical infrastructure and government personal data. Furthermore, internet is also being run by criminals to run their terror networks and wicked propaganda.

Cyber-attacks pose threats to three main areas including:

Government Threats

Cyber-attacks conducted against government websites to access confidential information regarding government operations, military forces, the strengths and weaknesses of weapon systems, and any other kind of sensitive information that can to harm state.



Due to the catastrophic consequences of secret information landing in the wrong hands, U.S. Director of National Intelligence has ranked cyber-crime as the No. 1 national security threat, ahead of terrorism, espionage and weapons of mass destruction.

Business Threats

Governments are not the only one at the risk of cyber-attacks, private business are equally prone to attacks. In countries like USA and UAE where smartphone penetration and adoption of new technologies is high, businesses suffer the most damage.



In 2016 alone, the financial cost of cybercrime in UAE reached 1.4 billion dollar.

Social Media Threats

The rise of social media has also accompanied the rise of social media cyber-crimes. Over 30,000 new websites are corrupted daily with compromising codes.

According to a Microsoft report, Pakistan is among the top targets for malware attacks worldwide with fifth highest infection rate

Back in 2011, Facebook admitted that it was the target of 600,000 cyber-attacks every day but after that it never released official figures since; obviously not wanting to scare off potential users. With increased number of social media users, these numbers surely would have also increased.

Pakistan, despite being a nascent state in cyber world is also at a high risk of online vulnerability. India and Pakistan have a long history of conducting cyber-attacks on each other's websites but this was mostly done by independent hackers who only wanted to belittle the other. According to a Microsoft report, Pakistan is among the top targets for malware attacks worldwide with

fifth highest infection rate. After the introduction of 3G/4G technology and cheaper smartphones, greater availability of internet is now provided to the masses but due to lack of awareness regarding online security risks, users fall prey to virtual security troubles.



A more serious case surfaced few years back when a report was published by The Intercept, according to which United States' spy agency National Security Agency (NSA) allegedly spied on top civil-military leadership in Pakistan back in 2013 by using malware, SECONDDATE. Recently, Senate Standing Committee on Foreign Affairs revealed that Pakistan is a popular target for foreign espionage. Senator Mushahid Hussain informed the committee that Pakistan is one of the three countries that are most prone to cyber-attacks; other two countries being Iran and China. But sadly Pakistan is far behind at this front, even the cybercrime bill for online protection of Pakistani citizens was even approved last year.

According to Senator Mushahid Hussain, Pakistan is one of the three countries that are most prone to cyber-attacks

Countering foreign interference in the cyber world should be the number one priority for the government since cyber-attacks could threaten the interconnected global economy while also raising the prospects of cyber warfare, chances of which are even higher for Pakistan due to its strategic importance in the world community. Since the biggest

challenge for government today is to treat cyberspace as an integral part of global economic, societal, and geopolitical systems therefore, it needs to create a supportive landscape through active policy and regulations. Even the unpopular and most controversial president of United States, has realized the importance of technology and added Elon Musk and Travis Kalanick to his President's Strategic and Policy Forum, giving representation to the Silicon Valley for the very first time.

It is quite apparent that hackers have the power to do more damage than they have shown so far therefore; being a top target of foreign espionage Pakistani government should take concrete steps to counter cybercrimes. But for that, the government first needs to properly understand the nature and sources of the threat. Secondly, government must act in collaboration with private sector to come up with a solid counter strategy.

Government must act in collaboration with private sector to come up with a solid counter strategy

The most effective way to protect against cyber warfare attacks is to tighten up the security of information and networks. Venerable system used to carry out cyber-attacks therefore, updated security applications should be used for protection, especially by state actors. Government should start an awareness campaign to inform people the cyber risks and guide them to make a secure online identity but above all, government should also devise ways to mitigate the potential damage of such attacks. The world has since long moved away from traditional warfare strategies and have entered the world of cyber warfare for this reason, intensifying the need for nations to protect their online borders.



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.

• Women Safety Application by Punjab Government

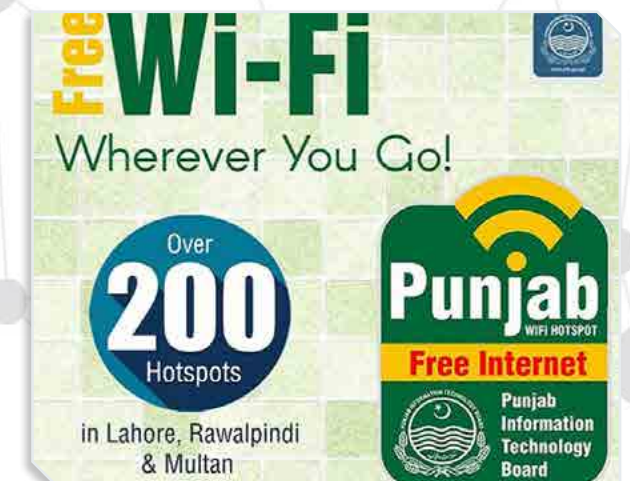
In order to control women harassment, the Punjab Chief Minister's Special Monitoring Unit, along with the Punjab Safe Cities Authority and the Punjab Commission on the Status of Women (PCSW) had introduced the "Women Safety Smartphone application". This safety app will permit women to report the Police Integrated Command, Control and Communication (PPIC3) officials about the kind of harassment they are subjected to. The law implementation agencies will dispatch a team of first responders to instantly tackle the situation upon receiving the notification. Women Safety App will make it easier for women to report harassment at any place and anytime. This App is accessible offline as well.



• Provision of Free Wi-Fi by Punjab, KPK & Sindh Govt.

By providing free Wi-Fi to Pakistanis at public places can also play vital role in the digitalization of Pakistan. In this regard, the Government of Punjab first announced to introduce free Wi-Fi zones in around 200 cities under its "Digital Punjab Campaign." These hotspots are located at different educational and government institutions, public parks. Further, later market places, hospitals, railway stations, airports and bus stations will also get free Wi-Fi. Following Punjab, KPK has also

recently decided to provide free Wi-Fi in colleges and universities of KPK. Another worth praising initiative has been witnessed in Sindh by Wateen Telecom and Sindh Engro Coal Mining Company (SECMC) who will, in coming months, provide free Wi-Fi to villages of Tharparkar



• Introduction of Online Services by Govt. Organizations

Apart from province wise initiatives, different Government organizations are also introducing digital services in order to facilitate Pakistanis. Recently, HEC has introduced online "Degree Attestation System" so that the old 8 days long and hectic procedure could be replaced.



This system will also help in checking the authenticity of fake degrees and diplomas. Also the Lahore Electric Supply Company (LESCO) has launched its online "Registration System" for new electricity connections which previously used to take too long to even file an application for request. LESCO is trying to implement contemporary modern technology in order to make the lives of citizens better and easy.

HUAWEI Honor 6X

First mid-range smartphone with dual back cameras

Huawei is back in market with its newest device, "Honor 6X". Honor 6X is the updated version of Honor 5X which was a successful device of Huawei. Let's look at the Huawei Honor 6X Review in detail.

Display

Huawei Honor 6X is 5.5 inches device with the screen to body ratio of 71.8% while it supports 1080 x 1920 pixel display. For better display and clear visibility, it is equipped with 480 dpi (density per pixels). It has the best display with top quality of icons and color quality further, it is layered with 2.5D curved glass for its protection.

Mostly mid-range smart phones scores 5 points in multi-touch test but honor 6X has blown us away with its full 10points touch support.

Design

Huawei Honor 6X is slim and sleek device with 5.5 inch front screen. The dimensions are 150.9 x 76.2 x 8.2 mm and weight is only 162 grams despite 3340 mAh fixed battery. The front body of Honor 6X resembles little bit with iPhone but rest of the body is different.

Memory

Huawei honor 6X has best memory section despite being a mid-range smartphone it provides 3GB RAM and 32GB ROM.

Camera

The camera of Huawei Honor 6X is amazing because it is the first mid-range smart phone that has dual back camera lens.

Rear Camera of Huawei Honor 6X is packed with dual camera lens of 12MP and 2MP. 12MP is primary shooter and 2MP is secondary unit moreover, both lenses provide detailed image and give best results in wide aperture mode. It also has LED flash light.

For blurry or bokeh effect we have wide aperture in Honor 6X with range from f/16 to f/0.95. We can change the depth of field by increasing or decreasing it further, we have tested the bokeh effect with it and it has performed very well. The results are brilliant because it has fast focus and captures impressive images. Pictures have very good details especially from a mid-range phone's stand point.

Front camera of Huawei Honor 6X has 8MP lens with screen flash light. It doesn't have any extra flash light for front facings selfies while it can record videos in high



quality. Beauty mode of 8MP camera at the front does wonderful job in Honor 6X as it has adjustable options of brightness and softness.

Connectivity

Huawei Honor 6X is a 4G enabled device. The supportable speed of 4G is LTE Cat4 150/50 Mbps and 3G is HSPA+ 42.2/5.76 Mbps. Other connectivity options include Wi-Fi, Bluetooth and Fm Radio. Wi-Fi supports the standards of 802.11 b/g/n, Wi-Fi Direct and hotspot while Bluetooth version is 4.1.

It is a dual SIM enabled device. We can increase its internal memory up to 256GB by inserting memory card in SIM 2 slot.

Battery Performance

Honor 6X supports the powerful battery of Li-ion which is 3340 mAh placed inside the fixed back cover. The handset has HiSilicon Kirin 655 chip set which provides battery saving feature as well.

Processor

Huawei Honor 6X has Octa-Core 2.1GHz 64-bit type processor which is built on the architecture of ARM Cortex-A53. The chipset performance is better than any quad-core processor.

This chipset modem works mainly in analog signals so it receives better signal coverage as compare to any other device. We have not observed any kind of heating issue in it while charging it or using camera.

Interface

The Honor 6X runs on Android version 6.0 (Marshmallow) with the interface of Emotion UI 4.1. It should have latest android version 7.0 (nougat) and up till now we have not received any update regarding nougat version.

Many bloatware applications are already installed on it such as mirror, hi care, hi game, booking.com, true caller and gameloft. Themes application is also available via which we can change the color and display of Honor 6X.

OS: Android 6.0 Marshmallow

Display: 5.5 inches

Battery: Non-removable 3340 mAh

Dimensions: 150.9 x 76.2 x 8.2 mm

Camera: Dual 12 MP + 2 MP

Memory: 32 GB ROM, 3 GB RAM

Processor: Octa-Core 2.1 GHz

Price: PKR. 28,499/-

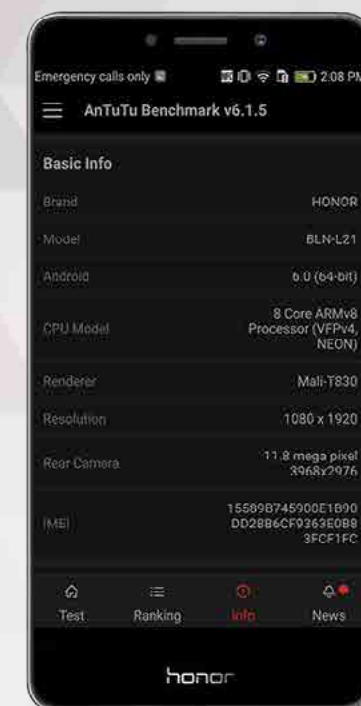
Vellamo Benchmarking

Vellamo Benchmarking conducts three tests including multi-core test, metal test and chrome browser test to evaluate detailed performance of a smartphone. In multi-core test, Honor 6X has scored 1994 points, in metal test it has scored 1495 points whereas, in chrome browser it put up a total of 3219 points.



Antutu Benchmarking

Antutu Benchmarking is an important instrument to check the device performance. Our Huawei Honor 6X has scored 55987 points which is a very satisfactory total for a mid-range smartphone.



Good

- 3GB RAM and 32GB ROM
- Dual Back Camera
- Fingerprint Scanner
- Light weight

Bad

- No front camera flashlight
- No USB type-C

Final Verdict

Huawei Honor 6X is first mid-range smartphone with dual back cameras of 12MP and 2MP. It has 2.1 GHz quad-core processor with 32GB ROM and 3GB RAM and many other features. Such great features, Huawei Honor 6X can easily compete with any mid-range device.



Dream. Build. Rise:

Pakistan's First National Incubation Center

An exclusive interview with Zouhair Khaliq and Parvez Abbasi

National Incubation Center is the first of its kind initiative that will provide startups with a free of cost workspace, digital platforms, funding and mentorship and best learning modules that will help startups succeed.

NIC is one of its kind initiatives that aims to provide an end to end support for ICT based startups by providing them access to world class mentors with proven track record of success

Zouhair Khaliq (ZK) and Parvez Abbasi (PA) are two veterans from ICT industry with rich experience and tech acumen. They are the co-founders of Teamup, the partner of National Incubation Center along with Jazz and National ICT R&D Fund..

In a short interview with them we have tried to explore the philosophy behind NIC and what role it plans to play in the digital revolution of Pakistan.

PW: Tell us something about Teamup?

ZK: Teamup is a community of some of the best entrepreneurs and professionals from every section of the industry. We have a diverse team of the best mentors with international exposure who help founders with everything from pricing models and marketing to consulting and sales.

PA: Our basic aim is to provide founders the required guidance and advice. We conduct informal meetings and training sessions on regular bases to put them on the right track.

PW: What role Teamup is specifically playing in NIC?

ZK: NIC is a national incubation center that is launched under the public - private partnership. Our role in NIC is to provide selected startups with platform, resources and above all the mentorship so that their ideas can be molded for the larger benefits.



By Rizwana Khan

PW: How NIC plans to promote entrepreneurship in Pakistan?

PA: NIC is a unique initiative that aims to provide an end to end support for ICT based startups by providing them access to world class mentors with proven track record. Selected NIC startups will have further access to funding from the ICT R&D fund as well as an opportunity to access Jazz's marketing and distribution assets and potentially target the 50 million Jazz customers across Pakistan.

ZK: We also have a very interesting curriculum set for young entrepreneurs that will teach them how to build a product, service and even a company. We will also guide them on how to monetize that by giving them access to potential investors. So basically it's a complete platform that provides support and assistance right from the start, till the end.

Having spent so many years in the industry and experiencing so much, we come to the conclusion that now it is time to give back to the industry and to the country as well

PW: What is your vision for NIC? How it is different from other incubation centers i.e. Plan9, NUST Technology incubation center?

ZK: As I have said earlier, the role NIC is going to play is relatively similar but other incubation centers are primarily academic based whereas, what we bring to the table is slightly different. Our focus is on entrepreneurial side of the things, we have an extensive team of mentors and advisors. If you look up at the list of our mentors on our website you'll see that we have the finest people from the industry who are on top of their game in their respective fields. All these people bring the premium knowledge, experience and entrepreneurial culture with them. So, NIC is giving the young entrepreneurs a chance to learn from the best in the business. It will be more like hands on training rather than just orientation.

PA: More importantly, it's a national level incubation center and not bounded by any geographical limitation like the rest.

PW: What inspired you to take this initiative?

ZK: I'll give the credit to my partner Parvez since he is the one who came up with this idea. Few years back, while discussing the IT scenario in Pakistan we came to realize that to pump up the pace of IT

development, we need to put lot more effort than what is already being done as there is always room for improvement. Secondly, having spent so many years in the industry and experiencing so much, we come to the conclusion that now it is time to give back to the industry and to the country as well.

NIC is giving young entrepreneurs a chance to learn from the best in the business. It will be more like hands on training rather than just orientation

Our prime inspiration was to share our knowledge, experience and acumen with the young blood so that they could take our industry and our country further ahead. So here we are, first it was just TeamUp but now we have NIC. We have a firm belief that through such initiatives, Pakistan's IT scene will be recognized at the global level and gain a great standing.

PW: What are some of the major challenges technology oriented entrepreneurs face in starting /or growing their businesses?

PA: The biggest and foremost challenge is the founders themselves. Normally, a couple of friends or batch mates form a company together, who are all from the same field like engineering, business or computers. This, in my opinion is the fundamental flaw, the group has expertise in only one area; when it comes to marketing, finance or any other aspect they don't know a thing. Running a business is not based on just a single facet; it includes whole lot more. Therefore, choosing the right kind of partners is very important to create a balance.

Running a business is not based on just a single facet; it includes whole lot more. Therefore, choosing the right kind of partners is very important to create a balance

Another important thing to run a business is passion, because in startup business there are few good days and lot of bad days. So during those bad days there has to be some passion and thirst, that can drive and motivate them to go the extra mile.

ZK: I agree with Parvez. The IT eco-system in Pakistan is still going through its nascent stage so you have to be very strong and determined to make your mark. If we specifically talk about the challenges that our industry is facing, I'll say that taxation system in the country is a bit problematic; it still hasn't realized that technology entrepreneurship is a whole different phenomenon. There are no tax incentives for people who want to take up IT projects and neither for investors who want to invest in such ventures but simply refrain from doing so because of the high cost of such projects. Tax system of Pakistan makes up large portion of that cost. If you look at the West, they have particular investment schemes under which you get 50% rebate on your investment if that startup fails. So this creates a huge risk mitigation that gives a sense of security to the investors. Also,

start their own businesses and become an asset for this country by becoming job providers instead of job seekers.

NIC has its first batch ready that will start from this month. We intend to take 20 startups and each startup has approximately three to four people

PW: How many startups are being incubated currently, and under what domains?

PA: We have our first batch ready that will start from this month. We intend to take 20 startups and each

ensure that startups get the required mentoring support in small cities?

PA: The focus of NIC is not just on Islamabad based startups. Our current induction of 20 startups was basically nationwide. A panel including our team along with ICT R&D Fund and Jazz representatives traveled to all the major cities and scrutinized applications that we received from everywhere including small cities. We received over 600 applications online; we accessed each and every one of those applications with great precision. Out of which 180 applicants were shortlisted for interview that was conducted by our panel. After detailed discussion and evaluation of their business ideas, our panel selected 20 startups that now we are working with. So our aim basically is to tap the nationwide talent pool, not just the federal capital.

strengthened my belief in Teamup and NIC and has filled me with a fresh wave of motivation. I expect really big things in the future now.

Our doors are now open for the young tech entrepreneurs, come to us and we'll help you realize your dreams

PW: To drive innovation and ICT capacity building, what are your specific ICT investment recommendations for: government, industry, investors, the general public, the individual, education and research?

PA: This was a wholly new experience for us and we learned so much during the whole process. But the important thing to consider here is that



in the western countries like Europe, USA there are angel investors, seed funding, venture capitalists that serve as the key to build startup culture whereas, that is not the case in Pakistan.

There are no incentives for investors who want to invest in such ventures but simply refrain from doing so because of the high cost of such projects

So the eco-system in general needs to evolve to get in line with the new trends, for that we need to work with the government and other stakeholders. There are around 200 million people in our country and a major section of this population comprises of youth, you can't expect all of them to do Masters and PhD and get jobs. So a more viable system would be to create an environment that is fit for entrepreneurship so that the younger generation

startup has approximately three to four people. So, in total we have 70 to 80 people present here. We have selected different types of startup for example we have a startup called IoT Home Automation Space. It offers various tools through which you can automate your home. Through this system you can control your lights, electronics & security system remotely, from anywhere in the world. There is another startup that is working in 3D animation, virtual reality and augmented reality. We also have startups that are specially related to ICT and give solutions to number of problems. But the beauty is in the fact that all these 20 startups are from different domains and are at different stages so they can also learn a lot from each other as well. We have created an open environment of cross pollination so that our startups can polish their basic ideas with the help of new knowledge that they acquire from each other. Our basic focus is that entrepreneurs come forward with their ideas, learn from each other and grow together.

PW: How NIC plans to provide support since the mentors mainly residing in main cities – how do you

There are around 200 million people in country and a major section of this population comprises of youth, so a more viable system would be to create an environment that is fit for entrepreneurship

PW: Response to NIC for its batch is no doubt tremendous. What was your initial impression about the young entrepreneurs you interacted with; in terms of quality of their ideas and their attitude?

PA: There is no doubt that Pakistani youth is extremely smart and creative. Some of entrepreneurs that I met during the interview sessions came forward with some really brilliant ideas that left me awestruck. This has further

no single individual or organization can bring the change alone, all of us will have to come forward and play our part. Every section of this industry has a specific role that it needs to play in order to maximize the benefits. Our recommendation is that people should team up and bring forth their resources and experiences and create an environment where they can all add value.

ZK: I think we are in a phase where competition is no longer relevant, it's all about collaboration. All of these stakeholders will have to come forward and create an eco-system that could enable us to move to the next level. It's really about creating an encouraging future for Pakistan and its responsibility of everyone and not just one segment of the society.

PW: What's the one piece of advice you would give to an aspiring entrepreneur?

PA: We just want to say that our doors are now open for the young tech entrepreneurs, come to us and we'll help you realize your dreams.

By Yumna Ashfaq

Technology to the Rescue

Pakistan Combatting Crime through Technology

It is no secret anymore that technology is taking over our lives, making it easier to do everyday tasks in timely and efficient manner. The best part is that technology is also supporting governments in achieving good governance and bringing effectiveness and competence in their workings. Police agencies have also embraced number of mobile and stationary technologies to combat crimes. These new technologies are becoming increasingly knotted with the

daily work of police officers in enforcement. The software, hardware and communication networks, most of them based on mobile systems have equipped officers to investigate crimes more efficiently by giving them access to more information in shorter amount of time.

For the past many years, Pakistan has faced lot of ups and downs in terms of law and order situation. From crimes such as kidnapping, murders,

terrorist activities to other issues like corruption, nepotism and bad governance have casted a dark shadow on the progress and development of the country. Year 2016 was the year when many steps were taken that resulted in eradication of such menaces to a certain extent. For this purpose, government has been working actively along with some high-tech professionals and successful entrepreneurs to collectively introduce policies that helped in appropriately

managing government affairs and bringing good governance in the country through the use of Information and Communication Technology (ICT).

Criminals Watch Out, Police Goes All High-Tech

Punjab has been the forerunner in introducing latest technology, not only to increase officer safety but to reduce incident response times. Punjab Information Technology Board (PITB) has introduced various projects that turned out to be very successful up till now. These projects were not just implemented in the counterterrorism areas, but also in education, agriculture and health sectors of Pakistan.

Punjab has been the forerunner in introducing latest technology, not only to increase officer safety but to reduce incident response times

The objective was to make public service easily accessible to general public. Law and order situation has greatly improved in Punjab, the recent statistics show that on an average 10 people were murdered and 32 people were robbed on a daily basis in Punjab during the start of 2016. However, a decline in these figures was witnessed by the end of the year.

In order to help police and other law-enforcement agencies to fight against terrorism and other criminal activities, two major tech-based steps have been taken. Firstly, Punjab's

Counter Terrorism Department (CTD) is now computerized and secondly, all 26 registers including register one (FIR), register two (daily journal) and register 10 (surveillance register) were all digitized. This system will be rolled out in all 709 police stations in Punjab in the next few months.



Police in KPK has especially gone through a major make-over and has transformed in to a modern digital organization

Just a few months back, one suspicious person was recognized with multiple identities. His multiple identities were recognized because of the increasing use of digital criminal fingerprint database.

The PITB has also produced Crime Mapping (CM) Software which has helped police in solving some long pending cases. In Lahore, it has been made necessary for all hotels to make use of the "Hotel Eye Software". This software basically helps keep records of all the people staying in a particular hotel including foreigners. During the last two months, the police have arrested 43 criminals from different hotels of the city by locating them through the Hotel Eye Software. Moreover, in order to eliminate corruption



completely from the Province, the same CM Software will report the relevant department about the corruption in Police Department. There will be less paper work and more real-time monitoring of Police Stations, online FIR system and monitoring of the investigation process. At the same time, to ensure the presence of police personnel, biometric attendance system is being used.



The changes in the technology are coming very fast, making the criminals cleverer and more dangerous. Therefore, modern hi-tech tools should also gain rapid adoption among the law enforcing agencies

Khyber Pakhtunkhwa is also not behind in technology uptake to run its affairs. Police in KPK has especially gone through a major make-over and has transformed in to a modern digital organization.

The Government of KPK has taken a number of Information Technology (IT) initiatives. This includes Digitization of FIRs, Tenant Information System, Identity Verification System, Vehicle Verification System, Criminal Record Verification,

Geo-Tagging, SOS Alert Service, etc.



Moreover, to train the officers on how to use such IT tools effectively, Police IT schools have been developed across the Province. So far, the school has managed to train more than 2000 Police Officers in different computer courses.

In a technologically advanced world where crimes have become more organized and fatal, governments have to be more proactive in order to counter wrong-doers and offenders

The changes in the technology are coming very fast, making the criminals cleverer and more dangerous. Therefore, modern hi-tech tools should also gain rapid adoption among the law enforcing agencies as well.

Internationally, the law enforcing agencies are far more developed and up to date as compared to Pakistan. Various high-tech crime-fighting initiatives including body cameras, in-vehicle computers, license plate readers, facial

recognition technologies, and even mobile consoles for fingerprint reading. When considering the deployment of such tech tools, there are also a lot of challenges faced by the Government. First of all, financing the research and development and keeping pace with modern technology are two of the biggest challenges as technology becomes outdated very quickly. At the same time, it involves a huge amount of maintenance and depreciation cost. But with a deeper analysis, it is clear that the cost of introducing such technology is lesser than the one we have to suffer from criminal activities. In order to obtain a 100 percent success ratio, we first need to build a centralized information portal so that scattered chunks of information could be combined to a meaningful whole. This will also help various law enforcing agencies including Police, Customs, FIA, ISI and Armed forces to make use of each other's resources and information and better prepare themselves to counter anti-state elements.

The cost of introducing technology is lesser than the one we have to suffer from criminal activities

Advent of 3G/4G technology and cheaper smartphone devices have enabled instant communication with each other in real-time. At the same time, it has also made possible the introduction of many products and applications that let citizens

report dangerous crimes and allow law enforcement agencies to spot the problem even across a crowd of people. This boom in Pakistan's ICT industry has still a long way to go. Many projects and plans by the public sector are in progress. New technology and tools are being introduced to further enhance the services provided to the general public of Pakistan.

Equipping our Police and agencies with the latest technology is the greatest need of the time, not just to improve efficiency but also to gain confidence of the general public

Equipping our Police and agencies with the latest technology is the greatest need of the time, not just to improve efficiency but also to gain confidence of the general public. In a technologically advanced world where crimes have become more organized and fatal, governments have to be more proactive in order to counter wrong-doers and offenders and for that, modern technology has become the main pre-requisite. The sooner we understand this, the better it will be.



Snapdragon 835: The New Power Chipset by QUALCOMM

Snapdragon 835 processor

Snapdragon X16 LTE
World's first announced gigabit-class LTE modem

Qualcomm® Hexagon™ DSP
Tensorflow and Hallide Support

Qualcomm® Kryo™ 280 CPU
Our most power efficient architecture to date



Qualcomm® Adreno™ Visual Processing
25% Faster Graphics Rendering
60x More Display Colors*

Qualcomm Spectra™ Camera ISP
Smooth Zoom
Fast-Autofocus
True to Life Colors

Qualcomm Haven™ Security
First to support full biometric suite

The leading chip-set manufacturer, Qualcomm has announced its latest more powerful Snapdragon 835 Chipset at CES 2017. Qualcomm has brilliantly taken the stage at CES by announcing "Snapdragon 835 Chipset" as a successor of its Snapdragon 820. This chip-set is Qualcomm's first-ever SoC which is commercially produced while using 10nm FinFET process. Keeping in view the latest tech inventions, Snapdragon 835 is developed to support VR/AR along with the ability to run mobile computing systems with full Windows 10 support.

Key Specs of Qualcomm Snapdragon 835:

➤ In order to improve the experience of high graphics games and VR/AR; Snapdragon 835 has Adreno 540 GPU which supports OpenGL

ES 3.2, OpenCL 2.0, Vulkan's API, and DirectX 12

➤ Snapdragon 835 has an increased 25% of graphic support of 4K (UHD) for video recording at 30fps with 60fps, 4K playback

➤ Snapdragon 835 will also officially support Google's Daydream VR platform

➤ Image processing with Snapdragon 835 has also improved; which will help mobile phone manufacturers to build high resolution cameras

➤ Qualcomm introduced a separate security feature in Snapdragon 835 and named it "Qualcomm Haven Security Platform" in order to back smartphone users with best security options. This platform will improve authentication via fingerprint or iris scan system

➤ Last but not least interesting debut of Snapdragon 835 is its "Quick Charge 4.0" feature. Quick Charging technology is 20% faster and around 30% more efficient as compared to Quick Charge 3.0

Infinix Zero 4 Plus

The Best just got Better

After receiving a huge appreciation from the success of Infinix Zero 4, Infinix is back in market with Deca-Core processor handset "Infinix Zero 4 Plus". It is the updated version of Infinix Zero 4 with many additional technologies and features. Price of Infinix Zero 4 Plus is PKR.29,999/-. Here is the detailed review of Infinix Zero 4 Plus.

Display

Infinix Zero 4 Plus has 5.98 inch screen and 75% screen to body ratio, which is brilliant. It supports the resolution of 1080 x 1920 pixels with Full HD capacitive touch screen. Density per pixel is almost 480 dpi that is huge and gives clear and detailed visibility of icons and texts. It is layered with curved 2.5 D TP third-generations Corning Gorilla Glass that protects its screen from scratches.

Design:

The design and structure of Infinix Zero 4 Plus is quite different as compared to previous devices of Infinix. With larger screen of 5.98 inches, the dimensions are 160.50 x 82.97 x 8.25 mm and weighs 202 grams, which makes it heavier than other devices.

Memory

As Infinix Zero 4 Plus is flagship device of Infinix, it offers two different versions in ROM which are 32GB and 64GB. Both are perfect for normal usage even without memory card. We can expand its internal memory up to 128GB with the access of memory card.

RAM option has been changed and increased from 3GB to 4GB which is the major highlight of Infinix Zero 4 Plus. 4GB RAM is a good choice for multi-tasking and powerful performance.

Camera

Infinix Zero 4 Plus has also upgraded its camera section. Back Camera of Infinix Zero 4 Plus has 21MP camera lens with dual LED flash light. Optical image stabilization (OIS) helps to prevent low light and shaking that often ruin the perfect picture. It can make videos in full HD 1080p quality. It has Laser focus technology that gives the power to shoot detailed pictures with better speed and accuracy. Laser focus also has ability to identify and focus on object and light while 4X sharper ZOOM enables you to capture the picture with more detail and clarity even when standing at a distance. The result of back camera is extra ordinary and it works awesome in dark lights and reduces shaking in videos.

The front Camera of Infinix Zero 4 Plus has 13MP lens with front-facing flash light. It is equipped with

panoramic selfies, wide selfie and f/2.2 lens options, Beauty mode and Picture in Picture (PIP) mode that helps in capturing best selfies.

Processor

The Infinix Zero 4 Plus has Deca-Core processor with 2.1 GHz 64 bit-type processor. It has Helio X20 MediaTek chipset MT6797M which is powerful enough to run the device smoothly. Deca-core is relatively faster, high-power processor that reduces energy consumption and battery saving.

Infinix Zero 4 Plus has Graphic processing unit (GPU) of Mali-T880 which is extremely efficient and most powerful performing unit among all other Mali members. It has 40% more efficiency than any other GPU that plays an important role in graphic display and 3D games.

Battery

Infinix Zero 4 Plus has long-lasting and powerful li-ion battery of 4000 mAh which is fixed inside the back cover. It provides fast-charging with X charge 3A PE + 2.0 technology. The Deca-core processor and media Tek chipset provides the battery saver function which is a plus point for big battery lovers.

Network & Connectivity

Infinix Zero 4 Plus is a 4G enabled dual SIM device that supports all the bandwidths of networks in Pakistan. Speeds for Mobile data networks are HSPA 42.2/5.76 Mbps, LTE Cat4 150/50 Mbps. Other connectivity options include a/b/g/n with Wi-Fi Direct and 4.1 hotspot options, Bluetooth, FM Radio and 2.0Micro-USB version that also support OTG cable.

Interface

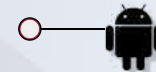
Infinix Zero 4 Plus is featured with Android 6.0 (Marshmallow) with XOS chameleon version 2.1.0 XOS interface. The colors are sharp and bright which leaves a very good impact. Icon styles are different as compare to other Android smart phones.

The lock screen has different wallpapers which changes automatically after every few minutes while the motivation quotes are also shown at bottom side of lock screen. Many bloat-ware applications are pre-installed such as backup and reset, Carl care, geek bench and many others. It has XOS family apps that include XAccount, Xcloud, Xclub, Xtheme and many others.



By Shaheer Riaz

OS: Android v6.0 (Marshmallow)



Display: 5.9 inches



Battery: Non-removable Li-ion 4000 mAh battery, Fast Charge



Weight: 202 g



Camera: 13 MP, LED flash



Memory: 32/64 GB ROM, 3GB RAM



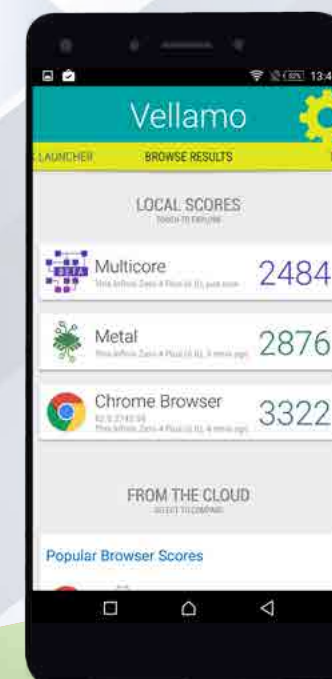
Processor: Deca-Core 2.1 GHz 64-bit



Price: PKR.29,999/-

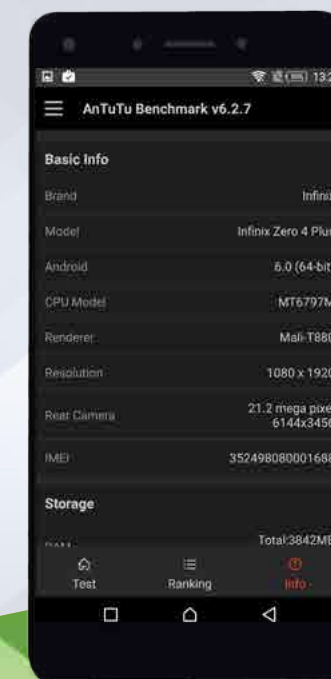
Vellamo Benchmarking

The vellamo testing conducts three tests to check the device performance. These tests include multi-core test, metal test and chrome browser test. The performance of Infinix Zero 4 Plus was quite impressive in Vellamo testing, it scored 2484 points in multi-core test, 2876 points in metal test and 3322 points in chrome browser test.



Antutu Benchmarking

Antutu Benchmarking application is used to check the device performance in CPU, 2D/3D, data base and few others categories. It has put up a very decent score of 87121 points that brings it in direct competition with big smartphone giants like iPhone and Samsung.



Good

- 4GB RAM
- Brilliant Camera
- Fingerprint scanner
- Supports Fast charging

Bad

- Heavy weight device

Final Verdict

Infinix Zero 4 Plus is all in one device with amazing features at great price. It has given brilliant results in every section and is an ideal device for heavy users.

 By Asma Balouch

Old is New Again

Revival of Nokia and Motorola

Whenever we think about the pioneers of mobile phones the brands that come in our mind are Nokia and Motorola as in 90's, these were the only dominant names in the industry that made phones with iconic features.

In September 2013 Nokia announced the sale of its mobile and devices division to Microsoft

The Finnish phone maker, Nokia ruled the international cellular market for quite a long time. Be it Nokia 1011 the first commercially available mobile

phone, Nokia 3310, Nokia 1100 the best-selling mobile phone of all time, Nokia 7650 the first camera phone; every phone had its own prominent feature and charm. Nokia was also one of the creators of mobile gaming; its popular Snake game was later on available on many products.

In 2007, Apple introduced iOS and Google offered Android as an open-source alternative, but Nokia vowed to its original OS i.e. Symbian. Unfortunately, Symbian proved a weak competitor to iOS and Android systems. Though Nokia started embracing Windows Mobile for its smartphone range, but the company had already lost most of its previous momentum. The company had already been

making huge losses for two years, and in September 2013 announced the sale of its mobile and device division to Microsoft.

As in the 90's, manufacturers like Nokia and Motorola were the only dominant names in the industry that made phones with iconic features

The sale was encouraging for Nokia to stop further disastrous financial figures, and was also good for Microsoft's CEO Steve Ballmer, who wanted Microsoft to develop more hardware and turn it into a 'devices and services' company.

The sale was finalized in April 2014, with Microsoft Mobile becoming the beneficiary to Nokia's mobile devices division. Now once again Nokia is set to take over the mobile market, this time under HMD leadership which is a Taiwanese manufacturing company. And according to the news, over 100000 people preordered Nokia 6 in just one day which shows that Nokia is still a power brand. It is expected that Nokia is going to launch more Android handsets at the MWC 2017.

The Google acquisition of Motorola played a major role in the revival of the company and they introduced their first phone under the name of Moto X in 2013

Another mobile manufacturing company that prepared its revival is Motorola. More or less, Motorola faced the same situation as Nokia. Motorola established its telecommunication firm at Schaumburg, Illinois in 1928. Initially the company offered wireless equipment such as signal amplifiers and cellular transmission base stations. In 1984, Motorola introduced the world's first handheld cellular phone Motorola DynaTAC. It was the first company to bring the "flip phone" called MicroTAC and the "clam phone" with the StarTAC during the mid-1990s. In 2001, Motorola launched the V60 model cellular phone, which had Internet access, voice-activated dialing, and text messaging.

Despite being the trendsetters in the telecommunications industry,

Motorola's market share was taken over by new entrants. Till 2006, it was a tough competitor and brought some remarkable phones like Moto RAZR, Pebble etc. But gradually things started to change. Back in 2011, Google acquired the company for \$12.5 billion. The Google acquisition of Motorola played a major role in the revival of the company and it introduced its first smartphone under the name of Moto X in 2013. In Moto X the company practically changed the face of mobile market by presenting high-end specs at low price labels. Failing to incorporate it into its idea, Google sold the mobile division to Lenovo in 2014 for \$2.91 billion while retaining the patent portfolio. Regardless of some blunders along the way and Lenovo confessing that it misjudged the size of the task imminent at Motorola; it now has a clear vision of what it wants to do.

Technology is a very fast paced industry where opportunity missed is opportunity lost. Nokia and Motorola will have to face tough competition, nostalgia alone won't be enough to underpin their return in smartphone world in 2017.

Nokia and Motorola will have to face tough competition, nostalgia alone won't be enough to underpin their return in smartphone world in 2017

Nokia and Motorola were the premium mobile brands of their time, but they failed

to keep up with the changing trends of the mobile market and missed out on the opportunity. Their opponents became more powerful by addressing the consumers' needs for better and smarter technology. They have to bring some extra value for customers to gain their attention which will require colossal effort at their ends. But in all fairness, Nokia and Motorola phones will definitely act as a refreshing tonic for consumers already suffering from iPhone fatigue and explosion fears surrounding Samsung phones.

Nokia was once the largest mobile brand of Pakistan and Motorola also had a strong market positioning in the country. Only time will tell if both companies will be able to reach their old stardom or not

Pakistan is one of the fastest growing smartphone market in Asia. According to GSMA, smartphone penetration in Pakistan will reach 55-70% by the end of 2020. This makes Pakistan an important market for OEMs. Nokia and Motorola are also planning to officially launch their devices.

Nokia final lineup is not yet finalized for Pakistan but Motorola has already launched its first phone, Moto Z. Nokia was once the largest mobile brand of Pakistan and Motorola also had a strong market positioning in the country. Only time will tell if both companies will be able to reach their old stardom or not.

By Rizwana Khan

family and friends first, so about 75% of the brands on Facebook that pay to promote ads will have to get creative and design visual, engaging ads to get noticed first.

Instagram and Snapchat will be competing for lot of attention this year, and advertising revenue will be more than ever

The ad revenue of Twitter is increasing in the mobile format and in 2017 they are likely to continue experimenting with visual content, sponsored hashtag icons and stickers are few of many to provide a variety of ad options to users.



Instagram and Snapchat will be competing for lot of attention this year, and advertising revenue will be more than ever. Recently Snapchat launched a new advertising API that makes it easier to buy ad space; also they offer a greater variety of video ads and sponsored filters. On other hand, Instagram is doubling their e-commerce with the introduction of shoppable Instagram. This feature lets users to buy products directly by clicking the ad in the app.

As more and more brands are starting to realize the value of social messaging compared to regular social networks, they are making more efforts to have a presence there

Marketers should play around with ads on different platforms to see and check which one is better for their audience and take advantage of cool new features each platform rolls out.

Social messaging will continue to Rule

There has always been more focus on social networks than social networking. Messaging apps have a much broader community of users than social networks. In fact WhatsApp, Viber, WeChat and Facebook Messenger together have more users than big networks like Facebook, Twitter, LinkedIn and Instagram. The SMS messaging and Over-the-top (OTT) messaging are preferred form of communication. According to recent researches, great number of millennials are more loyal to brands that engage them via those channels, it is expected that two billion users will be messaging through OTT apps by 2018. This is because millennials want transparency, personal touch and collaboration that only one-on-one communication allows.



Social media sites are doing everything they can to keep people on their platform instead of navigating away to a business website

Businesses are already taking advantage of the huge audience base on social messaging platforms, such as on Facebook you can click an ad and it takes you directly to a chat window with the brand. As more and more brands are starting to realize the value of social messaging compared to regular social networks, they are making more efforts to have a presence.

Customer Engagement will increase through Chatbots

Chatbots are artificial intelligence that can have a conversation with someone. Facebook has already integrated them within Facebook Messenger, and businesses are now using these Chatbots to communicate with the customers. These Chatbots are helping businesses to improve customer services by quickly responding to their comments and questions.

We can only expect this tool to become more popular in 2017, especially since social media sites are doing everything they can to keep people

Make or Break

SOCIAL MEDIA TRENDS FOR 2017

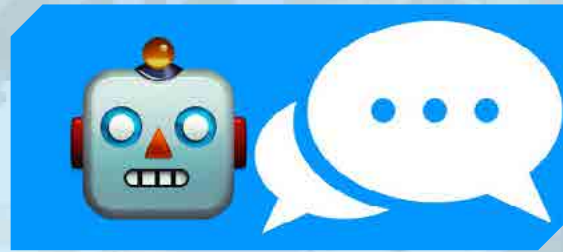
From Facebook's math mistakes to Twitter's failed sale to Donald Trump's use of social media to win elections, 2016 was a year that may not be missed but it definitely won't be forgotten. We are in to a new year with new hopes and aspirations but in the fast changing world of social media, it's pretty hard to stay on top of the things and predict what trends will quickly fade away and which one are going to stick. I have list down some of the top social media trends that will change the outlook of social media.

Mobile advertising will grow more competitive

Mobile advertisement will witness a high rise and growth in the year 2017. Let's take a look on what effect will it do on some large social networks:

Facebook is the key player in the market when it comes to social media ad revenues, carrying in more than \$7 billion last year 80% of which came directly from mobile ads. The algorithmic changes in the Facebook's News Feed prioritize content from

on their platform instead of navigating away to a business website.



Chatbots are still in the early stages, but they already have the intelligence and the capability to help people consume content, answer their questions and complete transactions. It has been seen that more than a third of people already prefer social media over phone call for customer support. Soon enough brands might not bother having websites at all and conduct all their customer relations through social media.

Virtual reality will become the base for marketing experiences

Virtual reality is still new to the marketing division and in 2017 it is predicted that it will get even more popular. Virtual reality is unique in a sense that it encourages engagement by offering an immersive, memorable experience unlike any other medium. Brands are quickly recognizing the value of virtual reality.



Customers of virtual reality can enjoy and visit places without having to travel to the location. The experience is improved when they use a VR headset or viewer.

This year video streaming will represent almost 75% of all the internet traffic

This year video streaming will represent almost 75% of all the internet traffic and as the audience

wants more video content, brands should continue experimenting with different formats which include virtual reality and see which suits best for their customers.

Authentic content (a.k.a. live video)

YouTube was constructed on a foundation of videos that capture unfiltered and real moments. Now social media is taking it to the next level by offering the video content in real time.



The live streaming video was first made popular by Twitter's Periscope. Now Facebook live has been launched and social videos are popular than ever before. These social video have much more engagement than any other content format and have been responsible for a lot of growth on Facebook. Moreover, even sources are citing Facebook Live videos when covering major events. The world of media is now changing, thanks to live video.

Facebook live has been launched and social videos are popular than ever before

Instagram is now testing their own live video option and they won't be the last platform to implement live streaming video. Social media is becoming fascinated with authentic, live content and this trend is likely to go up in the year 2017.



SAMSUNG Inaugurates

New Service Centers in Islamabad and Karachi

Continuing with the pursuit of expanding its service network, to provide its consumers with a higher quality of services, Samsung has recently inaugurated a highly equipped Service Center service centers in Islamabad and Karachi. These modern facilities have been enriched with sophisticated equipment, to set higher standards of service-quality, to fulfill the changing needs of various consumer segments.

Samsung Electronics, a global technology leader and award-winning innovator in consumer electronics, telecommunications and home appliances, has also introduced a unique concept of 'Premiere' service center in Pakistan, to enhance the level of satisfaction among its buyers.

These authorized service centers are also a one-stop solution that promises to deliver complete service, repair, and maintenance of all smartphones, under one roof, with the expert supervision of qualified and experienced engineers. This service center is a new milestone towards providing a pleasant and courteous service-experience, delivered in a convenient, timely and affordable manner, within a comfortable ambience.

The Managing Director of Samsung Pakistan - Mr. J. H. Lee said: "At Samsung, we consider After-Sales service as a key differentiator for our highly diversified range of products. We believe that when it comes to satisfying customers, there are no limits, only bars that must be set higher each time. Samsung is committed to continuously innovate and ensure that each of our products is performing optimally, for an extended period of time, to meet all the expectations of our customers. That is why we are consistently improving our service standards. I invite the Samsung customers to take full advantage of this new world-class facilities."

Samsung will soon be establishing more sophisticated facilities, to expand its extensive network of service center, all over the country, catering to millions of Samsung buyers in Pakistan. The customers can visit the new service center, to seek all kinds of service, maintenance, repairs or parts for their Samsung smartphones. This is also an effective initiative to discourage the trade of counterfeit parts and unauthorized service operations in the local market.

Samsung has a firm resolve and robust plans for investing in Pakistan and delivering world-class products and services. It considers Pakistan as a promising market, with a vast population and sustainable economic growth. Samsung's innovative and consumer-focused approach has inspired continuous excellence in performance and strengthened the brand-image, whereby Samsung has also been declared as the 'Most Loved Brand' in Pakistan. On the global scale, Samsung is currently ranked 7th among the Top-100 brands of the world by Interbrand's prestigious ranking.



Cake Cutting Ceremony at Inauguration of New Service Centers in Islamabad



Group Photo at Samsung Center Islamabad



Cake Cutting Ceremony at Inauguration of New Service Centers in Karachi



Group Photo at Samsung Center Karachi

Huawei P9 Lite

OS: Android, v6.0 (Marshmallow)
Display: 5.2"
CPU: Quad-core 2.0 GHz + Quad-core 1.7 GHz
Camera: 13 MP, Autofocus, LED Flash
Memory: 16 GB ROM, 2 GB RAM

QMobile Noir i2 Pro

OS: Android OS, v5.1.1 (Lollipop)
Display: 4.5"
CPU: Quad-core 1.3 GHz
Camera: 5 MP, Flash light
Memory: 8 GB ROM, 1 GB RAM

LG RAY

OS: Android OS 5.1 Lollipop
Display: 5.5"
CPU: Octa-core 1.4 GHz
Camera: 13 MP
Memory: 16 GB ROM, 1 GB RAM

Sony Xperia XZ

OS: Android, v6.0 (Marshmallow)
Display: 5.2"
CPU: Quad-core 2x2.15 GHz & 2x1.6 GHz
Camera: 23 MP, Laser Autofocus, LED Flash
Memory: 32/64GB ROM, 3GB RAM

Oppo Find 7

OS: Android OS, v4.3 (Jelly Bean)
Display: 5.5"
CPU: Quad-core 2.5 GHz
Camera: 13 MP, Autofocus, dual-LED Flash
Memory: 32 GB ROM, 3 GB RAM

Motorola Moto M

OS: Android, v6.0 (Marshmallow)
Display: 5.5"
CPU: Octa-core 1.9 GHz
Camera: 16 MP, Autofocus, LED Flash
Memory: 32/64 GB ROM, 3/4 GB RAM

Lenovo K6

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

QMobile X700 Pro Lite

OS: Android, v6.0 (Marshmallow)
Display: 5.0"
CPU: Quad-core 1.3 GHz
Camera: 5 MP, LED flash light
Memory: 16 GB ROM, 1 GB RAM

Please Visit Our Website

www.phoneexpress.pk

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

Infinix Zero 4 Plus

OS: Android, v6.0 (Marshmallow)
Display: 5.98"
CPU: Deca-Core 2.1 GHz
Camera: 20.7 MP, Laser auto focus, , dual LED flash
Memory: 64 GB ROM, 4 GB RAM

Haier Esteem i70

OS: Android 4.4 Kitkat
Display: 5.0"
CPU: Octa-core 1.4 GHz
Camera: 13 MP, Autofocus
Memory: 16GB ROM, 1GB RAM

Huawei Y6 Pro 3G

OS: Android 5.1 Lollipop
Display: 5.0"
CPU: Quad-core 1.3 GHz
Camera: 13MP, Auto focus
Memory: 16GB ROM, 2GB RAM

Huawei Honor 6X

OS: Android, v6.0 (Marshmallow)
Display: 5.5"
CPU: Octa-Core 2.1GHz
Camera: Dual back camera lens with 12 MP
Memory: 32 GB ROM, 3 GB RAM

Sony Xperia X Premium

OS: Android, v6.0.1 (Marshmallow)
Display: 5.5"
CPU: Dual-Core 2.15GHz
Camera: 23 MP, Autofocus, LED flash
Memory: 32/64 GB ROM, 3GB RAM

QMobile Jazz Xplore JS10

OS: Android, v6.0 (Marshmallow)
Display: 5.5"
CPU: Quad-core 1.3 GHz
Camera: 5 MP, autofocus, LED flash
Memory: 8 GB ROM, 1 GB RAM

Alcatel idol 4s

OS: Android, v6.0 (Marshmallow)
Display: 5.5"
CPU: Quad-core 2.4 GHz
Camera: 16 MP
Memory: 32 GB ROM, 3 GB RAM

Huawei Mate 9

OS: Android OS, v7.0 (Nougat)
Display: 5.9"
CPU: Octa-core, 2.4 GHz
Camera: Dual 20 MP 2x zoom, Leica optics, phase detection & laser autofocus
Memory: 64 GB ROM, 4 GB RAM

By Shaheer Riaz

Lenovo K6

The Low Budget High-end Smartphone

Lenovo has added another smartphone in its K Series family. Let's explore Lenovo K6 feature in detail in the following review.



Qualcomm
snapdragon

OS: Android 6.0 (Marshmallow)

Display: 5 inches

Battery: Non-removable Li-ion 3000 mAh

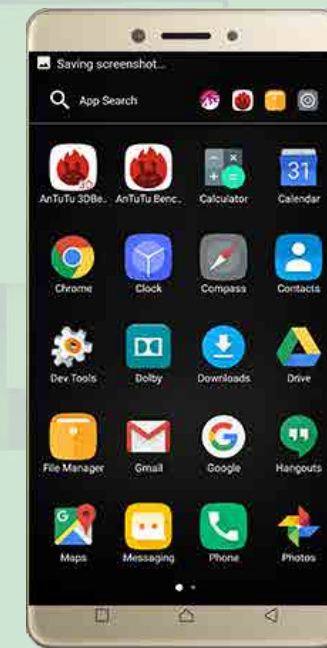
Dimensions: 141 x 71 x 7.2 mm

Camera: 13 MP, autofocus, LED flash

Memory: 16 GB ROM, 2GB RAM

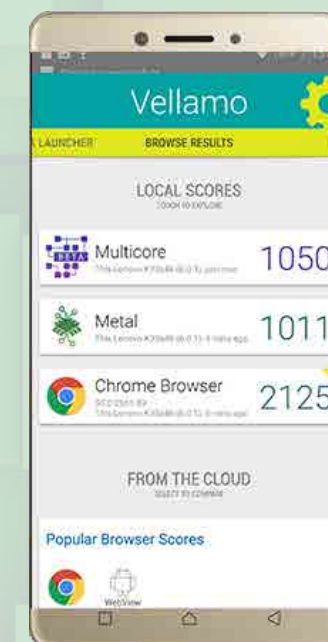
Processor: Octa-core 1.4 GHz

Price: PKR. 22,400/-



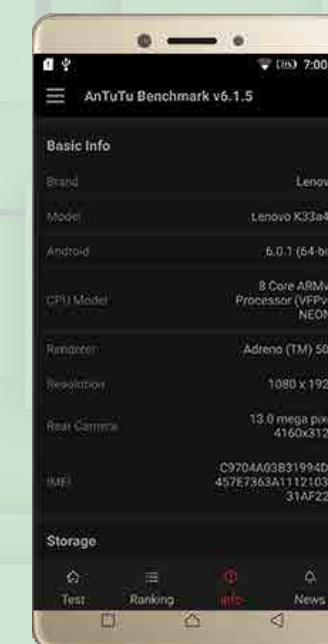
Vellamo Benchmarking

Vellamo Benchmarking is a scheme of test series which analyzes the device performance on various aspects. These tests include metal test, multi-core test and chrome browser test. We have tested Lenovo K6 with all these tests and it has scored 1011 points in metal test, 1050 points in multi-core test and 2125 points in chrome browser test.



Antutu Benchmarking

Antutu Benchmarking is one of the finest applications to check the device performance. We have tested Lenovo K6 to check device efficiency and it has scored 41166 points that ranks it in a satisfactory place.



Good

- Android Marshmallow 6.0
- Qualcomm Snapdragon 430
- Fingerprint authentication
- Li-ion 3000 mAh battery
- LED notification light

Bad

- 16GB ROM and 2GB RAM

Final Verdict

Lenovo K6 is specifically for camera lovers with low budget. It comes with 13MP back camera and 8MP front camera whereas, the battery section offers big battery of 3000 mAh. One thing which Lenovo K6 lacks is better RAM. Besides that, all features are decent with sound performance.

Design & Display

The Lenovo K6 is packed with the full support of HD resolutions which means it has 1080p resolutions. The pixel density is 480 dpi which is quite satisfactory. It is layered with 2D glass which gives it a soft display and colors furthermore; it has scored 5 points in multi-touch test.

The Lenovo K6 device has screen size of 5.0 inches with dimensions of 141 x 71 x 7.2 mm whereas; it weighs only 140 grams. The body has decent and simple design with screen layered with bezel.

The body has shiny gray color and has a quick fingerprint authenticator which is present on the back side of Lenovo k6. Fingerprint reader works only for authentication that means it doesn't play any role in camera section while taking pictures.

Memory

The memory side of Lenovo K6 is in satisfactory range as it has 16GB ROM and 2GB RAM. The Internal memory should have been better, at least 32GB. The internal memory can be expanded up to 256GB with the access of memory card but it will create a mess if 256GB or 128GB card is inserted with 2GB RAM.

Camera

The Lenovo K6 has rich and powerful camera, it has 13MP back camera and 8MP front camera which is great for a mid-range phone. The back camera is available with Flash light whereas, videos can be recorded full HD resolution of 1080p.

The main modes for back camera are Panorama, Art Nightscape, Artistic HDR, Fast-motion and slow-motion.

We have tested Lenovo K6 back camera and the results are very well. The brightness and intake of images are brilliant whereas, we also observed rich color detailed images in daylight. The front camera has all the required options for great selfies.

Processor

The Lenovo K6 comes with 1.4 GHZ octa-core processor with Qualcomm Snapdragon chipset. The architecture used for this processor is ARM Cortex-A53.

The biggest feature of this chipset is that it supports HD graphics, fast downloading and best battery time.

Battery

The battery section is packed with non-removable 3000 mAh Li-ion battery which is a decent choice. The chipset is Qualcomm Snapdragon 430 MSM8937 which provides battery saving option as well.

Interface

The Lenovo K6 is featured with Android 6.0 Marshmallow. The device supports 1080 pixels with cool colors.

Lenovo K6 has some bloat ware applications as well such as dev tools, Lenovo company, OMACP Demo, Share it, SYNC it and theme center.

Network / Connectivity

The Lenovo K6 is a dual SIM 4G enabled smartphone. It supports all bands in Pakistan and the speed limit over LTE network or 3G network is cat.4 150/50 Mbps.

The other connectivity options include Wi-Fi, Bluetooth and FM radio. The Bluetooth version is 4.1 whereas Wi-Fi supports 802.11 b/g/n.

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.

3.5

Telenor Recharge

Telenor has introduced a TVC series to promote its new recharge offer with the tagline of "Balance load ke saath saath ab mood bhee hojai recharge; jub milega muf MBs, SMS ya minutes ka tohfa". The set of three TVCs convey same message of "free recharge" to the user but each time with a different yet convincing story-line. The three storylines focus on experiences of high, middle and lower class families when they get free recharge. The actors gave sound performance and the music is also well incorporated with the entire theme of campaign.

Verdict: Simple but effective!!!



3.5

YouTube Offline Browsing

The campaign "YouTube Now with Offline" is an interesting TVC released for the first time in Pakistan that focuses on the offline feature of YouTube. The idea of "Ghoomata Jae Chakrata Jae" conveys the message of slow buffering due to interrupted internet when we watch videos on YouTube. The music, performance and production are up to the mark while the locations picked are very appropriate, that's where most of people face slow internet problem in Pakistan.

Verdict: Good Effort!



4.5

QMobile Noir S6 & S6 Plus

QMobile, Pakistan's no. 1 mobile phone brand, does well when it comes to its TV campaigns and marketing strategies. The brand has featured Mira Sethi and Mikal Zulfiqar in its QMobile Noir S6 & S6 Plus TVC. The main feature, finger print scanner' of S6 & S6 Plus is highlighted through "Get yourself Secure" tagline. In an interesting plot, the heroine tries to unlock her husband's smartphone. Due to strong scanner of Noir S6, she fails in unlocking the phone. The rest of TVC explains the other specifications of smartphone.

Verdict: Interesting TVC !!!

4

Samsung Galaxy Grand Prime Plus

The campaign "That's Our Plus" rightly targets the youngsters by highlighting Samsung Galaxy Grand Prime Plus specifications. The TVC encircles around the daily activities of young generation who use smartphones for multi-purpose. The advert is supported by intriguing music while the overall environment and performance also did justice to the entire message of the advert hence, adding more creativity and effectiveness.

Verdict: Behtareen Advertisement!!!



5

Jazz Anthem

For the very first time in Pakistan, the higher leadership of a mobile company appeared in a TVC to announce brand's identity under one name "JAZZ". Yes, no need to hire models; instead the entire officials of both Jazz-Warid performed an "Anthem" to promote "Jazz-Dunya Ko Bataa Dou" campaign. It is a mind blowing advert to strengthen operator's market position by introducing 4G LTE with brand's new identity. The ad is shot in both Warid & Mobilink offices, schools and fields of Pakistan while showing the vast network of Jazz with remarkable music & song sung by Sherry Khattak.

Verdict: Tum Jazz Hu-Hum Maan Gayi !!!

3

UC Browser

The "Alibaba Group" owned browser "UCWeb", has released a TVC featuring stunning Mehwish Hayyat in avatar style. This advert conveys its message well but still lacks many advertising factors that made me criticism it more. The actors remain stuck between funny and serious story-line that in reality make the audience even confuse. The idea of slow browsing cannot be conveyed via extra-fast music at the background.

Verdict: PhoneWorld Ko Ye Ad. Zara Pasand Nahi Aya!!!



TOP MUST HAVE APPLICATIONS & GAMES FOR YOUR SMARTPHONE

Monster Trucks Racing

Rating : 4.1 Price: Free



Turbo charged Monster Trucks. Gravity-defying stunts&adrenaline pumping physics-based racing action. Step on the Gas! Go airborne, accelerate to top speeds, compete with friends, and race the world's best to become the ultimate Monster Trucks racing champion. Based on the movie 'Monster Trucks' by Paramount Pictures.

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 and Tracking CNIC/Passport application status.



Cartoon Photo Filters - CoolArt

Rating : 4.2 Price: Free



Cartoon Photo Filters CoolArt is the perfect fun and creative Photo Filters & Photo Editor Pro & Glamour Selfie Camera app to make your snap photos be pics art and Art Pics! Photo CoolArt helps you add awesome art & art blending filters and cartoon & sketch& Art effects with amazing filters to ordinary pictures, then share them to Instagram, Facebook, Twitter, Tumblr at a time!

Video Player

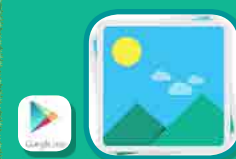
Rating : 4.2 Price: Free

Video Player is a media video player for Android. It Supports majority of media video formats. Video Player keeps your hd video playing very stable. It plays local media video, and helps you to make your playing super smoothly. With Video Player you can watch video without WIFI, and you will enjoy professional and high- quality video.Video Player is not intended to be downloaded media player.



Gallery

Rating : 4.3 Price: Free



Meet MyRoll Gallery, the fastest growing gallery app for Android and the first ever gallery for Android Wear. MyRoll is a smart and well-designed gallery replacement for the built-in phone gallery. An intelligent mobile gallery app that displays all your best photos. The only gallery chosen by Business Insider as one of the Top 100 Apps worldwide, MyRoll Gallery is a free, next generation photo gallery that's a complete replacement to your native gallery.

Sniper Fury: best shooter game

Rating : 4.2 Price: Free



No time for diplomacy; time for war action. We are calling for the best sniper in the world to join us as we take aim at evil, wherever it hides. This is not a game. There is no room for remorse here, so shoot to kill. A stunning fps fight against evil, modern & future firepower, pvp multiplayer challenge and easy to play.

Pakistani Banknotes

Rating : 4.3 Price: Free



The official application of State Bank of Pakistan for increasing awareness about security features of Pakistani Banknotes. The app will help you to identify and check the security features of Pakistani Banknotes and save yourself from the risk of counterfeit notes. Simply select the desired banknote image and know the security features of Pakistani banknotes.

Pakistani Software Developer Application

Left vs Right: Brain Training

Rating : 3.9 Price: Free



Exercise your grey matter every day with Left vs Right! Our games are designed to test your Awareness, Adaptability, Reflex, Reasoning, Precision, and Patience. Left vs Right includes 29 total games that test and train your brain in one or more of the 6 categories.

GoArt

Rating : 4.5 Price: Free



GoArt is the world's first AI technology based effects app that supports to export 10M Pixel image which makes it is possible to print the art! GoArt utilizes the latest emergent AI technology to allow users to instantly transform them using preset 'fine art' templates, inspired by the masters of fine art. Simulated painting styles from Van Gogh to Monet, give users the choice between artistic styles.

PSCA

Rating : 4.5 Price: Free



Punjab Safe Cities Authority will register all users of the this app as verified users and this will help PSCA in providing quick and ensured response at the precise location. Embedded Women Safety Features: Mark Women Friendly places on map, Safe journey planner for women and Panic / emergency response button for women. Authority instantly and receive immediate help at your precise location.

3G Packages Pakistan

Rating : 4.1 Price: Free



Now u can subscribe your desire data package from this application. You can subscribe, unsubscribe and check remaining data from this application. All packages will be updated automatically so you don't need to worry about outdated packages. This application includes packages of these networks Zong, Mobilink, Telenor, Ufone and Warid.

Music Maker JAM

Rating : 4.4 Price: Free



#1 music creation app. Join the music revolution now! Millions of people use Music Maker JAM to create, share and discover amazing tracks across a wide variety of genres like EDM, hip hop, dubstep, house, pop, rock and more. Pick from thousands of studio-quality loops, beats and melodies to start mixing your new track – then share instantly with a world-wide audience.

Hide Photo & Video Vault Locker

Rating : 4.2 Price: Free



Vlocker is a FREE fantastic privacy protection app to easily hide and encrypt your photos, videos, apps and any other files that you do not want others to see. Vlocker enable to hide and lock Photo Gallery, Messages, SMS, Contacts, E-mail, call logs and any app you choose. Prevent unauthorized access and guard privacy, protect private data easily.

BiznessAPPS

MOBILE APP TRENDS FOR 2017

A COMSCORE REPORT SAYS THAT MOBILE USERS SURPASSED DESKTOP USER'S WAY BACK IN 2014.

GARTNER PREDICTS THAT MORE THAN **268 BILLION** DOWNLOADS WILL GENERATE **\$77 BILLION** WORTH OF REVENUE IN 2017.

Today, apps are built not just for smartphones anymore; they are needed for wearables, connected homes, smart cars, IoT-enabled devices and much more.

In 2017, a huge opportunity for entrepreneurs and consumers and the space promises to be very exciting indeed.

Cloud-based apps and services have gathered increased importance over 2016 and the ability to share and sync data in real time with the server and with other devices has driven many innovations.



But it is now time to look forward, and here are some of the key mobile app development trends to look out for in 2017.

LOCATION-BASED SERVICES TO CONTINUE ITS RISE

With the availability and ease of use of GPS on all mobile devices today, location-based services (LBS) will begin to evolve further and give users real-time information or deals based on their whereabouts.



INTEGRATION OF AUGMENTED REALITY INTO UTILITY APPS



Apps that use Augmented Reality (AR) have long been viewed as gimmicky for promotional purposes. But over time, a greater number of apps have started putting AR to more useful tasks as well.

With the addition of wearables into the picture, AR tools can be used more effectively and productively than ever before.

ANDROID INSTANT APPS TO BECOME A COMMON TREND



Imagine a picture that changes dynamically according to your moods or situations. With more developers enabling machine learning and AI into their apps, the implications of this can have a huge impact on the way in which the industry works.

IoT APP INTEGRATIONS TO CONTINUE UNCHALLENGED

The IoT industry is in the midst of a major boom right now, and apps that cater to IoT and integrate the best will ride the wave the strongest.

Companies in the fields of health, education, security, smart homes, automobiles and more have all started experimenting and integrating with IoT advancements, so keeping that in mind during the development of apps will be a good move in 2017.



The security of a smartphone has become more crucial than ever because of the sensitivity and sheer quantity of user data on it in the form of access that it has to other accounts and contacts. More developers are sure to adopt the use of this platform and this will be a game changer for many developers due to its ability to provide a better user experience and better features.

Mobile apps are available for nearly every task imaginable. From predicting the weather to encrypted messaging, sharing photos with friends or requesting a personal driver, there's an app for most imaginable needs. But how many of these apps come from small businesses?

For small businesses, creating a mobile app was not realistic, even two to three years ago, when the cost to build a mobile app required the contract and commitment of a mobile app development team.



However, with the rise of app development software and more specifically, app builders, small businesses can now easily make both consumer dedicated and internally facing apps with relative ease.

FUTURE LOOKS POSITIVE FOR SMALL BUSINESS APPS



The survey data will show an increase in small business mobile app adoption in the near future. Looking at the trend line of those who plan to build a mobile app, nearly half of the small businesses will be likely to have a mobile app by 2017 or later.

SMALL BUSINESS MOBILE APP ADOPTION TRENDS

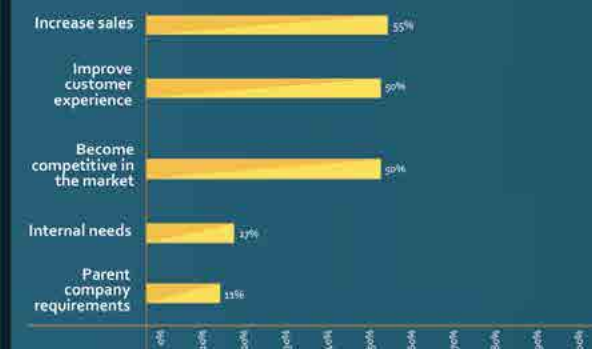


FUTURE LOOKS POSITIVE FOR SMALL BUSINESS APPS

Overall, the main reasons that the majority of small businesses built a mobile app were to:



WHY DID YOUR COMPANY DECIDE TO BUILD A MOBILE APP?



(https://clutch.co/app-development/resources/small-business-mobile-apps-2016-survey)

www.biznessapps.com

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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.

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- 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

G'Five First-Ever Mobile Assembly Line in Pakistan



G'FIVE

SMART PHONE

UAN: 042 111 888 000

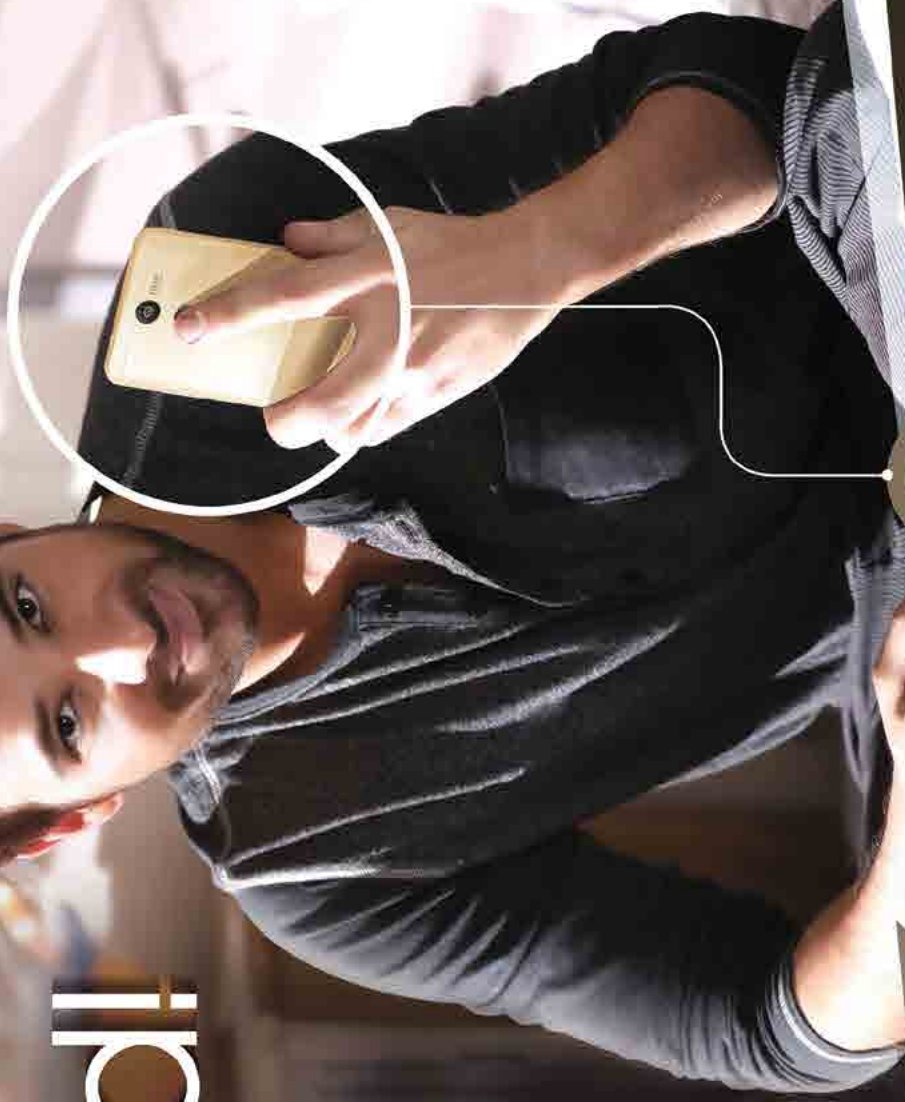
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Get yourself Secured!

NOEL SOS



Fingerprint
Sensor



ROM 16GB
RAM 2GB



BACK 8MP
FRONT 5MP