

# Enhancing Communication through Smart Mobile Devices

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**Abstract**— Smart mobile devices are quickly becoming platforms that enhance, inspire and facilitate the tech savvy millennial to possess a varied set of cognitive characteristics and skills that in turn enhances the cycle and needs even better platforms with more sophisticated digital communication and tools capabilities (Mchane and Daniel (2011, p 69). Several experts believe that the convergence has just initiated and will soon permeate all aspects of education, society and business. This paper discusses in detail the various forms of smart mobile devices, their increasing demand and usage in the society, the impact they create in the society in addition to explaining how these devices enhance communication in today's digital era.

**Index Terms**— Communication, Devices, Mobile technology, Mobile communication, Smart mobile.



## 1. INTRODUCTION TO SMART MOBILE DEVICES

The mobile devices role has undergone a noteworthy transformation in the past decade from the initial role of a mobile phone to the modern role of an information acquisition, communication device and processing. Moreover the social life is effected increasingly through these devices as the devices follows everywhere and offers sudden accessibility to personal communication components such as messaging, electronic mail and social networks. These extra nodes are enabled by combining different sensors into the device including microphones, GPS receivers, proximity, magnetometers, cameras, motion detectors and RFID readers in the form of accelerometers and gyroscopes. Integrated with the increasing modern user's mobility, high speed connectivity, a myriad of content and information services, availability of different communication technologies such as wireless fidelity, Bluetooth and GPRS becoming the major tool of digital interaction for inhabitants of the digital world. In order to enable users digital experiences and offers useful context based services applications on the mobile devices take benefit of availability of information and the capability to interact with embedded digital artifacts and surrounding devices (Balandin, Koucheryavy and Hu, 2011, p 27).

Smart mobile devices such as wireless handhelds and smart phones have more than doubled in proportion from 3.2% of the total cellular device market in the first half of 2004 to 7.5% a year later from EMEA. Canalys expects integrated shipments of smart mobile devices to increase to 16.9 million units equating to around 13% of the overall cellular device market for the first half of 2006.

Canalys feels that triple digit growth in converged smart mobile devices is being driven by 2 varied classifications of customers. The first classification consists of individual buyers who are upgrading to the present high specification phone simply which always appears to be a smart phone. The second classification is dominated by enterprise users interested in mobile electronic mail solutions (Ilyas and Ahson, 2006).

Different mobile computing devices are available in today's market ranges in sizes small enough to fit in the pocket to large enough to need a backpack or over the shoulder bag. The major form factors of mobile computing devices are:

### A. TABLETS AND SMART PHONES:

Tablets and smart phones enhance today's mobile device explosion. Tens of millions of these devices have been acquired in the last few years, with forecasts of tens of millions more to hit the market in the upcoming future. These devices have very easily found their way into the organization. Several of these device were configured for the customer mobile devices have left some organizations dissatisfied with or unsure of the risk level of these devices.

### B. SMART PHONE

The worldwide mobile wireless industry is moving quickly from voice based and traditional cellular phone devices to integrated data and voice services as a result of increasing demand for access of mobile data and the high speed wireless data services deployment acquiring different wireless technologies. The 3G or 2.5G wireless services are being rolled out and used by a widely developing number of subscribers and the number of wireless fidelity residential wireless local area networks and hotspots continues to develop substantially. The trend is clear so that the Personal Digital Assistants, portable consumer electronic devices and cell

phones will likely combine into a single handheld device as a universal personal communicator and computing platform is referred to as smart mobile. The smart mobile is a multi function and powerful mobile that incorporates several personal digital assistant functionality such as calendar, address book and personal scheduler as well as the capability to access the online applications and services using a stylus or a keyboard. Additionally to make a call from smart phone the users can browse the web, check electronic mail, play online games, create documents, access an organization's network through a VPN (virtual private network) or update schedules. Wireless internet networks are enhanced by means of cellular wireless networks such as CDMA, GPRS/GSM, WCDMA or CDMA2000 (Yang, Zheng and Ni, 2007, p 3).

Nowadays Cell phones are classified between the higher end smart phones and low end feature phones. A smart phone has a QWERTY keyboard either a soft keyboard or a physical keyboard like the blackberry Storm or iPhone and is more powerful than the feature phone with bigger, high resolution screens and more device capabilities (Allen, Graupera and Lundrigan, 2010, p 4).

Contrary to that Misiroglu (2009) defined that a smart phone is a cellular or mobile phone that provides advanced capabilities beyond a typical mobile phone such as online capabilities or electronic mail and/or a complete keyboard. The Trio, iPhone and Blackberry are all referred to as smart phones.

A smart phone is an intelligent phone and an electronic device which has functions of a mobile phone while incorporating elements common to those of a computer. This device has its roots in PDA. Typically smart phone have online access, personal organizer and e-mail. One of the most necessary features of such devices is to permit installation of programmes referred to as applications (Torun, 2011).

Much like a new high definition television a new smart phone can be such a development over a previous regular phone that the new owner may not explore the entire capabilities and features wholly. For marketers the good news is that this will alter over time due to many drivers such as:

- The features will be used and accessed easily as the speed of the network increases.
- Businesses will conduct research to represent what mobile consumers want mostly.
- Applications developers will continue to creativity.
- People will see others using functions they do not

have and inquire about them.

- More businesses will enter the market to keep up with their rivalry offerings.
- Customers will view the added value of using mobile web features and applications to make lives simpler.

One of the major drivers of an increase in smart phone usage is the availability of several applications that do not almost unlimited number of things. However there are features of smart phone that individuals use significantly more than they use applications. A study of knowledge networks shows that applications are a 2nd assumption in general use of smart phones following other features such as web use, messaging, photography and search. The below chart shows the users of smart phones in the near future:

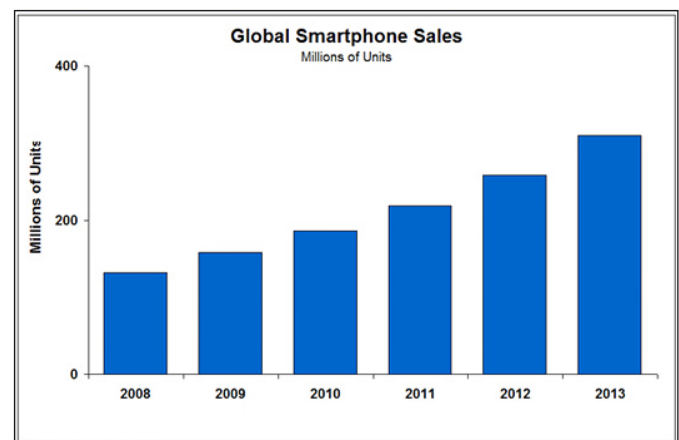


Figure 1: Global Smart phone sales  
Source: Mobile Services Global Outlook

When the smart phone owners are purchasing for a new service or phone the different applications possible is necessarily less important than the entire capabilities of the handset or the service provider. There is a notable variation in usage patterns relying on specific smart phone (Martin, 2011).

### C. LAPTOP:

As laptop computers become less expensive and lighter and as online and electronic mail use are often developing the component of options for mobile small business people is referred to as laptop. What is making the laptop usage even more attractive these days is that not only has battery life increase but also the laptops are becoming even lighter while more powerful. Nowadays laptops have just as much

computing power as desktops without taking up as much space. They are made so that the users can take them even on the road with them for not only computing but also for presentations (Strauss, 2008, p 314).

Gookin (2010, p 20) described that though several users are willing to replace their older desktops with laptops there is still a need for desktop power that cannot be had in a portable computing device. Still on the laptop wish list one component is battery technology. Nowadays the laptop lasts longer on the battery power than the laptops of 10 years back. Then again going from two hours on battery power to three and half hours is not really the improvement that people need. For the better power the solution in future is something referred as the fuel cell which acts like a miniature power plant that is linked directly to their laptop personal computer. The technology of fuel cell promises power that lasts for weeks instead of hours which will prove a boon to portable gizmos of each category but only when the fuel cell makes sense economically.

Contrary to that computer engineers created laptop computers with mobility in mind. Nowadays laptop computers can do just anything a desktop computer can do. The laptop can be carried away anywhere where the user needs. This lets the users to check electronic mail from almost anywhere such as from a beach, coffee shop or a library. Laptops are also referred to as notebooks. The laptop users want their computers to be light weight but they also need the batteries to keep the system powered on for a long time. A very small battery will make the laptop light but it will hold a charge for only a few amount of time. Several manufacturers provides batteries for laptop that runs for 4, 6 or 8 hours but those batteries costs a little expensive than a standard laptop battery. The manufacturers of laptop tries to compromise between the portability and capabilities of system. Some laptops are quite big and have 17 inch screens so that the users can use this kind of laptops as a replacement for their desktop computer. Most others are lighter and smaller but may have limited capabilities.

#### D. TABLET:

Tablets are most commonly recognized by their shape of slate. They use touch screen as their major input device. A different number of devices in this style but nowadays the devices run either one of the smart phones OS or a version of Microsoft Windows. Tablets running smart phone OS such as Google Android or Apple iOS are among the most famous

tablets on the market nowadays. The tablet device runs one of the OS of smart phones. The devices running one of the many Windows differences can be treated much like a net book or a laptop from a security perspective because they are capable of lowering down the desktop management and endpoint security tools possible for those other devices running Windows. Devices such as Google Android based tablets or Apple's iPad on the market are common to smart phones in terms of their security and capability issues that the typical organizations must be based about when permitting these kinds of devices to access corporate networks. Because this device runs similar OS as their smart phone brethren, the security policies and security implications applied to each are exactly similar. The below figure shows the % of users who prefer using tablet and computer comparatively:

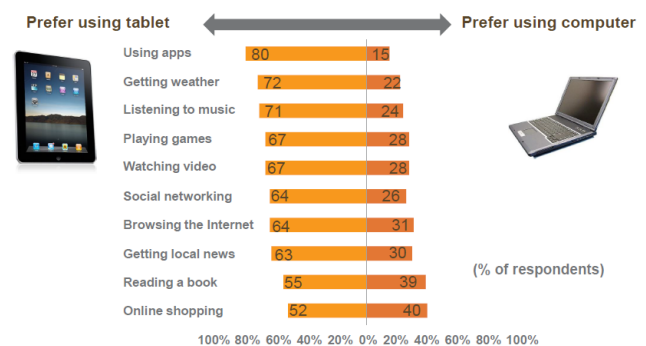


Figure 2: % of users who prefer using tablet and computer comparatively

Source: Website, plugged. in

Similar to that Campagna, Iyer and Krishnan (2011, p 12) described that the tablet computer is a portable computer device featuring a touch sensitive screen that can be used as a drawing or writing pad. A convertible tablet computer is built like a note book computer but the screen folds face up over the keyboard to offer horizontal writing surface. A configuration of slate tablet is similar like a high tech clipboard and lacks a built in keyboard. The Apple iPad is a difference of the slate tablet configuration and fills a niche common to net books. The iPad is common than a full size tablet and has a more limited feature set. Tablet computers are special for their applications that consist of handwritten input. Several tablet computers are also designed to accept voice input.

#### E. NET BOOK COMPUTER

Hinton (2009) described that a net book is a little laptop computer that may be less powerful than a more costly laptop.

A net book is a huge initiating computer because net books are much cheaper than other machines. The net book's small size may suit the users perfectly but looks closely at the size of any net book or laptop.

According to McNamara (2009) Net books are also referred to as mini laptops, mobile online devices and sub notebooks. Some of the features by which the net books vary from conventional laptops are:

Light weight: Net books are lighter than several laptops and usually weight is around 3 pounds or less. The feather weight and compact size make carrying around a net book a breeze specifically compared with a typical 6 pound plus laptop.

- Compact size: Net books are little than conventional laptops. This is gained through a little screen and a lowered size keyboard.
- No frills hardware: There will be no internal modem, DVD drive, PC card slots, FireWire or half of dozen USB ports on a net book. Additionally net books have similarly less powered processors compared with big size laptops. All of this supports keep the prices lowered which is a better concept into the next bullet.
- Online ready: Net books could be more properly referred to as internet books. The reason why these small laptops are all ready to connect to online take their pick of built in 802.11 cabled or wireless Ethernet connections. The developing abundance of wireless fidelity hotspots makes the easy to carry net book perfect for fast sessions of electronic mail checking or web browsing.

Contrary to that Hausman and Cook (2010, p 176) described that a note book is a little battery powered computing device like a laptop. Typically net books have lowered down the smaller displays and processing power than their laptop kin to develop the life of battery and lowers down weight. Net books are less cost always running only a few hundred dollars per device. By using solid state storage devices, less power displays and energy saving processors some of these systems can perform for whole business day on an individual charge. Net books are light weight that is tossed simply into a briefcase or a bag and can run several suites of user productivity for normal business use.

Net books also referred to as ultraportable computers, mini

notebooks and mini laptops are lighter, smaller less than 3 pounds and less expensive than conventional notebooks so they are specifically proper for business travelers and students. Typically they do not consists of DVD or CD drive and they have a smaller keyboard than a notebook computer. For this new type of portable computer the market is developing widely and it is expected to attain 50 million by 2012 (Morley and Parker, 2010, p 23).

## **HOW SMART MOBILE DEVICES ENHANCE COMMUNICATION?**

The major function of a mobile device is to enhance communication. It offers the users with the biggest opportunity to communicate to a person from anywhere in the world and at anytime. Bhaskar (2006) points out that nowadays millions of people in the world have started realizing how specific mobile devices are their life. A mobile device has become a part of people's everyday life for several individuals and some could not handle to last an hour without them. Nowadays this is the fashion trend. If an individual does not have a mobile device they are assumed as waste and they turns out to be the personal diaries of several people. Mobile devices have become the timepieces as people are likely to check the handsets time. This device wakes up people, reminds and even calculates them all of their appointments and occasions. Several models of mobile devices represent FM receivers and the user can turn on the music to be peaceful while driving or traveling. There are also many features such as cameras which make it simpler for the users to capture difficult moments. This technology enhances the users of mobile devices to access online. Mobile users can also send messages or receive and dial calls just by pressing 1 or 2 keys. The mobile users don't even require to remind the phone number it will be stored in their device and they can easily choose the number from the list of contacts. Apart from enhancing developed communication, mobile device has many benefits. The mobile devices have improved customer service, develop productivity and lowers downtime. The business owner can speak with her or his suppliers, clients and staffs more simply.

A smart mobile device is also helpful in the day-to-day life. No matter where the mobile users live they can communicate with their relative and friends through the 3G facility which is available recently. Thus, it can be said that the wireless technology has supported people to stay in touch with one another. Other than this a mobile device can be a savior in conditions of emergency because in emergency situations the

mobile users can dial to numbers in critical situations (Shaw, 2006). There are some significant benefits in a mobile device such that:

- **Entertainment:** These objects have built in features of entertainment as well. The mobile users can record audio or listen to music if they have a mobile device. It also enables the users to play a video or view movie clips to entertain themselves while they are traveling and they can even play games in a mobile device.
- **Facility of storage:** This small object is a storehouse. The mobile users can store various kinds of information in their handset. The mobile users can also keep necessary data, pictures, video, text, audio, etc. that enhances them to carry all their necessary documents often with them.
- **Important applications:** If the mobile users have a mobile device then they may do without a calculator, an alarm clock, etc. More or less every and each mobile device is embedded with these features. It enhances the mobile users to do easy conversions and calculations which in turn, higher productivity.

## CONCLUSION

Today, mobile devices have become a platform which combines all the media such as paper, TV, radio and the internet. Smart mobile devices have swept the world in a remarkably short span of time. More functions of smart mobile devices are being promoted and developed by manufacturers every day. Most people prefer to select a smart mobile device when they are asked to choose only one tool for communication from a list of media devices. The smart mobile devices have become the most convenient device for connection and information. It is the media centre playing a vital role in both mass and personal information thereby changing the way in which communication takes place across the globe.

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