

## **MOST POTENT TOOL OF NEW MEDIA: THE SMARTPHONES (AN ANALYSIS)**

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### **Introduction**

Man has always been known to be a social animal. To communicate with other beings, to share the views, etc. is equally important for humans as it is to eat or breathe. The difference that has changed the way of living with the advent of time includes all – our biological growth, psychological growth, economical as well as the technological growth. And, talking particularly about the technological growth, it would not be wrong to say that with time, we have witnessed numerous technological inventions, which have made our lives extremely simple and convenient.

When it comes to the technological inventions, it becomes essential to talk about telecommunication, which has made us feel closer, regardless of our physical distances. The understanding of the same would be incomplete without taking into account not so old, but, tremendously popular technologies in the field of communication, i.e. mobile technology.

We ourselves and our previous generation have been the witness to the time when telephone was not a necessity. Rather, it was a luxury. But times have changed now. Today, mobile phones are present everywhere. The greatest advantage of the cellular phone is that it can be used anywhere, anytime. Individuals can now be addressed directly. They are permanently within the access by means of the mobile phones.

But, just when we would have thought of the mobiles phones as the pinnacle in the field of telecommunication, the communication revolution added another laurel in its path. The palm sized mobile phone device paved way for yet another benchmark in the form of ‘smartphones’.

According to Oxford Dictionaries, a smartphone is a “A mobile phone that is able to perform many of the functions of a computer, typically having a relatively large screen and an operating system capable of running general-purpose applications.” As per the Wikipedia,

“A smartphone is a mobile phone with more advanced computing and networking capabilities than a feature phone.”

In my view, smartphone is a clever gadget that can make calls, capture photos and videos, surf internet, has the option of playing games, to mention just a few of many of its advantages.

Let us just count the devices and some other things that we use in our day-to-day lives. This includes – calculator, radio, T.V., laptop/computer, video player, mp3 player, camera etc. Apart from the mentioned devices, things like newspaper, magazines, diaries, books, calendar, watch are some of the essentials that we need every day. But, today, all what is mentioned earlier is present in our hands. How? It is because we have the intelligent smartphones in our hands today and that too in a very affordable price. Smartphones have emerged as the best example of convergence in our lives. With the extent of its reach, it has become a part of our lives and also the most potent tool of new media.

## Discussing the Problem

When on one hand, smartphones have immensely strengthened us technologically; on the other hand, several negative aspects have also come to the notice.

Following are some of the problems associated with the smartphone usage, at different levels:

1. **Obstructs face – to face communication:** It is so because if two or more people are chatting face – to – face and a phone rings, it is not necessary that one feels comfortable to talk in front of the other. In such a case, the ongoing communication is hindered due to the phones.
2. **Smartphones leads to distraction:** We unconsciously prioritize the gadget over all other activities. From a housewife who cooks while talking to her sister on phone to a teenager boy who is busy texting his friend while driving the car, smartphones have managed to take our undue attention.
3. **Hinders the social bonds:** The addiction of smartphones and its numerous applications detaches the users from the society and the people around. Talking particularly about the kids, smartphone games and applications have almost made outdoor games redundant. Kho – kho, Kabaddi, Hide and seek etc. all seem to be the tales of history.
4. **Creativity is hampered:** If each free second is spent in one or the other app of the smartphone, there will be no scope left to nurture one’s creative thoughts. With the availability of multi – speciality smartphones, which have the functions of several devices like camera, voice recorder, mp3 player, etc. the devices specially meant to do the tasks are being overpowered. For example: if today, the camera of a smartphone can take photos with the resolution of 41mega pixels, why would someone carry the luggage of kilos of a DSLR camera? Thus, with such hi – tech gadgets, a digital junk is being created
5. **Health Hazards:** The multi functionality of the smartphones brings with them several health hazards like exposure to germs, anxiety, stress, sleep disorders, risk of heart attacks and impotency etc.

**Discussing The Objectives and Modus Operandi:** By using direct observation and review of literature, various sources have been studied to understand the smartphones and related aspects of the same. The research article on the topic – “Most Potent Tool of New Media: The Smartphones” has been written with the following objectives in mind:

To elucidate the distinctive features of a smartphone

To study the increasing reach of smartphones and understanding reason for the same

To study the smartphone as replacement to many gadgets like laptops/computers, calculator, radio, T.V., newspapers, still camera, video camera, mp3 player, Photoshop, video editor, DVD player, video games, comics and the latest heart rate meter in Samsung Galaxy S5

To discuss the checklist to choose the best smartphone from the available options

To understand the manner in which camera of a smartphone could be used to obtain results of professional quality like DSLR

The evolution of smartphones over the years, in relation with different mobile platforms and their technological backgrounds

To know the revolutionary advancements in the technology of smartphones

## Review of Literature, Observations and Interpretations

### A. Distinctive Features of a Smartphone

Today, we have the power to control everything with the help of a single device that fits in our hands. And the device is better known to us as the ‘smartphone’. From sending and receiving text messages and emails, to finding a location via GPS navigation and from e – book reading to online money transfer and bill submission, there is almost nothing that our smartphones cannot do. The distinct features of smartphones have undoubtedly made the smartphone a ‘smart’ gadget. Let us have a look at some of them:

1. **Web Access:** With the availability of a built-in browser, there is all time internet accessibility offered by the smartphones. Due to all time web access, surfing internet, accessing social networking sites, looking for the routes via GPS navigation, booking tickets for the upcoming show of any movie at the nearest theatre, paying bills online, reading e- books, downloading latest songs and much more has become just a click’s task.
2. **Apps or Applications:** A mobile app, short for mobile application is application software designed to run on smartphones. These apps make the smartphones more interactive. According to Global WebIndex data on global smartphone users in 2013, Google Maps is the most frequently used mobile app in the world, with a usage of 54%. The same is followed by Facebook (44% of smartphone users), YouTube (35% of users) and Google+ (30% of users). The other popular apps include we chat (27%), twitter (22%), skype (22%), whatsapp (17%), instagram (11%) etc., to name just a few. With U app for safety, an initiative by channel V is an example of the app for security. According to a report published in the Times of India (March 25, 2014), the Archaeological Survey of India (ASI) has launched the country’s first mobile app to get details of all the 174 monuments in Delhi.
3. **Camera and video recording:** With the availability of high resolution cameras in our smartphones, no one bothers to take out the DSLRs and then take a picture. For example: Nokia Lumia 1020 has a camera of 41megapixels and a bigger sensor, resulting in excellent image quality. Apart from it, facilities like Optical Image Stabilization (OIS), aperture settings, Back Side Illumination (BSI) sensor for low light photography etc. are being offered by several smartphones. For video, several phones of various companies record HD 720p resolution, full HD display and recording (1920p\*1080p), 2K (2560\*1440) and the latest flagship smartphone from Samsung Galaxy S5 is capable of recording 4K (3840\*2160) resolution quality video.
4. **Gaming hub:** Today, a whole industry has grown up around mobile gaming. Smartphones have evolved themselves as gaming hubs. The popularity has grown so much that games like Fruit ninja, subway surfers, candy crush, temple run, temple run 2, temple run Oz, angry birds, etc. have almost become international standards in the arena of mobile gaming.
5. **Entertainment hub:** Smartphones as the means of entertainment have certainly evolved as the provider of wholesome entertainment for its users. The users can listen to music, watch videos, and pictures on their smartphones and can take the pleasure of the same anytime. It has now become possible to use the smartphones as a mini – T.V. Be it the radio, music gallery, mp3 player and recorder, video player, etc. everything is available in our hands, in the form of smartphones. Fox, Z. (2013, August). *The 10 Most Frequently Used Smartphone Apps*. Retrieved from: <http://mashable.com/2013/08/05/most-used-smartphone-apps/>

## B. Increasing Reach of Smartphones

It certainly would have been a dream for humans some decades ago to be able to communicate while moving around. But, today, the dream has turned into a reality and the aspiration to stay connected has come alive in the form of a hand – held device. The small sized window to the world is better known to us as the smartphones.

According to a research conducted in 2013 by the Business Insider, the prediction was made that by the end of 2013, global smartphone penetration would reach to 22%, from the earlier 5% in 2009. Another research conducted by the Ericsson says that between 2013 and 2019, worldwide smartphone subscriptions will reach 560 crores, and smartphone traffic will increase by ten times in the next five years.

India has become one of the most potent markets for the smartphones. The data by the Research Strategy Analytics claim that India is the 3largest smartphone markets after China and US. From the business sector to education and from health to social life, smartphones have made a place for themselves in every field. The reasons for the same include:

**1. Reduction in Smartphone prices:** As a result of the falling prices of the smartphones, majorly due to the competition, the technology has become quite affordable. Today, a good smartphone is available in the market in less than Rs 6,000.

**2. Increasing data usage:** According to the Internet and Mobile Association of India (IAMAI), the Internet user base in the country stood at 19 crore at the end of June, 2013. The internet user base in the country is projected to touch 24.3 crore by June 2014, a year-on-year growth of 28%. Smartphones offer all time and easy access to the internet. Thus, if internet users would increase in the future, the number of smartphone users will also increase.

**3. Replacement driven market:** Variety has become the mantra for marketing today and having a new smartphone after every 10 – 12 months is getting common now – a – days. The trend of replacement has greatly contributed to the smartphone growth as consumers replacing their handsets are more likely to upgrade to the smartphones, if earlier they had feature phone.

**C. Best Tool of Convergent Media:** The definition of 'smartphone' as per Nokia is: 'A smartphone is a 'converged mobile device'

Over time, the smartphone has wrapped one or two other devices into its 'convergence'. Devices like camera, camcorder, alarm clock, watch, calculator, radio, music player, radio, GPS, games console, DVD player, laptop, calendar, e - book reader, voice recorder, e – dictionary, image editing apps etc. are just a few of the lot. It does not mean that smartphones have completely made the mentioned devices and services obsolete. But, what I intend to say is that highly convergent mobile phones have replicated the functions of the same to a considerably good extent.

We would certainly fall in love with our light weight, sophisticated looking and highly 'smart', smartphones if we would just make a list of all the functions that we use daily on our smartphones and list down the cost of the devices specially designed to do so. For example: the cost of a good digital camera, an mp3 player, a scientific calculator etc. The cost of all such gadgets would make us believe how affordable the technology has been made by our smartphones.

## D. Different Operating Systems (OS)s

Some of the major mobile platforms include – Google’s Android, Apple’s iOS, Microsoft’s Windows, Blackberry, Samsung’s Bada and Symbian. The main purpose of an operating system is to allot resources like memory to programs and control the allocation of the same. Almost all these Operating Systems (OSs) were designed primarily for touchscreen mobile devices such as smartphones and tablet computers.

**E. How to Choose the Best Smartphone?** One should keep the following things in mind while purchasing a smartphone:

1. **Operating Systems:** No mistake should be made while choosing the OS. Because of the fact that it is the operating system that adds the ‘smartness’ to the smartphone. Whichever OS is chosen, it must be of the latest version as only that would provide the latest facilities.
2. **Processors:** Processor is like the ‘brain of a smartphone’ which determines the performance of the smartphone. The size and strength of a processor is measured in gigahertz, or GHz. Apart from the GHz, processors are also available in single or multi-core forms. To make it easy to understand, a multi-core processor has more than one compartment to the unit, which helps in multi- tasking and speedy performance. Further, multi-core processors come in dual-core (two cores), quad- core (four cores) and octa core (eight cores) variants. But, the fundamental is the same. The more cores present, better multitasking could be done. To get an idea of the available options of the processors, following are just some of the many: Single core – 1GHz----Dual core (in GHz) – 1, 1.2, 1.3, 1.4, 1.6, 1.7 etc---  
-Quad core (in GHz) - 1.2, 1.4, 1.6, 1.9, 2.0, 2.2 (Sony Xperia Z Ultra), 2.3 (LG G2), 2.5 (Galaxy S5 with octa core) Apart from mentioned, Note 3 boasts of having 1.9+1.3 octa core processor. Qualcomm, Nvidia, Tegra, Exynos, ARM, Media Tek etc. are the major players in the processor making business.
3. **Display:** It determines the quality of visual experience of a smartphone. Some of the available in the market are Apple (Retina Display), Sony (BRAVIA), Samsung (Super AMOLED Plus), Nokia (Clear Black) and Microsoft (Clear Type). But, even that is not enough because Samsung, with the release of Galaxy Round has come up with the world’s first smartphone with a curved display.
4. **Storage:** The storage memory of the smartphones is the inbuilt internal memory which stores the data. Then, there is RAM – Random Access Memory which helps in running various applications. It is measured in Mega Bytes and Giga Bytes (GB). From the most basic, 512 MB RAM, maximum specifications like 3GB are available in the high end smartphones like Samsung Galaxy Note 3.
5. **Screen Size:** The size of the smartphone screen plays a vital role while viewing photos, videos or even playing games. Earlier, 3.5 inch was the standard. But, now, screen sizes from 4 to 5 inches are becoming common. But, even 5inch has not been marked as the upper limit. For example: Sony Xperia Z Ultra flaunts a 6.4-inch display. It is always better to handle different models before selecting any is because a big smartphone might look good to flaunt, but, in the long run, if the size is too big, it might become difficult for the users to carry them in the hands.
6. **Usage:** A wise buyer is the one who is clear about one’s usage while buying any product. Same goes with the smartphones. You must be very clear as to how you will use your smartphone. It is so because there is no need to spend extra money for the features which will be rarely used. For

example: If your primary concern is to get a good camera in your smartphone, there is no need to buy a phone that has the gyroscope (feature for gaming) in them.

7. **Replacement and Service:** Faults in an electronic gadget like a smartphone can occur at any time. But, to manage without them for even a day is quite difficult for most of us. Thus, while buying any smartphone, the replacement terms of the company must be understood well. Also, the service time, number of service centres available nearby must be kept in mind before buying any smartphone.
8. **Battery:** In case of a smartphone, you may have the best OS, display, apps and processor, but, what is the use of carrying a smartphone whose battery is always about to die? Thus, to keep the smartphones running, it is better to choose the battery with higher mAh (milli ampere – hour). In simple words, the higher the mAh, the longer the battery would run.
9. **Weight:** We carry our smartphones with us, almost everywhere. Thus, if the device is heavy, then it becomes difficult to carry the same. A smartphone is for our convenience and not to add to our luggage burden. So, a light weight smartphone must be chosen.
10. **Camera:** Before buying any smartphone, it is essential to know the quality of the same. More megapixels do not guarantee a good photo quality. It is the combination of a good lens, adequate megapixels and sensor technology together is what gives a good photo quality. It is always better to opt for cameras with BSI (Backside Illumination) sensors for better low-light photography along with Xenon flash, if available. Smartphone like Nokia Lumia 1520, 1020 and 925, Apple iPhone 5C and 5S, Samsung Galaxy S3, S4 and S4 Zoom, Note 2 and the latest Note 3, LG G2, and HTC One are known for their good cameras. If you think that camera is just about the still images, then let me just mention that video recording by smartphones is equally good. Several phones of various companies record HD 720p resolution, full HD recording (1920p\*1080p) and the latest flagship smartphone from Samsung Galaxy S5 is capable of recording 4K (3840\*2160) video quality.

Believe on your eyes is the best tip to choose the better display. To compare the displays of two phones, view same photo simultaneously on both of them. Regardless of the number of pixels or ppi, the one that appears more bright and crisp to you, must be chosen. Although, theoretically, a full HD display will always be better than the HD display. But, practically, it is possible that the HD display of a phone might be better than that of the other smartphone's full HD display.

For example: If you compare the display of Apple and Micromax. There are chances that even the standard display of Apple might be better than the full HD of Micromax. At the same time, it must be kept in mind that it is not just the camera that ensures good photos, rather, the manner in which the camera of a smartphone is used greatly decide the output of the same. By using the camera optimally and correctly, professional quality results like DSLR can be achieved with the smartphone camera

### **How to obtain professional quality results like dslr with the smartphone camera?**

Following things should be kept in mind while using the smartphone camera:

Boost the ISO count of your smartphone if you are shooting in low – light conditions. It increases the sensitivity of the camera's sensor and make it more receptive even in low – light conditions

Use your phone's maximum pixel count while shooting to obtain best results

Avoid using a flash as it makes the photographs look flat

Keep your hand steady while shooting to avoid blur and shaky images

If possible, tell your subject to remain as steady as possible.

Avoid shooting in harsh sunlight as it causes harsh shadows, particularly on the face

The subject must be well dressed and also he/she must stand out from the background .

You should not use digital filters and effects while capturing the images. However, the same could be tried later. It is so because any effect could be added on a raw photo but, removing an effect used during capturing is difficult and time consuming

Framing should be composed as beautifully as possible. Bright colours, attractive elements must be used to create the backdrop so that the output appears visually appealing

Always shoot on Auto or Normal mode

Avoid wearing pure white outfits while using the camera because white colour reflects the most.

It would become difficult to cut the reflection of white

Do not capture the photo/video till the subject is not still and steady

Try to shoot in well – lit conditions as far as possible

Always view the images on a laptop/desktop screen because smartphone displays have a high ppi (pixels per inch) count and the brightness levels. This may result in enhanced view results or false results when viewed on a smartphone screen

Avoid choosing the background which is cluttered as it will lead to draw the attention away from the subject

Try to use a smartphone that has a dedicated click button, as it will make the photo – capturing easy and chances of shake is less

Avoid using digital zoom as far as possible. Rather, you must physically move towards the subject in case of need. It is so because a digital zoom only crops the picture area, which could even be done later.

Clean the camera lens before taking any shot to avoid any dust particles or finger prints

If your smartphone has optical zoom, then use it according to your needs

Use the Optical Image Stabilization, if available in your smartphone as it reduces the shake

11. **Cost:** Cost acts as the decisive factor while selecting any smartphone. When best of the smartphones like Apple's iPhone 5S (Rs 53,500 – 71,500), Samsung's Galaxy Note 3 (Rs 47,900), HTC One (Rs 47,689), HTC One M8 (49,900) and others like LG G2, Apple's iPhone 4S etc. are available in the bracket of Rs 45, 000 to 70, 000 and even more, mid - range smartphone with a fairly good display, fast processor, long lasting battery life and high RAM are also available. Gionee Elife E6, Blackberry Z10, Samsung Galaxy S4 mini and Sony Xperia SP are some of the best mid – range smartphones within the bracket of Rs 18,000 – 25, 000. Apart from the above mentioned, smartphones like be a smart buyer and own a smartphone only when it suits your needs because a wrong choice can deteriorate your pleasure of using a smartphone.

## F. Smartphones and the Youth

The smartphone is now a standard part of the world. Talking specifically about the youth, for once, they can be made to skip a breath, but, to part from their prized possession – their smartphone, is simply out of question. From e – mail configuration to staying online on the social networking sites, and from online

shopping to constant messaging, youths are dependent today on their swanky smartphones to complete their day – to – day tasks.

Micromax Canvas Power A96 (Rs 9,900), Gionee M2 (Rs 10,999), Xolo A500 Club music (Rs 7,099), Micromax Canvas Elanza (Rs 9,400), Xolo A500S (Rs 6,139 – 7,299) etc. are just some of the cheapest smartphones that are available in the market.

According to the Smartphone Incidence Study 2013<sup>5</sup>, there are 5.1 crores smartphone users in urban India today, an 89% increase from 2012, when there were just 2.7 crore users. The study also reveals that the biggest jump is in the youngest age group between 16 to 18 years, where numbers have gone from 5% in 2012 to 22% this year, which marks a four-fold increase. India is currently the third fastest growing smartphone market in the world. The smartphone companies have agreed to the fact that their major focus is on the younger consumers, who are driving numbers up.

### G. Revolution in Technology

Technology, in form of smartphones have made such an impact in our lives that today, most of us do not leave the home without taking the cell phones, rather, the smartphones. While leaving our homes in the morning, it has become a habit to be asked by our mothers/wives/sisters that –

‘Have you taken your hanky, wallet and mobile?’ Isn’t it so? Just think how important the phones have become in our lives. Over the years, the technology of the smartphones have revolutionised immensely. To add to the same, the revolution has been all around and in every aspect. Following are just some of the revolutions that have added laurels in the journey of smartphones:

1. **Attachable Lens with Camera:** Who would have ever thought that it would be possible to attach a camera lens with the smartphone? But, now, doing the same is possible. Sony's latest QX Smart Lens series of smartphone accessories has made it possible to connect a lens capable of 3.6x optical zoom with the smartphone. Doing so, highly professional results could be obtained. To make it simple, lens-style cameras contain a zoom lens, image sensor, processing chips, battery, stereo microphones, and even their own memory card slots. But, the task of viewfinder is to be performed by the smartphone, which connects via Wi-Fi and is used to control the Smart Lens and share the resulting images instantly.
2. **Heart Rate Sensor:** Samsung’s Galaxy S5 has taken a step forward to take care of the health needs of its users as it has a heart rate sensor installed in it. The sensor can give the results of the heart rate during a workout and can also suggest the ways to improve on the same.
3. **Wireless Charging:** Battery has been a major issue that troubles the smartphone users because it limits the usage by limiting the running time of any smartphone, particularly while travelling. Nokia first developed the wireless charging facility in its Lumia series, followed by Samsung (in some of its high end smartphones like Galaxy S5). Charging in case of wireless is done by providing a wireless charging pad with the phone which enables charging anywhere and at any time.
4. **Dust and Water Proof Body:** Brands like Sony followed by Samsung (Galaxy S5) have come up with dust and water proof bodies for their smartphones.

5. **Voice Commands:** With the help of voice commands, it is possible to dictate emails, text messages, make calls, open apps, play music, and search for information only by speaking to the phone and not even touching the same. Siri for iPhone and Android Voice Commands for Android phones etc. are some of the voice command facilitators in various smartphones.
6. **Biometric Fingerprint Scanner:** The smartphone users are always concerned for the security of their smartphones. For the highest security, Apple has developed the first biometric fingerprint scanner for its range of iPhone 5S. By doing so, the fingerprint of the user becomes the security key to the phone. The same facility is made available in the Samsung's Galaxy S5.
7. **Burst Shooting Mode:** Burst mode is a special camera feature using which a series of images in succession can be captured by a single click. Smartphones like Samsung Galaxy S III (20 photos), HTC One X+ (20 photos), HTC One X (99 photos) and others like Apple iPhone 5S, LG Optimus G etc. are some of the smartphones that have the burst shooting mode in them.
8. **Sound and Shot Feature:** This feature is presently available only in Samsung Galaxy S4, Note 3 and its latest S5. With the help of this feature, every still image that is captured on the Samsung device can also record its background sound. It is possible to listen what was said, played, and heard at the moment of capturing the photo along with the visual of the same.
9. **Photo Editing Apps:** With the help of these apps, several effects could be added on simple photos. Some of the popular photo - editing apps in no particular order are:

**Camera+:** The app is available on the iPhones. It includes tools to improve exposure, focus, and lighting and even has a stabiliser to avoid blurry shots.

**Instagram:** The app is available on the iPhones and Androids. It is a photo-taking and editing app with which, a range of filters can be added to the image. Also, it acts as a social network for sharing.

**Adobe Photoshop Express:** The app is available on iPhones and the Android phones. Functions like adjusting exposure, saturation and contrast of the image, cropping, straightening, rotating and clipping of the images can be easily done. Photoshop Express can even sharpen, soften or turn the picture into a sketch.

**Thumba Photo Editor:** Available on the Windows Phone, the app has a number of filter options and enables easy cropping and brightness/contrast adjustment.

**Photo Editor Ultimate:** The app is available for the BlackBerry smartphones. This app offers a range of filters, effects and tools to crop, rotate and resize the images.

**Paper Camera:** Paper Camera is an app for iPhone/Android that involves applying visual filters to the photographs. But, here, the emphasis is on cartoon and comic-book-style effects.

10. **AIR DROP:** The airdrop technology allows the user to drop and transfer files between different devices on the same network. For example: Apple's iPhone and iPad. However, a Wi-Fi connection is needed to share files. It was first developed by Apple and the technology is now available in some high end smartphones like Samsung Galaxy S5.

## Conclusion

Our insatiable thrust is what has made us grow, rather, evolve over years, decades, centuries and eras. With every transition, man, who is known to be a social being, has only polished his skills of communication. And, what has made our transition worth applauding is the revolution in the field of telecommunication – in form of mobile phones.

With the advent of time, mobile technology not only became affordable and accessible for all of us. But, at the same time, it paved way for yet another benchmark in the field of communication in the form of smartphones. Today, we have the power to control everything with the help of a single device that fits in our hands. And the device is better known to us as the ‘smartphones’. From web accessing to enjoying applications and from helping us in clicking pictures to being our gaming hub, smartphones have done it all for their users. Smartphones have evolved themselves as the most potent means of convergence.

Our lives have been reshaped by the smartphones. From being the substitutes to devices like camera, calculators, radios, watches, etc., to being complementary to our diverse needs like safety, security, health, banking and expenditures, smartphones have proved their mettle time and again in all spheres.

On comparing what our smartphones have given us, it would not be wrong to say that they have silently revolutionised our lives. Think of any day – to - day task and our smartphones are there with us to help in one or the other way. Also, with the extent of its wide reach, as already mentioned in the article, it has become a part of our lives and also the most potent tool of new media and they have made us more empowered in terms of the technology.

Today, with the means of internet connection in our smartphones, one can order the grocery, pay the electricity bills, check e - mails, read e - books, play games, navigate location routes and much more. We think it and our smartphone would do it, in almost all cases. Undoubtedly, smartphones have certainly given unmatched speed to the communication revolution. But, despite the same, they have not left any strata of the society and the globe on the whole, untouched from its magic.

Particularly, taking into account the young generation, they are the ones who are most affected by the smartphone existence. It is probably because of the fact that they have grown up with the advancement in the mobile technology. Also, they are the ones who are most willing to explore the world beyond all boundaries. Thus, smartphones seem to be them as the ‘window to the world’.

The advancements that we have already witnessed in the smartphones do not indicate the end of its era and magic. Rather, they are just the beginning of yet another phase of development and it would be a treat for all of us to sit and see the world around us changing, owing to the smartphone revolution.

## Limitations of the Research Article

The features and facilities that a smartphone can provide are numerous. But, due to the constraint of space and time, not every aspect could be covered in the article. However, if any researcher takes up a related project in future, there is a huge scope to further discuss the potential of the smartphones and the rapidly changing technology of the same.

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