Mobile Convergence and Mobile Adoption

Mobile Phones as Culturally Prominent Features of Contemporary Society and Their Impact on Users in 2010

By

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Declaration

I, Colin Dean Murphy, hereby acknowledge that this is my own original work and that all other peoples' works have been fully acknowledged and referenced accordingly. I further declare this dissertation has not been submitted for any degree or examination at any other university. This dissertation is submitted in partial fulfilment of the Master of Social Science degree in Culture, Communication and Media Studies in the Faculty of Humanities at the University of KwaZulu-Natal, Durban, South Africa.

Signed: Dated:

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Abstract

Mobile phones are everywhere in contemporary society. They have permeated most facets of society, and can be described as a culturally prominent feature of contemporary society. The focus of this dissertation aims to identify and simultaneously distinguish the different types of mobile phone convergence existing among mobile phone users in Durban, South Africa. This "identification" will analyse whether or not any of the identified forms (of mobile convergence) are present among mobile phones of *Durban-based* users. This broad "umbrella" identification will then be followed by a number of sub-questions that will be answered throughout the dissertation. These questions will identify mass adoption traits among mobile phone users, and will attempt to chart the difference in adoption and usage function as articulated by Marc Prensky's *digital immigrants* and *digital natives.* The hypothesis is based on mobile phones being a "converged medium". The mobile phone seems to have been universally embraced, growing in usage almost exponentially over the last decade or so. Because the mobile phone has become a multipurpose device, marketed as an essential prerequisite for modern life, it has become ubiquitous in most societies around the world and is an important medium to study, and more importantly to understand.

Keywords: Mobile Phones, Convergence, Digital Immigrants, Digital Natives, Globalisation, Mass Adoption.

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Chapter One

Introduction to Dissertation

> Never before has the need to constantly stay connected been so great. It is for this reason in most industrialized countries ownership of a personal cell phone is fast approaching market saturation. The compelling convenience of cellular phone use has progressed to the point many – especially young adults, don't even have a fixed-line telephone but rely solely on a cellular phone for telephony services.

> (Richard Watson, 2009:09).

Throughout history many people have attempted to predict the course of the future. Leonardo Da Vinci designed rough sketches of a helicopter, predating the creation of a Henry Berliner prototype created in the beginning of the 20th Century by over 400 years[1]. Sixty years ago an American publication, *Popular Mechanics*, predicted that the world would be using and consuming "online shopping, microwave ovens and fax machines" (*Popular Mechanics,* February 1950).

Yet with the creation of the mobile phone in the late 20th century, nobody could predict the effect it would have on our everyday lives. Research in the 1980s by US consultancy firm McKinsey predicted that "the total market for cell phones would be around 900 000 by the turn of the century [2000]" (Burgess, 2004:32). This prediction proved very conservative, as by 2006 "mobile phone usage globally was estimated at 2.4 billion people[2]". But how much do we really know about these devices that have made such an impact on our lives?

EPROM (Entrepreneurial Programming and Research on Mobiles) has proposed that as many as 59% of these users are in developing countries. This can be attributed to growing economies and the opening up of new markets, allowing mobile phone companies to import large volumes of their wares in line with the growing demand. With pre-paid mobile

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[1] Bledsoe, K & Bledsoe, G (2002). *The World's Fastest Helicopters*. Capstone Press: London.
[2] EPROM (Entrepreneurial Programming and Research on Mobiles). Accessed at
http://www.media.mit.edu/ventures/EPROM. Accessed 31 May 2010.

phone packages, users can monitor what and how they spend on their mobile phones. Mobile phones have become essential to our everyday lives, even for those without mobile phones. They have become embedded in our lives socially (for social interaction, communicating with friends) and economically (in the way that many enterprises can now use mobile phones to conduct business transactions).

For most people born after 1980, mobile phones have always been around, and have been so intrinsically linked with their lifestyles that a lot can be said about their identities in the way they use their mobile phones (Grainger, 2009). So, how did mobile phones gain such a prominence in people's lives?

According to Christian Licoppe (2004:139) "the mobile phone is portable, to the extent of seeming to be an extension of its owner, a personal object constantly there, at hand... Wherever they go, individuals seem to carry their network of connections which could be activated telephonically at any moment". This dissertation will demonstrate that the mobile phone, through convergence in its numerous forms, has led to it becoming a culturally prominent feature of contemporary society. This statement forms the basis of this dissertation and will provide a platform from which the hypothesis can then be answered.

Describing a mobile phone as culturally prominent likens it to a *popular* cultural artefact (see page 20). A cultural artefact can be defined as an item that "has been shaped by social processes in production and in use" (Hine, 2000:39). Describing an item as culturally significant does not assume it to be culturally homogenous, but rather it is interpreted and encoded accordingly by each culture it is used by. Mobile phones have gained prominence in contemporary society, as they are items which augment intercultural and intra-cultural communication. It is for this reason that they can be described as a culturally prominent feature of contemporary society.

The mobile phone has developed from a device that was once only available to business-people for telephony to an affordable multipurpose necessity for almost everyone. For many, mobile phones have become an integral part of their lives because they offer so many functions. Mobile phones provide safety and security in the event of an emergency,

and provide the ability to connect with the outside world. Business can be transacted outside of the office, and it even facilitates socialising during office hours. Mobile phones offer quasi-independence for younger users, in that they can facilitate their own social structures far from their parents gaze. Mobile phones offer a plethora of disparate functions all meticulously structured into a single tool; calculators, digital cameras, pedometers or even GPS (Global Positioning Systems). With the growth of Android mobile phone operating systems the possibilities are further extended, as now developers are no longer prohibited by the medium (of operation) in which they choose to work).

The idea of convergence-focused mobile phone adoption is based on the mobile phone as a "converged medium". While other technologies developed in the same period (e.g. Walkman's, floppy discs and video cassette recorders) have become defunct, the mobile phone has become adopted wholesale, growing in usage exponentially in the last decade or so. It is the fact that the mobile phone has become something of an all-in-one device, marketed as something a person can't live without, rather than something they need, that has propelled it to prominence in contemporary society.

Accessing information used to be a long and tedious process prior to the advent of the Internet, yet with mobile Internet access, any mobile phone owner has access to vast volumes of information, at the touch of a button, on the move. Though many mobile phone users only use the mobile internet to browse social networking sites or play games, the fact is that now they have the *option* to access such information. While younger mobile phone users may already be accustomed to searching for information on their phones, it may still be a foreign concept to older mobile phone users. The generational perceptions surrounding the way information is attained may still see mobile phones as tools for social communication, rather than as tools for information regardless of the context.

ICT can be defined as "the set of activities [tools or rather facilities that enable these activities] that facilitate, by electronic means, the capturing, storage, processing, transmission and display of information" (Hewitt de Alacantra, 2001:03). Mobile Internet provides a luxury commodity (deemed a necessity by some) to the masses. EPROM (Entrepreneurial Programming and Research on Mobiles), states that "Africa is currently

the fastest growing mobile phone market in the world, over the past five years the continent's mobile phone usage has increased at an annual rate of 65% - twice the rate of Asia[3]". With statistics like this, anyone can understand the need for research to be conducted on mobile phone usage in South Africa. However, recent studies conducted within South Africa suggest that mobile phone penetration statistics have been grossly misrepresented over the last ten years. In a December 2004 publication titled The Hitchhikers Guide to Going Wireless, Arthur Goldstuck states "South Africa's mobile subscriber base has been routinely overstated by up to 20% over the last five years" (Goldstuck, 2004:1).

Goldstuck goes on to state that "it is still an astonishingly successful industry, but that success can be undermined by overhyping it" (Goldstuck, 2004:1). While it would be extremely difficult to quantify the actual number of current mobile phone users across the globe, researchers need to always maintain an objective stance when viewing distributed mobile phone penetration figures released by telecommunication service providers - who equate higher numbers of mobile phone users to bigger financial gains and greater market share.

However, these mobile phone penetration figures only serve to reflect the dependency many people now place on mobile phones. As Richard Watson states "reliance on mobile devices is evidenced in business where analysts have noted that 40-50% of business cell phone calls are made in sight of a desk phone. The convenience of mobility is too compelling to deny" (Watson, 2009:09). This notion of mobility seems easy to understand without much convincing. Mobile phones have evolved in a number of ways since their inception in the 1980s. It must have seemed unusual for some "spectators[4]" to see mobile phone users walking and talking simultaneously, not standing "fixed" inside a public phone box.

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[3] EPROM – Accessed at www.eprom.mit.edu.

[4] Spectators in a literal sense, people witnessing events.

Marc Prensky's Digital Natives & Digital Immigrants

In order to evaluate and study the way a particular item, event or function has changed throughout its history, one needs to evaluate numerous facets of that particular item, and study people's perceptions and reactions from a number of vantage points. To study the way mobile phone usage has changed throughout its thirty-year existence, this dissertation will be comparing and contrasting perceptions between two specific groups, namely Mark Prensky's' "digital immigrants" and "digital natives".

The first group features people who have grown up without mobile phones, or who were only introduced to them later in life. These people will be around the age of 45, and are what Marc Prensky calls "digital immigrants[5]", people for whom the digital age was something they were not brought up in, but rather introduced to. The second research bracket is formed of mainly younger people, around the ages of 10-30, who Prensky calls "digital natives". These are people for whom digital technology has always featured throughout their lives. For the purpose of this dissertation using two groups will provide better insight and understanding of the changes witnessed by mobile phone users over the last thirty years.

For some, the link between mobile convergence and mobile phone adoption may seem unclear. Mobile convergence is the key driving feature which has made mobile phones become such popular, mainstream devices. It is the inclusion of a multiplicity of functions in a single handheld tool that has accelerated the desirability of the modern mobile phone. Mobile adoption relates primarily to the manner in which mobile phones have been taken up by their owners. Unlike other similar contemporary technologies the mobile phone, through its capacity to converge, has eclipsed numerous competitors.

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[5] Prensky, M (2001). *Digital Natives, Digital Immigrants*. Featured in *On Horizon,* Published by NCB University Press.

As an example, Pagers,[6] whilst common in the late 1980s, suffered an early demise due to the fact that they only served a single purpose, sending and receiving brief messages or numbers. Had Pager manufacturers expanded their medium and incorporated other technologies of the time (calendars, alarm clocks or calculators) then pagers might have been able to withstand new converged technologies such as PDAs (Personal Digital Assistant) or mobile phones. While pagers are still famed for their reliability regardless of signal strength or geographical location, they seem to have lost their foothold on mainstream culture and can be described only as a obsolete item.

The manner in which the pager was discarded by society serves as something of an anti-thesis for this dissertation, as this dissertation aims to highlight how a technology has been adopted *en masse* rather than discarded. This dissertation will demonstrate how the mobile phone has become a mainstream technology because it is a converged medium. While converged media are not "new" fields, they are more significant than ever and should be further studied and understood before they are further adopted as mainstream technologies.

The dissertation focuses on a growing number of people who use their mobile phones on a regular basis, for work and for social reasons. These users are generally younger and have adopted mobile phones more readily than their older counterparts.

Since the dissertation focuses on a small group of people from Durban, KwaZulu-Natal, it is not inclusive of a large enough sample group to represent the entire Durban community. However, due to the fact that the entire sample group live within the greater Durban area, it does allow for some extrapolation. Making use of a Probability Proportional to Size (PPS) method of sampling allows the researcher to utilise a small sample group when necessary. This can be used when it is likely that those involved in the research are wholly representative of a larger group of people (Levy & Lemeshow, 2010). It is for the aforementioned reasons that I shall be using a medium-sized group to which I shall pose questions.

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[6] Personal communications devices for sending brief messages, also commonly known as beepers, or bleepers (due to the sound emitted when activated).

Chapter Two

Literature Review: Introduction

This literature review highlights the texts covered in order to conceptualise the dissertation. It simultaneously demonstrates the need for further study within this field of culture, communication and media studies; and shows how the dissertation will contribute to the body of knowledge in this field of study. The literature review has been split into two chapters: mobile phone evolution/adoption; and mobile phone convergence (in its various forms).

Chapter two focuses on the way mobile phones have evolved and been adapted from their inception, to their current state. Simultaneously, other key factors of mobile phone usage will be discussed (Howard Rheingold's) the Softening of Time, the different types of mobile phone users (Marc Prenskys' digital natives and digital immigrants), and the manner in which communication has changed through the effects of globalisation. These areas will provide the reader with a greater understanding of mobile phone usage, and will provide them with a platform from which they can start to understand how convergence affects mobile phone usage in its different modes.

Chapter three considers an individual study of contemporary mobile phones. Within this chapter mobile phones will be studied as a singular item, as a cultural artefact (du Gay *et al*, 1997:3). This involved studying the mobile phone within a "circuit of culture" as proposed by Paul du Gay, Stuart Hall, Linda Janes, Hugh Mackay and Keith Negus in the 1997 publication titled *Doing Cultural Studies: The Story of the Sony Walkman.*

Chapter four provides the reader with an overview of convergence as a broad-umbrella concept, and simultaneously unpacks the concept into its broader themes, namely technological convergence, economic convergence, cultural convergence and globalised convergence. These modes of convergence are fundamental to the hypothesis and are integral to the overall study.

The Mobile Phone Industry

The mobile phone industry can be described as one of the most populous and far reaching industries of the 21st Century. According to a study conducted by Nielsen Research and Marketing, every month, 350 billion text messages are sent across the globe[7]. Very few industries can boast of such a large amount of usage. It can be safe to say that the mobile phone industry is nonetheless a very large, global industry.

Analysts believe that the mobile phone market will be worth over $200 billion dollars by the end of 2012, "as mobile phone sales have been expected to grow by at 6,8% between 2007 and 2013[8]". The large growth of mobile phone markets can be attributed to emerging markets in BRICS countries (Brazil, Russia, India, China and South Africa). Africa, as of 2009 was the fastest growing mobile phone market on the planet. BRICS countries have begun to realize the extent to which mobile phone related commerce is dominating global markets, and have joined first-world countries in opening up and promoting new mobile phone markets.

However, while mobile phone markets fluctuate and power shifts seem to occur almost annually, mobile phone manufacturers still retain power and the market share has not shifted dramatically. As of mid 2009 (second economic quarter), Nokia had a 40,47% market share of the global mobile phone industry, with a depreciating Year on Year (YoY) statistic of -0,61%. So while Nokia have maintained their dominance as the largest mobile phone manufacturer for many years, their dominance is shifting albeit at a very slow rate. On the corollary, the second largest mobile phone producer by market share is Samsung, with 20,51% of the market share. However, Samsungs' YoY statistic sits at a hefty 5,12%, meaning that if everything stays the way it is, Samsung should overtake Nokia as the world's largest mobile phone manufacturer in the not so distant future.

While the mobile phone industry is a large industry in its own right, it has also lead to large power shifts in other industries. In 2006, "Nokia was the world's largest digital camera

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[7] http://www.grabstats.com/statmain.asp?StatID=402
[8] http://www.netimperative.com/netimperative/news/2008/november/3rd/mobile-phone-market-worth-200bn-by-2012

manufacturer with approximately 140 million cameras sold through sales of Nokia smartphones and feature phones." "It also sold close to 70 million music-enabled devices, making Nokia the world's largest manufacturer of music devices as well" (Chehimi, Stichbury and Cartwright, 2008:05). This is a key example of the scale of production mobile phones have reached in their brief history.

Evolution, Adoption and Globalisation

Like most ICTs throughout history, in order to maintain a consumer-base the mobile phone has had to adapt and change to suit the needs of its ever-evolving markets. No other ICT has developed from its primary function of telephony to its current status as a multi-purpose tool for digital interaction and integration. When first introduced the mobile phones primary function was to make previously fixed-landline dialogue "mobile". While numerous academics can debate the date of introduction, Arthur Goldstuck (2005:09) states that:

> The beginning of the *digital* mobile revolution can probably be placed in 1982, when Nordic Telecom and Netherlands PTT proposed to the Conference of European Post and Telecommunications (CEPT) that a new digital cellular standard should be developed to cope with an unexpected explosion in demand on European mobile networks.

While mobile phones had been created prior to 1982, it was the start of regulation which can be said to have ignited the digital mobile revolution, as networks started to vie for lucrative markets. While some might argue that the car-phone was mobile, it only offered a degree of mobility as it was still physically linked to a set location (people could only use the car-phone while within a certain radius of the car itself due to cabling limitations).

Mobile phones were purpose-created to make telephony mobile. They have since evolved into complex, highly-converged platforms, which can support different operating systems

(much like computers); with some phones being Linux[9]-based, some Android and others even using Mac OS[10] software. Statistics show that, "in 1976 there were 44 000 people with mobile phones in the USA" (Hamill and Larsen, 2005:35). The benefits of owning a mobile phone may seem obvious (convenience, mobility, and connectedness), however, to fully understand how they have become so pervasive in contemporary culture, it would prove useful to study how they were first received when they were initially introduced to the public in the mid-1980s. That particular study was undertaken by Amparo Larsen and published in the 2005 book entitled *Mobile World* by Hamill and Larsen. The study will feature prominently in the following section.

ICTs have opened up new avenues for their users, focusing primarily on their ability to provide "access". This access refers primarily to information, and the way in which ICTs have transformed the way users would traditionally access the said information. The traditionally physical act of attaining information was generally characterised by a trip to the library, searching through books and literally searching for information.

Mobile Adoption, Mobile Evolution

Mobile phones were originally introduced in two major markets, the North American market, and the European market. In the North American market, which expanded earlier than its European counterpart, mobile phones were not directly aimed at the social structures which they now penetrate. In the North American market, mobile phones were tools for big business. According to Hamill and Larsen (2005:34) mobile phones were marketed as *the device* for the businessman or businesswoman. This, however, was met with much criticism from the general public.

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[9] Linux is an open-source operating system, which allows users to write their own code, and essentially customise their operating systems.
[10] Apple Macintosh Operating Systems (OS).

As Jeja-Pekka Roos wrote "advertising campaigns tried to counter this perceived relationship between the device and this use (business-orientation) in order that people (sic), who did not want to be identified as yuppies, were not ashamed of using and purchasing a mobile phone" (Roos, 1993:10-12). This problem arose primarily from the fact that in the 1980s and early 1990s "mobile phone companies followed the same strategy as the fixed telephone companies in their early days: high prices, exclusive use and avoidance of mass market" (Hamill and Larsen, 2005:34).

However, Scandinavian-based mobile phone producers were instrumental in opening up the mobile phone industry, irrelevant of social background or economic standings. They were the first mobile phone producers to distance themselves from the "yuppie image", as they felt the public perception of a mobile phone as a "mere business or work related device was a handicap to its mass adoption" (Hamill and Larsen, 2005:35).

When placed in this context, it is easier to understand why many older mobile phone users did not embrace this technology so readily. These users were never the core target market of mobile phone companies, as these companies were aiming to make their products exclusive. In economics, the principle is simple; the scarcity of a commodity will generally increase the price of a commodity as long as there is a demand for it. If mobile phones were being used by the general public, then the producers of these handsets would not be able to charge exorbitant rates and prices.

If a commodity is expensive, and associated with the more financially stable members of society, then it is understandable why the general public would want to be seen owning these items. It is a form of conspicuous consumption, almost like "keeping up with the Joneses". From a humanities context, keeping up with the Joneses "occurs when people care about their standard of living in relation to their peers" (Gali, 1994:08). Conspicuous consumption is a term coined by Thorstein Veblen in his 1899 book, *The Theory of the Leisure Class.* Veblen terms conspicuous consumption as wasteful expenditure on commodities that offer no purpose other than to display wealth (Veblen, 1899). Consumption of a mobile phone is the physical act of using a mobile phone to maintain established connections, or to create new ones telephonically. Essentially mobile phones

were originally marketed only toward the wealthy echelons of society. In order to boost popularity, mobile phone manufacturers' focused their products at all social classes in order for them to increase the size of the market, giving them economies of scale, and thereby increasing revenue.

While the early mobile phones limited their markets primarily through their prices, the mobile phone industry now creates affordable handsets for almost all wealth brackets (within reason). Whereas introductory mobile phones all offered the same dialogue-focused service, contemporary mobile phones are bespoke to the point where a user can select a mobile phone to suit a number of his or her personal tastes. As Len Pienaar (Managing Director of Mobile and Transact Solutions at First National Bank) states, "cell phones have become so amazingly affordable and the reality is that they are becoming evolutionary appendages to our ears" (Pienaar, *quoted in* Goldstuck, 2005: ix).

Yet it is not only the price of the device itself that has fallen steeply, but also the tariff rates, although this is solely dependent on the country in which you are using a mobile phone as some countries have higher tariff rates than others. Whereas in previous generations it was extremely expensive to own and operate mobile phones, contemporary mobile phone tariffs have been greatly reduced. The factors that used to hamper mobile phone usage are now being overcome, as data services and satellite costs drop rapidly. As Adam Rosenberg and Sid Kemp (2003:33) state; "mobile telephones are becoming smaller, cheaper and more common every year".

Mobile phone adoption can be linked to conspicuous consumption in the way that it (mobile phone adoption) was primarily the domain of upwardly mobile urban elites, and has since been mirrored by the middle and lower economic groups. Mobile phones have not gained popularity solely due to their perception as items of exclusivity. As Hamill and Larsen state, "there is a common belief about the diffusion of new uses and habits from the elite to the mass" (Hamill and Larsen, 2005:35). Mobile phones not only offered the option of dialogue between two people, they offered convenience. Within the scope of this dissertation, historically more people had access to fixed-landlines than mobile phones. However, that has since changed as it is now economically viable for telephone service

providers to install mobile phone towers instead of fixed-landlines. This opens up greater chances for communication mobility in the future and should lead to a decrease in mobile phone costs.

The manner in which mobile phones have evolved goes hand-in-hand with their rate of adoption. The two are directly linked. As Hamill and Larsen (2005:30) state, "the adoption by society of new technology devices is a relationship of mutual shaping, where technology accommodates but also transform (*sic*) existing social practices". Mobile phones have had a significant impact on contemporary society, almost creating a defined distinction between those who own mobile phones, and those who don't. Mobile phones currently feature significantly in most public spaces.

Single-Function to Multi-Function Devices

As Hamill and Larsen state (2005:30), "technological change results from the struggles and negotiations among interested parties: inventors, producers, different users and governments". While many users feel that mobile phones have been specifically created for their use, it is actually their need for convenience that has led to mobile phones being tailored *by* users rather than *for* users. Why should users be required to wear a watch, carry a personal audio player, calendar and calculator when they can simply carry a mobile phone which fits in the palm of their hands? The mobile phone industry has tailored its products to suit users' needs, on the assumption that users *need* access to everything. Even though there is a great chance mobile phone users will not use all the features their phone offers, they still may feel the need to have it available to them.

Mobile phone manufacturers discerned that the original mobile phone itself was of limited use. The sole function of mobility was no compensation for high tariffs. In order to address this, the mobile phone evolved into a multi-function device to attract new users, whilst simultaneously enticing existing customers to upgrade.

Globalisation

Globalisation affects everything. It has shaped the way we live; emphatically so through the ICTs we use on an almost daily basis. It is for this reason that it has been included in this chapter, as it has affected mobile phone usage and adoption over the last 20 years.

John Hartley's definition of globalisation stresses that globalisation is not a new concept (as he refers to its *intensification* rather than creation). Hartley (2002:97-98) states that globalisation can be used to describe "a recent *intensification* of networks, alliances and interconnections in economics, cultures and politics and the particular form that they now take rather than the occurrences themselves". Globalisation has, through its processes, made aspects of the world a unified space, rather than disparate geographical or national entities. While links such as trade relations and political alliances have featured prominently throughout history, globalisation stresses the fact that these links have become ever more significant.

While the concept of globalisation first related primarily to economic relations between countries, the processes created by this concept have now become a feature of contemporary society. In contemporary society it is commonplace to converse in real-time with people on the other side of the world. This view of globalisation is used to describe how globalisation is making the world seem "smaller"; in the sense that information and communications technology have advanced to a point that people can keep in contact, or at least have the *ability* to keep in contact, in real-time, regardless of their geographical location. This is often referred to as mediated globalisation, of which Terhi Rantanen is the primary proponent. Rantanen, in her 2005 publication *The Media and Globalization* places focus on studying globalization from a media perspective, stating that the key focus of the book was to "bring together people and globalization and to show the pivotal role played by the media in the process of globalization" (Rantanen, 2005:18). Globalization is often augmented by contemporary media, as people (irrespective of location or culture) start to watch similar movies and listen to similar songs. Movies and songs are no longer limited to particular areas, as they now have a global reach through mainstream media channels.

While physical borders remain intact, they are being simultaneously dissolved as contemporary society now connects "online" rather than physically. This can be likened to David Harvey's concept of time-space compression, and Anthony Giddens' time-space distanciation. Harvey's time-space compression argues that "the objectification and universalization of the concepts of time and space allowed time to annihilate space, and that time can be reorganized in such a way as to reduce the constraints of space and vice versa" (Rantanen, 2005:47). Giddens' concept of time-space distanciation states that "in pre-modern contexts both time and space were fundamentally linked to a person's immediate location, but the invention and diffusion of the mechanical clock had the effect of universalizing time" (Rantanen, 2005:47). Both academics acknowledge that their concepts are "social constructs and that the world is becoming a smaller place owing to technological advances that enable people to interact with one another across the globe" (Rantanen, 2005:47).

Globalisation affects ICTs in the way that users have replaced face to face dialogue and meetings with digital dialogue via networked connections and e-mail correspondence. In essence, users have become "globalised" to the point where they can maintain physical relationships from their mobile phones. Whereas acts such as banking or posting mail traditionally took place at banks and post offices, they can now be done from almost anywhere (dependant on mobile phone signal strength and mobile phone battery reliability).

What ICTs have done for contemporary society is to liberate users from the physical constraints of their geographic locations, whilst simultaneously allowing them to maintain relationships and stay connected to their "world" throughout their liberation (Rantanen, 2005).

Rheingold's Softening of Time

Howard Rheingold's concept of the softening of time relates to the manner in which "the advent of communications technologies have influenced people and inhibited their ability to make on the spot decisions" (Rheingold, 2002).

Traditionally, people would engage in dialogue, and would engage one another in direct two-way communication. However, through contemporary ICTs, dialogue can now take a number of formats. Either through text messaging, voice-mails, email or video calling (now a feature on many computers and or mobile phones currently on the market). This has led to a change in the way humans converse.

Through text or email messaging services, which rely on a system of messages sent between two or more people characterised by differing response times; people now have the ability to take more time to tailor responses to suit the situation. For example; traditionally, if a boss were to ask a person to work extra hours, this would generally have taken place via face-to-face conversation or a telephone conversation, of which both formats require an immediate response.

In those two instances the respondents would have minimal time to answer or respond to any particular question posed to them. Through the softening of time, ICT users now have the ability to consider before they respond. Although this is in no way linked to the calibre of the response, they nonetheless have the ability to take more time to respond.

While the scope of the thesis does not study the softening of time in great detail, it remains questionable to what degree the softening of time effects ICT users. If a researcher were to quiz respondents on what they enjoyed most about their mobile phones, it seems highly doubtful they would consider the softening of time over and above all the technical features contemporary mobile phones possess.

Marc Prenskys' Digital Immigrants and Digital Natives

Marc Prenskys' digital immigrants and digital natives highlight the fact that mobile phone users are not all the same, in the manner in which they use mobile phones (and other contemporary ICTs). While mobile phone users typically use their handsets for different reasons, they can be grouped together in the way they have grown into using mobile phones. While it may seem stereotypical, the grouping relates primarily to the user's age.

Just as people have to adjust to new political or economic situations around them, so do people have to adjust to new technological situations. Technology is not simply adopted by everyone; there are people who adopt technology easily, there are people who negotiate their adoption, and there are people who resist the adoption of new technologies. Yet for some, there is no need to negotiate, as they had never known life without particular technologies.

The technological world has moved primarily from analogue technologies to what Prensky calls "digital technology in the last decades of the 20th Century" (Prensky, 2001:01). While this may seem simple enough for most, moving to a more efficient technology, it would have had a profound effect on the users of the then-defunct analogue technological systems, as they would have had to move/adapt to digital technologies[11]. However, some new technologies mimic their predecessors, for example, the typewriter and its QWERTY key configuration which was created in order to stop the mechanical keys from jamming into one another. Contemporary keyboards have mimicked this QWERTY configuration, possibly in an attempt to entice typewriter users to migrate to computers. Those people for whom analogue technology was the norm, would then have had to "migrate" to the newer digital technology systems" (Prensky, 2001:01-02). Prensky uses the term migrate as the word itself denotes not only moving to a new setting, but is also characterised by rapid change.

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[11] While the move from analogue to digital would have taken place over the course of a few years, they would have had to 'keep up with the Joneses' so to speak if they wanted to actively participate in the world they inhabited.

Prensky calls this group of people *digital immigrants*, of which he himself is a member. Prensky states that digital immigrants are "those of us who were not born in the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology" (Prensky, 2001: 01-02). While some may find his definition wholly correct, it does raise questions regarding the way Prensky states digital immigrants "become fascinated by, and adopt new technologies" (Prensky, 2001:01-02).

It cannot be stated ultimately that *all* digital immigrants (as defined by Prensky) are fascinated with the technologies with which they assimilate themselves. Some digital immigrants may adopt certain technologies due to necessity rather than fascination.

Prenskys'*digital natives* are on the opposite end of the spectrum. The group is made up of younger people (people generally *under* the age of 35) who were born after the digital revolution. It is comprised of people who are native to the new (digital) era. As Prensky states, digital natives are made up of people who "have spent their entire lives surrounded by and using computers, video games, digital music players, video cams (*sic*), cell phones, and all the other toys and tools of the digital age" (Prensky, 2001:01).

These two groupings could be applied to many different technological applications and the backgrounds of their users, yet they are even more extensively applicable to mobile phone users, as mobile phones are evolving on an almost daily basis to suit consumers' needs and wants. It is this ever-evolving nature which alienates "older" users who may feel resistance to constantly re-learning an evolving technology. Whereas on the other hand, younger mobile phone users seem to be more adept at "exploring" mobile phones and learning what they have to offer, based solely on the fact that they have all grown up with digital technologies. Digital natives, having grown up in a world of technological abundance and access, often seem to utilise most of their technologies' features.

Growing up surrounded by converged media, they (the digital natives) would have grown accustomed to this saturated (densely converged) form of media. It would almost be ingrained in their memories that converged is good, and more is better. While on the corollary, digital immigrants may find converged media confusing. This could be attributed

to their lack of experience or understanding of the selected platform; or it could be a much deeper-rooted technology adoption issue altogether. While the above statements may seem speculative, they are derived solely from sample group observations. While there is no claim for them to be academically proven, they have been included only to support the provided academic references.

Technology was historically the domain of adults; television, fixed-landlines, facsimile machines; all were traditionally used, owned and maintained by adults. While these factors of ownership can be explained economically (adults were generally the ones in the household who could afford to buy and own technologies) they still reflect the way in which adults traditionally were the ones who used technology. Yet throughout the last few decades, technology has become more and more tailored to suit younger users, and in many cases is even marketed solely towards these younger users. However, the key problem hindering younger users adoption of mobile phones *en masse* remains the fact that they are not always the ones who finance their mobile phones. While digital immigrants may seem slower in their ability to learn and fluently-use new technologies, this may stem from the fact that they are now being compared to their younger counterparts who have grown up surrounded by technology.

The point that is being driven through is that historically it was harder to judge adults' technological ability when only comparing them to other adults, all using technologies that were generally used in the privacy of their own homes. Contemporary technologies have been liberated from the confines of the private sphere, and, have become public spectacles. It has become all too common to be unwillingly "dragged" into someone else's private conversation through the way they talk on their mobile phones.

The incorporation of Prenskys' digital immigrants and digital natives demonstrates there is more to technology adoption than may be immediately apparent. Some people may be 'technophobes' solely because they have not grown up surrounded by technology. When assessing how a particular technology has been widely adopted, it would be unethical to compare two completely separate groups of people without first distinguishing their attitude towards technology, and whether or not it is inherent within them that they have

been pre-destined to adopt technology off the cuff. According to Ronny Coleman (2005:99) "technophobes reject technology because it is new. A classic statement attributed to individuals with this philosophical orientation might be, 'if it was good enough for my grandfather, it's good enough for me". Coleman states that "these days, few people are willing to admit they are technophobes; in many cases, the people who fear technology will fight an unspoken battle with the new technology by making sure that it doesn't work for them" (Coleman, 2005:99). Such is the secretive nature of technophobia that if, throughout the data collection process a researcher were to ask any respondents of any issues surrounding the issue (technophobia), it would seem unlikely that any may be willing to share their fears or preconceptions with the researcher.

Chapter Three

Circuit of Culture

A circuit of culture is a series of processes which help academics and theorists study all avenues of an item of cultural value. The circuit of culture is defined as "(a circuit) through which an analysis of a cultural text or artefact must pass if it is to be adequately studied" (du Gay, Hall, Janes, Mackay and Negus, 1997:3). The circuit involves five processes that complete the circuit, the five stages being: production, consumption, regulation, representation and identity. The five processes aid cultural studies research in the way they involve all phases of a social artefacts cycle (du Gay *et al*, 1997 – see page 20). This circuit aids the researcher in that it distances the item being researched (in this case mobile phones) from the research itself. Once the item in question has been studied individually and more objectively, then can it be understood better by all who have identified the processes of the circuit. Within the context of this dissertation, the circuit of culture will be employed to study contemporary mobile phones as a collective artefact (rather than as individual items or brands).

Figure 1.1 – The Circuit of Culture
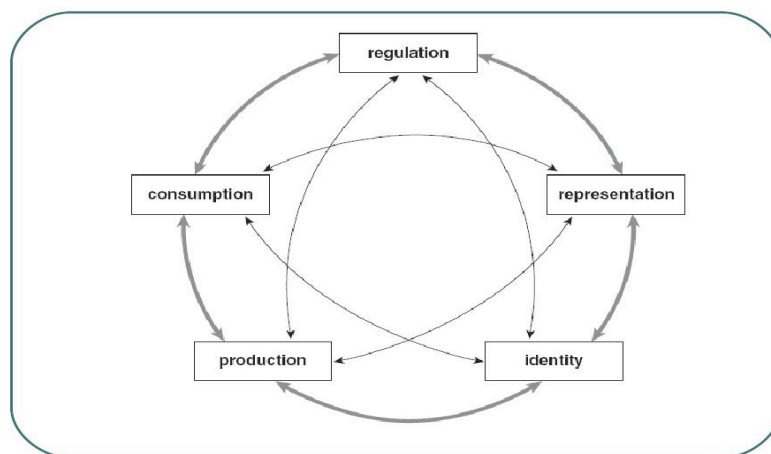
[12]

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[12] georgetown.edu/centers/cndls/applications/posterTool/index.cfm?fuseaction=poster.display&posterID=2330

Step One: Production

Mobile phones have been produced in numerous shapes and forms since 1979. Initially they were used primarily for making telephone calls from mobile locations, yet nowadays they serve a multitude of functions. Mobile phone technology was at first popular with business-oriented people due to the expenses involved with purchasing and maintaining mobile phones. It was only later that they were adopted *en masse* by the general public. While they are now produced and marketed for large volumes of people, they offer bespoke features through the popularity of downloadable ring tones, wallpapers, and more recently, applications. Applications range from basic calculators to foreign exchange applications that keep users updated with currency markets and fluctuations.

What is unique about studying a "cultural artefact" (du Gay *et al*, 1997:3) such as a mobile phone is that seemingly simple processes are often multi-faceted and more complicated than expected. Mobile phone production occurs at two distinct levels; technical production and cultural production. Technical production relates to the act of physically producing a mobile phone. While cultural production relates to the manner in which consumers and their needs/wants affect the manner in which an item is produced (sort of customer design input, or development collaboration?). This can be linked to consumption, although the precursor of consumer related demands is often first experienced at production level.

Consumers of cultural artefacts "encode" these artefacts (Hall, 1973), turning them from impersonal items to extensions of the self. From the first moment a mobile phone is adopted it is being encoded by its user; from selecting the phone that best suits the user's needs to receiving the phone's number. Without delving too deep into a semantic analysis, encoding is the meaning a person places upon an item; as opposed to decoding which refers to the meaning a person takes away from an item. The terms encoding and decoding were constructed by Stuart Hall in his 1973 publication titled *Encoding and Decoding in the Television Discourse*. Mobile phone users encode their phones, due to the fact that they spend a large portion of their lives using mobile phones. These mobile phones often represent a link between a mobile phone user and their social network, as it is via the

mobile phone that the user communicates predominantly with his or her social network. The mobile phone is what keeps the two groups (the user and his/her communication-network) linked, and is a pivotal factor in many peoples' lives for maintaining social relationships.

Step Two: Consumption

Consumption of a mobile phone is the physical act of using a mobile phone to maintain established connections, whether this is done via calling telephonically, sending or receiving text messages or using a phone-based internet browser to communicate via the internet. Mobile phones are consumed primarily by consumers to maintain relationships in their numerous forms. Mobile phones often feature in working environments, yet they also feature prominently in private spaces too. Mobile phones offer the ability to communicate almost anywhere (dependant only on signal strength offered by the users' particular service provider).

Mobile phones have become a feature of everyday society. According to Richard Ling (2005:253), "Today, the mobile phone is certainly the most pervasive communicative device that people carry. The mobile phone can connect people 'any time', 'any where' and with 'any body', with the added benefit of mobility and portability". Mobile phones maintain relationships yet simultaneously actualise personae, or mobile identities. In many cases, users feel uneasy without their mobile phones (Katz, 2006). It is the nature of consumption which elevates mobile phones from everyday object to a cultural artefact.

Step Three: Regulation

Mobile phones, like other popular technologies, have been subjected to government regulation in most countries. Mobile phones have been regulated in both a formal and

informal manner, with regards to the way they are consumed. Laws with regards to mobile phone usage are often set in place when they affect users' concentration while performing tasks that generally require a large amount of concentration, namely driving motor vehicles or operating heavy machinery. On a larger scale, the mobile phone industry has been regulated worldwide in an attempt to introduce standardisation and, whilst also to protect the consumers. Industry regulation protects both the mobile phone companies and the consumers.

However, mobile phones have also been regulated at an informal level. Libraries and cinemas often "request" that all patrons switch off their mobile phones in order to maintain silence for those around them. Even when performing tasks such as filling a car with fuel at a service station, customers are requested to switch off their mobile phones due to fears the phones could cause sparks if dropped and, in turn, ignite gasoline vapours. However, "having conducted their own research, mobile phone manufacturers concluded that there was no danger of phones causing explosions since they could not generate the required sparks; despite the lack of evidence that mobile phones can cause explosions, bans remain in place around the world" (Mennen, 2005:149). There is however, evidence that the radio waves generated by mobile phones can interfere with avionics, hence mobile phones being banned during take-offs and landings. However, select airlines offer their patrons the chance to use their mobile phones in-flight, although this cannot really be considered a mainstream function due to its limited availability.

Step Four: Representation

Throughout the mobile phone's brief history, it has been represented in a number of ways. The most prominent of these different representations was the mobile phone's initial image as a unit that was limited only to business-people. While the mobile phone manufacturers understood the value and convenience afforded by the mobile phone, they believed that due to its high running-costs it would only appeal to a certain economic elite. As such, mobile phones were never mass marketed. Through its initial representation it

was already being encoded by large numbers of people, who wanted a mobile phone. It was encoded in a manner which made it exclusive, and added to its appeal. According to Stuart Hall, "representation is the discursive process by which cultural meaning is generated and given shape" (Hall, 1997:3). It is only once consumers started to see the mobile phone as part of their everyday lives that it began being represented in the same way it is at present.

Mobile phones represent large volumes of information relating to their owners, solely through visual representation. If a person were to own a very expensive mobile phone, it could be assumed that that particular person was of a certain economic standing; people would expect that person to be rich due to the fact that he/she owned an expensive mobile phone. However, this is not always true, as in some cases younger mobile phone owners are bought expensive handsets by over-indulgent parents. While this is not a defining feature of mobile phone representation, some people are identifiably linked to the mobile phones they own, due in part, to them being cultural artefacts.

Step Five: Identity

The identity process of the circuit of culture relates primarily to the manner in which mobile phone users have encoded and use their phones. People *can* be identified by the type of mobile phone they use (whether they are business-oriented phones or ones that are media-oriented), whether their phones are financed contractually or on a pre-paid basis; how they use their phones, and the subsequent groups they form.

However, the constant factor remains that mobile phone users integrate themselves into "mobile identities" due to the aforementioned factors which are then decoded by people around them. This decoding helps reinforce the user's mobile identity, which is a pertinent aspect of mobile phone usage. As stated previously, a non-encoded mobile phone cannot be deemed a cultural artefact. It is only when the individuals around the user start to ascribe such emphasis and emotion on the manner the mobile phone owner consumes their phone that the phone itself becomes a cultural artefact.

Critical Engagement of Mobile Phones

Mobile phones are not unanimously loved by all. The year 2011 proved to be a very trying year for the mobile phone industry. Mobile phones have helped broadcast Syrian riot atrocities, which otherwise might have been dismissed by the ruling regime as Western propaganda. Mobile phones have also endured the wrath of international ethics committees, due to their key-involvement in the News of the World Hacking Scandal. News of the World was a British newspaper, founded in 1843, which recently closed down its business due to claims it hacked into selected individuals' mobile phones in order to retrieve their personal information, conversations and any dialogue they shared via their mobile phones. This led to much publicised debate on privacy and ethical business practices.

[13]

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[13] http://www.flickr.com/photos/max-milion/2416408329/

Mobile phones offer users the ability to connect to a vast array of information networks; academic networks with regard to valuable information attainment, or social networks through which users can communicate with friends and family. However, it is far too common to hear people mention that they would find it impossible to live without their mobile phones. This could be echoed by digital immigrants who can still remember the not-so-distant past when living without a mobile phone was simple, and nowhere near life-threatening.

While some people love their mobile phones, others feel that mobile phones are nothing but a nuisance. Some people might be swayed by the belief that mobile phones and their signal towers can be harmful to your health, and can be linked to cancer.

In Adam Burgess' 2004 publication titled *Cellular Phones, Public Fears, and a Culture of Precaution* the author stresses that while many studies have been conducted, they are not wholly conclusive and as such, have not been adopted *en masse*. Burgess states that "there has been an extraordinary volume of stories about cell phones and health effects in the United Kingdom" (Burgess, 2004:76)

Burgess further writes:

> "The Stewart inquiry reviewed 641 cuttings from newspapers published in the United Kingdom between January 1999 and February 2000, and examined the content of seventy-six radio and television programs. Some 79 percent of the media reports alleged that mobile phones and base stations were causing adverse health effects, whereas only 9 percent concluded that there was too little rigorous scientific evidence to arrive at a conclusion or reported no adverse effect" (Burgess, 2004:76).

What is being proposed by Burgess is that people are being made aware of the health consequences surrounding mobile phones. However, due to the inconclusivity of the reports people are not willing to part with their much-prized mobile phones. Health

concerns are just a portion of the anti-mobile phone sentiments experienced by some. It is the mere fact that often the benefits of mobile phone ownership heavily overshadow the negative aspects which make people so unwilling to part with their mobile phones.

For all the evidence produced to discourage people form owning and using mobile phones, some people are just wholly unconvinced as to the benefits of owning a mobile phone. This rings especially true with groups of people older than digital immigrants. These people (most people over the age of 55-60) had lived most of their lives without mobile phones, and could continue their lives without one.

The problem with criticising something as popular as a mobile phone is that statistics are very hard to waive. If over 2.4 billion people own mobile phones it is very difficult to deny the fact that they are so popular. It is even more difficult to critically evaluate the negative aspects of mobile phones when many claims are subjective to individual bias. What one person may find to be a negative aspect of mobile phone ownership might be a positive aspect to another user, and *vice versa.* It would be too subjective to list all the aspects that I deem negative with regards to mobile phone ownership and usage. Below is a rather excerpt from an anti-technologist's web-blog, a writer named Jason Peters. He provides a rather passionate stance on the reasons why he dislikes mobile phones, and why they are negative tools in society;

"But none of these things, whether tool or machine, is as sinister as the cell phone. What is it about this repellent little gadget that so abominates, that so offends the imagination? It has destroyed manners. It has destroyed public space. It has compromised privacy. It has enslaved and mastered those who think themselves its master. It has transferred money from insurance companies to body shops. I won't be at all surprised if it turns out to be the cause of an epidemic of brain tumors".

"But what troubles me the most is that it has taken distraction to a new low, and distraction, as the sage of Kentucky says, is "inimical to true discipline." Forget that students can't sit through a lecture without going in search of vibrating, buzzing, or blinking evidence that they're still the center of the universe. Actual adults behave in

exactly this manner. Where has sustained concentration gone? Wither is fled the visionary gleam?"

"This insidious device does not encourage silence. It does not encourage reflection. It does not encourage editing. It does not encourage anything useful to us or good for us. It is a mistake. Do you hear me? A mistake"

(Peters, 2009:01)[14]

http://www.frontporchrepublic.com/2009/10/the-truth-about-cell-phones/

As Peters suggest, even Plato was fearful of the written word and the way it would affect people's long term memory, as the key method of reference in antiquity was aural reference. If one of the world's greatest philosophers was sceptical about the written word, then it would be completely acceptable for a person to remain untrusting of mobile phones, with all their perfections and imperfections. The large majority of negative aspects listed by mobile phone users' effects them on a social level. That is to say that by and large, most negative aspects of mobile phones affect people socially, and most negative aspect of a mobile phone can be equally outweighed by a similar yet positive aspect. For example, mobile phones offer connectivity (a positive), yet the timing of the connectivity may be deemed to be a negative aspect. If a person needed to get in touch with work colleagues then a mobile phone could prove a valuable asset, especially if the contact needed to be maintained from several remote locations. However, when that same person is on leave or vacation, the mobile phone which was once a friend, suddenly becomes a foe.

Mobile phones can prove to be a major distraction to their owners, irrelevant of age. For younger mobile phone users, the games and internet browsing features could lead to decline in studying time and overall productivity. However, on the corollary, the same internet browsing function could open up new avenues of information, and give users access to boundless volumes of information. Whereas for older users mobile phones can diminish spatial awareness, which could prove fatal if someone were to be using their

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[14] http://www.frontporchrepublic.com/2009/10/the-truth-about-cell-phones/

mobile phone while driving. There are no positive aspects to using a mobile phone while driving, unless the car is stationary and pulled to the side of the road.

In summation, mobile phones are tools with both positive and negative aspects. These aspects are only made public by the owners themselves, in the way that they choose to use their tools. Just as guns can be used for good while in the hands of some police officers, guns are often be used for evil in the hands of criminals. While equating a mobile phone to a gun may seem rather extreme, it only serves to highlight the fact that mobile phones are bespoke tools, and the way they are used ultimately relies on their owners.

Chapter Four

Mobile Phone Convergence

While there are numerous definitions of convergence, it is important for the purpose of this dissertation that an objective, all-encompassing definition should be conceived. Convergence can be defined as "the coming together of different communications technologies such as the telephone, the computer and the television" (Rayner, Wall and Kruger, 2004: 351). Convergence can be further succinctly defined as the amalgamation or coming together of different things.

In communication science, there is great emphasis placed on technology, as in the technology or platforms through which ICT users communicate. Within media studies, a current trend studies convergence in a manner that highlights the content covered, rather than the platform being used. A definition of convergence which focuses more towards communication science defines it as "the ability of different network platforms to carry essentially similar kinds of services or the coming together of consumer devices such as the telephone, television and personal computer" (EU Green Paper on Convergence, 1997:1).

A definition of convergence, with clearer links towards media studies, would define it as "the melding together of different media, incorporating new personalized services[15]". The focus of this definition is one which focuses on content, in the way the author refers to different types of media and the way they are amalgamated. An encompassing definition of convergence could be 'the coming together of different platforms irrelevant of content or format'.

Convergence is commonplace in contemporary society. If a person were to use or consume almost any form of popular media, then it is likely that they will come into contact with some form of convergence. For example, at the recent FIFA Soccer World Cup 2010, viewers and spectators witnessed countless advertising and marketing campaigns being

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[15] Wilkinson, J (2010). *What is Media Convergence? Different Ideas about Technology and Media*. Hong Kong Baptist University Press. Hong Kong.

shown on digital billboards along the sides of the football pitches. Due to the dominance of convergence in contemporary media, it often seems normal to see a video screen, whilst watching a video screen.

Convergence has penetrated almost every facet of contemporary society's lives, in the way that cars now have in-dash[16] televisions, clocks, thermometers, and sometimes even telephones. This trend is also evident where traditionally 'individual' items such as clocks, calendars, calculators and notepads are now being amalgamated and marketed as all-in-one items. Converged clocks no longer serve the sole function of telling time. Digital clocks now have the ability to store addresses and contact numbers of friends and family, give digital temperature readings and replace alarm chimes with stereo quality audio.

Yet how did society get to the point where a single-function item might be dismissed as defunct due to the fact that it only serves a single function? That is not to say that there is no longer a need for single-function technologies, rather that multi-function converged items are gaining popularity over their single-function counterparts. The rise of convergence can be related to the demise of simplicity. While ICT users' lives continue to speed up at a frenetic pace, techno-savvy consumers simultaneously feel the need for their lives to become simpler and faster.

As Len Pienaar states, "in this day and age it is a given that we have too little time, too many responsibilities and not enough of ourselves to spread around" (Pienaar, quoted in Goldstuck, 2005: ix). However, this is a very subjective statement as it does not represent all mobile phone users, but rather what seems to be a vastly-growing majority.

This statement can be likened to David Harvey's concept of time-space compression. Time-space compression relates to "processes which revolutionise the objective qualities of space and time" (Harvey, 1990:240). This concept emancipates ICT users from their geographical locations. While many users are still limited by certain factors, particularly network-related problems (regarding signal availability), when compared to ICT users of the late 1980s, the difference is pronounced. The key distinction is the fact that a large

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[16] "In-dash" refers to something built into the dashboard of a motorcar.

majority of ICT users are now predominantly mobile, in the way that most contemporary communications technologies are portable, and are not geographically fixed. However, while this may ring true for the physical limitations which mobile communications may overcome, in other ways mobile phones can limit people due to certain factors. While not all users are mobile, as stated above, it is the growing majority of ICT users that are being liberated by technological mobility. While there may still be the "traditional users", the large majority of ICT users have the ability to conduct their digital lives in a mobile manner.

According to Herbert Marcuse (1969:12), "science and technology *are* the great vehicles of liberation, and that it is only their use and restriction in the repressive society which makes them into vehicles of domination". While Marcuse was writing at a revolutionary period in history (the late 1960s was noted as being a revolutionary period), the point he makes is that science and technology are tools for liberation, even at a time when mobility may have been a dream of the future.

It is becoming increasingly evident that while mobile phones once helped to liberate employees from the confines of their offices (in the way that business no longer *has* to be conducted within the office), these offices are now limiting users in the way that the office is now theoretically open 24 hours a day. While mobile phones have opened up new avenues for particular industries, they seem to have closed as many as they have opened. Mobile phones have the powerful ability to keep employees bound to their working environment, even in their own personal time, traditionally reserved for non-work purposes. According to Donald Hislop, "developments in mobile technologies have broadened the potential location and timing of paid work; employees are able to conduct business within the home via the internet and telephone networks" (Hislop, 2008:233).

This notion of non-office-bound workers (sometimes referred to as teleworkers) has been expanded by Hossein Bidgoli (2004:438), who has termed this group of employees "mobile workers". He believes these mobile workers "use information and communication technologies (ICT) to keep in contact with their organizations", and "are people who work primarily at different locations" (Bidgoli, 2004:438). What these authors highlight is the fact that ICTs have liberated workers from the physical confines of their traditional office

spaces, as they can now work while on the move, or at numerous different locations. However, assuming that just because a worker owns a mobile phone they immediately are liberated from their office is incorrect. The fact is that mobile phones merely provide a platform which may provide mobility. While workers have been liberated from the traditional offices spaces, they are still imprisoned within the working environment.

With recent advancements in mobile technology it is difficult to deem someone "un-reachable" telephonically; whereas fifty years ago, if a worker left the physical constraints of their office or place of employment, their work often ceased until they re-entered that space. Currently "there is a growing field of litigation on requiring employees to work on their BlackBerry's'[17] outside of work hours" (Sweeney, 2009:217). Sweeney further states that "technology does things for us, but also to us, to our ways of perceiving the world, to our relationships and sense of ourselves" (Sweeney, 2009: 218). The link between technological convergence and mobile phone users' everyday lives now becomes ever-more apparent.

For some people it has become all too common to check their emails in so-called "dead time". Paul May defines "dead time" as "time that was previously wasted with regard to mobile phone usage, such as waiting for a lift, or waiting for an appointment to commence" (May, 2001:2). In contemporary society, many people may feel that time is precious. However, due to mobile communications technologies, "precious" time can now "be occupied by users re-appropriating time to carry out everyday activities like shopping, reading the news online, or checking on ones' finances" (May, 2001:02).

Convergence can be divided into four interrelated groupings, namely economic convergence, cultural convergence, technological convergence and globalised convergence. While the boundaries of these different groups often prove permeable, each is unique for what they offer, especially when compared to other groups. When convergence is inextricably linked with ICTs, it can never be deemed to have been "studied" in its entirety, due to the fact that ICTs are forever evolving at a rapid rate.

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[17] A BlackBerry is a Smart phone famed for its ability to send and receive emails on the go.

Technological Convergence

Convergence, when studied from a humanities standing, usually refers to technological convergence of different media applications. Technological convergence is defined as "the ability of different network platforms to carry essentially similar kinds of services or the coming together of consumer devices such as the telephone, television and personal computer[18]". Contemporary mobile phones are often considered to be the most converged platforms in circulation, due to their numerous applications and ability to include or update applications in order to become bespoke handsets for their owners. According to Hans-Jorg Bullinger (2009:127), "the speed of technological revolution has certainly been the greatest in mobile phones".

Technological convergence relates to the manner in which mobile phone manufacturers have included numerous technologies into single, all-inclusive devices. For example; in previous generations, basic calculators were sold as a stand alone product. Yet in contemporary society it is not unusual for a calculator to be an additional function on a mobile phone. As time progresses, single-function technologies become too cumbersome as individuals become more adept with converged mediums.

The following image (Figure 1.2) was extracted from elitemobile.co.za[19], and lists the technical specifications and features of the Sony Ericsson Yari smart phone. When this list is viewed in context of this dissertation the reader understands that these features are included in the Sony Ericssons' repertoire of features. However, had this list been shown to randomly selected people in the 1980s (current *digital immigrants*), the outcome and perceptions of the items presented would be different.

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[18] European Union Green Paper on Convergence (1997) – last accessed April 2010.
[19] Accessed at elitemobile.co.za on the 10th of August 2010.
http://elitemobile.co.za/vodacom_deals/index.php?ref=phones&product_id=4814. Image has been edited to fit onto single page but still maintains the same information as original image.

Figure 1.3

Technical specifications of a typical Sony Ericsson Smartphone.

Technical Specifications		Connectivity	
General		**Bluetooth**	Yes, v2.0 with A2DP
2G Network	GSM 850 / 900 / 1800 / 1900	**EDGE**	Class 10, 236.8 kbps
Weight	115 g	**GPRS**	Class 10 (4+1/3+2 slots), 32 - 48 kbps
Display Size	240 x 320 pixels, 2.4 inches	**Size**	
Phone memory	Internal: 60 MB, microSD, up to 16GB, 1GB included	**Dimensions**	100 x 48 x 15.7 mm
Standby Time (upto)	Up to 450 h (3G)	**Sound**	
3G Network	HSDPA 900 / 2100	**Speakerphone**	Yes, with stereo speakers
Display Colour Depth	TFT, 16M colors	**Alert types**	Vibration, MP3, AAC ringtones
Other	Accelerometer sensor for UI auto rotate, TrackID m	**Memory**	
Talktime (up to)	Up to 4 h 30 min (3G)	**Call records**	30 received, dialed and missed calls
Fun		**Phonebook**	1000 x 20 fields, Photo call
MP3 Radio Player	MP3/eAAC+/WAV player	**Data**	
FM Radio	Stereo FM radio with RDS	**WLAN**	No
Media Player	MP4/H.264 player	**3G**	HSDPA, 3.6 Mbps
Camera		**USB**	Yes, v2.0
Video	Yes, VGA@30fps, video light	**Features**	
Camera	Primary: 5 MP, 2592 x 1944 pixels, autofocus, LED	**Games**	Yes, gesture and motion gaming + downloadable
Business		**Browser**	WAP 2.0/HTML (NetFront), RSS reader
Java Enabled	Yes, MIDP 2.0	**GPS**	Yes, with A-GPS support; WisePilot Navigator
Connectivity		**Messaging**	SMS (threaded view), MMS, Email

Figure 1.4

Table used to study the technical specifications of a Sony Ericsson Smartphone.

Listed on the table	Contemporary Understanding
Phone	An apparatus, system, or process for transmission of sound or speech to a distant point, especially by an electric device[20].
Display	Generally understood to mean a form of visual screen.
MP3 Player	A small portable digital audio player capable of storing MP3 files downloaded from the internet or transferred from a CD[21].
FM Radio	An electronic device used to receive a broadcast audio signal.
Video camera	An electronic device used to capture moving images digitally(video).
Camera (still)	An electronic device used to capture still images digitally.
Messaging (eMail)	As the name suggests, electronic mail sent from one computer to another via a selected network.
Phonebook	Originally a small book used to physically store gathered phone numbers. In this instance a digital record of contact names and numbers.
Games	Generally referred to as video games, they require the inclusion of a video screen and electronic games console.
Browser	Linked to computer-usage, referring to the software used to browse the internet.

If viewed from an external context (without knowledge of this dissertation), it would be understandable for someone to assume Figure 1.3 was a list of ten or more *individual* technologies. There are numerous items on this list that were non-converged in the 1980s

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[20] Accessed from dictionary.com, 10 August 2010. http://dictionary.reference.com/browse/telephone.
[21] Accessed from dictionary.com, 10 August 2010. http://dictionary.reference.com/browse/MP3+Player.

and early 1990s. The items listed in Figure 1.3 have all been stand alone items at some stage in their respective histories. The first column lists words selected from Figure 1.2, while the second column lists dictionary definitions of the selected words in order to show how the words are contemporarily understood (as opposed to the way they would have been understood by individuals in the 1980s).

For many, the mobile phone reduces clutter. Users[22] often set alarms on their mobile phones, instead of traditional alarm clocks. Alex Mihailoff (2006:20) states that "we have alarms on our watches or cell phones"; "a traditional alarm clock is used for one purpose: to wake us up". The fact that the author of a book on alarm clocks and the way people use them would have to refer to a diverged alarm clock as "traditional" only supports this dissertation's assertion that the world is progressing technologically, abandoning stand alone items for converged devices.

Such is the nature of contemporary society that when surrounded by technology of convenience, ICT users no longer have the option of whether or not to participate. To belong to a contemporary societal group generally requires the members to interact with ICTs regardless of any preconceptions they may have of the ICTs themselves.

As Len Pienaar states, "seeing people checking email and surfing the Web via GPRS on a cell phone is also becoming a more common sight, as is the use of cell phones as personal organizers, cameras and Dictaphones" (Pienaar, 2005:ix). The lines between technologies have become so blurred that it seems incorrect to attribute the usage of one technology appropriated by another. For example; mobile phone users often mention they have taken pictures on their mobile phones. However, they have actually taken pictures on cameras that are part of their mobile phones. While their statements can be deemed factual, they only further the claims made throughout this dissertation, that convergence is becoming ever-more prominent in society as the distinction between technologies are further obscured.

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[22] "Users" can refer to both digital natives and digital immigrants.

A key factor of contemporary technological convergence is that technologies are converging to the point where their functions are overlapping one another. This example can be applied to mobile phones and computers. BlackBerrys offer their users the ability to send and receive emails on the move, a task traditionally associated with laptop computers. Computers now offer their users the ability to communicate face-to-face via programs such as Skype or iChat. Skype is defined as "software that allows you to talk to anyone in the world over your Internet connection" and see them on video (Kelly, 2009:255). iChat is similar in nature, yet limited only to those who own Apple Macintosh computers.

Programs like Skype and iChat were traditionally linked to physical face-to-face interaction between two or more people. On mobile phones, it is marketed as video calling, where a camera on the front of the mobile phone transmits the user's face to the receiver while making a call, and the recipient's video image is displayed on the larger interface screen.

Currently many ICT products are being marketed as multi functional. It is increasingly difficult to find a single function ICT. Often the most basic mobile phones, cameras or Dictaphones © currently available on the market serve the additional function of a clock and/or calendar. However, this assumption generally only rings true when speaking within a context of digital ICTs that seem to dominate the current market, as opposed to older analogue ICTs.

Both ICT producers and users can be credited with having created this current situation (of densely converged ICTs). Producers of ICTs often create multi-function ICTs in order to gain an edge over their competitors. While on the corollary, ICT users purchase densely converged ICTs in order to get the most value for their money.

Ramifications

Some technologies traditionally associated with mobile phones such as digital cameras or digital media players battled to gain market acceptance in the early years (of mobile

phones) due to the fact that when converged, they lacked the quality of their stand-alone counterparts (pixilation in the case of digital cameras and poor storage size in the case of digital media players with early versions retailing with as little as 16MB). However, contemporary converged technologies have developed exponentially, resulting in higher quality cameras on mobile phones than on many stand-alone cameras.

For many mobile phone users, those early converged technologies set a precedent, and have now become *de rigeur* for medium to high-end handsets. This results in people spending more time using the combined functions of mobile phones than other stand alone technologies. This change in usage affects people in diverse ways, as it mediates the way people interact and communicate.

Economic Convergence

Economic convergence follows closely after technological convergence, as the two are inextricably linked. Economic convergence creates a greater understanding as to why ICTs are becoming more densely-converged than ever before. The key difference between the two prevalent modes of convergence (technological and economic) is the difference in functionality and the way in which users of ICTs react to this difference.

Economic convergence is based around the fact that mobile phones offer a plethora of functions, yet have evolved to the point where they are no longer strictly mobile phones. Technological convergence has pushed mobile phones to the very edge of their own classification.

In an attempt to lure potential mobile phone owners to their respective brands, manufacturers have laden their products with numerous technologies; both new and base features (such as calendars, clocks and memo pads). For this reason economic convergence is likened to Gilles Deleuze and Felix Guattari and their concept of deterritorialisation. Deterritorialisation can be described as:

a move away from a rigidly imposed hierarchical, arborescent context, which seeks to package things (concepts, objects, etc.) into discrete categorized units with singular coded meanings or identities, towards a zone of multiplicity and fluctuant identity, where meanings and operations flow freely between said things.

(Deleuze & Guattari, 1972).

Arjun Appadurai, however, states that deterritorialisation "affects the loyalties of groups (especially in the context of complex diasporas), their transnational manipulation of currencies, and other forms of wealth and investment, and the strategies of states; the loosening of the bonds between people, wealth and territories fundamentally alters the basis of cultural reproduction" (Appadurai, 1996:49). Appadurai was of the belief that the figurative dismantling of physical boundaries through beliefs such as globalisation, time-space compression and time-space distanciation had ultimately affected the way items were produced in the modern age. Items were no longer produced for specific markets in mind, as deterritorialisation had given rise to a global consciousness. Items (including cultural artefacts) were now produced to appease the global consumer.

According to Ronald Boque (1989:172), "philosopher Gilles Deleuze and the psychoanalyst and political activist Felix Guattari have been recognized as among the most important intellectual figures of their generation". Deleuze and Guattari conceptualised their idea of deterritorialisation in a manner which identifies that traditional notions of single-identities have become null and void. If, for example, a person were to purchase a video camera, it would be categorised simply as a video camera. If that same person were to merge the original video camera with a mobile phone, the result would not be termed a camera phone. Yet when mobile phone users take digital photographs and stream videos onto the Internet, they do this under the guise of "using their mobile phones", irrelevant of what technology they have used.

Currently, when sending emails from a mobile phone, there is a small amount of subtext which states that the email has been sent using a specific brand of phone, for example; this message was "sent using a Sony Ericsson mobile phone". Irrelevant of how the email was

sent, the content is generally the same. However, the same luxury is not afforded computer users. It might seem highly unusual for someone to read at the bottom of an email that "this message was sent from a Hewlett Packard desktop computer".

As the physical world gets figuratively smaller through ICTs, the digital world seems to expand exponentially. The question then needs to be asked; will ICT users ever feel unanimously comfortable or confident using digital technologies? As Thomas Valovic states, "this curiously contagious sense of enthusiasm for all things digital is still rampant, and, while seemingly harmless, it has been known to impair critical thinking in the sharpest of minds" (Valovic, 2000:12). Economic convergence relates primarily to the way in which the mobile phone has now become a multitude of different creations (all of which at one stage [individually] were discrete) and the way in which they have since become amalgamated into combined objects (in this instance, mobile phones).

It would seem obligatory on the manufacturer's part to offer the public an all-in-one ICT with which they can maintain their social lives and establish or maintain social connections, yet this is more complex than it may seem. Mobile phones can create social groups (in the form of techno or thumb tribes), yet they can lead to further subsequent marginalization from the population as a whole.

Economic convergence has led to the creation of a device that cannot be defined simply, yet has been accepted by the world at large as a mobile phone. While the primary function has remained the same (mobile telephonic capacity), the numerous applications and functions that have been added on throughout its brief history have changed its primary function. Mobile phones were created in order for users to contact others telephonically – either fixed or mobile. This primary function (telephonic dialogue) remains the pivotal factor for mobile phone ownership. Yet in contemporary society, mobile phones have countless associations, from safety and security, nuisances to necessities. While numerous inventions have progressed throughout history, mobile phones have changed drastically, as their primary function has been greatly altered.

According to Galletta and Zhang (2006:161),

> Mobile phones with SMS and chat services have totally redefined the level of technological proficiency and attitudes towards technology for individuals in large parts of the world. While the adoption of Internet services also includes an older generation, the biggest potential change comes from younger generations. For our youth, not being constantly connected through their mobile phones and chat services has already been defined as an abnormal situation, leading to abstinence situations.

> Galletta and Zhang (2006:161)

While it would not be incorrect to term a mobile phone as a "mobile phone", users are aware this term encompasses a lot more than communication technology. As the above quote suggests, the mobile phone as an item of significance affects younger users more than it does older ones, as the mobile phone has been embedded into younger users' lives, as opposed to older users, who still remember when they lived without mobile phones.

Ramifications

Mobile phones are evolving at an alarming rate. While they adapt their features to suit users' needs, their primary function will always be telephonic dialogue. Although mobile phone users may use a number of secondary functions, their primary reason for owning a mobile phone is still to communicate.

There are mutual benefits derived for both customers and producers of converged mobile technology as it gives the users a richer portable digital experience and this creates market demand for the products.

Cultural Convergence

Cultural convergence can be defined as "the decrease and obliteration in cultural and sub cultural uniqueness, accomplished, by and large, through the creation of a sanitised and trivialised regional and global commercial culture" (Artz and Kamalipour, 2003:131).

The information society can be characterised primarily through the commodification of information, and the way in which traditional forms of information transactions now have far-reaching effects on the physical spaces which society inhabits. According to Amjad Umar (2003:3), "we are living in an Internet-based digital age". This age is unique in the way that it has created platforms around which people and groups can congregate irrelevant of social standing or race. As defined by J. Michael Spector, Dirk Ifenthaler and Pedro Isaias, "the modern digital age is characterized by powerful information and communication technologies that can have a significant impact on learning" (Spector *et al*, 2010:03). The evident link between the information society and the digital age is thus regarded primarily through the access and usage of information in its numerous formats.

Traditionally, people would form groups for the simple reason of common factors. People would form groups due to similar traits such as age, location, race or sex. However, over time, these simple factors seemed to have become stretched, as people now maintain relationships that would previously have been hampered through physical limitations related to geography.

ICTs have created techno-cultures, in the way that people can now distinguish themselves from others through their preferential technologies. For example, when selecting a mobile phone, potential owners will identify new acquisitions through functionality and what best suits their particular needs. Business-orientated people may find BlackBerry mobile phones best suit their needs, as that particular mobile phone manufacturer is famed for its ease and ability to send and receive emails. On the other hand, a teenager may select a mobile phone which is better suited for video gaming or digital-music playback. These different features lead to group formation, as the new owners unwittingly fall into larger groups of people who own similar types of phones.

The key factor regarding cultural homogenisation, relating to mobile phone usage, is the way in which mobile phones provide the platform for group formation, yet they simultaneously maintain the ability to avoid the traditionally defining factors which groups normally use to exclude or include members. As Rebeiro-Hargrave and Sole state, mobile phones "allow subscribers to form groups and conduct peer-to-peer multimedia communication – that is, to enable users to set up and talk in their own groups" (Rebeiro-Hargrave and Sole, 2008:2).

For example; older mobile phone users can still use a phone that may appeal to younger users. The present scenario is that platforms of communication are hugely converged, yet simultaneously appeal to "individual groups". The single unifying-factor among all the different platforms is that they almost all provide the same service and provide access to the same content. In essence, although a particular mobile phone may appeal to a particular group or person, the mobile phone itself is not limited to that group or person in that it is not uncommon to find younger mobile phone users owning BlackBerrys, nor is it uncommon to find older mobile phone users owning phones geared toward video-gaming or music playback.

Cultural homogenization can be described as both a by-product of convergence, yet simultaneously a creator of further convergence. Through cultural homogenisation mobile phone owners can identify with potential group members through the manner in which they use and consume their mobile phones. However, this only leads to further differentiation from other people in society. If a businessman were to select a BlackBerry as his mobile phone of choice, he has made that selection not only through analytical processing of the phone's features, but through the subliminal processing of group association. As Richard Ling argues, "the adoption of the mobile telephone is not simply the action of an individual but, rather, of individuals aligning themselves with the peer culture in which they participate" (Ling, 2004:85).

The notion being suggested is that in many cases, the persona or personality of a particular individual is mirrored through the mobile phone they use. Regarding the way in which mobile phones are all marketed as individual, yet are strikingly similar in nature; Damian

Koh remarks, "aside from individual brand preferences, each manufacturer also has a series of devices catered for different audiences" (Koh, asia.cnet.com[23], 2009). While this would ring true in most cases, some individuals do not feel strongly enough about mobile phones to select one that aligns them with any particular group.

Figure 1.5

Table mapping the phone models produced by Sony Ericsson

Branding	Series	In a nutshell
Music	W	Music-centric phones with Walkman branding
	R	Basic AM/FM radio phones
Imaging	C	Camera-centric phones with Cyber-shot branding
	S	Used to index swivel phones, now represents the Snapshot category
	K	Previously used to index Cyber-shot phones
Mobile Web	M	Messaging-centric phones with QWERTY
	P	Professional series of smart phones
	G	Regular phones with touch screen and PIM features
	X	Premium series of "converged" smart phones
Lifestyle	F	Gaming-centric fun phones
	T	Phones that are focused on design
	J	Entry-level and basic phones
	Z	Clamshell, design-centric phones

Source: http://asia.cnet.com/reviews/mobilephones/0,39050603,62053604,00.htm. Published online April 27, 2009. Last accessed 16 August 2010.

Figure 1.4 features a table that outlines the different phone models produced by Sony Ericsson. The four primary categories listed under the "branding" column identify the type of mobile phone category a potential owner might fall into. The four categories relate to

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[23] http://asia.cnet.com/reviews/mobilephones/0,39050603,62053604,00.htm. Published online April 27, 2009. Last accessed 16 August 2010.

features a potential owner might be looking for when purchasing a new mobile phone. For example, if a person was looking for a camera orientated mobile phone, they could make use of the Imaging series, typified by the C, S and K categories.

This table can be studied against the following image, which maps out the different models produced by Samsung. Similarly to Sony Ericsson, Samsung have categorized their hardware portfolio into six similar categories, yet featuring the same ideology. These categories are; Style, Infotainment, Multimedia, Connected, Essential and Business. The first letter of each category correlates to a series of mobile phone, for example, the S-series, is based primarily on stylistic aspects of mobile phone usage.

Figure 1.6

Table mapping the phone models produced by Samsung
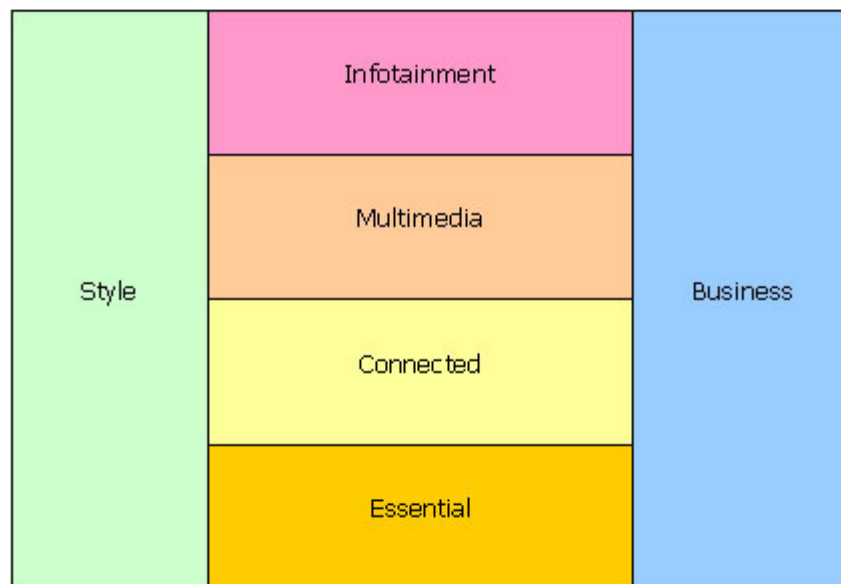
source: http://asia.cnet.com/reviews/mobilephones/0,39050603,62047625,00.htm.. Published online April 27, 2009. Last accessed 16 August 2010.

When viewing the above table, mobile phone manufacturers require all handset owners to essentially fit into one or more of these categories. While mobile phone owners may feel their personal handsets tend to homogenize the gaps between, for example, Style and

Business, it seems that the two are on opposite ends of the spectrum according to Samsung. With current mobile phone trends, the lines drawn between these categories are merging. While these categories may have held true for earlier models of mobile phones, they are less applicable to the current generation. As technological boundaries are merged, so are the styles of handsets evolving. The mobile phone is becoming ever more encompassing.

Ramifications

Mobile phones offer users the facility to connect to social networks. Thus they are often described as social tools as they are used by people for communicating with friends and family. Mobile phones can be group forming, yet they can simultaneously exclude people from other groups. Mobile phone users often identify themselves with other mobile phone users of similar applications or brands of mobile phones. For example, BlackBerrys application BlackBerry Messenger (BBM) is a typical example of how mobile phones affect people culturally. BlackBerry Messenger is a social-networking tool that provides cost-effective communication among "added" friends (people who have supplied another person with their BBM identity pin – thus enabling dialogue).

While BBM offers users the chance to communicate cost-effectively with their friends, it simultaneously excludes people who do not own the feature as a current trend among mobile phone users is to own a BlackBerry and to use and participate in BBM-based communication. It has to be noted however, that BBM is an optional closed network feature and is not included standard with Blackberry mobile phones, although it can be easily downloaded for a small fee via the phones' application portal. While some mobile phone users may not be able to afford a BlackBerry, others may steer clear of Blackberry's due to a perception surrounding the 'yuppie' image and constant connection, which BlackBerrys provide. For some, constant mobile connection is a pre-requisite for modern life, while for others it is a nuisance.

While mobile phones are homogenous, they still offer the ability to be customised as they are encoded (Hall, 1973) by their owners. Cultural convergence in mobile phones adds an emotional dimension to a technology-based medium. While examining cultural convergence among mobile phone users it was evident that people had specific cultural reasons for mobile phone adoption.

Globalised Convergence

Globalisation has been subjected to much debate from academics in an attempt to reach an objective definition that can be agreed upon by all. However, such is the nature of globalisation that to different people from different backgrounds, it will mean different things. Globalisation affects the whole world, irrelevant of social, economic or political status. According to Anthony Giddens, there are three phases in globalisation. The first phase aimed to understand whether or not globalisation actually existed. The second phase, having taken cognisance of the existence of globalisation aimed to identify the consequences of globalisation. The third phase can be described as a reaction to the negative consequences of globalisation (Rantanen, 2005:04).

Globalisation is a term used to describe "a recent intensification of networks, alliances and interconnections in economics, cultures and politics and the particular form that they now take rather than the occurrences themselves" (Hartley, 2002:97-98). Giddens himself defines globalisation similarly as "the intensification of world-wide social relations, which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa" (Giddens, 1990:64).

When dealing with globalisation, the leading theorist (with regards to globalisation and cultural studies) is without doubt Manuel Castells (see Munck, 2002, Jones 2010). Castells has published many of his writings on globalisation, and is famed primarily for his writings on the network society and the information society and the way these societies are connected to the world in which we live. The network society refers to Castells's belief that "contemporary society is characterised by key social structures and activities that are organised around electronically processed information networks" (Castells, 2000:96). Castells highlights the fact that the world has become dependant on networked living, in that people need to be connected to the world they live in. Mobile phones, networked computers and eMail are all tools of the network society in the manner that they aid

communication across the globe, and help owners maintain their connections to the global network.

This term can lead to much speculation and debate among the academic community depending primarily on the field in which they study. Political science students, when negotiating definitions of globalisation may focus on inter-country relations, whereas commerce-based students may focus on a trade-based definition. However, the above definition has been selected as it seems to maintain something of a happy medium among the different fields of study.

The key factor in the above definition presented by Hartley (2002:97-98) is the focus on the "intensification of networks, alliances and interconnections". Globalisation and the processes they detail are not new to the world. Trade relations have been in existence for centuries, starting with the spice trade roughly 2000 years ago). The spice trade was a "commercial activity of ancient origin which involved the merchandising of spices, incense, herbs, drugs and opium" (Encyclopaedia Britannica Contributors, 2002). What can be gained from this is that international trade occurred between nations. Nations realised that not all items they wanted grew or could be attained locally and thus, sought them from other countries.

Alliances have been forged for centuries, of which the most notable were early political alliances between countries in times when wars were rife. These alliances still occur today, but most notably through negotiated trade relations. These trade relations are forged in an attempt to strengthen relations between two countries, although the evident benefits of trade relations are almost always economic gain. Hartley acknowledges how the processes inherent in his definition of globalisation are not new, but it is rather the *intensification* of these processes which characterises the development of globalisation since the late 20th century.

As stated by INC Icon group International in a 2008 publication, "modern information technology has made the world smaller than it has been in the past" (Mueller and INC Icon Group Contributors, 2008:204), see Harvey 1990 (time-space compression), and Giddens

1981 (time-space distanciation). The belief is that the world is not being made physically smaller, but with advancements in ICTs like 3G or video-calling, it may *seem* that the world is getting smaller, as society is no longer limited physically through geographical limitations. In the past, information exchange could take extended periods of time, but in contemporary society, information can be exchanged almost instantly.

As the world gets figuratively smaller, yet simultaneously gets faster, people in positions of power (management level) often expect more from their superior subjects. This relates to the fact that there is rarely a valid reason for being late, either physically or digitally (via video-conferencing, video-calling or even audio-calling). People now have the freedom to access information much faster, albeit at a reasonably higher price. Most notably Herbert Schiller wrote in his 1989 book, *Culture Inc,* "the commodification of information is the most significant feature of the information society" (Schiller, 1989).

By deduction, to be an active participant in the information society, one would need to actively pursue information, or at least have *access to* the aforementioned information. If the most popular[24] or common way currently to access information were through a particular medium, a person failing to do so would be marginalised from the society.

In contemporary society[25], one of the most prevalent ICTs statistically are mobile phones, due to the fact they are generally cheaper than computers, offer mobility, and are densely converged platforms. It is suggested that if a person wants to participate in the information society they are required to own a mobile phone.

This leads to *globalised convergence.* Globalised convergence dictates that through hegemonic dominance and globalisation, ICT users are *forced* into using mobile communications technologies in order to maintain connections to the global networks with which they identify themselves.

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[24] The term popular is not used to show positive opinions, more to show that it is common among the general public.
[25]For the purpose of this essay, it should be stated that it is the belief of the author that society is currently in a state of limbo, between the digital age and the information society, as the two tend to 'feed' off one another.

While people are not physically or legally forced to own mobile phones, it is often *implied* by people in positions of power or relations (family/friends) that other people own mobile phones. As stated above, an emphasis is placed on there being a great difference between merely owning a mobile phone and actively using one. While some may feel that owning but not using a mobile phone is tantamount to not owning one that would only happen in extreme cases. Some people are forced to own mobile phones by parents, partners or employers.

For example, in *After the Mobile Phone* by Maren Hartmann, Patrick Rossler and Joachim Hoflich (2008), the authors relate the story of a Turkish migrant to Germany and the manner in which he adopted a mobile phone in order to appease the group of people with whom he had assimilated himself in his new country. The emphasis of the book rings true through many mobile phone owners. The authors stated "the pressure of being mobile-connected can be explained by the lifestyle within that young hip-hop community, in which the future-orientated technological image of the mobile phone seems to be as important as its practical use as a tool of contact while on the move" (Hartmann *et al*, 2008:140).

This is an example of the implied pressure often directed towards people marginalised by certain groups. In this instance it implies pressure on someone who had not yet adopted a mobile phone. The pressure was implied, as it was not stated that he must adopt a mobile phone by his group, but it was rather expected.

Parents often give their children mobile phones in order to provide them with the security of being in contact (with family or law enforcement), whilst simultaneously the parents are afforded peace of mind knowing that if their children are stuck in an emergency, they can call someone. The same can be said for people giving their partners mobile phones for the same reasons.

In a more formal process, employers might provide their employees mobile phones to keep in contact with clients or their workplace. While employees still maintain the ability to refuse the offer of a mobile phone, they still would expect to have a handset for work reasons. As Richard Watson states, "In business, analysts have noted that 40-50% of all

business cell phone calls are made in sight of a desk phone," Watson, 2009:ix). It was reported in the AFP (Agence France-Presse) that US-president Barack Obama "won his first battle – to keep his BlackBerry[26]" (AFP, 22 January 2009).

President Obama had become so used to using his BlackBerry that he had to fight with the United States Secret Service to keep his own personal phone as they felt that it was a security risk for the American president to own a personal, un-monitored mobile phone. This in itself is a prime example of mobile reliance, and the lengths to which some people are willing to go in order to retain their own sense nodes of information and communication.

 While many employers would deny "forcing" their employees to use work-funded mobile phones, many would not refuse the offer, since the employees would otherwise have to finance all work-related calls themselves. The world has become such a mobile place, that businesses can be maintained "on the go", and a mobile phone user could stay connected to their work, even having left the office.

Mobile phones and other major ICTs provide their owners the ability to transcend physical space, in the way that they now offer their users the ability to perform functions and tasks that were traditionally (physically) linked to specific areas. As users become more and more reliant on ICTs, employers will use this reliance and dependence on ICTs to further their own agendas. While an employee cannot take their place of employment home with them, they can however take their mobile phone and or laptops home with them.

Ramifications

Globalised convergence identifies how contemporary mobile phone users adopt their mobile phones and identifies the pressures placed upon them by modern society. Mobile phones are ICTs; they are tools for communication that provide users with convenience

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[26] http://www.google.com/hostednews/afp/article/ALeqM5jyFFFAJ6juER53cL3l0gKotHO5sA.

and safety, whilst simultaneously allowing them to maintain contact friends and family. The factors leading people to adopt mobile phones are not easily quantifiable; all users experience some degree of social pressure. While the degree of pressure varies, all mobile phone users surveyed had been pressured into owning a mobile phone.

Globalised convergence dictates that through hegemonic dominance and globalisation, mobile phone users are *compelled* to use mobile communications technologies to remain connected to the global networks. In order to be an active member of the information society, people need to actively pursue information, or at least have access to it (information).

While many mobile phone users may deny the existence of the aforementioned pressure, this is contradicted by the data analysis in Chapter Seven, where such pressure becomes quite evident. As mentioned previously, the degree of pressure varies, and can come from a number of different sources. These sources comprise primarily of friends, family and work-colleagues, although within the macro-scale, pressure often emanates from society as a whole, as the need to be connected and stay informed becomes increasingly important.

Chapter Five

Research Methodology

The methodology section of the research project defines the methods employed to gather the research findings, and outline exactly how the research was conducted. A research methodology is important in a post-graduate dissertation as it shows the thought processes employed by the researcher, and more importantly, the reasons why they have chosen to make use of certain methods. The numerous methods employed throughout the research and data gathering processes of the dissertation will be analysed and studied in detail in order to understand the function of each method and how they affect the overall study.

Paradigms

Paradigms can be defined as "different ways of knowing based on different sets of interrelated assumptions about theory and research" (Merrigan and Huston, 2004:326). A paradigm is used to identify how a researcher approaches his or her dissertation, and the manner in which they use and interpret their information and theory or theories.

A more academically respected definition of a paradigm, would define it as "a society's dominant belief structure that organizes the way that people perceive and interpret the functioning of the world around them" (Fisher, 1984:7).

An information technology paradigm has been employed for this dissertation. Manuel Castells created the information technology paradigm, although it is ultimately a reworked version of a simple technology paradigm by Thomas Kuhn in his 1962 work titled *The Structure of Scientific Revolutions.* Castells states the information technology paradigm "helps to organize the essence of current technological transformation as it interacts with economy and society" (Castells, 1996:61). Thus the information technology paradigm is useful for this dissertation, as this dissertation deals with mobile phones and how they have been adopted by the people that use them.

This information technology paradigm is characterised by five prominent features which differentiate this paradigm from other structures of knowledge. The first characteristic of the information technology paradigm is that "information is its raw material: *these are technologies to act on information*, not just information to act on technology, as was in the case with previous technological revolutions" (Castells, 1996:61). With many ICTs, the defining feature is that those individual technologies are all primarily concerned with the flow of information, a characteristic of globalisation. Living in a networked society (as stated frequently by Castells) ICTs feature prominently in the public sphere, and should be studied in order to assess how they affect the society by whom they are being used.

The second feature is a "*pervasiveness of effects of new technologies*" (Castells, 1996:61). This pervasiveness of effects relays the manner in which human communication processes are ultimately shaped by the manner or medium of communication. People will often change the nature of their communication depending on the mode of communication, as for example, text messages are often interpreted as informal processes of communication which garner the use of slang, whereas phone calls or emails may be seen to be more formal processes requiring the use of a more formal tone.

However, the manner of language used in mobile communication will always be related to who the dialogue is between. Emails and phone calls may be deemed more formal than text messaging, as text messaging is not a very formal process of communication due to their often short length. According to Teresa Luckey and Joseph Phillips, "email can be either formal or informal depending on the context", whereas "it's quick and efficient to communicate through IM (Instant Messaging) or by sending text messages" (Luckey & Phillips: 2006:105).   Communication is a two step process of sender and receiver, however the *pervasiveness of effects of new technologies* relates to the manner in which the message is sent and subsequently received.

The third characteristic refers to "the *networking logic* of any system or set of relationships using these new information technologies" (Castells, 1996:61).   Furthermore, "the morphology of the network seems to be well adapted to increasing complexity of interaction and to unpredictable patterns of development arising from the creative power

of such interaction" (Castells, 1996:61). Due to the nature of ICT communication, which often occurs among previously established networked connections, ICTs have both the ability to create and destroy connections, although this remains dependent on the users themselves. ICT usage can lead to group formation, yet it can also be responsible for subsequent group marginalisation, both internally and externally related to the group. This has already been discussed in greater detail in Chapter Four.

The fourth characteristic of the information technology paradigm is that of *flexibility*. "Not only processes are reversible, but organizations and institutions can be modified, and even fundamentally altered, by rearranging their components" (Castells, 1996:62). Mobile phones are customisable tools which users can tailor to suit their own specific needs or wants; they are flexible items.

This notion of flexibility in today's current mobile phone market is highlighted with android-based operating systems. Android systems are famed for their bespoke qualities which allow users to customise their mobile phones by downloading applications which suit their needs and wants. This as opposed to traditional operating systems, through which applications can only be downloaded via specific websites, as opposed to open-source android applications which can be downloaded from a large number of sources. For example, Apple iPhone owners are required to download *most* of their applications from the iStore (a web-based shop for iPhone users). While they can download applications form other sources, these secondary sources are difficult to find and are not supported by Apple.

The fifth and final characteristic of the information technology paradigm is the "growing convergence of specific technologies into a highly integrated system, within which old, separate technological trajectories become literally indistinguishable" (Castells, 1996:62). The most noteworthy characteristic of this paradigm is that it takes cognisance of the fact that ICTs are evolving and becoming converged to the point where they are wholly indistinguishable from among their own classification, similar in nature to the aforementioned concept of Deleuze and Guattaris' deterritorialisation.

The following are a number of methods that have been employed throughout the data gathering process.

Subjective Research

Subjective research is a style of research which is characterised by the inclusion of subjective writing. Subjectivity can be defined as "our human ability to know using our minds, based on our thoughts and feelings" (Merrigan and Huston, 2004:329). On the corollary, objectivity is defined as "the process of knowing 'reality' as it is perceived rather than believing in 'reality' independent of the knower's mind" (Baxter and Babbie, 2004:429). Essentially the authors are trying to propose that there is a difference between *assuming* (subjective) that something exists as it appears real in someone's fragment of reality, and *knowing* (objective) that something exists as factual.

If it were to be said that Nokia is one of the biggest mobile phone providers on the planet, this *may* be true, and may be true according to most mobile phone users. However, this is a subjective statement as what appears factual to numerous people is not always factually correct unless academically or statistically proven at particular time. According to Adrian Haberberg and Alison Rieple in their 2008 publication *Strategic Management: Theory and Application*, "Nokia, the world's biggest mobile phone manufacturer, had a bad year in 2004" (Haberberg and Rieple, 2008: 537). This is an objective statement, as it is a formal statement which is in a published resource, which can lead to the assumption that these authors have correctly checked their facts and have correctly conducted their research to make a statement that is factually correct. While it could ultimately prove an incorrect assumption, the researcher has to trust these authors (to a certain degree), as quoting and referencing other authors is the backbone of academic research.

Subjectivity is a style of writing in which the reader finds evidence that the writer has personal opinions or convictions on the matter at hand. Subjective research is often frowned upon in academic circles, as academia requires academics to separate fact from fiction; fact being the realm of objectivity. An example of a subjective stance would be to say that; "all mobile phones have in-built cameras". While this may seem true at times, factually this would be an incorrect statement. That would be a prime example of a subjective phrase, as personal conviction is inherent in the writing, and makes no use of facts or official figures.

Objective Research

Having read numerous books and publications on research approaches, it seems necessary to state the overall position taken with regard to this dissertation. How is it possible for a researcher to study a field in which they should have a great deal of interest, yet conduct research that shows no trace of personal opinion on the matter at hand? In *The Basics of Communication Research* by Baxter and Babbie (2004), in the glossary, under the heading of *objectivity* it reads "Doesn't exist; see *intersubjectivity* and Chapter 3" (Baxter and Babbie, 2004:426). This statement itself could be the perfect example of a subjective position on the matter of objectivity versus subjectivity. In academic writing, the researcher is expected to distance him or herself from their study, in a way that makes their motives and aims transparent to all.

Objectivity is defined as "not influenced by personal feelings or opinions" (Deely, 2010:14). This is one of the key problems in the objectivity versus subjectivity debate. Is it possible for someone to write in a completely objective manner? The problem is that researchers conduct studies in fields or areas of expertise which interest *them*. If one has read in a particular field, then they *should* have a subjective approach on the subject matter, due in part to them having previously selected their reading materials.

Objectivity implies that a researcher is to have no personal feelings toward a given topic, yet research is conducted by people or academics who feel compelled to conduct studies. If studies were conducted objectively, by researchers who had no personal opinion on the topic of enquiry, then they would have no personal passion for their written work. Objective writing is a difficult process as it requires the researcher to separate their passion from their production. Albeit difficult, objectivity is void of bias and must always be employed when conducting scientific research.

Nomothetic Research

Nomothetic research is a style of research where the researcher employs one key methodological approach to explain his/her research findings (unlike a paradigm, which deals with the way a researcher approaches his/her dissertation). The primary reason for making use of a nomothetic approach is in order for the researcher not to over-think his/her research findings, and make them unnecessarily complicated. Nomothetic research is defined as an "approach to explanation in which we seek to identify a few features that generally characterise a class of conditions or events" (Baxter and Babbie, 2004: 425).

For this dissertation, a nomothetic approach was the most compatible approach of explanation. It is a simple approach, which if used correctly can help a researcher to sift through larger volumes of explanations or reasons and select the key explanations for a particular situation. Often academics provide so many explanations or reasons for particular events, that the core argument is shrouded in peripheral explanations that take away more from the explanation than they provide.

Scientific Inquiry

Scientific inquiry is a form of research in which the researcher uses observation in conjunction with their own logic, without delving into the realm of subjectivity. A scientific inquiry is necessary when dealing with a project that has shorter space limitations than most other dissertations, as a researcher will be able to logically select the most important factors to include and or exclude. A scientific inquiry is defined as "a rigorous process in which both logic and observation are used to understand the social or natural world" (Baxter and Babbie, 2004: 428).

While this may seem a straightforward method of conducting research, it is used as a formal process in which the researcher primarily states the manner in which they will approach their research, much like a paradigm. A scientific inquiry is beneficial for

researchers as it gives them more power to use their own minds rather than to quote popular academics without well and truly understanding the subject/idea itself. Through a scientific inquiry, the researcher is able to use logic to determine whether or not a particular factor will be relevant or irrelevant to his or her research. The scientific inquiry has been employed as a manner of filtering the valuable work from the work that is deemed non-valuable.

Active Member Role

An active member role is a "kind of qualitative fieldwork in which the researcher engages in many, but not all of the activities of the group being studied" (Baxter and Babbie, 2004:419). Studying a topic as "global" as mobile phone trends or usage patterns makes many mobile phone researchers finding they employ the role of an active member from within the group they are studying.

While an active member role may be linked to subjectivity, some might feel that all researchers *should* take on an active member role when conducting research. Being involved with or having a passion for one's research topic should be promoted within academic circles, as the researcher immediately has a form of inside knowledge on his/her subject of choice. This would be better than, for example, a researcher studying something 'foreign' to them for which they would have to conduct pre-study research to gain a basic understanding of their research group. Being an 'active member' allows for the researcher to hasten the time with which they can filter through possible included theories or concepts, as they can relate to the work and quickly deem the information useful or not.

Observer-As-Participant Role

The observer-as-participant role is defined as "a form of qualitative fieldwork in which a researcher has minimal involvement with group members, and group members are aware of the researcher's role" (Baxter and Babbie, 2004:426).

This role further helped to retain a sense of formality throughout the interviews and group sessions, as it helped facilitate power-relations as researcher-interviewee, rather than Colin Murphy (researcher) – and an associate. This role, as stated by Baxter and Babbie, is used well in conjunction with interviewing, which is "the foremost activity of the observer-as-participant role" (Baxter and Babbie, 2004:426). The observer-as-participant helped to formalise the data gathering process, as most of the subjects had previously-established relationships with the researcher. In order to provide a sense of formality and to ensure the subjects approached the research in positive manner, the researcher took on an observer-as-participant role. The research data was gathered from under-graduate students who had pre-existing relationships with the researcher. The sample group were all students who were being tutored by the researcher. This made it easier to employ the role of observer-as-participant as there were already pre-existing power-relations between the researcher and the subjects.

Constant Comparative Method/Inductive Reasoning

The constant-comparative method is "a process of deriving categories of meaning inductively from qualitative textual data" (Baxter and Babbie, 2004:420). This entails the researcher, via his or her qualitative research findings, will categorise results into groupings in order to create fictional profiles of mobile phone users. This was done in order for people to be able to relate to the research findings of this dissertation on a more personal level. If the researcher were to merely list a few characteristics of mobile phone users, it may seem mundane for the average reader. However, if the researcher were to

contextualise his or her research findings with mobile phone users in their groups as they exist in society (namely digital natives and digital immigrants) then readers may seem more content with the findings. This as a process can be inextricably linked to inductive reasoning.

Inductive Reasoning

Inductive reasoning is defined as "the process of making a generalization based on a limited number of observations or examples" (Sonnabend, 2009:05). While inductive reasoning is a beneficial process of reasoning for the social sciences (due to the fact that human nature can be assumed but never correctly predicted), it is also beneficial for this dissertation in the way that there are a limited amount of test subjects, which number around forty.

Profiling certain characteristics of mobile users is necessary for this dissertation, as it would be nearly impossible to conduct an in-depth study comparing the mobile phone adoption patterns of forty unique individuals, each with their own histories and situations, and expect to attain a uniform set of results. Grouping together two particular groups of people (namely digital immigrants and digital natives) will help to study them against one another which will make their differences more pronounced.

Sample Selection

Sample selection is important in academic research, as the evidence or findings gathered from a research group will essentially validate or invalidate a researcher's hypothesis when the evidence is viewed in light of gathered literature, theories and concepts. For this dissertation, a particular sample frame has been kept in mind from the very beginning of the research dissertation. This dissertation has required a sample group of two distinct age brackets. Two sample groups have been used for this dissertation in an attempt to chart the rise of mobile adoption rates over the last twenty years, and as such, one sample group did

not suffice. This was done in order to understand if there was a significant factor among both groups which led to the mass adoption of the mobile phone collectively over the last twenty years.

Convenience sampling was employed throughout this dissertation. Convenience sampling is a process of gathering information in which "a sample is selected as it is easy to obtain" (Ibrahim, 1998:133). While it is debatable to say that the gathered group was selected as they were 'easy' to obtain, the nature of the dissertation did not require gathering the sample at random or questioning strangers. The research bracket was selected according to the literature of Marc Prensky and the way he describes his digital immigrants and digital natives. Asking people *general* questions about their mobile phone adoption patterns is not a personal action, as that would be more of a content-related dissertation.

The first sample group, as outlined by Prensky, were digital natives. This group was made up of younger people who were born after the digital revolution, in a way, people who are native to the new era (digital era). As Prensky states, digital natives are made up of people who "have spent their entire lives surrounded by and using computers, video games, digital music players, video cams, cell phones, and all the other toys and tools of the digital age" (Prensky, 2001:01).

The second sample group, according to Prensky, were *digital immigrants*. Prensky states that digital immigrants are "those of us who were not born in the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology" (Prensky, 2001: 01-02). Digital immigrants are people who were not born in the digital world (around the early 1980s when the digital revolution had just begun). A rough calculation thus safely quantifies digital immigrants as being anyone over the age of around 30-35 years of age. It would be safe to say that anyone over the age of 35 (as of the year 2010) did not grow up in the digital world, and thus, are not *native* to that particular world.

It is evident that while convenience sampling has been employed, the two selected groups are rather distinct and well characterised. These two samples were well suited to the dissertation, as they provided information which could be compared and contrasted

against one another, in order to find common or uncommon characteristics which could help validate the outlined hypothesis. The sample group comprised people of all different races and backgrounds, although they all shared the common factor of currently living in Durban, KwaZulu Natal.

Data gathering

The primary method of gathering data was distributing questionnaires among associates for them to fill out. These questionnaires were only a few pages in length and were straightforward and simple so as not to lose the recipients attention. This was done so that completing the questionnaires did not take up too much of the respondents' personal time. There was no limit on the time the recipients had to complete the questionnaire, although it was *requested* that respondents attempt to complete the questionnaire within a few days. This was employed in order for the subjects to complete the questionnaire succinctly, in order for the researcher to continue with the collation of data. As stated previously, a nomothetic approach was applied to the dissertation, using only questionnaires to gather qualitative data from the respondents.

Chapter Six

Data Collation and Analysis

The data collation and analysis section of this dissertation will provide the reader with an overview of the research questionnaire, and the primary data that was gathered from the interviews. The data will be analysed in two main sections, as the data gathered from the digital natives will be analysed against the data gathered from the digital immigrants and *vice versa.* Each question will be dealt with independently, and within the context of the two groups, in an attempt to gain a greater understanding of not only what actions are taking place, but why they are taking place.

The questionnaires comprised 13 open-ended questions which were presented to forty selected subjects (twenty to the digital natives, and twenty to the digital immigrants).

The first problem posed to the respondents asked them whether or not they owned a mobile phone. This was asked almost as a formality and did not garner a number, and was posed mainly in order to ensure that all respondents were eligible to partake in this research project. Among the digital natives, mobile phone ownership was 80%. However, it can be surmised that 20% of the group must have inadvertently overlooked the first question, as all respondents continued to answer the rest of the questionnaire (which indicated that they all *used* mobile phones).

Of the digital immigrants, 90% of the respondents marked that they owned a mobile phone. Similar to the digital native data, 10% of the respondents marked neither of the "yes" or "no" boxes, yet they continued to complete the entire questionnaire.

Question One

Question one asked the respondents how long they had owned mobile phones. Almost all the respondents provided their estimated figure in year denominations (which on its own is testament to the enduring nature of the mobile phone). The figures were collated, and

divided in order to attain an average figure which could represent the particular group from which the data was attained. Of the digital natives, the average duration of mobile phone ownership was collated as being 7.8 years; while on the corollary, this figure was as high as 9.6 years for digital immigrants.

The key reasons for these figures being different are age and income differences between the groups. Digital immigrants are more likely to adopt an "expensive" technology (expensive for students as their incomes are usually lower than adults). Digital natives' mobile phone adoption traits are more dependent on others, as many of their mobile phones are purchased by their parents or older family members.

A noteworthy factor that featured throughout much of the data gathering and collation processes was "spikes" in gathered data. For example, digital natives on average have owned mobile phones for around 7.8 years. However, the data ranged from as low as four years, to as high as 12 years. While on the other hand, the data gathered from digital immigrants ranged from as low as one year, to as long as 15 years.

The key difference is that the "average" duration of ownership objectively represents digital natives, but is less applicable to digital immigrants due to large data "spikes" in the data. The common factor being proposed is that all the digital natives sampled have owned mobile phones for similar durations of time. This could be attributed to their similar age, although this cannot be a factor which could wholly explain duration of mobile phone ownership.

While the data gathered is not of a personal nature, in order to approach the data objectively none of the respondents will be dealt with by their birth names, but rather simple aliases.

For example; subject one was born in July 1961 (currently 50 years old); while subject two was born in November 1963 (currently 47 years old). There is roughly a two year age difference between the two subjects, who are both digital immigrants. However, subject one has only owned a mobile phone for 2 years, while subject two has owned a mobile

phone for 15 years. As stated above, these wide-ranging results are less-representative of digital immigrants as a group.

Question Two

Question two addressed the primary reasons for owning a mobile phone. While the reasons varied greatly among all the respondents, there were some common factors that constantly re-emerged from the gathered data. According to digital natives, the primary reasons for owning mobile phones were to stay in contact with friends and family, essentially to communicate and or maintain established connections.

On the corollary, digital immigrants stressed that their primary reasons for owning a mobile phone was for work-related reasons. This difference is primarily due to the fact that most of the digital immigrants (70%) were currently employed full-time. Of the digital natives, most were students, and not currently employed on a full-time basis. Their primary focus was aimed at completing their undergraduate degrees, while digital natives were mostly focused on their current employment.

When asked the primary reasons for owning a mobile phone, many digital natives replied with their primary reasons and also provided "secondary" reasons for owning a mobile phone. These secondary reasons proposed that they owned phones for social networking and instant messaging (mostly notably through Mxit and BlackBerry Messenger –BBM).

However, most of the digital immigrants only stated that the primary reason for owning a mobile phone was for work; most did not offer any peripheral reasons for owning a mobile phone. A pattern began to emerge as early as the second question (out of a total of roughly thirteen questions), that digital natives believed their mobile phone habits tended to focus on social-related uses, whereas digital immigrants stated that their mobile phone habits focused more towards work-related functions.

Question Three

Question three asked the respondents if anyone had encouraged them to "adopt" a mobile phone. This question was posed to the two groups in order to understand if they were pressured into owning a mobile phone, without actually asking them if they were "forced" to own a mobile phone. When asked this question, digital natives proposed that 75% of their group had been "encouraged" to adopt a mobile phone, primarily by family and friends. When asked the same question, digital immigrants presented that 86% of them had been "encouraged" to get a mobile phone, primarily through their family and employers. The difference in percentages among the two groups could suggest that adoption influence is decreasing (from 86% to 75%).

However, this could only be objectively proven with data gathered from a larger sample group. This decrease could be attributed to the mobile phone becoming a mainstream item, and it is now more widely assumed that people own mobile phones. Fifteen to twenty years ago it would have been much less common for people to own mobile phones, as they were not as popular or commonplace. Therefore it can be assumed that it would have been more common for digital immigrants to have been encouraged by others to adopt a mobile phone. With mobile phones currently entrenched in contemporary society, there is less need for people to be encouraged to adopt a mobile phone as it is just something of a normal thing to do (see page 53 – regarding the Turkish immigrant to Germany).

Again, sticking to the aforementioned pattern of mobile phone habits, both digital natives and immigrants were encouraged to adopt a mobile phone by the same people they would ultimately use their mobile phones to stay in contact with. The core reason for getting a mobile phone remains to stay connected to the people around them, "inside" their social spheres. Overall, it can be concluded that both digital natives and digital immigrants were encouraged to adopt a mobile phone, in order to maintain relations with family, friends and work.

This question relates primarily to aforementioned concept of globalised convergence, by which through hegemonic dominance and globalisation, users are *forced* into using mobile communications technologies in order to maintain connections to the global networks with which they assimilate themselves. While there is a difference between being encouraged to adopt a mobile phone and being forced to adopt one, there is a definite link between the two. In some situations, people may be "encouraged" to own a mobile phone, although the underlying implication is that mobile phone adoption is a necessity. This situation often takes place in the contemporary workplace, where companies offer their employees "free" mobile phones. While they are offered to them, the prerequisite is that the employee will *have to* own a mobile phone to stay connected with work.

Question Four

Question four asked the two groups who financed their mobile phone expenses. The results were almost pre-empted in the way that the difference in age and income would have an direct impact on the data achieved. Of the digital natives, 45% relayed that they themselves paid for their mobile phones, while 55% responded that their mobile phones were financed by either their parents or extended family (grandparents, aunts or uncles). Of the digital immigrants, 85% relayed that they themselves paid for their mobile phones, while the remaining 15% responded that their mobile phones were financed by their employers.

While the exact figures of this question were not expected, the difference in financial dependence was expected. It was assumed that this would be evident, owing to the fact that all the digital natives questioned were full-time university students. Whereas on the other hand, the majority of the digital immigrants questioned either had full-time employment or a spouse/partner who financed their mobile phone expenses. This question is unique as it relays the fact that even though digital natives do not have the financial independence of the digital immigrants, they are adopting mobile phones without financial independence. Thus it can be concluded, that under the right circumstances, mobile phone adoption is not immediately linked to financial independence, as often mobile phones are being financed by third parties (family or work).

However, it must be noted that there is a big difference between financial situation and financial independence. Mobile phone usage by nature is directly linked to financial situation. This cannot be confused with financial independence, by which a consumer has the ability to provide for him or herself financially, as opposed to financial situation by which a person might have some money but not all key responsibilities relating to financial independence.

<div align="center">Question Five</div>

Question five asked the two groups how long they spent using their mobile phone on a daily basis. On average, the digital natives proposed that they spent 5.8 hours a day using their mobile phones. Whereas on the other hand, the digital immigrants stated that they used their mobile phones for an average of one hour per day. The main reason for this result being so different is the fact that the digital natives group comprised solely of full-time university students who have more "leisure time" than their digital immigrant counterparts to socialise using technology. The digital natives were not using their phones for business-related functions, but rather they were using their phones for leisure purposes.

A key factor in this question and its subsequent research findings is the way in which the responses varied between the two groups of participants. The average of one hour relayed from data gathered from the digital immigrants can be said to have been increased by a few members of the group who spent a large amount of time on their mobile phones, as opposed to the vast majority of that group who spent minimal time using their mobile phones. If the data gathered from the two groups were put into a graph format, the images formed would be very different in appearance.

For example; a graph of question five's results as attained from a group of digital natives would look similar to that of the image below (Figure 1.6). The curved line often stays within a 6-point range, and can be said to be well-representative of the actual group.

Figure 1.7
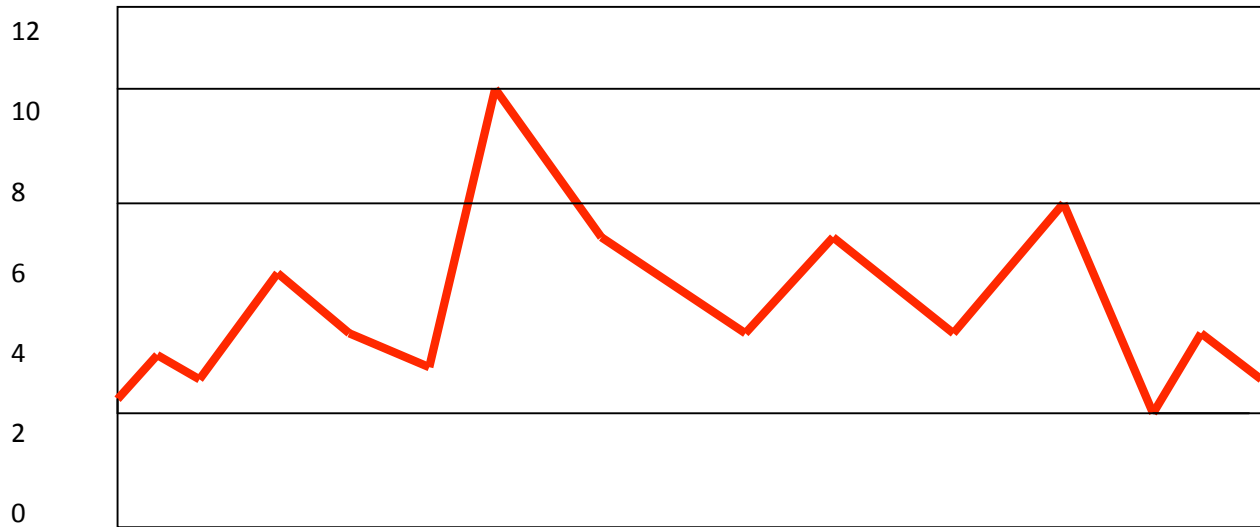
As one can see, the line more often than not stays within the described 6-point range (the range being generally between points 2 and 8), although it may spike from time to time and journey outside of the expected range. This is representative of the digital natives.

Figure 1.8
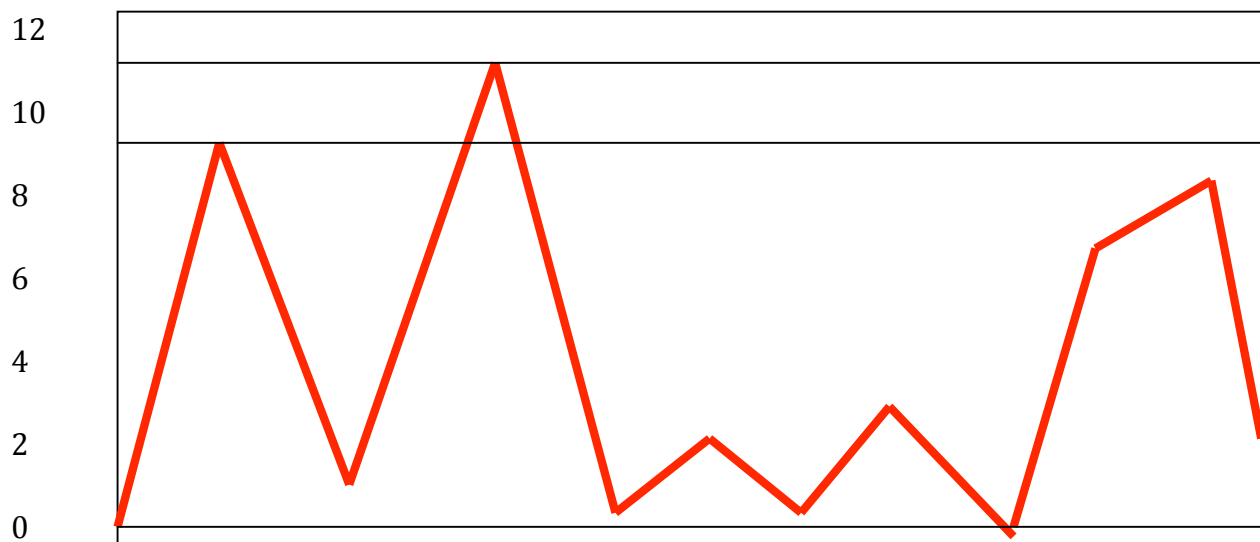
As one can see, Figure 1.7 displays a wider-ranged graph, as the results displayed regularly fall inside of the larger 9-point range. The instances of extreme highs and extreme lows average the data out, but the average is mis-representative of many of the respondents. These figures do not represent exact figures, but have only been used to provide graphical examples of data similar in nature to highlight the example being discussed.

<div align="center">Question Six</div>

Question six asked the respondents to provide a percentage to represent how much time they spent (of their pre-determined daily estimate – question five) using their mobile phones for *social purposes*. Of this, the digital natives average estimate was 75%, which roughly translates to 4.35 hours a day (of the pre-determined 5.8 hour average) being devoted solely to social networking and socialising with family and friends. On the corollary, the digital immigrants on average felt that they devoted 53% of their total daily usage to social reasons. That equates to 31.5 minutes on average a day spent socialising or using their mobile phones for non-work related purposes. While it contradicts previous information obtained from the same group on page 70, it must still be taken into account as a separate finding, rather than viewing it in light of previous information.

This is a noteworthy factor as throughout most of the questionnaires, the general consensus (as gathered from reading all the questionnaires) is that digital immigrants themselves stated that they mainly used their phones for work-purposes. However, this is apparently erroneous as they spend more time using mobile phones for social purposes as opposed to work purposes.

<div align="center">Question Seven</div>

Question seven asked the respondents how much time they spent (of their pre-determined daily estimate – question five) using their mobile phones for work-related reasons. The digital natives, on average, spend 25% of their total daily mobile phone usage on work-

related purposes, as opposed to the digital immigrants, who felt they spent 47% of their total daily mobile phone usage on work-related purposes. However, the results clearly show that they spend more "mobile phone time" dedicated to socialising than work.

Question Eight

Question eight asked the two groups of respondents whether or not they had noticed any major advancement in mobile phone technology over the last decade. Of the two groups, the responses were unanimous in pointing out that all the respondents had noticed major technological advancements in the mobile phone industry. The main reasoning for asking this particular question was in order to ascertain whether or not mobile phone users were aware of the technological climate around them with regard to mobile phones. In essence, what was trying to be ascertained was whether or not the two groups of people paid much attention to the improvement or advancement of mobile phones.

What can be gathered from question eight is that almost every current mobile phone user pays attention to the industry around them, irrelevant of the way they themselves use mobile phones. The way they currently use mobile phones does not hamper their perception of the current technological climate in which they live.

Question Nine

Question nine asked the two groups of respondents how reliant they believed themselves to be on their mobile phones. The feedback was unique in the way that within both groups, 90% felt they were medium-to-heavily reliant on their mobile phones, while the other 10% (from both groups) felt they were non-reliant on their mobile phones. This is unique as throughout most of the research the data gathered was generally polarised, and not similar between the two groups. This is even more unique when taking into account prior feedback from the different groups.

For example, the digital immigrants on average spend one hour a day using their mobile phones (while it remains irrelevant if this is for social or work-related reasons). However, 90% of this group feel that they are medium-to-heavily reliant on their mobile phones. For a group of people who do not use their mobile phones very often they are extremely reliant. This is even more striking when compared to the feedback gathered from the digital natives. 90% of the digital immigrants questioned relayed that they were medium-to-heavily reliant on their mobile phones, yet on average they spent 5.8 hours a day using their mobile phones. This was an increase in usage of just under 600%, yet this is not at all reflected in the way these mobile phone owners are reliant on their handsets.

What can be deduced from this questions' feedback is that the amount of time a user spends on their phone is not directly linked to the manner in which mobile phone owners rely on their handsets. Often it is the mere act of owning a mobile phone that is the necessity to many users, as it provides the *ability* to stay in contact with friends, family or work.

Question Ten

Question ten asked the respondents what features they regularly used other than voice calling or sending SMSs (Short Message Service). This question was asked in an attempt to roughly chart the groups' mobile phone competency, and ascertain if the groups used the numerous features that were available to them on their handsets.

Feedback from the digital natives ranged widely, from Web browsers and digital audio players, to digital cameras and maintaining social network systems mainly through Mxit, BBM (BlackBerry Messenger) and Facebook. It can be said that digital natives used most of the features available to them; however, they only used the features which suited them. It became evident throughout the feedback that the digital natives were almost only interested in using their mobile phones to maintain social networks, even though the data they provided proved otherwise (they felt that they spent only 75% of their mobile phone usage on social maintenance – question six). This could be linked back to the lack of full-

time employment, thus reducing the possibility of digital natives using mobile phones for work related reasons.

The digital immigrants were again contrary to the digital natives in the way that they all stated that they used their mobile phones to perform very basic functions. Several respondents said that they used their mobile phones to send and receive emails; however this was only limited to BlackBerry users who had purposely bought that particular brand of phone for its ability to send and receive emails in a simple fashion. In summary, the digital immigrants as a group used their mobile phones for the most basic of functions (making calls, sending and receiving messages, calculator, clock, alarm), as opposed to the digital natives who believed they used the majority of features (internet browsing, video cameras, mp3 players) available to them on their mobile phones.

<center>Question Eleven</center>

Question eleven asked the respondents whether or not they felt mobile phone habits were universal. This question was asked in order to ascertain if the groups felt they were "normal" in the way they used their mobile phones. This question was more tailored towards the digital natives rather than the digital immigrants, as it was expected their mobile phone usage would be more prominent than their immigrant counterparts (which the data proved – question five). Of the digital natives, 85% of the group felt that mobile phone habits were universal, while the other 15% felt that mobile phone habits were not universal. Of the digital immigrants, 57% felt that mobile phone habits were universal, while 43% felt that mobile phone habits were not universal.

This question was unique in the way that it attempted to almost self-contextualise the nature of mobile phone usage and habits from the groups themselves. It can be thus deduced that the digital natives believe that the way they use and consume their mobile phones to be the "normal" way. While 57% of the digital immigrants feel that mobile phone habits are universal, which translates to eleven of the twenty respondents feeling that the way they use their mobile phones is the "normal/universal" way.

Question Twelve

Question twelve asked the respondents to select (from a list of eight features contained in the questionnaire) the features they had available to them on their current handsets. The list included; digital audio player, digital camera (still), digital camera (video), games, digital media player, internet browser, email and GPS (Global Positioning System). This question was asked in an attempt to ascertain whether or not the two groups were using technologically similar phones, as if one group were using phones completely different to that of the other group then it would prove difficult to study them against one another. On average, the digital natives' phones contained six of those eight features, which equates to 75%. Of the digital immigrants, on average their group members' phones contained five of those eight features, or 62%. Thus it can be deduced that both groups own phones of a similar technological standing, and as such, can be sufficiently compared and contrasted to one another.

Question Thirteen

The last question, question thirteen, asked the respondents to identify whether or not they felt they used most of the features on their mobile phones. Sixty percent of the digital natives felt that they used all of the features on their phones, while the other 40% of the group felt they did not use all of the features. While it cannot be denied from the results gathered that digital natives use far more features than their immigrant counterparts, it cannot be stated that the majority of the group uses *all* of the features available on their mobile phones.

The data gathered from the digital natives deviates form the data gathered throughout the rest of the questionnaire. Throughout all previous questions the digital natives have proposed that they use their phones regularly and for a number of different applications.

Yet through question thirteen it is proposed that they only use 60% of the features of the features on their mobile phones. This could be attributed to their non-use of primary functions such as calendars or memo pads. This should be considered to be an overstatement and should not effect the overall nature of the question.

On the opposite end of the spectrum, 100% of the digital immigrants questioned felt that they did not use all of the features available to them on their mobile phones, which can be verified in line with the average feedback from that particular group with regard to previous questions.

Chapter Seven

Conclusion

Mobile phones have become so ingrained in contemporary society that they seem to dominate most social situations. While they can provide users with security, safety and connections to friends/family/work, there remains a lack of academic literature on the way these ICTs affect users and the way they (users) live.

Attempting to answer the question as to how mobile phones have been adopted *en masse* has been difficult, though pleasurable and rewarding throughout. There will never be one completely correct reason as to why mobile phones have become so widely adopted across the globe, but there are a number of factors that have lead to this mass-adoption. Consumers have spent so much time living *with* the comfort a mobile phone provides, that while they would find it possible to live *without* a mobile phone, it would only be less appealing than life *with* a mobile phone. Some users rely on mobile phones to the point where they feel uneasy leaving their homes without them. This factor is even further echoed by younger mobile phone users who depend heavily on their mobile phones, as it is a tool with which they can stay connected to the outside world and their friends (mobile addiction).

The primary aim of this dissertation has been to identify and simultaneously dissociate the different forms of mobile phone convergence currently existing among mobile phone users. What has become more evident throughout this dissertation is that there is much more to convergence than may be initially perceived; and there are many facets to this almost under-estimated concept. Throughout this dissertation, convergence has been divided into four encompassing sub-groups from which they have been studied and understood in greater detail. It can be said that all forms of identified convergence exists among mobile phone users in Durban, South Africa. As stated previously, while it would be unethical to claim that the results represent all South Africans, the sample group (which comprised

numerous SA citizens from different race groups) can be said to be representative of a typical Durban community.

This study identified a number of key factors regarding mobile phone habits among digital natives and digital immigrants sampled from the greater Durban area. Irrelevant of social grouping, digital natives and immigrants are both using their mobile phones to serve similar functions. While digital natives clearly are more focused on the social features of their mobile phones, there is no evidence to prove that digital immigrants are using their mobile phones only for work-related purposes. The key difference between the two groups of users is the way in which *patterns of usage* are different between users of the same groups. Two digital immigrants may, on average, use their mobile phones for one hour a day. Of those two respondents one user may use their mobile phone for two hours per day, while the other user may only use it for two minutes per day. The data gathered from digital immigrants was highly fluctuating from among the group members themselves. On the other, data gathered from digital natives was more constant and encompassing from among those group members.

Primary data gathered throughout this dissertation has also shed light on current misconceptions on contemporary mobile phone usage. It is often perceived by many users that digital immigrants use their mobile phones for work-related functions. Throughout the questioning process from their own testimony, digital immigrants as a group spend more "mobile time" performing social tasks than they do work-related tasks. This dissertation has helped to dispel certain cultural myths such as the aforementioned.

Irrelevant of how much time users spend on their mobile phones, they all still find themselves heavily reliant on mobile phones for the comfort which they offer. Someone who uses their mobile phone for an hour a month can be just as reliant on their mobile phone as someone who uses their phone for an hour a day. It is the mere act of owning a mobile phone that *all* users primarily rely on, rather than for the content or subject nature that may pass through their mobile phones.

While it would be speculative to discuss how mobile phone habits are changing or have changed over the last few years, it is definitely *evident* that change *has* occurred from the data gained. People who feel they do not spend much time on their mobile phones *do* rely on them and are aware of technological advancements in the mobile phone market. It is the general awareness to mobile phones which creates and adds to mobile cultures, by which people not only consume mobile phones, but are also aware of how others are consuming their own mobile phones.

 To say that mobile phones gained mass-market dominance primarily due to convergence (in its different forms) would be speculative; however, evidence does show that it is a key factor as the current mobile phone generation (digital natives) are using converged applications almost as much as they use their mobile phones to make phone calls or to send and receive text messages. The core reason for the mobile phone becoming so popular around the world is because of the communication security it provides, predominantly via converged applications, leading it to be envisioned as something of an all-in-one device. Thus it can be deduced that through convergence the mobile phone has become an all-in-one device. Having ten or more necessary items squeezed into a small device that fit neatly into a person's pocket is appealing, especially when it is revealed that that device also helps that person keep in touch with their friends and family. A mobile phone afford users convenience, which is appealing to all.

"I think there's almost a belligerence - people are frustrated with their manufactured environment. We tend to assume the problem is with us, and not with the products we're trying to use. In other words, when our tools are broken, we feel broken. And when somebody fixes one, we feel a tiny bit more whole."

Jonathan Ive, Time Magazine, January 2007.

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Appendix

Copy of Questionnaire

Name:

Date of Birth:

Do you currently own a mobile phone?

Have you read, understood and signed the contractual permission to interview on the previous page?   Yes ☐   No ☐

1. How long have you owned a mobile phone?

   ……

2. What are the primary reasons for you owning a mobile phone?

   ……

3. Did anyone you know encourage you to get a mobile phone?

   ……

4. Who pays for your mobile phone?

   ……

5. How much time do you spend using your phone daily? A rough estimate will suffice.

   ……

6. Of that time estimate, how much is spent on social-related mobile phone usage? For

    example, calling or texting friends, family? A percentage will suffice.

    ……

7. Of that time estimate, how much is spent on work-related mobile phone usage? For

    example, calling or texting colleagues or clients? A percentage will suffice.

    ……

8. Have you noticed any technological advancement in mobile phone technology over the

    past decade?

    ……

9. How reliant would you say you are on your mobile phone?

    ……

10. What features, other than simply calling, do you use on your mobile phone on a regular

    basis? For example, browsing the internet or using a digital audio player.

    ……

11. Do you think mobile phone usage habits are universal? For example, do you think the

    way you use your mobile phone is the same as someone living in Germany or Australia?

    ……

12. What features would you say your current mobile phone has?

Digital Audio Player	☐	Digital Camera (Still)	☐
Games	☐	Digital camera (Video)	☐
Digital Media Player	☐	Internet Browsing Capability	☐
E-mail	☐	GPS (Global Positioning System)	☐

Other…….

13. Would you say that you fully utilise all the features on your mobile phone?

……

Thank you for your time.

Copy of Contractual Permission to Interview Subjects

Name:

Contact Number:

E-mail Address:

Relation to Interviewer:

I, the above, hereby declare that I have read and understood the attached ethical clearance form. And as such, give permission to Colin Dean Murphy to interview myself for his postgraduate coursework Masters dissertation. The results he achieves may be published in any form, and I trust his discretion to use the results wisely and in my best interests.

Witness (Print Name):

Date:

Signed: ………………………………….

Date:

Signed: ………………………………..