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| Future of Cellphones |
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| This work explores the future of the cell phone. Integrating theories of Creative Innovative Management, diffusion, and other theoretical frameworks, various perspectives of the cell phone are investigated. These areas include: Historical perspective; Political and regulatory issues; Economic issues; Technology issues; Socio-cultural issues; Content creation issues; Distribution issues; Marketing issues; Current and future applications. |

BACKGROUND

The cellphone industry has grown robustly for years, but in what could be a fundamental shift the expansion may take on new directions. (NY Times, 2009). It could be easily argued via the Blue Ocean strategic theory that the advent of the cell phone was not one of competition, but one that made the competition in that particular marketplace irrelevant. This technological value innovation went beyond simply improving a product, the telephone. It was a leap from being better to being *better and different*, which is classical terms for Blue Ocean strategy. The mobile phone was different and far superior than line oriented calling. It has allowed users freedom and flexibility. Many people are now doing away with “land lines” in their homes for example.

The current climate in the industry slightly deviates from a holistic new market opportunity to more of a Red Ocean avenue in which competition will increase in existing market space in many respects. Red Oceans spur issues, including the accelerated commoditization of products and services as evidenced by the industry pinning more hopes on a new generation of more powerful and expensive “smartphones.” “There is little doubt that there are tens of billions of dollars to be made selling phones and providing services, particularly those involving data.” (Richtell, 2009) Consumers desire interactivity and this connectivity will continue to be a driver in the industry.

HISTORY

The first generation of cell phones was designed specifically for one person to communicate with another. (Cellphones.org, 2010) Consumers now expect that cell phones not only provide basic telephony opportunities to communicate, but to use them as helpful everyday-gadgets. These items include day planners, organizers, music boxes, alarm clocks, mapping, gaming, email, internet access, GPS, and thousands of practical and not so practical options. (Bilton, 2011) These thousands of “other things” are rippling what might be considered Blue Ocean in the existing industry. Open source, especially through applications exemplified through use with the new IPhone4 and other phones, is further proof that the theory of convergence has changed. Companies are purposefully releasing versions of cell phones with the knowledge consumers will hack them and/or otherwise ultimately produce what they as users desire to have. (Greene, 2008) Companies then reverse engineer the product and begin production of the “new” phone for mass markets and for niche markets. David Smith, a well respected futurist has said that it is easy to see what the future of an industry is by looking merely at what is currently being developed within companies. Smith also added it is the applications of particular innovations that distinguish themselves relative to where the paradigm of convergence has recently been transferred. (Smith, 2011) By virtue of this shifting reality, traditional research and development looks very different in 2011 related to various diffusion theories and strategies.

ECONOMIC, DISTRIBUTION, AND CONTENT CREATION

Motorola had ten years to make improvements before introducing the first truly handheld cell phone, based on Martin Cooper’s 1973 invention, the $4,000.00 Dyna TAC 8000x. (Shiels, 2003) Those days are long gone. Then big, heavy, brick batteries allowed thirty minutes of talk time. (Guardian, 2010) Improvements were made in battery life and cell phone design in the 1980’s; however, it is the cell phones of the early 90s that are referred to as the second generation. Smaller in size than those of the first generation, they were able to work on different mobile systems. Second generation cell phones include digital mobile phone systems which incorporated faster signals and an increase in call quality. Current cell phones, which are called “smartphones”, because of their advanced computing capability and connectivity, are referred to as third generation and include innovations like touch screens, and WiFi applications. (tech-faq, 2010) These two items present both challenge and opportunity in the cell phone industry. Applications that run on these handheld computers that have been integrated with a mobile telephone, (smartphones) present a great opportunity for the cell phone industry in the future, especially in places like China and the United States, where users demand more features and are gravitating toward more expensive smart phones. There is a challenge in the industry present because the product or device itself, which has producers concentrating more on the touch screen. Because the touch screen covers most of the entire phone it is difficult to be distinguished or individualized from one company’s product to another.

According to theory of The Long Tail, (Carbonara, Korpi, 2011), (See Appendix A) both culture and the economy are shifting away from mainstream products and moving toward niche products. For the cell phone industry this is proving true. For example, in the U.S. and U.K., companies benefit very well from apps for cell phones today. (Wilson Electronics, 2010) Long Tail products may not account for most of the sales, but because they are cheaper to acquire, they can be very profitable. Apps cost less than a dollar to a few dollars. New smart phones cost hundreds of dollars. This impacts the uneven distribution of wealth, also called the 80/20 rule. Because it is so much easier to find these products, sales are spread more evenly between hits and niches. Because the economics of niches is similar to that of hits, profits can be found at all levels of popularity. This is also a main characteristic of adoption in Roger’s Diffusion of Innovation theory. One of the key attributes of adoption of innovation in this theory is “relative advantage.” (See Appendix B) Companies are seeking this relative advantage through applications for cell phones in market places like China, Great Britain, and the United States. This is happening since all smartphones are beginning to look very similar because of the use of similar size screens. Roger’s also suggests that “observability” is another key attribute in the adoption of innovation. This trait in apps usage via cell phones is further shrinking gaps in the “chasm” that exists between innovators, early adopters, and the early majority of users. Since the iPhone was launched in 2007, cell phone apps experienced fast development and improvement. (Bilton, 2011) Interestingly, distribution of apps, which are downloadable via the internet, is easier than distribution of the actual cell phones, because a phone does not have to physically be shipped, providing yet another relative advantage. This also coincides with The Long Tail Theory that in “the new marketplace,” the digital economy runs on a “river of copies.” (Carbonara, Korpi, 2011) This is displayed prominently in the various and multitude of apps being sold. These apps have characteristics that possess a generative value which include: immediacy, varying degrees of personalization, interpretation, accessibility, levels of patronage, and findability. These characteristics allow for distinction in this digital economy, which flows on a river of copies, by predicating the previous round of wealth, exhibiting that:

* Unlike industrial-age mass production, these copies are not just cheap, they are free.
* Digital communication network is engineered so that copies flow with as little friction as possible.
* Copies flow freely in a super-distribution system.
* Wealth is created by this very large device which copies promiscuously and constantly.

Many companies are now using third parties for development of applications, which in many instances are coming from actual users, or outside sources, far faster and better than the cell phone companies could possibly produce them. This tactic is an example of the Japanese approach to methods of creativity which include the ideas of both “inside the firm” and “outside the firm.” Ideas in this cyclical process include, search (*Tansaku*), nurturing, (*Ikusei*), breakthrough, (*Hassoo*), and refinement, (*Kaizan*). (Carbonara, 2010) (See Appendix C)

Because content creation for cell phones can be simple to complex, ranging from plain ringtones to extensive applications, these ideas work very nicely and users in America are catching on to this trend, that has historically been a part of Japanese culture. (See Appendix D) For example, a Japanese company called “PePiCo” is now offering instant content creation which uses Flash. PePiCo allows its users to take photos and create personalized content- cards, wallpapers, and games that featuring a picture that can be distributed to others.

MARKETING AND SOCIO-CULTURAL

While developments in the app markets provide an example of relative advantage in one area of the cell phone industry, there are still many Blue Oceans remaining pertaining to untapped markets for the interpersonal communication facet(s) of the devices. The future forecast for the cell phone industry is certainly global in scope and will occur in geographic places one might not expect. Africa and India are the next hot markets for the industry and distribution of cell phones. Mobile devices are being used in third-world countries to sustain economies.

In Africa cell phone subscriptions in the Saharan region grew by more than 300 percent between 1994 and 2005. There is a new effort to use cell phone technology to increase the profitability of rural farmers. The Kenyan Agricultural Commodity Exchange (KACE) has come together with Kenya’s largest cell phone provider, Safaricom, to equip farmers with up to date market prices of their products over their phones. For about 20 cents, a farmer can have access to commodity prices and bypass middle-men, who often charge below- market rates, costing the farmerss money. (Jacob, 2010) In 2007, the Groupe Speciale Mobile Association (GSMA) announced that over the next five years they would invest about 50 billion in African mobile services. (One, 2009) Studies show that a ten percent mobile penetration where people are directly connected to a mobile system can aid a developing country’s Gross Domestic Product rate may be boosted by up to two percent. (One, 2009) Similar events have been found to be true in rural Indian fishing communities as well.

POLITICAL AND REGULATORY

There are many trends regarding regulatory and commercial issues evolving in the cell phone industry. Securing greater bandwidth will be a challenge in the future in many markets due to high demand for greater amounts of data and video. In his theory of Creative and Innovative Management, Dr. George Kozmetski suggests innovative management exhibits the ability to implement successfully and to move successfully in new directions. This creative and innovative framework uses problems as drivers and also demonstrates the ability to generate alternative solutions. This is evident in the cell phone industry by how producers are responding to several key regulatory and commercial issues. These include:

* the use or lack of use of a cell phone while driving an automobile;
* the use of cell phones by employees in business settings;
* the use of cell phones as the new purchasing device;
* the use of cell phones in political and educational settings;
* the increased use of cell phones which will eventually lead to the obsolescence of the personal computer.

To decrease traffic accidents and fatalities due to use of cell phones while driving, cellular providers are creating ways to prevent cell phones from receiving text message alerts or calls while in a moving vehicle. T-Mobile’s, DriveSmart is an example of this application and is actually a response to subscribers that are distracted by their phone in the car and want help. The company’s DriveSmart service automatically disables a phone in a moving car by sensing switches between cell towers. When a vehicle has been moving for 10 seconds, calls are silently sent to voicemail. Text messages are answered with an automatic response, explaining that the recipient is driving. (Dorrell, 2009) Companies like Sprint, Nextel, AT&T, and Verizon Wireless are also entering this market.

Some companies that issue cell phones to employees are invading the personal lives of those workers. “As mobile phones become commonplace work tools, the legal and practical boundaries around the devices are becoming a hot issue,” Goodman said. Some of the issues involving privacy are that the company can track employees’ phones with GPS, read their text messages, ban them from talking or texting while driving, and require them to respond immediately to client calls and e-mails (Goodman, 2011).

Cell phones are becoming the new way of purchase. “Square” is a new iPhone accessory that allows a credit card to be swiped through it to pay for items. “The company assumes that more phones will have card readers built into them; perhaps emerging technologies like near-field communications, which transmits data over short distances, will eliminate readers altogether,” (Pontin, 2011)

Cell phones have also been used in politics and represent a niche where use could grow significantly. In the 2010 midterm elections, twenty-six percent of adult Americans used cell phones to encourage others to vote, through text messaging and other methods. (Associated Press/Fox News, 2010) In Zimbabwe’s 2008 national elections, an SMS tool was used to monitor the election as it was happening in real-time. “What is clear is that these new forms of communication are…signaling the possibility of more open political spaces where divergent views can coexist,” (Moyo, 2010).

Cell phones are also being used in different ways to promote education including text based classroom interaction and distance learning. 71 percent of undergraduate freshmen studying Cellular Processes at the University of East London said that they would like to use a text based interactive system again, including those students that did not ordinarily participate in the classroom. One study revealed that MXit, a social network serving as an instant message system, has the potential to be used in collaborative learning for distance learners. “Using MXit is even more appropriate in this context because, in most black South African cultures, collaborative learning is a strong factor determining values and social interaction,” (Makoe, 2010)

TECHNOLOGY, CURRENT, AND FUTURE

The future of cell phone technology is one that has huge variety and specialization. Mobile phones of the future will be more convenient, inexpensive, portable, and sustainable. Four major areas of mobile phone development will include: aesthetics, functionality, power, and communication.

Cell phones will obviously become more sleek and tailored to the actual physiology of the user (Ayaz). Many future phone devices will bend and morph. For example, the LG Helix Bracelet Phone, is created to be worn as an accessory and will change colors to match a person’s attire (Ayaz).

The goal of most phones for the future is to be as “gutted” as possible. “It boils down to simplicity in cost. If we can drive down the cost by simplifying the guts inside the phone without compromising the functionality, then that's big.” (Green). Future cellular phones will be more lightweight and durable, with some futuristic cell phones as small as a pen, as thin as a piece of paper, or made completely from rubber (Nig). Organic Light Emitting Diodes (OLED) will also play a major role in the flexibility and compactness of future cell phones. This technology is predicted to be applied to plastic to make rollout screens for phones, or to make phones simply a thin piece of polymer that receives all of its information from a computing cloud. (Komar).

The functionality of future phones will be geared toward overall efficiency and ease of use. Trade-offs of touch screen phones will be diminished with implanted projection screens that create full QWERTY keyboards (Farhad). This holographic technology will allow for 3D phone interaction that can change the scope of cell phone pictures, GPS navigation, and video calling (Thrystan). Mobile development has increased by 33 percent from 2009-2010, and the use of cell phones will eventually eliminate the use of personal computers (PC’s), (Dickinson) and come together as one technological unit. (Farhad) With cloud technology, cell phones will also have unlimited storage capacity and extremely high speed sharing and downloading (Olden).

Power sources for cell phones will be more efficient and eco-friendly. Solar energy and liquid fuel cells will provide cleaner power to cell phones (IETechfuture.com). Kinetic energy, Coca-cola, the spin of a finger battery, and turning the sound sources of the very conversations had on the cell phone into a source of power, known as piezoelectrics, (Bland) will all be future means of charging phones.

Communication and connectivity will see adoption of cloud technologies allowing for greater efficiency with more cell phone users in a given area. Connectivity issues can become a thing of the past (Hendricks). Mini mobile cell phone towers have also been explored in order to avoid those tedious dropped calls and low connectivity (Greenmeier).

Cell phones are combined with multiple electronic devices today. In February of 2011, Sony Ericsson launched their Xperia Play device, a smartphone combined with a game console. It has a touchscreen as well as a keyboard with controlling buttons that slides open beneath the screen. Most cell phones currently include an integrated camera, which includes the ability to capture single or video pictures. Cell phones also serve as music devices for storage and/or playback.

Future cell phone applications will revolve around what is important to everyday living. These things include communication connectivity, commerce, and health. The healthcare industry will see a large increase in apps geared toward monitoring and detecting health related issues (Knight). Banking and payments will see a dramatic increase with the advent of applications geared towards all-in-one banking. Grocery store trips will be dramatically altered with shoppers to scanning items with their phone and paying from their device. (Xiangpei)

Augmented reality apps will allow people to hold up their mobile device to a person or location and the device will provide relative information about the subject on the screen or change the scene as a whole.

START-UP OPPORTUNITIES

Cell phones are convenience devices, personal assistants, and in the future will further become extensions of the user. White space in the marketplace that will provide new and dynamic business opportunities in the cell phone industry include:

* Apps industry -creation, sales, and management
* Virtual franchise stores with access to phones, gadgets, and calling plans.
* Collective and collaborative operating systems
* Data network affiliations
* Universal chargers for cell phones
* Power source development for cell phones

Appendix A

Appendix B

Appendix C

2010, Corey P.Carbonara, Ph.d

Appendix D

2010, Corey P.Carbonara, Ph.d

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Dybwad. (n.d.). TED: Future of Mobile With Henry Tirri, Head of Nokia Research [INTERVIEW]. Retrieved March 12, 2011, from <http://mashable.com/2010/02/12/future-mobile-henry-tirri-interview/>

“Those two things are more user experience technologies, but you’re correct. We also talk about “mixed reality” — the terminology can be confusing, but there is a distinction between augmented reality, where I’m looking at reality and add information to that from the digital world, and mixed reality which means you can do vice versa also, and put things into the virtual world from the real world.”

EBSCOhost: Browsing as the killer app: Explaining the rapid success of Apple's iPhone. (n.d.). . Retrieved March 16, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=109&sid=adaeea2c-a7e3-471d-adc9-b36d44e8fd2f%40sessionmgr114&vid=3&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=50705942>. “Here it is argued that the success of the iPhone was based on Apple's conception of the mobile Internet as being another modality of the existing wired Internet, and its leveraging of existing systems competencies.”

EBSCOhost: In mobile phone business, voice is still the "killer app". (n.d.). . Retrieved March 16, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=109&sid=adaeea2c-a7e3-471d-adc9-b36d44e8fd2f%40sessionmgr114&vid=4&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=15280412>.” Strategies of the mobile phone services industries to entice more users to choose voice communication; Challenge of persuading voice customers to make more and longer calls; Facts and figures on the growth of mobile phone subscribers throughout the world.”

EBSCOhost: The next killer app? (n.d.). . Retrieved March 16, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=109&sid=adaeea2c-a7e3-471d-adc9-b36d44e8fd2f%40sessionmgr114&vid=4&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=24597614>. “The combination of handheld devices, business applications enhanced by mobility and other wireless networks all adds up to the year of mobile-enabled business.”

EBSCOhost: Toward an Efficient Framework for Designing, Developing, and Using Secure M... (n.d.). . Retrieved March 16, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=109&sid=adaeea2c-a7e3-471d-adc9-b36d44e8fd2f%40sessionmgr114&vid=5&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=40075693>. “Even though actual handheld devices have considerable computing power, their contexts of utilization are different.”

Economic Growth and Trade in sub-Saharan Africa | ONE. (n.d.). . Retrieved March 13, 2011, from <http://www.one.org/c/us/progressreport/775/>

Kenya: Cell phones improve efficiency for farmers and $50 billion investment to increase mobile coverage in sub-Saharan Africa

Economist's View: The Internet, Cell Phones, and Economic Development. (n.d.). . Retrieved March 13, 2011, from <http://economistsview.typepad.com/economistsview/2008/08/the-internet-ce.html>

When it comes to ending extreme poverty, cell phones and the internet will prove to be "the most transformative technology of economic development of our time":

Efland, T. (n.d.). The Earth is mobile-power. Retrieved March 16, 2011, from [http://ieeexplore.ieee.org.ezproxy.baylor.edu/search/srchabstract.jsp?tp=&arnumber=1225219&queryText%3Dcell+phone+technology%26openedRefinements%3D\*%26searchField%3DSearch+All](http://ieeexplore.ieee.org.ezproxy.baylor.edu/search/srchabstract.jsp?tp=&arnumber=1225219&queryText%3Dcell+phone+technology%26openedRefinements%3D*%26searchField%3DSearch+All). “Optimization tradeoffs to yield competitive power device performance combined with the need for SOC level integration, precision analog functionality, robust ESD, and efficient memory, presents a very complex and challenging technology roadmap.”

Eisenlauer, M. (n.d.). Tech-Freak Martin Eisenlauer: Wie sieht die Zukunft der Handys aus? Text, . Retrieved February 21, 2011, from <http://www.bild.de/BILD/digital/bams/2011/02/20/tech-freak-martin-eisenlauer/wie-sieht-die-zukunft-der-handys-aus.html>

"Handys sind weit mehr als einfach nur Telefone. Heute speichern sie schon Musik, E-Mails und Fotos, morgen werden sie unser wichtigstes Gerät im Umgang mit unserer Umwelt sein. Entsprechend groß ist das Gerangel darum, wer diesen Zugang liefert. Bislang lag Apple bei diesem Rennen vorn. Das iPhone-Betriebssystem iOS mit seinen Apps war erste Wahl, wenn es darum ging, Inhalte an den digitalen Mann zu bringen."

Elliot, A. (2010, October 4). 5 Futuristic Concept Phone Designs. *Mashable*. Retrieved March 12, 2011, from <http://mashable.com/2010/10/04/concept-phone-designs/>

“The now ubiquitous cell phone has progressed by leaps and bounds, from the bricks-with-battery-packs of the 1980s to the sleek touchscreen devices of today.

Engel, G. (n.d.). EBSCOhost: Cell Phones in the Classroom: Are we Dialing up Disaster? Retrieved March 16, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=109&sid=fda01179-d67b-4846-b177-31610c9769f5%40sessionmgr104&vid=4&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=57818488>. “Because of the near ubiquitous presence of cell phone technology among teens in the United States, schools are beginning to explore the use of cell phones as a learning tool.”

Farhad, M. (n.d.). The future of mobile gadgets: How many will we carry? What will they look like? What will they do? - By Farhad Manjoo - Slate Magazine. Retrieved March 16, 2011, from <http://www.slate.com/id/2288400/>. “How many cell phones will we carry in the future? What will they look like? What will they do?”

Farley, T. (2007). The Cell-Phone Revolution. *American heritage of invention & technology*, *22*(3), 8–19.

"The idea is 60 years old, but it took decades to make it possible and decades more to make it commonplace."

FoxNews.com - Cell Phone Political Activism on the Rise, Report Says. (2010, December 23). *Fox News*. Retrieved February 21, 2011, from <http://www.foxnews.com/scitech/2010/12/23/cell-phone-activism-rise-report-says/>

Cell phones are being used by Americans to encourage others to vote and tell others how they voted.

Freakonomics » Can Mobile Phones Change the World? (n.d.). . Retrieved March 13, 2011, from <http://www.freakonomicsmedia.com/2009/09/25/can-mobile-phones-change-the-world/>

Mobile phones in developing countries are now used to provide farmers with agricultural information, remind patients to take their meds, gather health information in the field, and transfer money.

Free Cell Phones for the Poor? – Major Study to Detail Economic Impact of Lifeline Wireless on Poor & Near Poor Americans… | Coffee Talk Shop. (n.d.). . Retrieved March 13, 2011, from <http://coffee.windowstorussia.com/2011/02/free-cell-phones-for-the-poor-%E2%80%93-major-study-to-detail-economic-impact-of-lifeline-wireless-on-poor-near-poor-americans.html>

Can Americas poor benefit from recieving free cell service?

Furchgott, R. (2011a). Reviewing Muve Music Service on Samsung Suede, From Cricket. Retrieved March 17, 2011, from <http://gadgetwise.blogs.nytimes.com/2011/02/18/a-phone-plan-with-music-built-in/>

"It’s when you are out of cellphone range and farthest from help when you’re going to need urgent assistance. Think of being aboard a boat sinking at sea, or getting lost in the woods, or crashing a motorcycle in the desert while on a camping trip."

Furchgott, R. (2011b). A Satellite Phone and Cellular Phone, All In One. Retrieved March 17, 2011, from <http://gadgetwise.blogs.nytimes.com/2011/03/01/a-satellite-phone-and-cellular-phone-all-in-one/>

"Prepaid phones are often a great deal, offering voice and data at a low price and without tying you to a two-year contract. But the stripped-down handsets often limit the apps and services.Cricket’s Muve Music service is available on the Samsung Suede handset. Cricket’s Muve Music service is available on the Samsung Suede handset. However, prepaid services that bundle a package of apps for a specific audience are emerging."

Future Cell Phones - What Cell Phones will look like in the near future. (2008). . Retrieved February 24, 2011, from <http://cellphones.org/future-cell.html>

"With wireless number and home to cell phone portability now live, wireless dominance is now foreseen. The wireless revolution will occur slowly. Changes and new technology will be introduced. Cutting the wire line cord is inevitable. The world is going wireless - totally."

Geraldes, J. (2010). 38 Infographic Explores Mobile Phone Evolution – Facts & Figures. Retrieved February 21, 2011, from <http://joaogeraldes.wordpress.com/2010/09/07/38-infographic-explores-mobile-phone-evolution-facts-figures-history-statistics/>

Facts and figures of mobile phone evolution.

Get Ready, Here Come the LTE Phones: Tech News and Analysis «. (n.d.). . Retrieved March 12, 2011, from <http://gigaom.com/2010/12/15/lte-phones-4g/>. “HTC, a Taiwanese handset manufacturer, plans next year to bring smartphones that can use speedy LTE networks in the U.S.”

Ghadialy, Z. (n.d.). 3G and 4G Wireless Blog: Augmented Reality: Future Killer App? Retrieved March 16, 2011, from <http://3g4g.blogspot.com/2011/03/augmented-reality-future-killer-app.html>. “Overlaying digital information onto the real world, viewed through a cameraphone, is technically impressive, but the business models and usage patterns are still evolving.”

gizmo2. (2010, November 15). In Israel Cell Phones Will Become Portable Air Raid Sirens. *A.W.A.R.E*. Retrieved February 21, 2011, from <http://www.awareforum.org/2010/11/in-israel-cell-phones-will-become-portable-air-raid-sirens/>

E-Viglio uses cell broadcast technology as a quicker way for the Israeli government to alert citizen about incoming missiles.

Goodman, C. K. (2011, February 21). Cellphones raise workplace issues - Cindy Krischer Goodman - MiamiHerald.com. *The Miami Herald*. Retrieved February 21, 2011, from <http://www.miamiherald.com/2011/02/01/2045915/cellphones-raise-workplace-issues.html>

Cell phones raise workplace issues.

Gopal. (2007). IEEE Wireless Communications and Networking Conference. In *EVDO Rev. A Control Channel Bandwidth Analysis for Paging* (pp. pp. 3262–7). IEEE.

Discussion of upcoming conference to explore issues of cell phone networks and wireless communications.

Goth, G. (2010, December). EBSCOhost: The Eyes Have It. *Business Source Complete*. Retrieved February 21, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=2&sid=e9574eed-006d-42ef-8409-30bf3efa882c%40sessionmgr10&vid=3&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=bth&AN=55618690>

Eye based user interfaces will become more common in cellular devices.

Graham-Rowe, D. (2009). Cell Phones to Go 3-D. Retrieved February 26, 2011, from <http://www.technologyreview.com/computing/23766/>

"A new thin-film technology developed by 3M could enable mobile devices such as cell phones to show 3-D images without the need for special glasses. Dubbed Vikuiti 3-D, the technology works by guiding slightly different images to the viewer's left and right eyes. Provided that the device is held relatively still, the viewer experiences an "auto-stereoscopic" effect--a sense of depth to the image, says Erik Jostes, business director of 3M's Optical Systems Division in St. Paul, MN. "

Graham-Rowe, D. (2011). PlayStation Phone: Innovator or Imitator? Retrieved February 26, 2011, from <http://www.technologyreview.com/communications/32370/?mod=chfeatured&a=f>

"With its easy-to-use touch screen and slick software--including Apple's iTunes--the iPhone is the darling of the cell-phone industry. And last week, Apple made an announcement that only enhances the phone's appeal. The Cupertino, CA, company unveiled a set of new features for the phone that allow it to work well with business software, including e-mail and data-synching software. And crucially, the company released the instructions for the iPhone's hardware, offering a software development kit (SDK) that lets programmers outside Apple peek inside the gadget and write their own applications for it."

Greene, K. (2006, November 6). The Future of Cell Phones - Technology Review. *Technology Review*. Retrieved March 12, 2011, from <http://www.technologyreview.com/business/17734/?a=f>

“Nokia's head of R&D discusses technology that could shape the look, feel, and function of mobile devices in the next few years.”

Greene, K. (2008). What to Expect from the Open iPhone. Retrieved February 26, 2011, from <http://www.technologyreview.com/computing/20390/?mod=related>. Freed to design software for the iPhone, programmers outside Apple plan to revolutionize the handheld.

Greene, K. (n.d.). The Future of Cell Phones - Technology Review. www.technologyreview.com. Retrieved March 16, 2011, from <http://www.technologyreview.com/printer_friendly_article.aspx?id=17734>. “Novel displays and myriad coordinated radios could make your cell phone a lot more entertaining and useful.”

Greenemeier, L. (n.d.). Mini Cell Phone Towers, Big Impact on the Future of Mobile Apps: Scientific American. Retrieved March 16, 2011, from <http://www.scientificamerican.com/article.cfm?id=femtocell-mobile-network-traffic>. “Major telecoms push for portable, personal base stations to offload growing network traffic.”

Guardian. (2010, February 14). From bricks to the iPhone: 25 years of the mobile phones. Retrieved February 21, 2011, from <http://www.guardian.co.uk/technology/gallery/2010/feb/14/mobile-phones-gadgets-iphone#/?picture=357620329&index=1>

"They started life 25 years ago as car phones - because you needed a car to take the weight of the battery - and cost a fortune, but today there are more mobile phones in the UK than there are people. On the way to becoming ubiquitous, the mobile phone handset has gone through dramatic changes."

Gueguen, G., & Isckia, T. (2011, February). EBSCOhost: The borders of mobile handset ecosystems: Is coopetition inevitable? *Communication Abstracts*. Library Database, . Retrieved February 21, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=2&sid=69a5c8db-e4f2-4df0-8b25-ed328072a0b4%40sessionmgr10&vid=4&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=cax&AN=53574436>

The mobile phone industry shifts from a value chain to a burgeoning business ecosystem.

Ha, P. (2010). Motorola DynaTAC 8000x. Retrieved March 16, 2011, from <http://webcache.googleusercontent.com/search?q=cache:LQqu0V4JTYYJ:www.time.com/time/specials/packages/article/0,28804,2023689_2023708_2023656,00.html+Dyna+TAC+8000x&cd=12&hl=de&ct=clnk&gl=us&client=firefox-a&source=www.google.com>

"Dr. Martin Cooper made the first phone call over a cellular network in 1973, but it took an entire decade before the DynaTAC 8000x was sold as the first commercial handheld cellular phone in 1983. It weighed 1.75 lb., stood 13 in. high, stored 30 numbers, took 10 hours to recharge and cost $3,995."

Hafetz, J. S., Jacobsohn, L. S., Garcia-España, F. J., Curry, A. E., & Winston, F. K. (2010, November). EBSCOhost: Adolescent drivers’ perceptions of the advantages and disadvantages of abst... *Business Source Complete*. Retrieved February 21, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=2&sid=e9574eed-006d-42ef-8409-30bf3efa882c%40sessionmgr10&vid=6&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=bth&AN=53307274>

Mobile devices are a distraction to adolescent drivers whose motor vehicle crashes are the leading cause of

Hall, C. (2010, September 19). cMoney faces tight cash crunch as legal, regulatory issues grow | Houston Business Journal. *Houston Business Journal*. Retrieved February 21, 2011, from <http://www.bizjournals.com/houston/stories/2010/09/20/story11.html>

Financial transactions on a cell phone are being discovered.

Hamou, A., Guy, S., Lewden, B., Bilyea, A., Gwadry-Sridhar, F., & Bauer, M. (n.d.). Data collection with iPhone Web apps efficiently collecting patient data using mobile devices. Retrieved March 16, 2011, from [http://ieeexplore.ieee.org.ezproxy.baylor.edu/search/srchabstract.jsp?tp=&arnumber=5556565&queryText%3Dmobile+apps%26openedRefinements%3D\*%26searchField%3DSearch+All](http://ieeexplore.ieee.org.ezproxy.baylor.edu/search/srchabstract.jsp?tp=&arnumber=5556565&queryText%3Dmobile+apps%26openedRefinements%3D*%26searchField%3DSearch+All). “The use of mobile and ubiquitous computing devices is advantageous for collecting and sharing patient data at the bedside or in hospital waiting areas.”

Hargittai, E., & Walejko, G. (2008). THE PARTICIPATION DIVIDE: Content creation and sharing in the digital age. *Information, Communication & Society*, *11*(2), 239-256. doi:[10.1080/13691180801946150](http://dx.doi.org/10.1080/13691180801946150)

This paper looks at the prevalence of creative activity and sharing in an age when the barriers to disseminating material have been considerably lowered compared with earlier times.

Heller, M. (2011, January 24). Cell Phone Carriers Exploring Ways to Cut Distracted Driving | FairWarning. *FairWarning*. Retrieved February 21, 2011, from <http://www.fairwarning.org/2011/01/cell-phone-carriers-exploring-ways-to-cut-distracted-driving/>

Cellular carriers are devising ways to block incoming calls and texts in a moving vehicle.

Hendery, S. (2011, February). EBSCOhost: THE HARD CELL. *Business Source Complete*. Retrieved February 21, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=2&sid=e9574eed-006d-42ef-8409-30bf3efa882c%40sessionmgr10&vid=4&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=bth&AN=57268973>

Mobile devices may not be the best way to send intimate marketing messages.

Herman, B. (2006, August 31). Samsung shows off future of wireless - Technology & science - Wireless - msnbc.com. Retrieved March 12, 2011, from <http://www.msnbc.msn.com/id/14602940/ns/technology_and_science-wireless/>

“Samsung Electronics Co. showed off its vision for the future of mobile technology Thursday, sending data wirelessly at blazing speeds to a moving minibus.”

Higginbotham, S. (2011). The Mobile Tsunami Is Near: Blame Netflix & Apple. Retrieved February 26, 2011, from <http://gigaom.com/2011/01/31/the-mobile-tsunami-is-near-blame-netflix-and-apple/>

"Think mobile data demand is big today, with 94 million smartphone shipped this year and 5 billion mobile subscribers? Well, Cisco ( s csco) says it’s going to get a lot bigger by 2015, with worldwide mobile data traffic set to increase 26-fold between 2010 and 2015, reaching 6.3 exabytes per month. That’s 75 exabytes annually by 2015. Last year, I called it the mobilpocalypse, but this year, I’m going to say it’s a looming tsunami, driven by everyone’s favorite bandwidth hog and the proliferation of mobile devices."

History of Cell Phones. (2010). . Retrieved February 21, 2011, from <http://www.tech-faq.com/history-of-cell-phones.html>

A look at the history of cell phones.

How to Start a Cell Phone Business. (2011). *A Touch of Business*. Retrieved February 21, 2011, from <http://www.atouchofbusiness.com/tips/ideas/CellBusiness0076.html>

Over the next ten years we will experience an ecommerce boom and this tells what actions to take to make money in the cell phone industry.

Hsieh, J. (n.d.). EBSCOhost: Ambulance 12-Lead Electrocardiography Transmission via Cell Phone Technolog... Retrieved March 16, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=109&sid=fda01179-d67b-4846-b177-31610c9769f5%40sessionmgr104&vid=4&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=54845631>. “Transmission of 12-lead electrocardiography (ECG) from an ambulance to the cell phone to the hospital and to cell phones to off-site cardiologists was evaluated.”

HTC, Inc. (2010, July 29). HTC Press Release - Read the Latest HTC Mobile Phone News. *HTC*. Retrieved March 12, 2011, from <http://www.htc.com/us/press/htc-strengthens-management-team-in-preparation-for-future-growth/18>

“HTC, a Taiwanese handset manufacturer, plans next year to bring smartphones that can use speedy LTE networks in the U.S. Peter Chou, HTC’s CEO, confirmed the strategy in a in a [video interview with Mobile World Live](http://www.mobileworldlive.com/?login=1&ret=%2Ftv.asp%3Fid%3D304), where he said his company would [introduce LTE handsets to the U.S. market in 2011](http://www.mobilebusinessbriefing.com/article/htc-to-target-us-with-first-lte-smartphones).”

Huget, J. L. (2011, February 21). The Checkup - The latest on cellphones and cancer risk. *The Washington Post*. Retrieved February 21, 2011, from <http://voices.washingtonpost.com/checkup/2011/02/the_latest_on_cell_phones_and.html>

It is found that there is no link between cell phones and cancer.

III - Cellphones and Driving. (2011, February). *Insurance Information Institute*. Retrieved February 21, 2011, from <http://www.iii.org/media/hottopics/insurance/cellphones/>

The number of people using cell phones when driving is increasing.

Imagination Technologies enables mobile content creation across widest range of platforms. (n.d.). . Retrieved March 13, 2011, from <http://www.imgtec.com/corporate/newsdetail.asp?NewsID=306>

Imagination Technologies - the leader in mobile and embedded graphics technologies is launching the latest version of its Software Development Kit for content developers.

Impact\_of\_Mobile\_Technology.pdf. (n.d.). . Retrieved from <http://www.uneca.org/AU2010/docs/Impact_of_Mobile_Technology.pdf>.

“Mobile technology offers enormous advantages—added convenience, greater

personal security and the ability to take advantage of ‘dead’ time to do business on the

move.”

In-Stat - Mobile Devices Catalog. (n.d.). . Retrieved March 13, 2011, from <http://www.instat.com/catalog/wcatalogue.asp?id=66>

Provides analysis and forecasts of the market for mobile communications

Joy, F. (2010, January). Mobile Phone Regulations at Work Place. *Ezine Articles*. Retrieved February 21, 2011, from <http://ezinearticles.com/?Mobile-Phone-Regulations-at-Work-Place&id=3556092>

Mobile phones interrupt the effective operations of a company.

Kendrick, J. (2011, February 21). How to throw a successful mobile product launch | ZDNet. *ZDNet*. Retrieved February 21, 2011, from <http://www.zdnet.com/blog/mobile-news/how-to-throw-a-successful-mobile-product-launch/1035?tag=content;selector-blogs>

There are a few simple steps for companies to follow to make product launches more successful than current practices.

Lefabvre, C. (n.d.). EBSCOhost: Integrating Cell Phones and Mobile Technologies Into Public Health Practice... Retrieved March 16, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=109&sid=fda01179-d67b-4846-b177-31610c9769f5%40sessionmgr104&vid=3&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=44681368>. “The focus of the article is framing the use of mobile technologies in public health from a social marketer's perspective—using the 4 Ps marketing mix as a guide.”

Lemon, S. (2006, November 13). Samsung Tells Future of Cell Phones - PCWorld. PCWorld. Retrieved March 12, 2011, from <http://www.pcworld.com/article/127852/samsung_tells_future_of_cell_phones.html> “Mobile phones will undergo a dramatic transformation over the next few years, incorporating more powerful processors and more storage, as well as new technologies, a Samsung Electronics research and development executive said today.”

Lemstra, W., Hayes, V., & Groenewegen, J. (2010). *The Innovation Journey of Wi-Fi: The Road To Global Success*. Cambridge University Press.

"This book traces the global success of Wi-Fi to the landmark change in radio spectrum policy by the US FCC in 1985, the initiative by NCR Corporation to start development of Wireless-LANs and the drive for an open standard IEEE 802.11, released in 1997. It also singles out and explains the significance of the initiative by Steve Jobs at Apple to include Wireless-LAN in the iBook, which moved the product from the early adopters to the mass market"

Levinson, P. (2004). *Cellphone: the story of the world's most mobile medium and how it has transformed everything!* Macmillan.

"Cellphone considers how this new dual edge of accessibility transforms restaurants, public transport, automobiles, romance, literacy, parent-child relationships, war, and indeed all walks of life, trivial and profound. Like an organic cell that moves, evolves, combines with other cells, and generates, the cellphone has become a complex sparkplug of human life"

MWC: Sony Ericsson pushes for open source, mobile content creation - based around social communities. (n.d.). . Retrieved March 13, 2011, from <http://www.gomonews.com/mwc-sony-ericsson-pushes-for-open-source-mobile-content-creation-based-around-social-communities/>

The key idea was to make a service that allows everyone to “create” content – from phone owners to web developers.

MacManus, R. (n.d.). Sensor & RFID Apps of the Future, Part 1. Retrieved March 16, 2011, from <http://www.readwriteweb.com/archives/sensor_rfid_apps_of_the_future_part_1.php>. There are possibilities for new types of mobile apps that will take advantage of sensor and RFID data.

Makker, K., Varghese, A., Desai, N., Moradi, R., & Agarwai, A. (n.d.). EBSCOhost: Cell phones: modern man's nemesis? Retrieved March 16, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=109&sid=fda01179-d67b-4846-b177-31610c9769f5%40sessionmgr104&vid=3&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=42834585>. “With every technological development comes some element of health concern, and cell phones are no exception.

Makoe, M. (2010, November). EBSCOhost: Exploring the use of MXit: a cell-phone social network to facilitate learni... *Communication Abstracts*. Library Database, . Retrieved February 21, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=2&sid=69a5c8db-e4f2-4df0-8b25-ed328072a0b4%40sessionmgr10&vid=3&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=cax&AN=54379953>

A cell phone instant messaging program, MXit, is being used to support distance learning.

Marples, G. (2008). The History of Cell Phones – A Vision Realized. Retrieved February 21, 2011, from <http://www.thehistoryof.net/history-of-cell-phones.html>

"Samuel Morse was a man of vision. His vision, his dreams, have become the paving stones for what is now known as the information superhighway. The leading technology in the creation and progress of this telecommunication spectacle is the cell phone and its derivatives. So you may wonder how we got from Samuel Morse to where we are today…and where we’re going tomorrow. To ease your curiosity, following is a history of cell phones. Sit back, relax and enjoy.”

McCullagh, D. (2010, February 11). Feds push for tracking cell phones | Politics and Law - CNET News. *cNet News*. Retrieved February 21, 2011, from <http://news.cnet.com/8301-13578_3-10451518-38.html>

Feds are pushing for tracking cell phones and backing it with the Fourth Amendment.

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"Mobile users as walking production studios. User-generated and shared content will account for one-quarter of the world's entertainment within five years”

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There is considerable speculation about the correlation between investments in telecommunications and economic development.

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"This edition reflects the latest breaking and most relevant technology news to ensure a comprehensive, current knowledge of computer concepts and issues for success in today's techoecentric society. Top-name industry experts from companies, such as Nokia, IBM, and MS Windows Vista, provide insights and personal experiences that emphasize the relevance of the material within the text. The completely updated 12th edition offers exciting new coverage of emerging technologies, including Software as a Service (Saas), Web 2.0, dual-mode mobile phones, ZigBee, Net neutrality, and social networking sites."

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Motorola on Monday introduced StudioMOTO, a free online music studio that lets users create their own mobile multimedia.

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“Take a look at the phones of the future in our collection of the coolest concept phones. From 3D displays to Coca-Cola powered phones, we could have some crazy handsets coming our way.”

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[N. Asokan to speak at ACM Conference on Data and Application Security and Privacy](http://research.nokia.com/news/11417)

Nokia - Eco Sensor Concept - Future concepts - Devices and accessories - Devices and services - Environment. (n.d.). . Retrieved March 12, 2011, from <http://www.nokia.com/environment/devices-and-services/devices-and-accessories/future-concepts/eco-sensor-concept>

“At the cutting edge of innovation for this accessory. We envision developing mobile technologies in new ways to help us all reduce our environmental footprint. To meet our future vision, the Nokia Research Center supported by Nokia designers conceived the Nokia Eco Sensor Concept.”

Nokia focuses on the future - Telegraph. (n.d.). . Retrieved March 12, 2011, from <http://www.telegraph.co.uk/technology/nokia/6671518/Nokia-focuses-on-the-future.html>. Nokia, the world's biggest mobile phone maker, faces increasing competition from the likes of Apple and Google Android. Identifying emerging trends and building new technologies could be key to cementing its future.

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PePiCo instant personalized mobile content creation. (n.d.). . Retrieved March 13, 2011, from <http://www.japantrends.com/pepico-instant-personalized-mobile-content-creation/> PePiCo (Personal Picture Content) is a platform developed by our friends at Cybermedia Japan that allows users to take photos and create personalized content.

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“The emergence of a mobile data infrastructure interconnected with the Internet and television marks the advent of a new marketing channel based on mobile messaging and complementary to traditional marketing channels and the Internet.”

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State Cell Phone Use and Texting While Driving Laws. (2011, February). *Governors Highway Safety Association*. Retrieved February 21, 2011, from <http://www.ghsa.org/html/stateinfo/laws/cellphone_laws.html>

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Tablet PCs May Evolve into Content Creation Devices - Market Observers - X-bit labs. (n.d.). . Retrieved March 13, 2011, from <http://www.xbitlabs.com/news/multimedia/display/20101215201629_Tablet_PCs_May_Evolve_into_Content_Creation_Devices_Market_Observers.html>

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“Nokia definitely has the most interesting concept phones. Nokia 888 Communicator is a striking futuristic concept phone. The phone, which uses liquid batteries, speech recognition, flexible touchscreen and touch-sensitive body cover,is designed by Tamer Nakisci and won the Nokia Design Award.”

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"Mobile translators can help you squeeze through a conversation with someone who speaks another language, as this week’s App Smart column points out"

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"As I pointed out in a recent App Smart column, all-purpose weather apps fall far short when it comes to offering weather alerts. But thankfully the march of mobile software only moves forward – at least for iPhone and Android users."

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"Earthquake-related information is freely available from the Web site of the United States Geological Survey, but as is often the case with government data, it’s much better viewed through a mobile app."

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The Economist. (2009). A special report on telecoms in emerging markets: Mobile marvels. Retrieved February 19, 2011, from <http://www.economist.com/node/14483896?story_id=14483896>

"Ms Wokhwale prospered because being able to make and receive phone calls is so important to people that even the very poor are prepared to pay for it. In places with bad roads, unreliable postal services, few trains and parlous landlines, mobile phones can substitute for travel, allow quicker and easier access to information on prices, enable traders to reach wider markets, boost entrepreneurship and generally make it easier to do business."

The Emerging Markets Cell Phone Index - Seeking Alpha. (n.d.). . Retrieved March 13, 2011, from <http://seekingalpha.com/article/92638-the-emerging-markets-cell-phone-index>

As emerging economies come into their own, one of the first improvements you’ll see is a new communications system.

The evolution of mobile phone picture in the paper model. (2011). . Retrieved February 19, 2011, from <http://technologypakistan.com/cell-phones/evolution-mobile-phone-picture-paper-model-2015.html>

A look at the development of the cellphone.

The Future of Mobile Phones 2009-2012. (2009). . Retrieved February 24, 2011, from <http://www.techzug.com/index.php/cellphones/the-future-of-mobile-phones-2009-2012.html>

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The Samsung Corporation’s look at the future of product lines in the cell phone industry.

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Thomas, K. (2011, February 14). As 4G Takes Off, Can You Hear the Flight Attendant Now? - PCWorld Business Center. *PCWorld Business Center*. Retrieved February 21, 2011, from <http://www.pcworld.com/businesscenter/article/219203/as_4g_takes_off_can_you_hear_the_flight_attendant_now.html>. LightSquared is a program being used to regulate in-flight cell phone usage.

TIME. (2008). A Photographic History of the Cell Phone. Retrieved February 19, 2011, from <http://www.time.com/time/photogallery/0,29307,1636836_1389497,00.html>

"1983: Inventor Martin Cooper is credited with developing the first cell phone approved for commercial use."

Tirri, D. H. (2010). Nokia Research Center | Nokia Research Center. *Nokia*. Retrieved March 12, 2011, from <http://research.nokia.com/>

"The mission of Nokia Research Center is to explore technology frontiers and solve scientific challenges today, in order for Nokia to deliver irresistible personal experiences tomorrow."

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“Growth rate of mobile browsing in some African nations is up 365 percent compared to page views in those countries just one year ago. Unique users to the mobile web in Africa are on the rise too, growing 176 percent over the past 12 months.”

Tofel, K. (2011b, February 1). How Phone-Powered Mesh Networks Could Help in Egypt: Mobile Technology News «. *Gigaom*. Retrieved March 12, 2011, from <http://gigaom.com/mobile/egypt-as-example-a-case-for-mesh-networks-on-phones/>

“Mobile broadband is arguably the most empowering technology that’s currently driving the cloud, smartphone and app markets, but it’s simply not feasible to cover every square inch of the planet with a fast wireless connection.”

Tough economic times, poor handset sales force Nokia to lower Q2 and 2010 forecast - Phone Arena. (n.d.). . Retrieved March 13, 2011, from <http://www.phonearena.com/news/Tough-economic-times-poor-handset-sales-force-Nokia-to-lower-Q2-and-2010-forecast_id11966>

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Vincent, K., & Cull, T. (2011, March). EBSCOhost: Cell phones, electronic delivery systems and social cash transfers: Recent ... *Business Source Complete*. Retrieved February 21, 2011, from <http://ehis.ebscohost.com.ezproxy.baylor.edu/ehost/detail?hid=2&sid=e9574eed-006d-42ef-8409-30bf3efa882c%40sessionmgr10&vid=3&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=bth&AN=56943450>

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