The Effect of Smartphone on the Society

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ABSTRACT

Smartphones are a class of mobile phones and of multi-purpose mobile computing devices. They are distinguished from feature phones by their stronger hardware capabilities and extensive mobile operating systems, which facilitate wider software, internet (including web browsing over mobile broadband), and multimedia functionality (including music, video, cameras, and gaming), alongside core phone functions such as voice calls and text messaging. Smartphones typically contain a number of metal–oxide–semiconductor (MOS) integrated circuit (IC) chips, include various sensors that can be leveraged by their software (such as a magnetometer, proximity sensors, barometer, gyroscope, or accelerometer), and support wireless communications protocols (such as Bluetooth, Wi-Fi, or satellite navigation. The first smartphone was designed by IBM and sold by BellSouth (formerly part of the AT&T Corporation) in 1993. It included a touchscreen interface for accessing its calendar, address book, calculator, and other functions. The emergence of communication and computing for mobile consumer devices is on the evolutionary course to bring interoperability and leverage the services and functions of every industry. smartphone has a sizeable impact on society and other aspects of life. Smartphone has impacted almost all walk of human life.
Keywords: Effect, smartphone, society.

INTRODUCTION

The development of the smartphone was enabled by several key technological advances. The exponential scaling and miniaturization of MOSFETs (MOS transistors) down to sub-micron levels during the 1990s–2000s (as predicted by Moore's law) made it possible to build portable smart devices such as smartphones, as well as enabling the transistion from analog to faster digital wireless mobile networks (leading to Edholm's law). Other important enabling factors include the lithium-ion battery, an indispensable energy source enabling long battery life, invented in the 1980s and commercialized in 1991, and the development of more mature software platforms that allowed mobile device ecosystems to develop independently of data providers [1] [2].

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Early smartphones were marketed primarily towards the enterprise market, attempting to bridge the functionality of standalone personal digital assistant (PDA) devices with support for cellular

telephony, but were limited by their bulky form, short battery life, slow analog cellular networks, and the immaturity of wireless data services [3]. These issues were eventually resolved with the exponential scaling and miniaturization of MOS transistors down to sub-micron levels (Moore's law), the improved lithium-ion battery, faster digital mobile data networks (Edholm's law), and more mature software platforms that allowed mobile device ecosystems to develop independently of data providers [4] [5] [6].

In the 2000s, NTT DoCoMo's i-mode platform, BlackBerry, Nokia's Symbian platform, and Windows Mobile began to gain market traction, with models often featuring QWERTY keyboards or resistive touchscreen input, and emphasizing access to push email and wireless internet. Since the unveiling of the iPhone in 2007, the majority of smartphones have featured thin, slate-like form factors, with large, capacitive screens with support for multi-touch gestures rather than physical keyboards, and offer the ability for users to download or purchase additional applications from a centralized store, and use cloud storage and synchronization, virtual assistants, as well as mobile payment services [7].

Improved hardware and faster wireless communication (due to standards such as LTE) have bolstered the growth of the smartphone industry. In the third quarter of 2012, one billion smartphones were in use worldwide. Global smartphone sales surpassed the sales figures for feature phones in early 2013 [8].

Smartphone, also spelled smart phone, mobile telephone with a display screen (typically a liquid crystal display, or LCD), built-in personal information management programs (such as an electronic calendar and address book) typically found in a personal digital assistant (PDA), and an operating system (OS) that allows other computer software to be installed for Web browsing, e-mail, music, video, and other applications [9] [10]. A smartphone may be thought of as a handheld computer integrated within a mobile telephone.

The first smartphone was designed by IBM and sold by BellSouth (formerly part of the AT&T Corporation) in 1993. It included a touchscreen interface for accessing its calendar, address book, calculator, and other functions. As the market matured and solid-state computer memory and integrated circuits became less expensive over the following decade, smartphones became more computer-like, and more more-advanced services, such as Internet access, became possible. Advanced services became ubiquitous with the introduction of the so-called third-generation (3G) mobile phone networks in 2001. Before 3G, most mobile phones could send and receive data at a rate sufficient for telephone calls and text messages [11]. Using 3G, communication takes place at bit-rates high enough for sending and receiving photographs, video clips, music files, e-mails, and more. Most smartphone manufacturers license an operating system, such as Microsoft Corporation's Windows Mobile OS, Symbian OS, Google's Android OS, or Palm OS. Research in Motion's BlackBerry and Apple Inc.'s iPhone has their own proprietary systems.

Smartphones contain either a keyboard integrated with the telephone number pad or a standard "QWERTY" keyboard for text messaging, e-mailing, and using Web browsers. "Virtual" keyboards can be integrated into a touch-screen design. Smartphones often have a built-in camera for recording and transmitting photographs and short videos [12] [13]. In addition, many smartphones can access Wi-Fi "hot spots" so that users can access VoIP (voice over Internet protocol) rather than pay cellular telephone transmission fees. The growing capabilities of handheld devices and transmission protocols have enabled a growing number of inventive and fanciful applications—for instance, "augmented reality," in which a smartphone's global positioning system (GPS) location chip can be used to overlay the phone's camera view of a street scene with local tidbits of information, such as the identity of stores, points of interest, or real estate listings [14].

Early smartphones

Phones that made effective use of any significant data connectivity were still rare outside Japan until the introduction of the Danger Hiptop in 2002, which saw moderate success among U.S. consumers as the T-Mobile Sidekick. Later, in the mid-2000s, business users in the U.S. started to adopt devices based on Microsoft's Windows Mobile, and then "

BlackBerry smartphones from Research In Motion. American users popularized the term "CrackBerry" in 2006 due to the BlackBerry's addictive nature [15]. In the U.S., the high cost of data plans and relative rarity of devices with Wi-Fi capabilities that could avoid cellular data network usage kept adoption of smartphones mainly to business professionals and "early adopters.

Fig 1: Several BlackBerry smartphones, which were highly popular in the mid-late 2000s

Outside the U.S. and Japan, Nokia was seeing success with its smartphones based on Symbian, originally developed by Psion for their personal organisers, and it was the most popular smartphone OS in Europe during the middle to late 2000s. Initially, Nokia's Symbian smartphones were focused on business with the Eseries,[16] similar to Windows Mobile and BlackBerry devices at the time. From 2006 onwards, Nokia started producing consumer-focused smartphones, popularized by the entertainment-focused Nseries. Until 2010, Symbian was the world's most widely used smartphone operating system [17].

Impact of Smartphones over Society

The emergence of communication and computing for mobile consumer devices is on the evolutionary course to bring interoperability and leverage the services and functions of every industry. As a marketing strategy, Smartphone term was introduced, referring to a new class of mobile phones with integrated services like communication, mobile sectors including voice communication, messaging, personal information management and wireless communication capability. Initially, Smartphone's were only perceived for business use due to higher cost, but not today, today we are in a frenetic impact of Smartphone on the society. The latest surveys show that the popularity of Smartphone is increasing in general public with a much higher pace than it is increasing in any corporate sector. Earlier Smartphones were used as enterprise devices and were predominantly meant for corporate users [18]. Smartphones have been around since

1993, but in reality, it reached the general public when Apple introduced this in the mass consumer market.

Smartphones Revolutionized Society in Less Than a Decade

With more than 1 billion users worldwide and 2.5 million apps – available across Google and Apple's digital marketplaces, smartphones are impacting day-to-day life in some surprising ways. The adoption of Smartphone has been tremendous all over the world. Surveys show that 80% of the world population use mobile devices and 42% of mobile subscribers in the US use Smartphone. According to a survey by Compete, a web analytics firm, a large number of people almost up to 65% is using their Smartphones to read news feeds, post status updates, read & reply to messages and post photos. This shows that now people are leaving PCs and moving towards Smartphones. According to analysts, the long dominated giants are experiencing bad times due to the rise of Smartphone and tablets, and the pressure to gain market share in the mobile device market is causing fractures in long partnerships. It is true that still millions of PCs will continue to sell, but the Smartphones and tablets will see more considerable growth in the future [19].

Smartphone Growth /Usage

In another survey, it is estimated that Apple will sell 250 MILLION iPhone Smartphone units at an average expected price $575, generating nearly $144 BILLION in revenue, $77 BILLION as gross profit, and $47 BILLION as net income.

Effects of Smartphones on Society

Smartphones are popular among people for the applications they offer to users. Smartphones make communications with people quite easier. People enjoy a lot of benefits in various forms of their daily work. Some advantages smartphones provide – better means of communication, learning options to users, great exposure to the latest things, ways to personality development, simple ways to access applications, ideas to succeed in business, platforms to grow their applications and more [20].

Effect on Business

Smartphones create new dimensions for business. It is not only the smartphone vendors enjoying business but also created a new domain for app development companies, Internet service providers, and other related sectors [21].

Effect on Education

Smartphones provide a unique way to improve the quality of education. The use of the Internet has become a part of life for every student [22]. Internet together with Smartphones – provide an alternative channel to deliver education services and distance education.

Effect on Health

According to surveys, more than 10 million users in the USA use Smartphone to search for health information and facilities. 27% of the users use smartphones for online activities. Today there are several apps to manage prescriptions, promote alternative treatment options, provide price comparison, and validate prescriptions [23]. Today several apps are available to track exercise, diet and blood pressure – enabling smartphones to play a key role in the health sector.

Effect on Psychological

Smartphones are said to reduce stress in busy work life. I today's busy schedules mobile phones provide a means to interact with friends and families as an when they get time [24]. The smart use of Smartphone increases your brain's functioning helping to stay active. Instead of using Smartphone only for entertainment it could be used to access useful information, for example, access the news headlines, latest technology updates, and more.

Effect on Social

Social life has been drastically changed with the introduction of smartphones and this domain has encountered most of the impact from the use of smartphones. Smartphones play an important role in the integration process of people with special needs, elderly age and with some sort of disabilities [25].

CONCLUSION

In conclusion, smartphone has a sizeable impact on society and other aspects of life. Smartphone has impacted almost all walk of human life. The prominent areas, where impacts of Smartphone are obvious include business, education, health, and social life. Mobile technology has drastically changed the cultural norms and individual behaviors. The impacts are both on the positive side and also on the negative side. There are several ways that can help control and minimize the negative impact of Smartphone use in society by educating users on how to use Smartphones smartly. The Smartphone is only a pocket-sized PC today but the device seems to have limitless potential.

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