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CPU	Helio P22	
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Battery	5000mAh (TYP)	
Network	<div>2G GSM: Band 2/3/5/8</div> <div>3G WCDMA: Band 1/5/8</div> <div>4G FDD-LTE: Band 1/3/5/8</div> <div>4G TDD-LTE: Band 40</div>	

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Adnan Khan
Managing Editor

Dear Readers,

5G is the next-generation communication network that has been described by the media hype machine with phrases like "world-changing," "quantum leap," and "this will change everything". It is not untruthful either; once the technology is properly in place, it will literally change everything. We have covered the 5G revolution in detail in our article, "5G Technology-The Promise of a Better Future".

Pakistan is at the cusp of the digital transformation, government and private sector are putting equal efforts to bridge the digital divide and build a digital economy. Issues like license renewal delay will only cause a delay in realizing the digital dream. Therefore, it is required to work together to remove all hurdles so that industry could move in the right direction. Our article, "Mobile license renewal; a case still unsolved" is based on this notion.

Using mobile tools for creating learning aids and materials has become an important part of informal learning. How mobile technology will change the future of education system in Pakistan is of highest importance therefore, requiring our utmost attention. We have elaborated the current state of mobile education in Pakistan and what needs to be done further in our article, "Digital Learning: The future of Education".

The federal government has finalized E-commerce policy framework that is expected to be approved by the Cabinet soon. It envisages an enabling environment for holistic growth of e-commerce across all sectors of the country. We have dissected the policy draft in detail to outline how it will impact the business world in our article, "Pakistan's First e-Commerce Policy; A Catalyst for Growth".

Like always, our regular sections including phone reviews, Smart moves, TVC reviews, top applications and smartphone wish list are also part of our current issue. We always try to bring something new and interesting for our readers, we hope you guys will appreciate our efforts and give us your feedbacks so that we can improve further.

Enjoy Reading...!!!

Thank you,
Adnan Khan
Managing Editor

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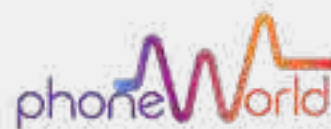
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Contents

Feature **Page 10**
Mobile License Renewal - A case still unsolved

National **Page 20**
Building Blockchain for a better future

National **Page 26**
Mobile Operator: The centerpiece in Digital Revolution

Phone Reviews
Infinix S4 **Huawei Y9 Prime**
Samsung Note 10+ **Honor 20 Pro**

National **Page 48**
Jazz World App

Telecom Campaign **Page 50**
A critical review of TV AD Campaigns

Wishlist **Page 54**
Latest Smartphones in the market

App World **Page 52**
Applications & Games for your smartphone



Issue 39

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Mobile license renewal: A case still unsolved - Page 10



Personality Corner
Brian Chesky- Page 16



Pakistan's First e-Commerce Policy; A Catalyst for Growth - Page 44



Digital Learning: The future of education - Page 30



5G Technology: The promise of a better future - Page 34



Zong Becomes the 1st Pakistani Network to Successfully Conduct 5G Trial in Pakistan - Page 17



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3G

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2G

MOBILE LICENSE RENEWAL; A CASE STILL UNSOLVED

By Rizwana Khan

Despite being the most successful sector of the country, the industry goes through fiascos, one after another; this time it's the mobile license renewal tragedy. According to the Telecom Policy of 2015, The Government should have issued the license renewal policy at least two years prior to the expiry of licenses. Being so close to the renewal, the telecom operators have approached the Islamabad High Court challenging the government benchmark price and the timing of the Government to do so. The court has directed Telenor and Jazz to deposit 50 percent of license renewal fee. Both Telenor and Jazz made the payment of \$224.6 million. However, the companies shall continue to pursue their legal cases, in order to have a final resolution of the mobile license.

According to the Telecom Policy of 2015, The Government should have issued the license renewal policy at least two years prior to the expiry of licenses

One can't put the blame of this delay on the regulator primarily because they were waiting for the policy from the Government and last year was mainly consumed by the political transition. When the new government took over, it had to face many challenges at the national and international front in fact; it is still coping with a number of problems. The previous government didn't give the matter its due attention and the new government also didn't prioritize the issue. The delay and the eventual renewal price decided by the Government have ended up the industry in a situation where the deadline of license has passed, and the High Court has been approached by the operators to intervene in the matter.

Despite the long delay, the government and the telecom

operators still can't find the mutual grounds to agree upon. The holdup is mainly on the price tag now. There were a lot of debates on the pricing with different stakeholders having different opinions. PTA consulted the MoITT and other relevant bodies and has set the per megahertz (MHz) price at \$ 39.5 million for the frequency spectrum in 900 MHz and \$ 29.5 million in 1800 MHz. In total, Telenor and Jazz have been asked to pay \$450 million each for renewal of their license which will also be for 15-year time frame like the old ones. Whereas, the Operators i.e Telenor and Jazz say that the price of license renewal should be \$291 million as it was for Ufone in 2014 to provide a level playing field for all players.



Now, both sides have some very solid grounds to support their argument. According to PTA, the cost of the spectrum should be USD 450 Mln because;

- The population of Pakistan has increased by 50 million in the last 15 years
- Coverage has become 100% while the only 1/20th of the country area was covered 15 years ago
- The telecom subscribers have reached 160+ million customers as compared to the mere 5 million

back then

- In countries experiencing financial challenges spectrum assignments are used to increase revenues and to ease short-term fiscal pressure
- Due to difficult financial conditions of the country, Rupee has devalued dramatically recently which has increased the dollar rate

Pakistan is undoubtedly one of the fastest-growing telecom markets in the world. After the phenomenal success of 3G and 4G technology, the country is quickly moving towards 5G. IoT, startups, online services, and smart technology have also grown impressively over the years.

All of this added up to increased mobile penetration and uptake of modern technology. Telecom operators have not only benefitted from the conventional communication services but have also ventured into other related products and services such as financial services, device market, and other online services. So basically, the operators have expanded their portfolio and ventured in various other markets as well hence, increasing their profit-making opportunities.

Pakistan is home to 208 million people out of which only 161 million are mobile users while only 68 million are using 3G/4G services. This means that the market of mobile services will grow further in the future and so will the telecom revenues. Therefore, the high renewal fee that telecom operators are asked to pay is justified compared to the profits they will earn from the Pakistani market in the future. Now, if we look at the situation from telecom operators' viewpoint we find that:

- Voice revenue is declining at a fast pace, but the data revenue has not equally increased to offset the losses
- The operators invested heavily, first in spectrum purchase and then in network expansion and infrastructure building
- A significant amount will have to be invested again in three or four years in 5G
- Increased inflation and continuous devaluation of money have raised the cost of doing business in the country
- If the business is done in local currency than why the spectrum fee is charged in dollars?
- According to the Telecom Policy of 2015, 1st renewal of license should be at the same price as it was issued.

Telecom operators have not only benefitted from the conventional communication services but have also ventured into other related products and services as well

There is no doubt that Pakistan telecom industry is the fastest growing industry of the country but there is also no denying the fact that the socio-economic conditions of the country are not supportive of businesses at all. The operators

not only invested a huge amount of money in spectrum auctions and infrastructure lying down but they have also heavily spent in biometric verification process a few years back.

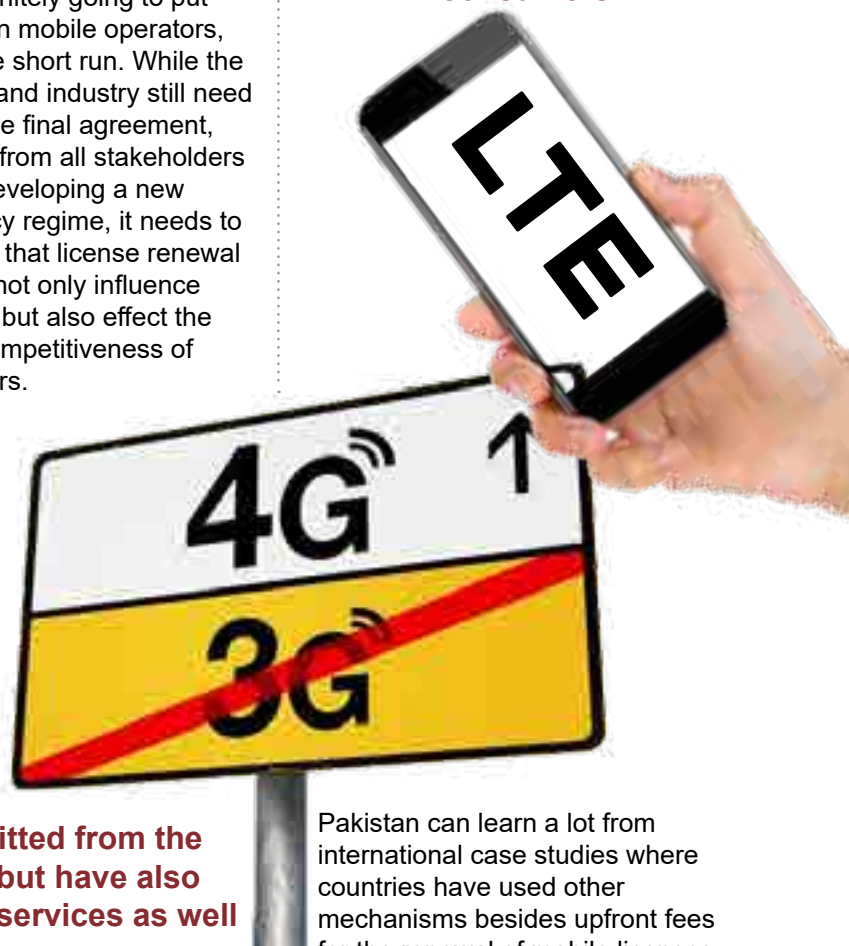
Due to the energy crisis that spreads over more than a decade, the operators had to make their own energy backups. Whereas, Inflation and devaluation of money has decreased the buying power of the consumers as well.

All of this along with fierce market competition has put a damp on companies' profits. Therefore, the license renewal fee of USD 450 million is definitely going to put the burden on mobile operators, at least in the short run. While the government and industry still need to reach some final agreement, this demand from all stakeholders to work on developing a new renewal policy regime, it needs to keep in mind that license renewal approaches not only influence market entry but also effect the post-entry competitiveness of market players.

It also holds great importance for investors, lenders, consumers, and the development of the sector as a whole. Therefore, it requires cataloging the best regulatory policies to ensure the finest

outcome for all stakeholders. Although the Government and Telecom operators both have some solid points in their arguments but using license fee to make money and overcome budget deficit is not the right thing and neither is sidelining the international rules of business according to which every corporation revises the rate it pays to the supplier based on Forex rates, which in current case have changed dramatically from 2014 to 2019.

Inflation and devaluation of money has decreased the buying power of the consumers



Pakistan can learn a lot from international case studies where countries have used other mechanisms besides upfront fees for the renewal of mobile licenses. Following are some recent examples:

- **Saudi Arabia.** The mobile operators were given the opportunity to extend their operating mobile licenses by 15 years and to receive a unified

license with no upfront fee. The license renewal payment instead consisted of annual fees formed of 5% of the recurring net income plus 1% of operating revenue

- **Qatar.** The mobile operating license of Vodafone Qatar was extended from 20 years (ending in 2028) to 60 years (ending in 2068), reportedly without financial compensation

According to International rules of business, every corporation revises the rate it pays to the supplier based on Forex rates, which in current case have changed dramatically from 2014 to 2019

These approaches were mainly price-focused but in Europe, another interesting trend has been seen lately to balance short-term revenue gains for the government with longer-term societal benefits. Examples of these deals include the following.

- In France, the ARCEP signed a 'New Deal' with mobile operators that traded a license renewal fee for the acceleration of the 4G roll-out.

French mobile operators expect to have their licenses extended by 10 years for no upfront cost provided that they agree to make significant coverage commitments, such as:

- o improving the overall quality of service, particularly in rural areas
- o rolling out 5000 new cell sites per operator (including shared sites) in specific areas
- o Increasing the coverage on main roads and railways.

- In Denmark, although auction mechanisms have been used to reassign expiring licenses for the spectrum originally used for 2G (1800MHz in 2016 and 900MHz

later in 2018), the Danish regulator has been clear throughout the process that the goal was to maximize coverage to the greatest extent possible rather than to raise revenue. The regulator was successful in achieving its target as great improvements were witnessed in coverage and quality of service after the 1800MHz in 2016.



The government should give operators ambitious targets to make Pakistan a digital nation instead of using them as a money-making machine

Now similar results are expected from the 900MHz band.

Pakistan is at the cusp of the digital transformation, government and private sector are putting equal efforts to bridge the digital divide and build a digital economy. Issues like these will only cause a delay in realizing the digital dream.

The government should give operators ambitious targets to

make Pakistan a digital nation instead of using them as a money-making machine.

Expecting to get the license renewal on 2004's Forex rates is not "Fair" by any means. What will they do in the year 2034, the time of next license renewal? When \$290m will have no value, will they still insist the government to renew their license at the same rate?

Operators also need to understand that the amount that Ufone paid back in 2004 was according to the Forex rate of that time. Expecting to get the license renewal on 2004's Forex rates is not "Fair" by any means. What will they do in the year 2034, the time of next license renewal? When \$290m will have no value, will they still insist the government to renew their license at the same rate?



INFINIX S4: A STYLISH PHONE WITH GOOD CAMERA PERFORMANCE

Design and Display

Infinix S4 is a beautiful handset with a 6.2 inch screen and 720×1520 pixels resolution. It has IPS LCD Capacitive Touchscreen plus it is using PowerVR GE8320 graphics card for graphics and gaming. It has a curved notch display with a front selfie camera lens at its top side. The top edge has nothing on it while there is an audio jack, mic, speakers and a microUSB port at the bottom. Its right edge has volume keys and power button while the opposite one has a SIM jacket. The glossy back gives an impression of glass, it is made out of plastic.

The Infinix S4 sports a big display with a waterdrop notch, and the bezels aren't too thick. At the back there is a triple camera lens with a big LED flashlight. The fingerprint scanner is also present at the back which has a protected glass.

Camera

The triple camera setup on the Infinix S4 is the highlight of this product, as three cameras aren't common at this price point. There's a 13-megapixel primary sensor with an f/1.8 aperture, an 8-megapixel wide-angle sensor with a 120 degree field of view, and the third camera is a 2-megapixel depth sensor. There's also a quad-LED flash just below the camera module. At the front, this phone has a 32-megapixel selfie shooter with an f/2.0 aperture and screen flash.

The camera app has AI features built in to help the smartphone detect what it is pointed towards. AI is enabled by default on the S4. There are quick toggles available for HDR and the flash, as well as a button to switch to the wide-angle sensor. The Camera app also has other modes such as Beauty, Bokeh, Video, and AR Shot.

Battery and Processor

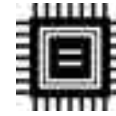
Infinix S4 has a big 4000 mAh fixed Li-Po battery. Its WIFI supports 802.11 a/b/g/n/ac bands with some additional features such as dual-band, WiFi Direct, and hotspot.

Infinix S4 has advanced Octa-core 2.0 GHz which is based on the architecture of ARM-Cortex A53. The chipset of

MediaTek MT6762 Helio P22 (12 nm) which supports 720p HD displays, along with HD video recording and playback.

Infinix S4 comes in one configuration only, with 3GB of RAM and 32GB of storage.





32GB Built-in, 3GB
RAM
Octa-core



Non-Removable
4000 mAh



6.2 inch



13MP+8MP+2MP

Pros

- Triple Camera
- Face Unlock
- Fingerprint Scanner

Cons

- Back attracts finger prints

Verdict:
A Great device
at an incredible
price.

Brian Joseph Chesky is an American entrepreneur who started Airbnb—an online service for booking accommodations for travelers—along with his partners. He also serves as the CEO of Airbnb, and was listed in Time magazine's '100 Most Influential People of 2015'. Chesky began his journey as an entrepreneur during his college days when he used to run a hockey team. When his hockey team was cancelled at the last moment, he and his teammates began re-branding their team. They transformed the team and brought a new mascot as the team's logo which helped to revitalize it. On a similar note, he got the idea for Airbnb in 2007 when he faced some financial difficulties. Chesky and his roommates needed cash so they decided to rent their apartment. Ultimately, this led to the birth of Airbnb which grew gradually and gave better opportunities to travelers looking for a place to stay. There are many reasons for his success and one of the most important reasons is the fact that he gave more importance to his customers and the services they needed rather than the ideas of the developers.



*The man
who
changed
the way
we
holiday*



**BRIAN
CHESKY**



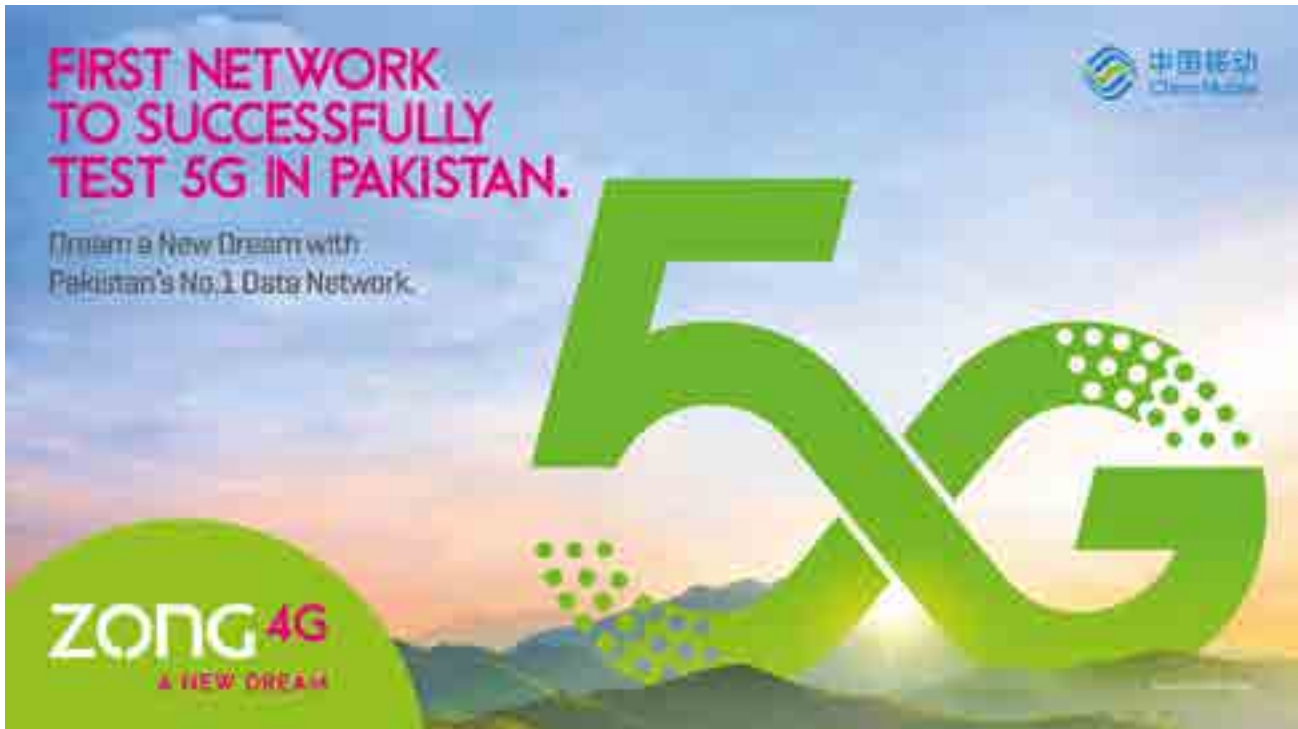
In 2015, Chesky was named in Forbes list of America's Richest Entrepreneurs Under 40. He was also seen on TIME's '100 Most Influential People for 2015'. In May 2015, the then President of US Barack Obama named him an Ambassador of Global Entrepreneurship. In 2016, he joined Warren Buffett and Bill Gates' 'The Giving Pledge' where a group of billionaires pledge to give majority of their wealth away. He also appeared in the Youngest Forbes 400 list in 2016.

Brian Chesky was born on 29 August 1981 in Niskayuna, New York. His parents are Robert H. Chesky and Deborah Chesky; they both were social workers. His father is of Polish ancestry, whereas his mother is of Italian descent. He also has a younger sister, Allison.

When Chesky was a child, he was interested in art, drawing, and design, and he often redesigned shoes and toys. Later, his interests shifted to landscape architecture and design.

In 1999, Chesky started attending the Rhode Island School of Design. In 2004, he received his Bachelors of Fine Arts degree in Industrial Design. While he was attending RIS, Chesky met Joe Gebbia, who later became his roommate and also co-founder of his business Airbnb.

Zong Becomes the 1st Pakistani Network to Successfully Conduct 5G Trial in Pakistan



Zong, China Mobile Pakistan (CMPak), has become the first Pakistani telco to successfully conduct 5G trials in Pakistan. Being a pioneer of mobile internet connectivity in Pakistan, Zong CMPAK is spearheading the digital innovation with the first successful 5G trial on the nation's Independence Day.

As a consequence of this successful 5G trial, Zong is harbingering a new digital revolution in the country and is putting Pakistan on the elite list of countries which have successfully conducted 5G trials.

Zong's technological prowess brings the new era of digital future close for its valued customers.

Pioneering 4G in Pakistan, Zong CMPak is the market leader with more than 11,000 4G cell sites and largest 4G subscriber-base. Delivering many firsts in the Pakistani telecom industry – the first to launch 4G in Pakistan, first to cross the prolific mark of 11,000+ 4G towers and the first to reach the more 13 million 4G customers mark and first to conduct successful 5G trial- the company is partaking its role in building the digital future of Pakistan.

Zong CMPAK has been at the forefront in technological innovation within the country and has unveiled a glimpse into the future to deliver on its promise of best-in-class services to meet the communication needs of the millions of Pakistanis.

"We are excited to announce that, today, Zong CMPAK has successfully conducted trials on its 5G network and has become the first and only network to do so. We are committed in our resolve to provide our customers with state-of-the-art communication and digital experience. Through our successful 5G trials, we just gave a glimpse of how the future of mobile connectivity will unfold and Pakistan will soon start to experience," said Wang Hua, Chairman, and CEO, Zong 4G.

He continued, "We just brought future closer and opened an array of infinite possibilities for our valued customers"

The successful 5G trial is a testament to Zong's commitment to provide its customers access to the most cutting-edge and technologically advanced solutions available globally. The company has always led the introduction of new technologies in Pakistan and today the company, once again proven, that 5G will not be an exception.

Huawei Y9 Prime 2019: The Best Phone in its Price Point

Design and Display

Huawei Y9 Prime 2019 is a beautiful handset with a 6.59-inch screen size that supports 1080×2340 pixels resolution screen. It has LTPS IPS LCD Capacitive Touchscreen and Mali-G51 MP4 graphics card for graphics and gaming. The handset has a full premium look and an extremely nice shape.

The notch-less LCD display is made possible by the pop-up selfie camera mechanism. The display leaves almost nothing to the side bezels and the top although the bottom bezel is a bit wider; more like a chin with enough space to make scrolling up possible.

If we talk about the front side of Huawei Y9 Prime then it has a massive screen with a pop-up camera at its top side with the SIM-jacket. At the bottom, it has speakers, micro-USB port, mic, and a 3.5mm audio jack. One edge has volume keys and power button while the opposite one has nothing on it. At the back, there are 3 rear camera lenses with an LED flashlight. A big rear-mounted fingerprint scanner is also present at the backside.

Camera

Huawei Y9 Prime 2019 is absolutely incredible! There are triple cameras at the back cameras that are 16 MP, f/1.8, (wide), PDAF + 8 MP (ultra wide) + 2 MP, f/2.4, depth sensor, LED flash. If we combine all these three back camera lenses then it is a 26MP jam-packed mobile phone. The results are remarkable while the front camera lens has 16MP motorized selfie pop-up camera.

Battery and Processor

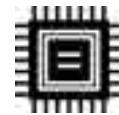
The Huawei Y9 Prime 2019 is backed by a 4,000mAh battery to support its



power demand. This is quite enough to ensure a longer talk time, entertainment, and gaming. Its WIFI supports 802.11 a/b/g/n/ac bands with some more features such as dual-band, WiFi Direct, and hotspot.

Y9 Prime is mechanized with an advanced Octa-core processor which is based on the architecture of ARM-Cortex A53. The chipset of Hisilicon Kirin 710F (12 nm) is featured which also supports 1,080p Full HD displays, along with Full HD video recording and playback.

The device has no hanging issue at all because it consists of 4GB RAM. It improves the efficiency of graphics, network, photography, and LTE connectivity. The handset has 4GB RAM which is a brilliant feature ; we did not faced any delays and any kind of lags while playing any game.



128GB Built-in,
4GB RAM
Octa-core



Non-Removable
4000 mAh



6.59 inch



16MP+8MP+2MP

Pros

- Stunning Camera
- Face Unlock
- Premium Design Feels

Cons

- No water/dust proof
- No Fast charging

Verdict:

Huawei Y9 Prime 2019 is a beautiful handset with premium features. It has a pop-up selfie camera, fingerprint scanner along with triple camera lenses.

BUILDING BLOCKCHAIN FOR A BETTER FUTURE



With blockchain entering the world of technology, everything is at the verge of experiencing a revolution.

Pakistan welcomed this new beginning with Telenor's Microfinance Banking and a few remittance facilities. But imagine the impact it can create if we use the technology to its full potential. Here is how blockchain will affect rather revolutionizes Pakistan

but first a little introduction for our readers who are not familiar with the technology.

What Is Blockchain Technology?

To simplify the hype, Blockchain is an online, unalterable, fool proof, record of all the previous, current and future transactions between two parties.

It is a decentralized system for business transactions, which means that no 3rd party or authority is involved to ensure honest dealings rather the Blockchain technology is there to help maintain authenticity through its record keeping and transparency!

Blockchain is an online, unalterable, fool proof, record of all the previous, current and future transactions between two parties

How Does It Work?

The mechanism relies upon two parts; the Blocks and the Chain. Blocks refer to the stored data or ledger. The data in it are stored in the form of a 'Hash' and works upon the principle of 'Secure Hashing Algorithm 256'. Each dialogue and transaction is secured in the form of a Hash and can be accessed by everyone on the internet but is unalterable.

The second part, the chain refers to the connectivity of the blocks with one another and the trail that it follows keeping a record of the history of transactions.

What Is Block Chain Capable Of Doing?

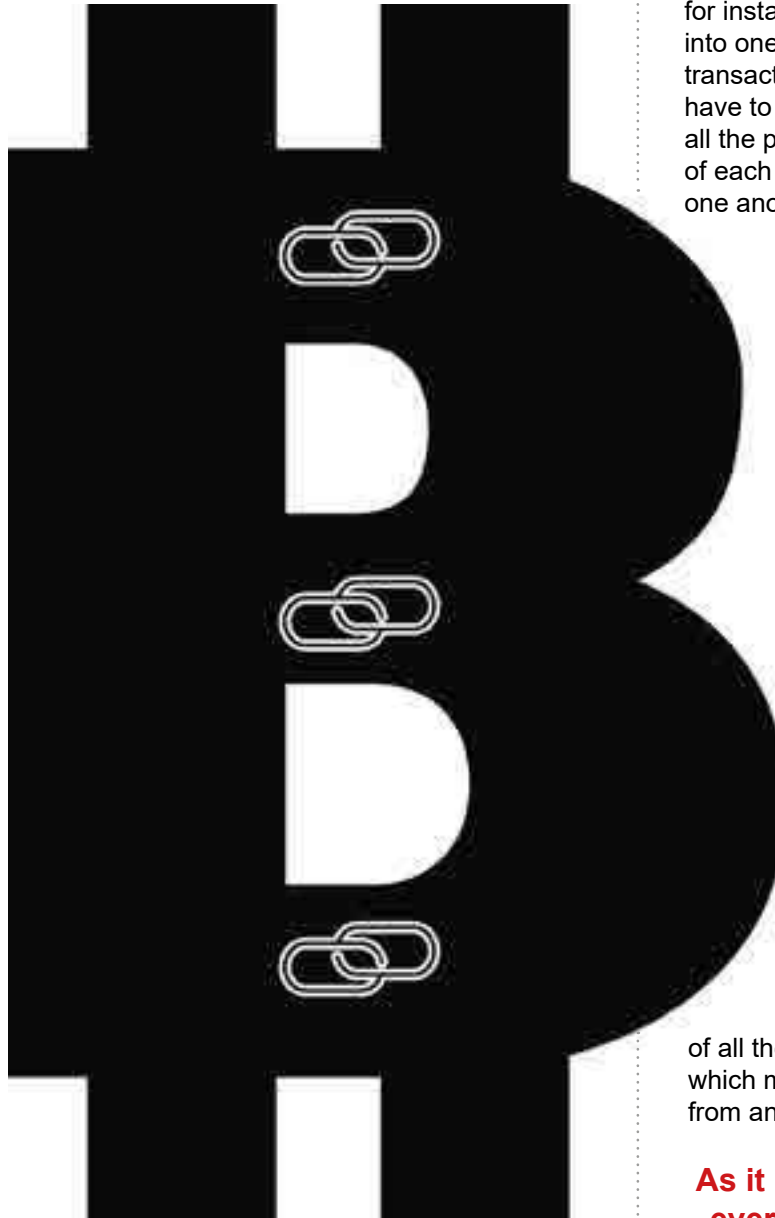
1. Enables Peer-to-Peer Network:

Blockchain Technology tends to cut down the middle man and become one itself. Only that it is no man but a bunch of computers doing this task for them. This is known as a 'peer-to-peer network' where no 3rd party is involved.

Blockchain ensures none of the parties go against the contract as the ledger is open and unalterable

The buyer purchases directly from the seller and their transactions are securely kept by computers working upon the principle of Blockchain Technology. As the transactions are pursued

by machines, there is no chance of any corruption. Moreover, blockchain ensures none of the parties go against the contract as the ledger is open and unalterable. Thus, once a transaction has been made, it is considered to be the



final verdict and no one can go against it which makes it fraud-proof as well. Imagine a business environment with 100% trust assurance.

2. Cuts Down Transactional Fees:

As there is no 3rd party involved, the dealing parties enjoy all the profit by themselves and do not

need to share it with the middle man.

3. Hack Proof:

It is almost impossible to alter the data of a block due to the complexity of the Hash. But if for instance, someone breaks into one block and alters the transactional data, he will then have to change the entire record of all the pre-existing blocks because of each block being connected to one another and containing the

transactional history which is humanly impossible. This makes blockchain technology is hack proof.

If for instance, someone breaks into one block and alters the transactional data, he will then have to change the entire record of all the pre-existing blocks

4. Transparency:

As it is an Open database; everyone on the internet has access to the ledger

of all the transactions being made which means that nothing is hidden from anyone.

As it is an Open database; everyone on the internet has access to the ledger of all the transactions being made which means that nothing is hidden from anyone

We may check on companies providing the quality goods they claim to offer, can predict the market trend for fruitful investments, government officials may be checked for corruption, etc.

5. Smart Contracts:

The blockchain smart contracts allow proposed partially or fully delivered contracts without any human assistance although this has not been implemented as yet but is viewed as one of the visions about the blockchain technology.

How Block chain will Revolutionize Pakistan:

Now lets take a look at the impact Blockchain will create in Pakistan; What new doors of opportunities it may open and how can it prove to be revolutionary towards the economic and political system of Pakistan?

1. Digitalized Voting:

Blockchain voting means no more rigged elections. Imagine democracy being practiced in its true spirit in Pakistan through this technology. Digital voting means a government purely by the people without any corruption as the system allows no space for any alteration.

Digital voting means a government purely based on public opinion as the system allows no space for any alteration

2. Digital Identification of Citizens:

Pakistan has trouble maintaining its law and order situation lately. Blockchain technology can create an opportunity to monitor and register all the citizens of Pakistan to an online database. Although the main complication in this regard can be that half of the population lives in total technological isolation and unawareness.

But with the proper planning this may be accomplished. After which each baby born would have digital birth registration. And through this, we can have the entire

nation on board. Telenor Pakistan, together with UNICEF and the Governments of Punjab and Sindh provinces have already start digital birth registration. Telenor distribution centres serve as point of contact that attracts members of the community for their mobile-related needs. These authorized personnel report birth-related data along with required documentation directly to the approving authority via the app.

Telenor Pakistan, together with UNICEF and the Governments of Punjab and Sindh provinces have start digital birth registration

3. Tax Collection:

When Digital Identification will be coupled with online tax collection, Pakistan will finally be able to win its war against corruption and tax

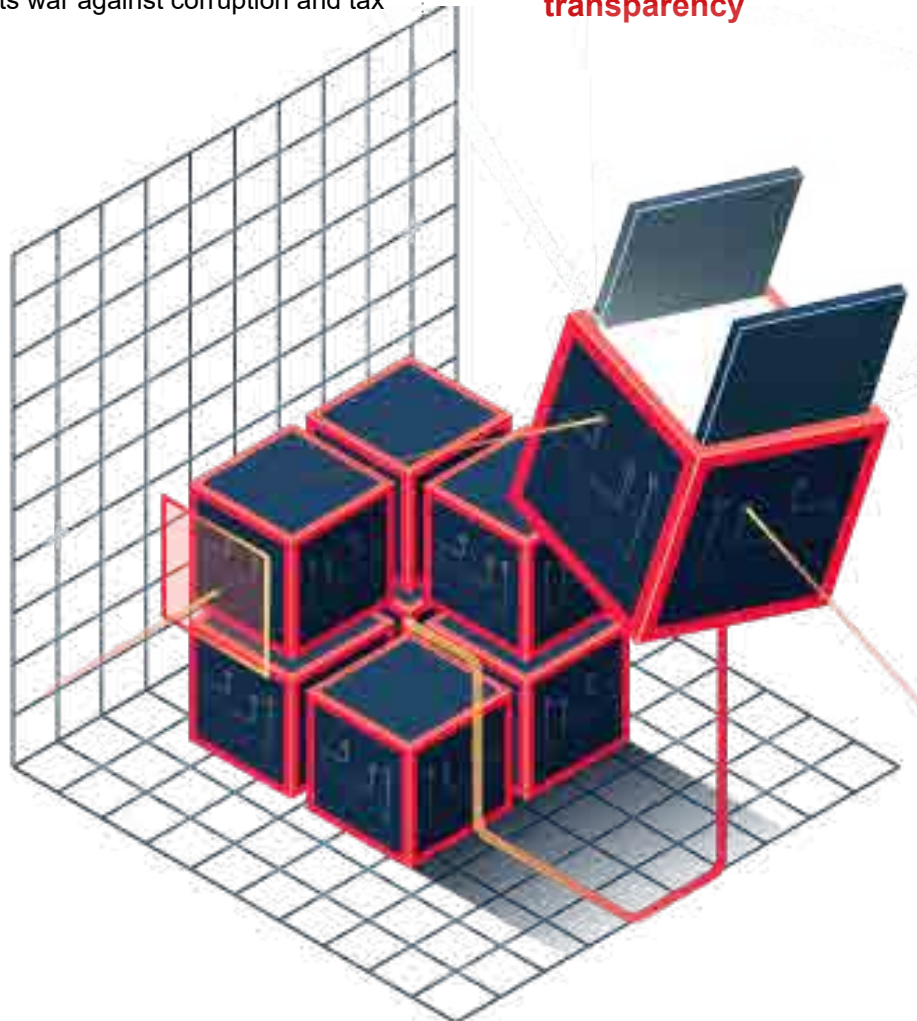
evasion. Non-Tax payers will be identified and penalized. Moreover, the bribery culture will finally come to an end.

When Digital Identification will be coupled with online tax collection, Pakistan will finally be able to win its war against corruption and tax evasion

4. Money Transactions:

The word 'Bank' will be erased from our dictionaries, with blockchain technology being there to help secure every sort of transactions.

Payments will be made without any paper money involved and more importantly with 100% authenticity and transparency



Payments will be made without any paper money involved and and more importantly with 100% authenticity and transparency.

5. Property Related Transactions:

One of the major issues in Pakistan's Real Estate industry is the 'Kabza Groups'. These are a bunch of people working together to unlawfully take over people's property by displaying fake property papers.

Blockchain technology will put an end to this treachery. With all property related records secured on an online database, owning, reclaiming and transferring of the property will be a matter of mere seconds rather than the traditional lengthy process with many loopholes.

In the near future, Pakistan can become as a country fully reformed through technology if it aims to introduce Blockchain in all of its major work mechanisms.

How Can Blockchain Produce New Business Opportunities in Pakistan?

Pakistan is facing employment issues for a very long time. Blockchain may not be the very solution but it can contribute in providing business and job opportunities to the citizens of Pakistan. Following are a few ways in which blockchain may unlock business and employment opportunities.

Blockchain may not be the very solution but it can contribute in creating job opportunities for the people of Pakistan

1. Blockchain Developer:

Pakistan, like most of the world, is in the process of shifting towards

new technologies. So, the demand for blockchain developers will be very high in the near future. Thus, this will open doors to profitable opportunities for blockchain developers in the country.

2. Data Analyst:

Data analysts play a very important role in traditional business setup but with blockchain their role will become even more essential. Companies may require data analysts to analyze the transactional record of their competitors in order to maintain a progress record or to know their position in the market for future decisions.

Companies may require data analysts to analyze the transactional record of their competitors to make better business decisions

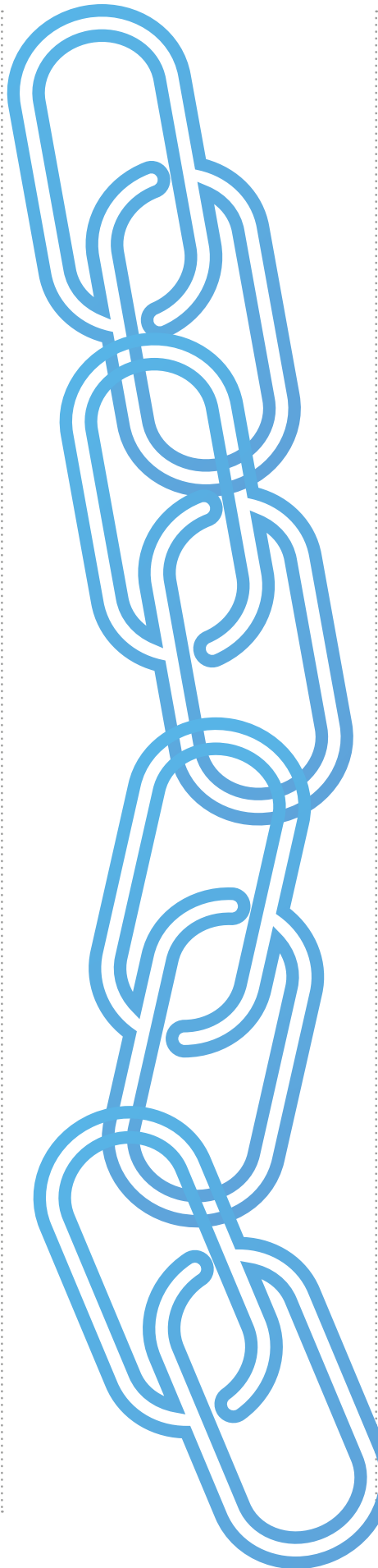
All you have to do is to keep an eye on the required data, as blockchain allows open access to anyone and everyone on the internet to check the market trends.

2. Teaching Blockchain Developing:

If you are a trained professional, then along with a full-time job as a blockchain developer, you can teach blockchain development as the high demand of the subject requires a number of trained and practicing professionals to teach it. Moreover, you can take it up as a full-time job.

Challenges in implementing Block Chain Technology in Pakistan

Blockchain came into full swing during 2013 and 2015 but even today there is merely any implementation of Block Chain technology in Pakistan. There are a number of reasons for the delay like:



1. Energy Crisis:

Firstly, Block chain implementation means all the records and transactions being made online; to be this active online, there are no stabilized energy resources. Persistent load shedding and lack of required infrastructure are the problems the country is still struggling with.

2. Limited Trained Professionals:

Pakistan lacks trained professionals in Block chain as there have not been any specialized institutes to train individuals in the field. In this regard, President of Pakistan has initiated 'The Presidential Initiative for Artificial Intelligence & Computing' (PIAIC) program to train Pakistanis for the upcoming digital challenges for minimal charges. It aims to open doors to new job and business opportunities in the digital world.

3. Traditional Business Mindset:

Most of the business owners are of a traditional mindset. They stick to their policies and do not want to shift to any unfamiliar technology. They are unaware of what blockchain may bring to

them. Pakistan as a nation prefers traditional setup rather adopting modernism.

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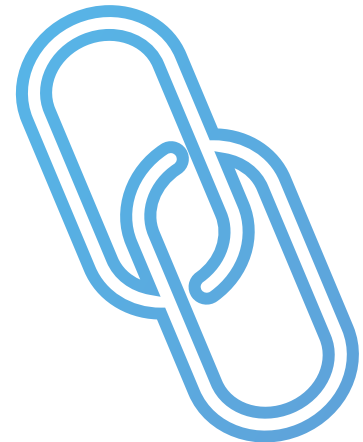
4. Political Instability:

There are number of small businesses in Pakistan. The vast majority is unable to set up a fully developed business. Moreover, the current political scenario of Pakistan makes it very difficult for the business-men to cope with the market conditions.

The key to any sort of development is a stable political environment and controlled law and order situation and unfortunately, Pakistan has none of the two

An environment of 'hand to mouth' has been created. In such difficult times where stabilizing a business is getting difficult day by day why would anyone spend an extra cent on adopting Block chain where block chain is viewed an additional investment rather than a business opportunity.

The key to any sort of development is a stable political environment and controlled law and order situation and unfortunately, Pakistan has none of the two. Thus, blockchain to be fully implemented in Pakistan will require more time. But the idea has set its grounds and we see slow but consistent implementations being initiated. With support from the public and private sector and creating awareness about the revolutionary technology can bring wondrous results in the near future.



TUNED TO PERFECTION, OPPO UNVEILS THE ALL-NEW A SERIES 2020

OPPO A9²⁰²⁰

8GB + 128GB | Pin 5000mAh | 4 Camera - 48MP



OPPO is excited to announce that it will soon launch the A Series 2020, including A9 2020 and A5 2020, the new iteration of the brand's successful line in Pakistan on Sep 19th. OPPO's latest offering for the mid-level smartphone market features stunning photography, beautiful design, and a long-lasting battery. Overall, the OPPO A Series 2020 will provide a unique value to a wide range of users, but especially Generation Z youth.

The OPPO A Series Story So Far

OPPO has been active in the overseas markets for the past ten years, and the OPPO A Series has been well beloved by our global users. Since the launch of the very first OPPO A Series model, the A100 in the Thailand market during 2009, the series has enjoyed impressive word-of-mouth popularity thanks to its advantages in design, photography and battery technology.

Over the past 10 years, many young people have chosen the OPPO A Series as their first smartphone. Not only did they learn how to use a smartphone, through technology such as the camera and apps, the A Series unleashed new ways to integrate into society and explore the infinite possibilities of life. Meanwhile, OPPO has continuously evolved with the latest mobile trends, where smartphones have become more like personal assistants, as well as the recent boom in short video apps among young people.

A Series 2020 is Perfectly Tuned to Needs of Generation Z

The young especially are looking to find their way in life, and often feel like they have to compromise. Now, with the A Series 2020, OPPO offers more possibilities than ever before, with the newly improved 48MP Ultra-Wide Quad Camera, Dual Stereo Speakers, and a 5,000mAh Ultra Battery, freeing users from the need to compromise when they play.

The 48MP Ultra-Wide-Angle Quad Camera setup satisfies users' needs for all shooting angles and all scenarios. It also supports Ultra Night Mode 2.0, Ultra-Wide photography and a whole range of artistic portrait styles. Meanwhile the front 16MP camera uses AI Beautification technology for tailor-made selfies, allowing users to customize their look according to the latest trends.

Shooting videos is also easier than ever before with 4K video technology offering better overall effects, creating clearer videos, with more vivid colors and less latency, combined with Video Stability technology that promises more stable, professional videos.

MOBILE OPERATORS: THE CENTERPIECE IN DIGITAL REVOLUTION



The world of technology is thriving, whether it is artificial intelligence, augmented reality or networking, our lives are getting more and more digital, opening up the doors to better and more advanced products. As this transformation unfolds, one industry that can be considered the backbone of this digital revolution is the telecom sector. Telecom companies deliver indispensable infrastructure, applications and connectivity services in many areas for digitalization to realize its full potential.

Telecom companies deliver indispensable infrastructure, applications and connectivity services in many areas for digitization to realize its full potential

The telecom sector of Pakistan has witnessed a huge transformation after the arrival of 3G/4G services in the country, and now it has opened doors for 5G. From the growth in mobile-phone penetration to unveiling various m-Services; Pakistan's telecom sector has become a success story for many countries that still are struggling with the technology revolution.

Mobile operators have not only opened ways for other technology-based organizations to flourish, but they have also ventured in different services and expanded their service portfolio from just being a communication service provider

Mobile operators have not only opened ways for other technology-based organizations to flourish, but they have also ventured in different services and expanded their service portfolio from just being a communication service provider. All of this has speed up the digital journey of our country. Here are some of the contributions made by the operators in making Pakistan more digital.

Connectivity:

Mobile operators not only provide voice connectivity but with the advent of 3G/4G services, they now also provide high-speed internet connectivity that is the heart of digital revolution. This high-quality internet connectivity not only gives people a voice, but also creates opportunities for better services and products for every industry.

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Pakistan is continuously experiencing massive growth in terms of cellular subscribers, be it 3G or 4G. According to PTA, Pakistan has more than 160 Million telecom subscribers.

Pakistan is continuously experiencing massive growth in terms of cellular subscribers, be it 3G or 4G. In a small time, all four operators expanded their service coverage to almost 100% area of the country. Jazz and Zong both have more than 10,000 network sites across the country. Whereas, Telenor Pakistan leads with more than 11,000 cell sites in the country.

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Ufone also has 9000+ coverage units across the country. The availability of fast internet is the major reason for the introduction of all online services that are now available in Pakistan. So this alone can be considered the greatest contribution in the digital revolution.

App Development:

Mobile operators are not only providing basic connectivity, but they are also focusing on the mobile app innovation that is the key in the whole digitization process. M-education, m-health, m-commerce, m-agriculture and other mobile-based services have been only made possible with the help of mobile operators.

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Pakistan is an agrarian country as most of its economy is based on agriculture. To boost up the economy and to make the agricultural department digital, different companies have introduced mobile-agriculture to provide more ease to the farmers. Jazz "Bakhabar Kissan" is an e-agricultural app available on play store that provides information about the latest markets rates, weather forecasting, animal husbandry and all agricultural news.

Telenor Pakistan, in collaboration with the Tameer Bank and government of Punjab, also has introduced the Connected Agriculture Punjab Package (CAPP) for farmers. The CAPP includes many initiatives and services to the farmers, such as interest-free loans, subsidies and consultancy services regarding crops and fertilisers.

These services are provided through a digital mobile platform, and 125,000 smartphones have also been distributed to farmers. Jazz BIMA Sehat service provides 24-hour doctor and hospital insurance services.

Telenor Khushal Beema Insurance service lets the users secure their future without going anywhere by just depositing a moderate amount from their account. Ufone's UTahafuz is also a financial security service in case of need. Zong Accidental Insurance provides the hassle-free insurance service to assist its users in case of need. Jazz has also done some admirable work in m-health as well; its Healthpass application helps to improve health outflow management.

Financial Services:

The telecom operators have played a vital role in making the country more digital by introducing branchless banking services. In the bank-led model, cellular mobile operators, authorised financial institutions, and technology firms have enhanced their financial services and essential infrastructure by developing real-time and user-friendly solutions.

Telenor's Easypaisa is a mobile wallet app that lets users handle their financial transactions easily. Jazz has also introduced the "JazzCash" which provides the digital payment services. Ufone's Upaisa has also made the financial transactions and money transfer

so easy that people do not need to wait in a long queue in the banks when they can easily make their transactions through their phones.

Cellular mobile operators, authorised financial institutions, and technology firms have enhanced their financial services and essential infrastructure by developing real-time and user-friendly solutions

Youth empowerment:

There is no shortage of talent in Pakistan. Currently, the country has the largest youth population. So, for the young tech-savvy generation, full of energy and abilities mobile operators also provide various opportunities for

them to show talent abilities.

Telenor Velocity is a road map to the digital revolution and a platform for the youngster to prove their metal. Telenor Velocity is the first Digital Startup Accelerator, which focuses on helping startups to land in the market within a period of 4 months, by using Telenor Pakistan's scale and assets. Currently, 17 startups have graduated by raising the fund to \$2.2 Million under Telenor Velocity.

On the other hand, Jazz has collaborated with Ignite and Teamup to launch the National Incubation Center in Pakistan.

For the young tech-savvy generation, full of energy and abilities mobile operators also provide various opportunities for them to show talent abilities

Mobile operators also hold various events every now and then to empower youth. Jazz organised the SDG Hackathon Program last year, in that program, it provided



a platform for 144 entrepreneurs, innovators, coders, and social scientists to cater the civic and social problems. Telenor also introduced Hackathon Program last year, giving the youngsters a platform to show their abilities. Such programs are fruitful in the sense that they provide a platform to the people who have fewer opportunities.

Entertainment:

Not only the telecom operators provide fast internet at low rates, but they have introduced their own entertainment applications. Jazz's Mobile TV lets users watch dramas online. Jazz has also introduced five regional apps that provide different services like regional music, dramas and stories, etc. Similarly, Telenor's Easy Bazar app lets the users do online shopping without any hassle. Jazz's discount bazar is an app that let's users to order food online at discounted rates.

new opportunities will be created for telecom companies to create value dependency not only for their own industry, but but for other industries as well

Zong mobile Bazaar is a marketplace for buyers and sellers for the barter of things including motor vehicles, mobile phones and property. Jazz has also collaborated with Gameloft to download and play games on mobile phones using Jazz internet. Similarly, Zong Play is a value-added service that lets users download, purchase or play free games online. Telenor has also its game store, Gamebox, that has

plenty of games. Last but not least, Ufone's gaming portal lets users play a variety of games including puzzle, action, strategy and adventure games.

Telecom industry is the epicentre of the entire digital transformation. As we further head forward in the digital revolution, new opportunities will be created for telecom companies to create value dependency not only for their own industry, but for consumers, other industries, including retail, automotive, electricity, e-commerce and even entertainment and the broader economy.

As we further head forward in the digital revolution,



DIGITAL LEARNING

THE FUTURE OF EDUCATION



BY FIZZA ATTIQUE

Technology has been making inroads into education for decades. But the mobile revolution is changing education in more fundamental ways than just providing a gadget that delivers information.

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Learning can unfold in a variety of ways: people can use mobile devices to access educational resources, connect with others, or create content, both inside and outside classrooms. Mobile learning also encompasses efforts to support broad educational goals such as the effective administration of school systems and improved communication between schools and families.

What is Education Technology?

Educational Technologies are those materials, procedures, organizations, ideas, devices, instruments or machines which make the teaching-learning process more effective, successful, and unforgettable.

Educational Technologies are those materials, procedures, organizations, ideas, devices, instruments or machines which make the teaching-learning process more effective and successful

Using mobile tools for creating learning aids and materials has become an important part of

informal learning. Mobile learning is convenient as it is accessible virtually from anywhere. Sharing is almost instantaneous among everyone using the same content, which leads to the reception of instant feedback and tips.

It also brings strong portability by replacing books and notes with small devices, filled with tailored learning contents.

Transforming education for Students in Pakistan:

People usually ask the reason for transforming education for children when it can be acquired in the same way as our ancestors achieved it. Though it could be justified through many reasons, but I want to raise a question here. What is the point of giving our children the same outdated education when we can incorporate new technology in it?

We need to accept that the future is all about technology and gadgets, so, there is a dire need to embed them in the education sector and prepare kids to handle the inevitable future challenges in their professional life

Technology is entwined in such a way that its effects on our lives are undeniable. In such circumstance when children are so much used to technology, our old-fashioned classrooms with blackboards or whiteboards take them several years back. Let us accept that the future is all about technology and gadgets, so, there is a dire need to embed them in the education sector and prepare kids to handle the inevitable future challenges in their professional life.

Reading from books and writing it on a whiteboard so that kids can copy it is just not needed now and things need to change.

Emphasis on digital education in Pakistan has lagged in the past, but schools and universities are now being empowered to actively embrace the digital world

Technology is not only helpful for students but also for teachers. Preparing a lesson is a very time-consuming task, but when it is integrated with technology, lesson planning efforts are reduced, which in turn reduces the burden on the teachers.

Pakistan is on the cusp of a digitization drive. Pakistan's education sector had a mixed engagement with digitalization. Emphasis on digital education in Pakistan has lagged in the past, but schools and universities are now being empowered to actively embrace the digital world. Although there are still very few educational institutes that are providing facilities for digital education but this ratio is expected to improve with upcoming digital initiatives in the future.

Some of the digitized trends in the educational sector of Pakistan are as follows:

1. The growing trend of digital classrooms

Most of the private schools and universities in Pakistan are making their classrooms digital by introducing interactive whiteboards, touch screens, computers, and projectors. These smart classrooms helped in an increased level of understanding on part of students.

Now a days all the students are encouraged to use internet facilities and avail required detailed knowledge of topics instead of learning bookish material only.

Most of the private schools and universities in Pakistan are making their classrooms digital by introducing interactive whiteboards, touch screens, computers, and projectors

Different educational apps are also introduced in smart gadgets that help students to understand and get knowledge more easily.

2. E-books

The concept of getting knowledge using e-books is becoming very popular nowadays. Students can access any book by any author from around the world instead of searching for books in libraries.

3. Video-based learning

Video-based learning makes educational engaging, entertaining and exploring. So, it is also gaining popularity among students to understand difficult concepts using video interfaces.

Many universities are offering facilities for online courses and diplomas e.g. Pakistan Institute of management, Virtual University of Pakistan, etc.

4. Educational apps on smartphones/tablets

Different educational apps are also introduced in smart gadgets that help students to understand and get knowledge more easily. Scribd, Google reads, Evernote, to-do-ist are some examples of such apps.

5. Learning Game apps

Many applications based on games are introduced for toddlers with the help of which they can start learning. These apps include unscrambling games, word games, puzzle, etc.

6. WI-FI availability

Some of the private institutes are providing Wi-Fi facilities in all of their departments which help students to gather information from the internet in order to do their assignments and group studies. Government and private sectors have taken some commendable initiatives to support digital learning in Pakistan.

DigiSkill learning, SkillsFirst, Learn Smart Pakistan, Connecting Classroom, Virtual Academy, and Future School are few of the names that are successfully providing online learning opportunities to the students

There are many online learning and skill building programs now available in Pakistan. DigiSkill learning, SkillsFirst, Learn Smart Pakistan, Connecting Classroom, Virtual Academy, and Future School are few of the names that are successfully providing online learning opportunities to the students.

The age of mobile learning is here to stay, what we need is to take advantage of it. Whether we like it or not, whether we are ready for it or not, mobile learning is the next step in a long tradition of technology-facilitated learning. It features new strategies, practices, tools, applications, and resources to realize the promise of pervasive, personal, and connected learning. Mobile learning diversifies the types of learning activities students participate in.

More importantly, it decreases training costs and it is a better way of learning as well, something that financial crisis struck country like Pakistan desperately needs.



Jazz Business partners with VMware to provide best-in-class cloud services



Aimed at facilitating access to cloud-based business solutions; Jazz Business has signed a partnership with VMware, Inc. (NYSE: VMW), a leading innovator in enterprise software. The partnership enables Jazz to provide current and prospective customers with the country's largest seamless cloud platform that will catalyze future-forward innovations in an increasingly digitalized global economy.

In alignment with the National Digital Pakistan initiative; Jazz's partnership with VMware will hasten the digitalization and transformation of businesses. Facilitating access to VMware's cutting-edge cloud solutions, Jazz will offer businesses access to cost effective, reliable and locally hosted cloud. This shall include Virtual Machines, storage and auxiliary services all on an intuitive and modern user interface.

All these best-in-class services will be provided through a purpose built cloud platform called Djazz Data Park, which is the largest ICT Data Center in Pakistan. The 300+rack, 3MW facility is built on international standards of power usage effectiveness.

"This terrific new partnership comes right after President Trump and Prime Minister Khan committed us to developing the business ties between our countries, during the Prime Minister's visit to Washington. There are lots of win-win opportunities for greater private sector collaboration, like this one we are celebrating today," said the United States Ambassador to Pakistan Paul W. Jones, at the signing ceremony.

"This strategic venture with VMware allows on-demand delivery of computing power, database, storage, applications, and other IT resources via the internet," said Syed Ali Naseer, Chief Corporate & Enterprise Officer at Jazz. "Now we can shift focus towards our business customers by leveraging on our strengths in mobile and digital technologies to provide 360 solutions to companies, which shall assist them in minimizing up-front IT infrastructure costs and ensure improved manageability and less maintenance."

"The availability of VMware's industry leading cloud solutions will accelerate the digital transformation of Pakistani enterprises, providing a strong impetus for the country's growing digital economy. As the government, ICT providers and organizations rally together to develop the country's digital capabilities through initiatives like Digital Pakistan, VMware stands ready to support the digitalization of Pakistan's digital economy. Our partnership with Jazz will not only inspire and supercharge next-generation innovation among local enterprises, but also open the door for them to be part of the global digital economy," said Ahsan Khan, Country Manager – Pakistan, VMware.

Backed by Jazz's countrywide mobile network, Jazz Business's vision is to pave the way towards a connected world by providing innovative, fine-tuned business applications and intelligent digital solutions. Helping businesses – from startups, SMEs and large enterprises – operate more efficiently, collaborate more effectively, and connect better with their customers, Jazz Business aims at enabling business growth.



5G Technology-The Promise of a Better Future

5G is the next-generation communication network that has been christened by the media hype machine with phrases like “world-changing,” “quantum leap,” and “this will change everything” to describe what lies ahead. But what exactly is 5G?

How 5G works?

The signals of the 5G technology will be transmitted via large number of small cell stations located in places like light poles or building roofs unlike 4G, that needs large, high-power cell towers to radiate signals over longer distances.

The use of multiple small cells

is necessary as the millimeter-wave spectrum, that 5G relies on to generate high speeds, can only travel over short distances and is subject to interference from weather and physical obstacles.

Internationally, network operators are working to develop two types of 5G services. The first one is the 5G fixed wireless broadband services that will be delivering internet access to homes and businesses without a wired connection to the premises.

The second one is 5G cellular services that will be providing user access to operators' 5G cellular

networks.

With the launch of the 5G, the 4G technology will be eventually replaced or at least it will be augmented. As other than the fast download speed, it is using unique radio frequencies that are higher and more directional than those used by 4G.

The directionality of 5G is important because 4G towers send data all over, which can waste power and energy and ultimately weaken access to the internet.

How 5G will Change Everything?

Some of the things on the following

list are already being experimented with or happening on a limited scale, but the coming decade will see 5G unfold in ways hard to imagine.

Future of the Banking Industry

In a post 5G world, ATMs will be replaced with smartphones and identity management will become a core discipline taught in every school. Cash will dwindle to a fraction of its use today. Virtual tellers will replace most human tellers and automated micro-loans will become banking's new profit center.

In a post 5G world, ATMs will be replaced with smartphones and identity management will become a core discipline taught in every school

Future of Agriculture

The agriculture industry is teetering on the edge of a data-revolution. Both food and ag-grown products will have rapidly shifting supply chains with real-time data streams highlighting every swing in consumer preference.

The agriculture industry is teetering on the edge of a data-revolution

Macro warning systems will caution farmers about encroaching diseases, insects, weather fronts, etc. and real-time monitoring and AR visual scanning of crops with a continuous feed of plant, soil, and yield analytics. Livestock tags will allow for visual AR screening and analysis of animals.

Most farm-grown produce, grains, nuts, and other crops will be date-tagged, geo-tagged, and chemical-tagged in a blockchain database to give consumers a more informed choice.

Future of Healthcare

For sick people in rural areas, with doctors located many miles away, traveling long distances to find a doctor can be rough. This will change as virtual healthcare becomes more common.

With remote in-home examining systems, doctors will be only a Skype call away

With remote in-home examining systems, doctors will be only a Skype call away. They will even be able to monitor analytics, write prescriptions, and manage patient responses when needed.

Full-body health scans will give rise to real-time holographic monitoring of surgeries, heart-scans, liver-scans, digestive system-scans, and more. Language translation services will enable doctors and nurses to work with patients who don't speak the same language. Wearable AI-based health monitors will become common, and far more sophisticated over time.

Future of Insurance

Insurance is the fine art of mitigating damage to a perceived risk. While emerging technology will reduce risk in certain areas, it will also increase risk in others. At the heart of every insurance policy is a customer making a calculated decision to hedge his or her bets against the probability of disaster.

5G will offer companies the ability to automate probability curves in real time, significantly reducing transaction costs, and opening the door for micro policies that have never been profitable in the past. Automated holographic full-body scan security systems will replace "showing an ID". Rapid-response drone scanning of households, vehicles, and businesses will take place following every claim. Increased use of blockchain will enable companies to better assess personal ownership networks and changing valuations in real time.

5G will offer companies the ability to automate probability curves in real time, significantly reducing transaction costs, and opening the door for micro policies that have never been profitable in the past



A number of new robot insurance policies will be designed to cover the multi-dimensionality of robot uses. Life-mapping as a process will be used for uncovering a person's risk patterns.

Future of the Transportation

Driverless technology will be the most disruptive technology in all history. Virtually every job related to the automotive industry will be affected in some way.

Parking lots, garages, traffic cops, traffic courts, gas stations, tire shops, emissions testing, drivers licenses, traffic cones, weigh stations, guardrails, stoplights, and DUIs will all begin to disappear. At the same time, we will be creating new businesses and new jobs at an unprecedented rate.

Driverless technology will be the most disruptive technology in all history

Future of Education

Education continues to be the largest opportunity in the online world where no one has quite cracked the code.

Virtual involvement training apps will offer a new kind of learning experience

Virtual sensory reducers will help students manage their distractions. Brain stimulators will become commonplace to momentarily amp up a person's cranial inputs. Virtual involvement training apps will offer a new kind of learning experience. New micro-learning processes will be gamified with rewards to help those in need of job-ready skills.

Future of Retail

Physical stores are not going away any time soon, but the value they add to their communities and

the variety of products they offer will remain in transition for the foreseeable future. Click-and-buy selling on-the-street will employ the use of live models to draw attention to products, encouraging consumers to simply scan-click-and-buy.

Physical stores are not going away any time soon, but the value they add to their communities and the variety of products they offer will remain in transition for the foreseeable future

AR visual purchase history of every customer as they walk in will be maintained. Physical signage will be replaced with holographic projected signage. Well-choreographed holographic buying events such as auctions, countdown sales, flash sales, and more will become a regular affair.

Future of Entertainment

Life can only be understood backwards, but it must be lived forward. Somewhere in that phrase is the human need for entertainment. Every thought we think is creating our future, but we won't be able to understand it until it's over.

Macro projection systems will turn increasingly large venues, such as stadiums, neighborhoods, and entire cities, into live performance art locations

Macro projection systems will turn increasingly large venues, such as stadiums, neighborhoods, and entire cities, into live performance art locations. E-sports will become the world's largest sports-related industry. Gamified citizenship will be both entertaining and super invasive.



Are we Ready Yet?

5G will bring a great technology shift in Pakistan as its speeds will be one thousand times faster than current LTE data transfer speeds. It will bring a massive increase in the level of connectivity. Not only this, 5G will impact every industry in Pakistan like autos, healthcare, manufacturing and distribution, emergency services.

Once Pakistan introduces 5G successfully, it will open a new arena for smart devices and in the coming years, it will ensure employment along with investment opportunities in Pakistan

Once Pakistan introduces 5G successfully, it will open a new arena for smart devices and in the coming years, it will ensure employment along with investment opportunities in Pakistan.

But before Pakistan adapts to 5G technology, it is really important to understand and evaluate the viability of such technology both commercially and intellectually. Existing 3G and 4G networks and their commercial and industrial usage could be a good starting point to assess the demand-and-supply side of the mobile-internet market in the country. Under normal circumstances, a properly deployed 4G network is believed to be good enough for IT-led businesses that mostly rely on mobile internet. Therefore, many telecom experts put question marks over “use case” of 5G network in Pakistan until 2025.

5G is the 5th-generation cellular technology and characterized by faster internet speed (~10 to 20 times faster than 4G) and lower latency, i.e. ~1-4 milliseconds compare to ~ 20 milli-seconds with 4G. No doubt 5G technology

has a wide scope and industrial applications including self-driving cars, streaming virtual reality, 3D holographic video calls, etc.

Mostly, initial 5G deployments utilize the existing 4G infrastructure. In Pakistan, there are still several issues like insufficient availability of spectrum, poor fiber-optic connectivity, and limited area coverage, etc which exists related to the 4G network. It is very important to resolve those basic but important problems and strengthen the existing infrastructure before moving to next-generation 5G technology.

Recently, a framework for test and development of future technologies particularly 5G wireless networks has been unveiled by Pakistan Telecommunication Authority (PTA) in the country.

In Pakistan, there are still several issues like insufficient availability of spectrum, poor fiber-optic connectivity, and limited area coverage, etc which exists related to the 4G network

The 5G trial Framework will enable the radio spectrum use on trial basis for non-commercial purposes in order to carry out trials for innovative use of radio frequency spectrum, apparatus/equipment and academic purposes including but not limited to scientific research, radio concepts and new systems demonstrations.

Zong is the first telecom company to test 5G in Pakistan

The mobile operators of the country have already been working on the new technology. Zong is the first telecom company to test 5G in Pakistan.

In much the same way that the 1985 Apple LaserWriter gave birth to desktop publishing, and the 2010 MakerBot's Thing-O-Matic 3D printer gave birth to desktop manufacturing, a world filled with 5G will give birth to hundreds of thousands of new products, systems, and desktop industries. The Government must have to work hard to introduce 5G technology in the country as it is more expensive than 4G.

Pakistan has conducted a vast number of trials and experiments in different parts of the country. But still, there is a need for research and resources in order to support the efforts.



Samsung Note 10+: Damn near Perfect

Design

The Note 10 Plus's bezels are smaller than nearly any phone Samsung has ever produced. Instead of putting the camera cutout at the top right corner though, Samsung has moved the camera cutout to the top center. The sides of the phone have a much thinner aluminum frame. The glass wraps around the edges more, almost feeling like a solid extruded piece. It has Gorilla Glass 6 with extra shine.

The Note 10 Plus is considerably thinner, at just 7.9mm. Interestingly though, even with a huge 6.8-inch display, it maintains about the same footprint as the Note 9, mostly due to the reduced bezels. The back of the phone looks elegant, with a vertical triple-camera system down the left side. Other than two flash LEDs and a depth camera, the back of the phone is totally clean.

Display

The Note 10 Plus' Dynamic AMOLED display looks brilliant. It's bright and punchy but not overly saturated. As for the size, 6.8-inches is pretty massive, but surprisingly the phone doesn't feel unwieldy. Samsung has also put the same ultrasonic in-display fingerprint sensor that we saw in the Galaxy S10 series in this device. It's not any newer than the one we saw previously, but it seems more accurate.

Performance

The Note 10+ is absolutely stacked, featuring 12GB of RAM, with storage doubling from 128GB to 256GB for 2019. If that's not enough, there's a 512GB storage option, plus a microSD card slot. The Note 10 Plus runs on Qualcomm's Snapdragon 855 chip with 12 GB of RAM, so it handles everything effortlessly.

Battery

The 4,300mAh battery in the Note 10 Plus gives you comfortable battery life, and it's charged quickly with Samsung's new 25W charger included in the box.

Camera

The Note 10+ boasts a triple-camera system that combines a 12MP ultra- wide-angle camera with the same variable



aperture technology seen on the Galaxy S10 range – allowing the camera to instinctively switch between f/1.4 and f/2.4 to capture images in challenging low light conditions, a 16MP ultra-wide with a 123° field of view, and finally, a 12MP telephoto camera that handles 2x optical zoom and Live Focus shots.

Selfies on the Galaxy Note 10+ are handled by a 10MP camera with f/2.2. It also supports Live Focus images from the front-facing camera, so you can add an artificial bokeh-style blur behind your face.

S Pen

The Galaxy Note simply wouldn't be the Galaxy Note without an S Pen. The trademark stylus gets a modest update with the latest handset. The biggest new features are Air Gestures, which use the new six-axis sensors built into the S Pen to let you control features on the phone by waving it around in the air, like a Nintendo Wii controller.



**32GB Built-in, 3GB
RAM
Octa-core**



**Non-Removable
4000 mAh**



6.8 inch



Dual 12MP+12MP+16MP+2MP

Pros

- Nice design
- Big screen in small frame
- Useful S Pen
- Powerful performance

Cons

- Expensive
- Low-res screen

Final Verdict

The Galaxy Note 10 Plus is a phone for everyone. Samsung is moving away from giving everything to the power users, and towards giving everyone the power.

Vivo Spearheads the Innovation in the Smartphone Industry with its 5G & AI Innovative Products

Vivo, a young global technology brand has garnered a lot of attention on the global scale recently by spearheading the innovation in smartphone industry.

The company has plans for its growth trajectory and international expansion by providing stylish and dynamic products to more consumers around the world.

Vivo continues to place world-first features into their smartphones to enable better smartphone experience for the customers at the budgets they can actually afford.

Vivo's Commitment to 5G & Artificial Intelligence:

Vivo had set up its 5G Research Institute in Beijing — together with its R&D centres, and the accumulated experience in innovation; Vivo sets up a solid foundation for next round of the technological revolution in the 5G era to deliver premium technology innovations in all aspects to all users.

Just last year Vivo also established an AI Research & Development Center that advocates for an IoT ecosystem to help create a seamless experience for consumers.

Vivo completed the commercial testing of 5G on smartphones in September 2018, symbolizing a great step in bringing 5G to consumers. Currently Vivo is offering commercial 5G smartphones in its iQOO series and the latest NEX 3.



Vivo places world-first features into their phones:

Here are a few of Vivo's First Innovations that reshaped the smartphone industry in the past 5 years:

- o Launched the world's thinnest smartphone at the time of its release: X1, X3, and X5Max
- o First to launch smartphone with 24MP front facing camera: V7 and V7+
- o First to put a dedicated Hi-Fi quality audio chip in a smartphone: X1
- o First to launch 20MP dual front camera smartphone: V5Plus
- o First smartphone with a 2k screen and DTS surround theater system: Xplay3S
- o At MWC Shanghai 2017, unveiled the industry's first Vivo Under-Display Fingerprint Scanning Solution



- o At CES 2018, displayed a ready-to-produce smartphone with the world's first In-Display Fingerprint Scanning Technology and in the same month launched X20 Plus UD – world's first In-Display Fingerprint Scanning Smartphone in China
- o In Feb 2018, launched APEX™ FullView™ Concept Smartphone – ultimate iteration for the future full-screen smartphone. With the highest screen-to-body ratio, APEX™ features several innovative technologies including the Half-Screen In-Display Fingerprint Scanning Technology, Elevating Front Camera and Screen SoundCasting Technology.
- o In June 2018, Vivo turned the APEX™ FullView™ from concept to reality with the NEX, the world's first smartphone with an Elevating Front Camera.
- o Vivo exhibited the application of ToF in smartphones in MWC Shanghai 2018.
- o In Sep 2018, launched NEX Dual Screen, once again challenging norms to deliver innovative smartphone experience by incorporating the groundbreaking notch-free Ultra FullView™ Display on the front, and a second Lunar Ring Display which opens up a new world of possibilities on the back.
- o In Jan 2019, Vivo launched APEX 2019, a seamless concept phone Super Unibody Design and Full-Display Fingerprint Scanning Technology ready for 5G connectivity.
- o Vivo launched V15, making the premium technology of Elevating Front Camera and In-Display Fingerprint Scanning Technology more accessible to more consumers around the world.
- o Earlier this year Vivo showcased world's fastest 120W Super Flash Charge, that charges a 4000mAh battery phone in 13 minutes only.
- o Launched the most high-end Vivo iQOO Pro 5G smartphone

Vivo will be showcasing the future vision for its smartphone in the coming days when it launches the NEX 3 smartphone with an all-screen curved display and top of the line specifications.



Honor 20 Pro: An Everyday Luxury

Design

The handset isn't quite plus-sized, but it's still large – with a body of roughly 154mm x 74mm x 9mm, some users may have trouble reaching the top of the screen, but it's not exactly a burden to carry about. While the phone has an impressive 91.6% screen-to-body ratio, there's still just enough bezel to house a speaker and notification light right at the top. It's a good-looking phone, with a nice balance between functionality and slick design.

Display

The 6.26-inch screen uses LCD Full HD+ tech, which isn't quite as good as in other Huawei and Honor phones. Although it has a great brightness range, and holds up well when viewed in direct sunlight.

There's no notch intruding on the Honor 20 Pro's screen; instead Honor has decided to go for a 'punch-hole' camera which means the lens is cut out of the display.

Battery life

The phone's 4000mAh power back is quite good, we found the handset could easily last for a day of moderate to heavy use, and we'd estimate it could last for up to two days under light use.

Charging the handset is a snappy affair, as the 22.5W fast charging fills up the battery in no time. There's no wireless charging but you can't really expect such tech in an affordable phone.

Camera

The Honor 20 Pro's camera setup is one of its biggest selling points – the impressive four-camera array is going to sway many people who may have thought the Huawei P30 Pro was the only option offering this kind of camera potential.

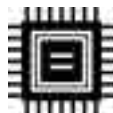
The four cameras are as follows: a 48MP f/1.4 main snapper with optical image stabilization (OIS), a 16MP sensor with a wide-angle lens, an 8MP sensor with a telephoto lens and OIS, and a 2MP macro camera.



Using the camera is quick and easy thanks to the simple interface, but with a fast shutter speeds and snappy autofocus, it's easy to take nice-looking pictures. All in all we found the camera to be phenomenal – it's as good as something you'd find on a phone twice the Honor 20 Pro's price, it's one of the best camera phones you can get your hands on right now.

Processor

The Honor 20 Pro is smooth, dead smooth. It has the same processor as the Huawei P30 Pro, the Kirin 980. The Honor 20 Pro also has a whopping 256GB of storage. A few hundred Spotify albums and podcasts downloads won't even touch the sides.



256GB Built-in,
8GB RAM
Octa-core



Non-Removable Li-Po
4000 mAh



6.3 inch



48MP+16MP+8MP+micro camera

Pros

- Fantastic four-camera array
- Easy-to-use fingerprint sensor
- Large, vibrant display

Cons

- No headphone jack
- Punch-hole camera steals screen real estate

Final Verdict

The Honor 20 Pro looks, feels and runs like a premium smartphone, but without the polish or the hype - and, most importantly, without the price tag. It's a slick and powerful mid-range smartphone that will give its competitors a run for their money.

Pakistan's First e-Commerce Policy; A Catalyst for Growth



The federal government has finalized E-commerce policy framework that is expected to be approved by the Cabinet soon. It envisages an enabling environment for holistic growth of e-commerce across all sectors of the country, with special focus on development and promotion of SMEs, for making Pakistan a significant player of the regional and global digital economy.

According to the draft policy framework prepared by the

Commerce Ministry, its main goal is to augment e-commerce industry's growth to make it one of the key drivers of Pakistan's economy.

In the first quarter of the financial year 2017-18, the number of registered e-commerce merchants was 496 which reached 1,094 by year-end and was around 1,242 by the first quarter of 2018-19

The goal of this policy framework is to recommend policy measures for fostering holistic growth of e-commerce in Pakistan and thereby stimulating the local digital economy. Although the digital industry is still in its infancy in Pakistan, statistical data show a steady rise in e-commerce transactions and the number of registered e-commerce merchants.

In the first quarter of the financial year 2017-18, the number of registered e-commerce merchants

was 496 which reached 1,094 by year-end and was around 1,242 by the first quarter of 2018-19.

E-commerce transactions processed by these merchants are also increasing proportionately. The policy framework seeks to augment this positive trend and pave the way for developing e-commerce in Pakistan by creating an enabling environment for the growth of existing e-commerce enterprises, allowing and encouraging new entrants, facilitating local and cross-border trade (especially exports), enhancing competitiveness and contribution to an overall digital economy.

Capitalizing on the efforts made by the public and private sectors so far, Pakistan now needs to step up and take measures to increase the competitiveness of local enterprises, thereby enhancing their share in global trade

Pakistan's e-commerce industry is emerging rapidly and has the potential to strengthen country's economy by creating more job opportunities, linking remote areas to the mainstream, development of small and medium enterprises and finally enhancing exports through online platforms.

Capitalizing on the efforts made by the public and private sectors so far, Pakistan now needs to step up and take measures to increase the competitiveness of local enterprises, thereby enhancing their share in global trade. For this, it is crucial to develop a policy framework for addressing key areas of concern i.e. consumer protection, the role of the financial sector in optimizing its growth and its revenue-generating potential in

the medium and long run.

This policy framework provides a glimpse of the current status of Pakistan's e-commerce with primary focus on:

- (i) regulatory framework
- (ii) payment infrastructure
- (iii) taxation issues
- (iv) consumer protection in the digital environment
- (v) Issues relating to logistics
- (vi) Data ownership/sovereignty and data localization

The strategies in the policy framework have been proposed with the objective of providing an enabling environment to the private sector, including SMEs while allowing the government to regulate e-commerce sector for the benefit of the public at large in addition to achieving long-term revenue generation goals.

The strategies proposed in the policy framework tend to facilitate existing e-commerce business and also encourage entities involved in traditional commerce to venture into e-commerce, thereby improving prospects of productivity, generation of new employment opportunities and enhanced levels of consumer protection.



Regulatory Framework

Pakistan's basic laws concerning Information Technology (IT) extend legal recognition to transactions carried out in the digital environment and electronic payments. However, generally, e-commerce is regulated under the statutes concerning traditional commerce. This gives rise to various concerns for the industry and the concerned authorities.

To cater the possible impact of import of digital goods in Pakistan, infrastructure and technical capacity should be developed to enable the government to impose customs duties on such products on their import

For addressing these issues, it is necessary to take measures for allowing re-export/re-shipment of goods, launch National Single Window (NSW) for speedy processing, especially for the export of large volume of low-cost goods/items.

To cater the possible impact of import of digital goods in Pakistan, infrastructure and technical capacity should be developed to enable the government to impose customs duties on imports. At present, there is no mechanism/registry for e-commerce businesses. This policy framework proposes registration of e-commerce businesses with the Securities & Exchange Commission of Pakistan (SECP) and making it mandatory for them to maintain a physical address in Pakistan.

In addition, for enhancing consumers' trust, measures for protection against counterfeit goods and a code of conduct are proposed under this Policy Framework.

Payment Infrastructure

With e-commerce enterprises making their presence felt, laws and regulations have been introduced to enable the existing financial institutions to cater to electronic transactions and encourage new private sector intermediaries to enter the field. However, a lot more is required to be done to address the needs of a large segment of the population which the e-commerce industry intends to target in future.

It is essential to enable Card-Not-Present (CNP) transactions and explore the possibility of co-badging with international card payment schemes

In relation to this, it is essential to enable Card-Not-Present (CNP) transactions and explore the possibility of co-badging with international card payment schemes. Moreover, it is proposed that banking services should be improved for promoting the use of local online merchant accounts by online businesses and exploring the possibility of establishing an international payment gateway in Pakistan.

Consumer Protection

Existing consumer protection laws in Pakistan do not contain specific provisions for addressing concerns of consumers transacting in the digital environment. In relation to this, recommendations have been made for introducing specific amendments in these laws.

An important aspect of consumer protection is 'dispute resolution mechanism.' This Policy Framework proposes that it should be mandatory for all online businesses to provide an efficient customer support and dispute resolution mechanisms and federal and provincial governments should make arrangements for establishing independent alternate dispute resolution centres for

expeditious settlement of disputes.

Existing consumer protection laws in Pakistan do not contain specific provisions for addressing concerns of consumers transacting in the digital environment

Taxation Structure

Taxation is one of the major issues for stakeholders of online marketplaces. The primary concerns relating to taxation are the imposition of minimum income tax, withholding tax and provincial sales tax. This policy framework proposes that for the purpose of provincial sales tax, online businesses should be treated at par with other businesses and parallel to that, provincial sales tax regimes should be harmonized to address the concerns of online marketplaces.

The policy framework proposes that provincial sales tax, Online businesses should be treated at par with other businesses

Logistics and e-commerce

In Pakistan, business-to-consumer (B2C) e-commerce model has grown significantly in the last few years and this trend is likely to continue. Logistics play a pivotal role in the B2C model.

A policy on logistics should be formulated to address concerns relating to e-commerce industry including expeditious processing for export of low-priced small consumer goods

The main area of concern to be addressed is system automation

of B2C players and third-party-logistics (3PL) businesses.

In addition, within the framework of Pakistan's National Transport Policy, a policy on logistics shall be formulated to address concerns relating to e-commerce industry including expeditious processing for export of low-priced small consumer goods.

Data Ownership/sovereignty and Localization

Data is termed as 'oil' of the digital industry and is the most valuable resource in the digital economy. To unleash the true potential of e-commerce, it is essential to localize the data generated in Pakistan and prevent its transfer to any other country or entity for the utilization of local digital industry.

To unleash the true potential of e-commerce, it is essential to localize the data generated in Pakistan and prevent its transfer to any other country for the utilization of local digital industry

At present, the Ministry of Information Technology and Telecommunication (MoIT) is in process of formulating Pakistan Cloud Policy. The said policy should also address issues concerning e-commerce. Small and medium enterprises (SMEs) can play a vital role in the growth of e-commerce. In order to improve their competitiveness and domestic and international e-commerce arena. Special incentives have been proposed for entrepreneurial training of e-commerce start-ups and formulation of policies for providing them micro-finance facilities.

Overall, this policy framework attempts to pave the way for holistic growth of e-commerce in Pakistan by creating an enabling

environment in which small and large enterprises have equal opportunity to grow.

E-commerce in Pakistan

It is expected that Pakistan's e-commerce sector will grow exponentially to claim a substantial share in global trade, which in turn will create employment opportunities and generate revenue for the state.

Businesses are also capitalizing on opportunities enraging from the digitization, such as supply chain efficiency, lower transaction cost, and enhanced flexibility in addressing consumer needs

In Pakistan, the overall share of services sector in real GDP is around 60% at end FY 2018, and around 56% in nominal GDP; the latter is higher than South Asia's average. The service sector has been witnessing a shift towards the digitization.

SBP's Annual Report on the State of Economy 2017-18 shows that sales of local and international e-commerce merchants were Rs. 20.7 billion in 2017 growing by 93.7% in 2018 to reach Rs. 40.1 billion

Growing internet penetrations is revolutionizing the way consumers and businesses gain and share information, execute transactions and manage their day-to-day operations. Improving digital connectivity is reshaping consumer behavior, which is increasingly tilted in favor of convenience, cost savings, and customized retail experiences. Businesses are also capitalizing on opportunities created through the digitization,

such as supply chain efficiency, lower transaction cost, and enhanced flexibility in addressing consumer needs.

Pakistan is among the economies where digitization is triggering changes in various components of the service sector. Specifically, the market size of e-commerce has grown significantly in Pakistan over the last few years, transforming the way consumers interact with – and especially pay businesses.

As per UNCTAD's B2CE-Commerce Index, in 2017 Pakistan ranked 120 (out of 144 countries) on e-commerce readiness index with a score of 24.0. However, a noticeable surge has been witnessed in the recent past in the number of online vendors, local e-commerce platforms, online payment facilities introduced by banks and cellular service providers.

Improved internet accessibility and significant efforts of the government for financial inclusion in most parts of the country can be rightly credited for this. PTA's data reveal that as of March 2019, there were 159 million cellular subscribers, 66 million 3G/4G subscribers and 68 million broadband subscribers.

From 2017-2018 the number of local e-commerce merchants increased 2.6 times and e-commerce payments increased by 2.3 times. SBP's Annual Report on the State of Economy 2017-18 shows that sales of local and international e-commerce merchants were Rs. 20.7 billion in 2017 growing by 93.7% in 2018 to reach Rs. 40.1 billion.

These figures do not include all the post-paid cash-on-delivery transactions which account for 60% of the total value of e-commerce in Pakistan. Around 64% of Pakistan's Population is under the age of 29 and the country will continue to enjoy the youth bulge for another 30 years or so. As the young population

is more open to embracing technology as compared to the older generation, the promotion and regulation of e-commerce can become more significant in providing employment to around 130 million Pakistan's youth in the next 30 years. Although the pace of increase in e-commerce adoption in Pakistan has been encouraging over the past few years, the country still lags behind the regional and comparable economies in terms of e-commerce. Therefore, there is a need to formulate a comprehensive policy to not only provide impetus to e-commerce but also to regulate the businesses.

The young population is more open to embracing technology as compared to the older generation, the promotion and regulation of e-commerce can become more significant in providing employment to around 130 million Pakistan's youth in the next 30 years

Since the policy draft covers and provides guidelines on all the key components for promotion of e-commerce so, we can expect that once the policy regulations are in place, the businesses in Pakistan will definitely witness a growth spur.



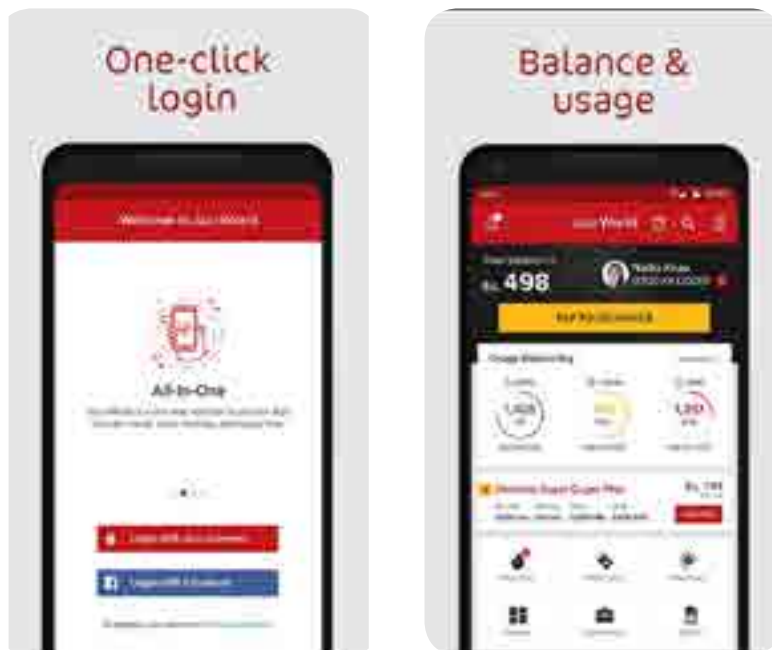
JAZZ WORLD APP- ONE-STOP SOLUTION TO ALL YOUR JAZZ ACCOUNT NEEDS



Jazz, the country's leading digital communications company, has launched Jazz World App for its customers available on both iOS and Android platforms. From paying phone bills, recharging prepaid account, accessing usage history or simply subscribing to the best offers, this app helps Jazz users do everything on the move. In line with Jazz's core value of being 'customer obsessed', the app optimizes the customer experience to ensure a one-click login for Jazz 3G/4G customers. This new self-service mobile app for both android and apple devices help customers go through their everyday lives with more ease.

How to use Jazz World App

- Download the Jazz World App from App store(ios) or Play store(Android)
- Create Account by entering your Jazz Mobile No.
- You will receive a code at your mobile no.
- Put that code and enter the world of Jazz



The application has a very clean interface. At the top side, it shows the balance amount of and parallels to it your name, picture (if you upload one) and the mobile number. If you want to recharge your account then with one click you can easily do that. The facility of Jazz Cash, Credit/Debit card and the Jazz scratch card is available. Next, to it, the remaining Data, Calls & SMS are displayed in the form of a circle and the total package is also shown on it.

“What’s New” Tab shows the latest internet package that you can directly subscribe to. Next out, we have “offers” Tab that has list of amazing weekly offers that can be directly subscribed to. The next one is “View History” tab, it asks for your permission to send an OTP to your number then it shows you the all history of your mobile no. It is a place to look at your all history related to Calls, SMS, Internet and All.

“Packages” Tab shows all packages such as Hybrid, Calls, SMS and data and I personally believe hybrid packages are the best because it fulfills all basic requirements. Next, to it, we have “More Services” Tab which shows all the applications available at Google Play Store or App store, the next one is “Daily Rewards”, it has daily rewards like the 25MB, 50MB and so on.



Jazz world App Features

- You can avail daily free internet by Login every day and get the reward
- If you invite your friends then you can get 50MB Data per friend
- You can view and download your postpaid or prepaid bills
- Stay updated with your remaining data, calls and SMS
- Expiry dates of your activated packages
- You can manage up to 5 numbers with the Jazz World App
- Recharge your balance with one-click
- You can get New or old SIM at just one-click
- Download the tax certificate

Jazz is working nonstop to digitize Pakistan and this app is a step closer to achieving that goal. It is estimated that by 2020, mobile apps will generate up to USD189billion in revenue via app stores. Studies claim that a whopping 91percent of the world population prefers to use self-service apps due to convenience.

Jazz World will evolve into a complete platform providing users access to a wide array of digital products and services. This will allow customers to leverage a diverse range of digital products through one single platform.

TELECOM CAMPAIGNS



Ufone: Mahinay Bhar ki Be-Fikri!

The new ad of Ufone Super Card highlights the day to day problems and worries and how everyone is coping up with them. While watching the ad, I was getting the feeling that as if it is the reflection of my own routine problems, as how much data is remaining, how much off net minutes I have consumed? The Ufone Super Card gives solution to this problem by offering unlimited calls, SMS and data. The overall ad is awesome!

Verdict: well thought-out ad!

Telenor-Socialize non-stop for the whole month!

The new ad of the Telenor is short and simple. The message is delivered by the actor in a very smart way that you can get non-stop WhatsApp and Facebook for whole month in only Rs.50/.

Verdict: Simple and nice!



Uber-Auto! – Bulao Auto ki Sawari

The new Uber auto ad focuses on the life of an ordinary people, how they opt for the affordable rides on daily basis to move from one place to another. Uber is facilitating them now with the new auto service. It shows how conveniently you can get your affordable ride anywhere with the help of Uber app. The background music is especially very nice.

Verdict: love the ad!

Careem BAYCAR TVC

Careem has always come up with exciting adverts.

This time the marketing team of ride-hailing service has remained precise and to the point with its Careem BayCar TVC. This advert mainly focuses on how this service has made our lives easier and has saved our time. The TVC is simple and refreshing with good performance by the actors.

Verdict: Achi effort!

Telenor Microfinance Bank

Telenor Microfinance Bank always comes up with message-oriented ads for the public. In this Telenor Microfinance Bank advert, Outhao Pehla Kadam, the company has covered all the aspects of life of a common man. We just loved the camera shots. The voice-over and overall music has done justice to the ad.

Verdict: Good effort!

Jazz Abhi TVC

Jazz has a strong media team which is evident from the storyline, acting and dialogues of all its adverts. The Jazz Abhi TVC focuses on the importance of fast internet nowadays and how it's impossible now to wait due to slow Internet..

Verdict: Perfect advert!

Top Applications and Games for your Smartphone



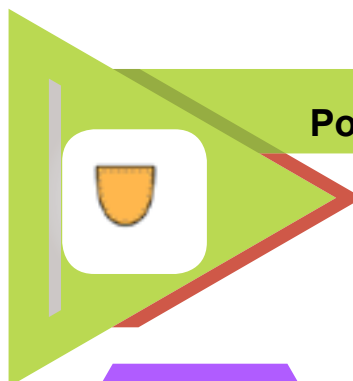
Adobe Premiere Rush

Feed your channels a steady stream of awesome with Adobe Premiere Rush, the all-in-one app for creating and sharing online videos



CalorieCap

Don't miss out on an outing with friends & family because of your diet! CalorieCap finds meals from restaurants that match your personal lifestyle.



Pocket Mode: Prevent accidental clicks

Pocket Mode is an Android app that locks your phone when you hover the proximity sensor.



Spotify Stations

With the world's music at your fingertips, finding the right thing to play can feel like a challenge. Stations gets you to music instantly — no searching or typing needed.



Glitch Art Studio

Glitch Art Studio offers an extensive library of exclusive effects to distort your photos and videos in creative ways.



Visionist

Create masterpieces at the tap of your finger. Visionist harnesses the power of computer vision using neural networks to create original artwork based on your images!



1Blocker X

Aiding your Safari experience on mobile, 1Blocker X - Adblock takes out the ads, trackers, popups, cookies and invasive signup prompts thus makes webpages load faster and improves your web browsing experience right in your iPhone.



Drafts

Drafts is a free app for the iPhone by Agile Tortoise which lets you easily put down on record what you have in your thoughts at that moment.



Libby

Access your public library for ebooks and audiobooks with Libby for iPhone. Public libraries are not yet extinct as it has managed to caught up to modern times and to technology as well.



JustWatch

Get to know what shows are showing on your favorite Network TV through your iPhone with JustWatch app. JustWatch is a free app for iPhone which offers you where to watch movies legally online.



Oppo Reno 10X Zoom

Price : PKR.109,999/-
Display: 6.6 inches
Memory: 256GB ROM,
8GB RAM
Camera:
40MP+13MP+8MP



**Samsung
Galaxy A70**

Price : PKR.67,999/-
Display: 6.7 inches
Memory: 128GB ROM,
6GB RAM
Camera: 32MP+8MP+5MP

**An Online Store with
Official Warranty**
[www. phoneexpress.pk](http://www.phoneexpress.pk)



Huawei Y9 Prime 2019

Price : PKR.33,999/-
Display: 6.59 inches
Memory: 128GB ROM,
4GB RAM
Camera: 16MP+8MP+2MP



Vivo Y15

Price : PKR.29,999/-
Display: 6.4 inches
Memory: 64GB ROM, 4GB
RAM
Camera: 13MP+8MP+2MP



Oppo Reno

Price : PKR.69,999/-
Display: 6.4 inches
Memory: 128GB ROM,
8GB RAM
Camera: Dual 48MP+5MP



Samsung Galaxy A50

Price : PKR.54,999/-
Display: 6.4 inches
Memory: 128GB ROM,
4GB RAM
Camera: 25MP+8MP+5MP



Vivo V15 Pro

Price : PKR.59,999/-
Display: 6.4 inches
Memory: 128GB ROM,
6GB RAM
Camera: 48MP+8MP+5MP



**Xiaomi Redmi
Note 7**

Price : PKR.35,999/-
Display: 6.3 inches
Memory: 64GB ROM,
4GB RAM
Camera: Dual 48MP+5MP



**Samsung
Galaxy A10**

Price : PKR.23,499/-
Display: 6.2 inches
Memory: 32GB ROM,
2GB RAM
Camera: 13MP



Honor 8S

Price : PKR.18,999/-
Display: 5.71 inches
Memory: 32GB ROM,
2GB RAM
Camera: 13MP



WHY SHOULD YOU BACK YOUR COMPUTER UP



Against hardware errors and malfunctions, viruses, and hackers.



Allows you easy access to your files and data in the event of a breakdown.

TYPES OF STORAGE SERVICES

CLOUD STORAGE



Stored in the "cloud" so in the event an emergency occurs (robbery, fire, natural disaster, etc.), your backup is safe.

LOCAL STORAGE



Stored on an external hard drive that can be easily transported from person to person. Have a thumb drive with recent documents of significance.

ONLINE STORAGE



Stored on the internet through a service.

WHAT NEEDS TO BE BACKED UP

Photos & Videos
Make sure your memories are backed up so you can treasure these for years to come

Documents
Most important parts of a backup
Preserves personal information used for school, business, etc.

Monetary Information
Ex. bank statements, tax records
Vital to have a physical copy since it involves money

THE DOS & DON'TS OF BACKING YOUR COMPUTER UP

Do find what backup method works best for you

Do check the backup settings to make sure they are appropriate

Do change your settings to automate the backup as much as possible

Don't just stick to one backup method; use a variety of methods both onsite and offsite

Don't delete information once it's backed up; keep the first copy too

Don't backup your Windows directory or Program Files folder

Resources:

<https://lvt.com/blog/2019/03/20/backup-methods-to-choose-from/>
<https://lvt.com/blog/2019/03/20/backup-methods-to-choose-from/>
<https://lvt.com/blog/2019/03/20/backup-methods-to-choose-from/>

LAS VEGAS IT CONSULTING
www.lvt.consulting

MEMOBILE

easy to connect...

APPROVED BY



PAKISTAN
Telecommunication Authority

L-102

HIGHER IN FUNCTIONS LOWER IN PRICE



**Wireless
FM Radio**



**Bluetooth
Dialer**




**White Call
Option**



Torch Light

Music-100

Enjoy Music With Big Speaker

-  **Display 1.8" Inch**
-  **Dual SIM**
-  **Smart Camera**
-  **32GB Card Supported**
-  **Battery 1200 mAh**



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