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# Smartphone marketing

## - A study into the past and present

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## Smartphone marketing - A study into the past and present

Wille Wahlberg  
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The mobile phone industry has seen rapid growth and made massive leaps in its technology especially in the last two decades. New and exciting functions have been made possible that previously were only to be found in science fiction. All this new innovative technology also requires certain user friendliness for it to be commercially successful.

The focus of this study is on how smartphones have been and are marketed to the public and the possible problems there have been. The author suggests that smartphones have been possibly perceived to be too high-tech and difficult to use for non-tech people, therefore this study aims to point out the issues that have led to this and that have made a change for the better. The questions this research works with are how smartphones can be utilized and can their users successfully use them. Past problems are introduced with a look at modern devices and how they have overcome said problems.

This study will provide an insight into smartphone marketing with a historical timespan from the late nineties to the present. Integrated marketing communication provides the theoretical framework for the study. The findings and results generate valuable information for any beginning business venture in the smart phone game.

A large part of this study's information and claims are based on the author's personal experience from the mobile phone world which are gained from work experience alongside two decades of enthusiasm and interest. To back-up the author's ideas and claims quantitative data was collected in the way of an electronic questionnaire delivered to the target group through email and social media.

The results supplied numeric data on the user experiences and purchase criteria of smart phone users that paint a picture of what users want from their phone and how easy they find applying their phone to dynamic use.

Key words: Smartphone, mobile phone technology, mobile user, integrated marketing communications

Wille Wahlberg

## Älypuhelimien markkinointi - Tutkimus menneisyyden kautta nykypäivään

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Matkapuhelinteollisuus on läpikäynyt suurta teknologista kasvuja, varsinkin kahden viime vuosikymmenen aikana. Mahdolliseksi on tehty uusia ja jännittäviä asioita, joista aiemmin on puhuttu vain tiedefiktiossa. Kaikki tämä uusi teknologia tarvitsee tuekseen käyttäjäturvallisuuden ollakseen kaupallisesti menestynyt.

Tämän tutkimuksen aiheympäristönä on älypuhelimet ja niiden markkinointi, sekä siihen liittyvät mahdolliset ongelmat. Kirjoittajan mielestä älypuhelimet ovat aiemmin mielletty liian teknisiksi ja hankaliksi ei-tekisille ihmisille. Tämä tutkimus pyrkii selvittämään syitä, jotka johtivat tähän ja miten tänä päivänä käyttäjät kokevat älypuhelinikäytön. Päättökysymyksenä on, osaavatko älypuhelinikäyttäjät tehokkaasti hyödyntää laitteidensa monipuolisia toimintoja. Aiemmat ongelmat esitetään ja niitä pohditaan, miten nykyteknologia ja laitekanta on ylittänyt esiin tulleet haasteet.

Tutkimus tarjoaa tietoa älypuhelinmarkkinoinnista aikavälillä 90-luvun lopusta nykypäivään saakka. Integroitu markkinointiviestintä tuo teoreettisen viitekehyksen tutkimukseen. Tutkimuksen tulokset tuovat arvokasta tietoa mille tahansa alkavalle liiketoiminta hankkeelle älypuhelinien parissa.

Suuri osa tutkimuksen taustatiedoista ja väitteistä perustuvat tekijän henkilökohtaiseen kokemukseen matkapuhelinalasta kahden vuosikymmenen ajalta, johon sisältyy työkokemusta sekä kiinnostusta alaan. Tekijän väitteitä tukee kvantitatiivinen tutkimus, joka toteutettiin sähköisessä muodossa ja, jonka jakelukanavana toimivat sähköposti ja sosiaalinen media.

Kyselyn tulokset kuvaavat numero muodossa älypuhelinomistajien käyttökokemuksia ja ostopäätökseen vaikuttavia tekijöitä ja luovat kuvaa siitä, mitä käyttäjät haluavat puhelimeltaan ja miten sujuvaksi he kokevat sen tehokkaan käytön.

Avainsanat: älypuhelin, mobiiliteknologia, mobiilikäyttäjä, integroitu markkinointiviestintä

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## 1 Introduction

Wireless mobile telephone networks have been commercial in Finland since the early seventies. People have been able to make phone calls from almost anywhere by using a telephone in their car and later a handset. The system back then was technically a little different from what we have got used to now and starting from the late nineties. The buzz seems to be now around the 3G networks and so the so-called smartphones.

The smartphones bring mobile phones closer to personal computers with their similar components, user interfaces and computing capabilities.

### 1.1 Background of the study

This thesis researches how mobile phones, especially smartphones have been marketed to the public and what problems there have been along the way. A survey gathering information on smartphone owner's user habits will provide a random sample on how versatile mobile phone use is today.

### 1.2 Thesis objectives

The main objective of this study is to recognize and analyze the problems mobile marketing has faced in the past and to assess its current state. This will be done by introducing some issues that have possibly created problems for smartphone marketing in the beginning and how they have been dealt with in the more recent years. The objective is to introduce smart phone technology and find out can users utilize their devices as they have been intended. What elements impact the user experience and what can be done?

The results of this study will be used in business ventures in the mobile market. Writing this thesis also provides the author with preliminary research needed to for a future business plan. This information will be very useful, especially when designing third party applications that will make mobile phone use easier and more productive.

### 1.3 Methodology

The research relied largely on the author's personal experiences, opinions and claims which present the basis for the study. To find information to back the claims an empirical study was done on the user experiences of smartphone owners. The main research question was how well can smartphone owners use their phone's functions. This recorded quantitative data in

the form of a questionnaire. It included the following questions: age, gender, years of smartphone ownership, platform preference, various functions used, the ease of the user experience, purchase criteria.

#### 1.4 Key concepts

In the center of this research paper are smartphones and mobile phone technology as the basis of their operation. Mobile users provide the framework for the research and with a theoretical focus on integrated marketing communications.

Smartphones can be described as a category of mobile devices with computer-like functionality. These devices sport complete operating system and have a platform for application developers (Gsmarena 2012).

Mobile phone technology, consisting of networks, services and capabilities is introduced with a look at its history and present state.

Mobile users in this study are considered to be people who use modern mobile technology in their different dealings with life.

Integrated marketing communications is the process of developing and implementing various forms of persuasive communication programs with customers and prospects over time (Schultz 1993, 17).

#### 1.5 Theoretical framework

This consists of introduction to mobile phone technology and marketing concepts focusing on integrated marketing communications. A lot of the research is based on the author's personal analysis and the results of a questionnaire recording data on smartphone user feedback. The questionnaire was the product of studying marketing research theory.

## 2 Development of mobile networks

The history of mobile telephones starts from the big car mounted devices using analog FM radio technology and following rather large handheld units still using the same analog technology. These were expensive in their time and were definitely not as popular as the modern compact mobile phones. In the early nineties the release of the digital mobile phones set the direction of future development.

	<b>ARP</b>	<b>NMT-450</b>	<b>NMT-900</b>	<b>GSM</b>
<b>Initiated</b>	1971	1982	1986	1991
<b>Frequency</b>	150 MHz	450 MHz	900 MHz	900 / 1800 MHz
<b>Technology</b>	Analog	Analog	Analog	Digital
<b>Modulation</b>	FM	FM	FM	GSMK
<b>Network coverage</b>	Finland	Nordic countries	Nordic countries	Europe
<b>Secure</b>	No	No	No	Yes
<b>Service Providers</b>	Telecom Finland	Telecom Finland	Telecom Finland	Radiolinja + more to come later

Table 1: Mobile networks

### 2.1 The beginning

The ARP which stands for the Finnish words “Auto Radio Puhelin”; translates to car radio phone, was a big device that would be placed in the trunk of the car, which definitely ruled out any handheld portability. It used analog technology at an FM frequency of 150MHz. If now we are talking about the third generation of mobile networks, 3G, the ARP can be considered 0G.

The phones worked similar to radiophones, meaning they could not transmit and receive simultaneously at first, but later the technology improved enabling it. The network cells had only a 30km radius, so when traveling out range the call got disconnected because shifting from cell to another was not possible on the fly. Also the network was manually operated from a switchboard and the frequencies very easy to scan and hi-jack. It was launched for commercial use in 1971 and the technology provided nationwide coverage, which reached 100% in 1978. It did gain popularity over the years, with over 35,000 users in 1986, but it did not have a future in the digital age. In 2000 the network was terminated.

## 2.2 NMT - The "Shoephone"

The growing popularity of the ARP network needed a follower to meet the public's needs. NMT, meaning Nordic Mobile Telephone was introduced in Finland in 1982 and it quickly became the largest mobile network in the world, with 110,000 users in 1985 although its coverage was limited to the Nordic countries, including Finland, Sweden, Denmark, Norway and later Iceland. The NMT is considered to be 1G. The technology was still analog, but at a higher frequency, first 450MHz and later in 1986 the 900MHz NMT900 was introduced.

There were still many car-mounted NMT units, but because the technology enabled it, handheld devices were also available and gaining popularity. The early handsets were still rather big and heavy, but unlike the ARP they were portable.

The NMT network enabled shifting from cell to another without disconnecting the call, but it had a couple of seconds delay. It featured full-duplex transmission, like the later version of ARP, which enables simultaneous transmission and receiving and it also had a high transmission power of 1-15 watts. This was the reason for low battery life, which is a problem with handheld devices. This network was also terminated in 2000.

## 2.3 The Nineties - Introducing GSM

The follower of NMT and the first digital network was GSM, which stands for Global System for Mobile Communications. This was introduced to Finland in 1991 would soon take over take mobile phone market leaving older NMT technology obsolete. The major improvement was switching to digital technology which enabled signal encryption disabling anybody from hijacking your signal and listening in. GSM works in a cellular network, which means that the network coverage is divided into cells and the unit is constantly connecting to the nearest cells and unlike NMT the shifting is seamless. There are four different cell sizes which are used in different environments to ensure good reception. In Finland the GSM network operates in two frequencies, 900 MHz and 1800 MHz. GSM is the represents the second generation of mobile telephones known as 2G.

One of the biggest improvements was the Subscriber Identity Module, the SIM card. This enabled the user to switch among handsets and still maintaining the same phone number. The SIM card identified the subscriber, but the handset itself had an identity number, the International Mobile Equipment Identity, or IMEI. The phone could be tracked and almost pinpointed by checking which cells it has created an uplink with.

A very useful service provided by the GSM network was the SMS, Short Messaging Service through which short text messages could be sent from handset to another. This gained huge popularity in Finland, especially amongst teenagers, because the affordable pricing rates. The GSM handset could be used all over world where a similar network is in use, this is called roaming. Service providers worldwide have made deals together to allow the use of their networks, but at an added cost.

Data could be sent over the GSM network which enabled the user to connect to the internet with their computer via GSM handset. The transfer rates were not very fast and this would be soon replaced by GPRS. During this period the first smartphones were introduced, first Ericsson in 1997 followed by Nokia in 1998.

### 2.3.1 A step towards the future

First would come GPRS short for General Packet Radio Services. It was introduced in 1997, but handsets supporting this came available only in 2000. GPRS is a data transfer system which enabled faster data trafficking with mobile phones. It utilized different channels for sending and receiving data, which were only activated when needed, so they kept the phone lines free.

This alongside the WAP, or Wireless Application Protocol introduced mobile content utilities, by downloading useful information on to your handheld. WAP was similar to the internet designed for mobile phones, the content was less graphic and more limited, but it was meant to serve as a mobile portal for commercial services. It did not do very well and soon started competing with the internet; because the web browsers of mobile phones were starting to support HTML.

Also later in this period, cameras started appearing on mobile handsets that could produce low resolution images and video. A service was established to send pictures to other mobiles via the data network. This was called MMS, Multimedia Messaging. Another big new feature was the introduction of JAVA, a software programming code that enabled games and applications to be run on your phone. This period in mobile technology was coined 2.5G which was paving way for the next generation; 3G.

## 2.4 The Third Generation

The UMTS network, Universal Mobile Telecommunications System is a new network working alongside the GSM, which it is designed to eventually succeed.

The biggest advantage is the fast data transfer rates, up to 11Mbit/s in theory, but the average high speed in practice is 384Mbit/s. Because of this mobile internet browsing is fast and more user-friendly.

A totally new feature which still in the 80's could only be found in sci-fi movies is the video calling feature. The user can send and receive live video while simultaneously speaking with another party. Access to the UMTS network requires a dedicated UMTS handset or 3G-phone which is what they are also referred as. The handsets still support GSM frequencies as well as the UMTS network.

### 3 Mobile Technology of Today

Mobile devices have moved towards personal computers in terms of functions and usability. There is no longer need for mobile phone specific environments such as WAP, because almost everything users have grown accustomed to with their personal computers can now be accessed and used with a mobile.

#### 3.1 Long Term Evolution

Long term evolution is the term used for the future direction of mobile technology (Gsmarena - Mobile terms glossary, 2012). This is mainly aimed at increasing data transfer rates in mobile networks. These new faster networks are marketed as 4G and were launched commercially in 2009 by TeliaSonera in Oslo and Stockholm. This is the latest evolutionary phase of GSM/UMTS technology.

#### 3.2 Service providers

The Finnish mobile phone market was operated by one service provider until the early nineties. This was done by Telecom Finland Oy, which would later become Sonera Oy. Telecom Finland operated in analog networks and in 1991 they got a digital competitor when Radiolinja Oy began providing cellular service using the GSM network.

#### 3.3 Subscriptions

A subscription to a cellular network, in this case GSM, represents the deal made between service provider and customer. All necessary customer information will be coded into a SIM card which is subscription specific and once inserted into a mobile phone will register all traffic with the user's information.

In the beginning GSM subscriptions were mainly charged by minute rate and this was initially perceived as an expensive means of communication. Also early modem use through cellular network was circuit switched and was billed by the minute.

#### 4 A look at possible problems in smartphone marketing

With mobile phones and any similar high tech consumer product, there is a certain amount of competence and skill required for the user to successfully operate the device. Modern devices are very user-friendly and ready to use out of the box, but this has not been the case always. Smartphones specifically were perceived as hard to use by the general public. This is an empirical observation by the author.

The user experience that modern devices allow is largely due to improvements in three areas. This is the author's personal opinion, which is based on observing the smartphone market since the late nineties. The following chapters will elaborate on these three issues, which seem to be the stepping stones of smartphone marketing in the past.

##### 4.1 User interface

When operating a mobile phone, you need to navigate within the devices maze of features, functions and often a very complicated settings menu where you configure the device. This has been the reason why many people have perceived smartphone use to be hard.

The user had to understand the devices "language" of technical terms that titled the inner workings in order to use and configure it. This required certain competence and the will to learn and could easily result to frustration amongst less patient users who just wanted a working device with minimal effort required to use it. Smaller screen sizes also made the device harder to navigate especially for users with weaker eyesight.

##### 4.2 Network settings for internet access

As described in chapter 2.3.1. mobile phones were beginning to possess the ability to access WAP and the world wide web, or internet. This access was done via GPRS and was making mobile web browsing more effective due to its faster data transfer rate, compared to older circuit switched data. To access the internet through GRPS, the device needed to be configured to the with the network settings of the service provider in question. This was also needed to enable the MMS feature.

The network settings were different which each service provider and would “tell” the phone how to communicate with the network through the correct gateways and proxies. This might sound complicated and rather under-the-hood and it was, at least to the majority of users. The operators did start a service where you could have the settings sent to your device directly via SMS and the device would store them and web surfing could begin. There were certain limitations to this, as the service did not support all available handsets equipped with GPRS, or MMS. In case your device was among the ones left out of the list of supported devices the only option was to figure out the correct settings hopefully found from the service provider’s website and manually input them as described by Paananen (2000, 36). This problem presented itself rather often when sending an MMS message. Although the recipient’s device did support the technology, the user might have not managed to configure the device to access the feature.

### 4.3 Applications

Mobile phone platforms make it possible to install proprietary software made by either the device manufacturer or third party, just like on a personal computer. This feature opens up a whole new world of opportunities for the user and for software designers it represents new potential business. This meant that if your phone did not have a world clock feature, you could install one to get the added function.

The actual practice of this meant that you had to search the internet for the applications and once found you had to make sure it was designed for your platform, or the specific make and model of your phone. After this the users needed to transfer the installation file on to the device, which could be done by either linking your device to your computer via cable, email attachment, or trying to download it from the available website with the device’s own web browser.



Figure 1: Screenshot of Apple’s App Store for the iPhone

The modern equivalent of this is much more user-friendly with Apple, Nokia and Google's Android offering each an integrated marketplace for all applications that are offered for each phone. They are similar to any web store, where you can browse and search for your item of interest. Installing is then just a few steps away and made accessible to all users. Available are many free applications as well as those with require a purchase. Payment is made easy as the user will be billed to their credit card, or their monthly service provider invoice.

The lack of such a service in the past has been the stepping stone in application marketing as many novice users have had no idea that third party applications can be installed.

## 5 Smartphone Marketing Communication

Marketing is practiced by companies to bring forth their product, because people cannot buy something unless they know of its existence, or that they need it. In the past this was been largely based on advertising and selling, or "telling and selling" (Kotler, 2005, 6).

In the business world of today marketing has evolved into a much larger concept linking together many different processes and business units that previously had nothing to do with marketing in its traditional form. In his book Kotler (2005, 6) defines marketing as a social and managerial process by which individuals and groups obtain what they need and want through creating and exchanging products and value with others.

This chapter will take a look at how smartphones are and have been marketed, with a focus on integrated marketing communication.

### 5.1 Marketing Mix

Marketing uses a set of tools to influence demand for products known as the marketing mix. Kotler (2005, p.34) describes Marketing mix in the following way "the set of controllable tactical marketing tools that the firm blends to produce the response it wants in the target market". Included in the marketing mix, or the 'four P's' are product, price, place and promotion (Kotler, 2005, p33). Below are the 'four P's' listed and briefly described in the author's personal view:

- Product - what is sold
- Price - how much does it cost
- Place - where and how to get it
- Promotion - anything that communicates the value of the product.

The elements of the marketing mix can be incorporated individually or all together in the firms marketing strategy. It can be used to make very tactical and quick actions, or to build a

more long term plan. In smartphones there has been a trend where one manufacturer has come up with a working concept which competitors have then in turn tried to adapt into their line of devices. Examples from the past of these trends in this product oriented marketing can be BlackBerry's big screen and qwerty keypad, Sony Ericsson's superior Cyber-shot camera phones and more recently Apple's iPhone with it's easy to use touchscreen interface.

The table below gathers together a few examples of how Apple, Nokia and Samsung are using the marketing mix with their competing devices.

<p><b>Product</b></p> <ul style="list-style-type: none"> <li>• Apple iPhone 4S <ul style="list-style-type: none"> <li>○ Very good design</li> <li>○ Strong brand</li> </ul> </li> <li>• Nokia Lumia 800 <ul style="list-style-type: none"> <li>○ New interface WP7</li> <li>○ Solid design</li> </ul> </li> <li>• Samsung Galaxy S2 <ul style="list-style-type: none"> <li>○ Superior technical specifications</li> <li>○ Android</li> </ul> </li> </ul>	<p><b>Price</b></p> <ul style="list-style-type: none"> <li>• Apple iPhone 4S <ul style="list-style-type: none"> <li>○ Very high price</li> <li>○ Package deals</li> </ul> </li> <li>• Nokia Lumia 800 <ul style="list-style-type: none"> <li>○ High price</li> <li>○ Package deals</li> </ul> </li> <li>• Samsung Galaxy S2 <ul style="list-style-type: none"> <li>○ High price</li> <li>○ Package deals</li> </ul> </li> </ul>
<p><b>Place</b></p> <ul style="list-style-type: none"> <li>• Apple iPhone 4S <ul style="list-style-type: none"> <li>○ Apple store</li> <li>○ Limited dealers</li> </ul> </li> <li>• Nokia Lumia 800 <ul style="list-style-type: none"> <li>○ Service providers</li> <li>○ Some control over retailers</li> </ul> </li> <li>• Samsung Galaxy S2 <ul style="list-style-type: none"> <li>○ Service providers</li> <li>○ Mobile phone retailers</li> </ul> </li> </ul>	<p><b>Promotion</b></p> <ul style="list-style-type: none"> <li>• Apple iPhone 4S <ul style="list-style-type: none"> <li>○ Brand buzz</li> <li>○ Apple store openings</li> </ul> </li> <li>• Nokia Lumia 800 <ul style="list-style-type: none"> <li>○ Press hype</li> <li>○ Big events</li> </ul> </li> <li>• Samsung Galaxy S2 <ul style="list-style-type: none"> <li>○ Advertising</li> <li>○ Technical excellence</li> </ul> </li> </ul>

Table 2: Smartphone Marketing mix

The three large phone manufactures have very visible marketing strategies and really bring the competing models out there. Although they are competing with roughly very similar products they use very different strategies to market them.

## 5.2 Integrated Marketing Communication

A very good definition by Shultz (1993) describes Integrated Marketing Communication, or IMC as “the process of developing and implementing various forms of persuasive communication programs with customers and prospects over time”. IMC focuses on the promotion element of the ‘four p’s’ (Belch, 2001, 10). Promotion, or in this case communication can be done in many ways and IMC aims at making the different ways one entity, or “attempts to combine, integrate, and synergize different elements of the promotional mix, so to consumers, messages through a variety of different mechanisms look, sound, and feel alike”. (Kitchen & Pelsmacker, 2004, 18)

### 5.2.1 Promotional mix

The promotional mix mentioned in the previous chapter consist of elements that IMC incorporates. Belch (2001, 14) describes them as “the basic tools used to accomplish an organization’s communication objectives”. The elements are advertising, direct marketing, interactive/internet marketing, sales promotions, publicity/public relations and personal selling (Belch, 2001, 15).



Figure 2: The Promotional mix

When analyzing Apple’s, Samsung’s and Nokia’s efforts to promote their products, especially their rival flagship devices, very similar practices are found from their respective strategies. All three companies implement each of the six promotional mix elements. As major players in the market they use much of the same advertising channels, PR tactics and sales promotions, there still are differences between them, especially in their appeal to the public. Below is listed a few unique characteristics of each company:

- Apple
  - Cult-like status that owes a lot to former CEO Jobs’s character
  - Ownership of Apple product has a high social status

- Samsung
  - Respected manufacturer of high tech electronics, although lacking in personal appeal
  - A good choice when seeking modern quality
- Nokia
  - The name for many is a synonym for mobile phones
  - Recent years have compromised their former market dominance and forced them to re-think their strategies.

### 5.3 Implementation

Mobile phone marketing has often offered a certain lifestyle, or solutions for problem which are made possible by the device. Below is an example of typical early nineties mobile phone mentality, where ownership of a mobile phone was parallel to that of a sports car.



Figure 3: Two young business-types ask for a raise, but instead are given mobiles.

The story in the photograph above is not applicable today as phones are mass produced and are available for anyone through entry level models. Mobile phones have established themselves as a standard in communication, but in the early nineties they were priced as high as a small car and were definitely a show-off item amongst those who could afford one.

Later in the so called 3G hype it seemed manufacturers were promising more than actually got delivered in a larger scale. The problem lay often in the user, as the devices with their revolutionary technology often seemed to be difficult to take in to use, or proper network support was to be found.

In today's mobile phone market the possibility of making phone calls on the go is a standard and with phones being found in everyone's purse or pocket the manufacturer's need to find new gimmicks to get the public to show interest in their new products. Highly important aspects in the modern market are design, brand and the technical capabilities of the devices. Consumers now choose a mobile phone which is a mix of these attributes, or lean toward what is most important to them.

### 5.3.1 Product positioning

Companies work hard to get a certain response to their products. The reaction wanted from the public is largely related to communication used by marketers. This concept is called product positioning and is explained by Kotler (2005, 432) as "the way the product is defined by consumers on important attributes - the place the product occupies in consumers' minds relative to competing products".

Different phones, although appearing very similar are perceived in many ways by users and their marketing appeals to a very diverse crowd. The product positioning chart below indicates the difference between the phones in terms of their image. Once again the example devices are Nokia's Lumia 800, Apple's iPhone 4s and Samsung's Galaxy S2. The variables here constitute brand status and the relationship between performance and design.

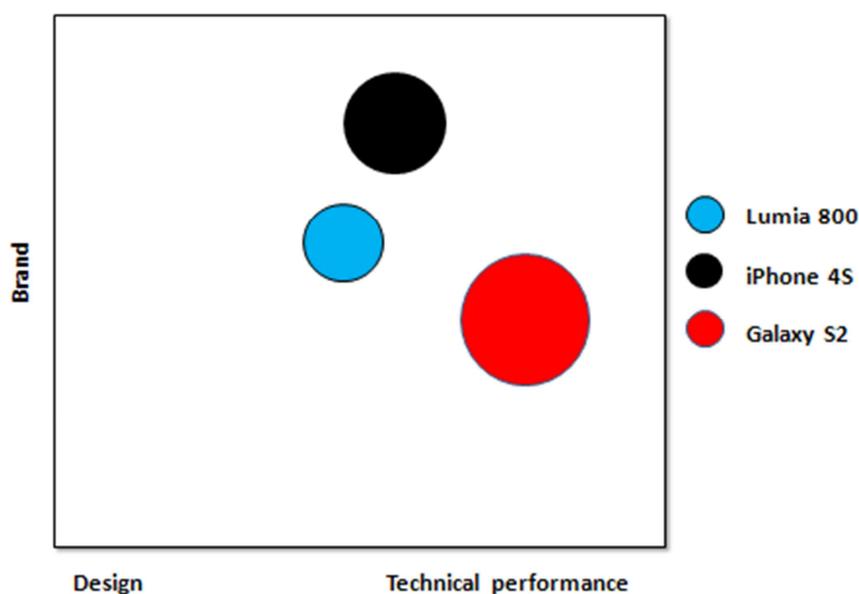


Figure 4: Product positioning chart

Apple with its iPhone 4S is leaning the most toward the importance of design and has established a very strong brand factor. It is still a high tech device, but clearly has a larger stake on image perception than the two rival devices.

Samsung's Galaxy S2 has it all in terms of technical specifications. As a brand Samsung is known for quality consumer electronics, but has a many competitors with similar products so it needs to try and stand out more with its products. People who choose the Galaxy S2 do it because of its technical superiority over any other aspect.

Falling in between the two is Nokia's Lumia 800. Nokia has made itself a highly appreciated name in mobile technology and is an automatic choice for many when buying a mobile phone.

The size of the balloons reflects the market share of each device in comparison to each other. Samsung has surpassed Nokia as the world leader in smart phones mainly thanks to its Android based smart phones according to information technology research firm Gartner (Pitkänen, 2012).

## 6 Solutions

Once time goes on and technology matures better devices will be introduced with an increased level of usability. In the case of smartphones it is largely due to improvements in the issues introduced in chapter 4.

### 6.1 Package deals

In the past mobile phones and subscriptions were sold separately, which was simple and did not require any long-term deal's to be made. Here the service provider did not have any way to make sure each sold device would be able to utilize all its functions in the network. Changing for service provider to another meant the users had to configure the phone to make sure the correct network settings were chosen. Although this was made easier with the operator's automatic messages which sent the correct setting directly to the phone, it was still relying on the user's competence.

Package deals were introduced to Finnish consumers in 2006. This meant that service providers could offer a package that included both the subscription and phone. The package deals often consist of a two year subscription with an airtime package for call minutes, SMS and internet gateway use including a monthly payment for the device. This way the phone's price could be divided evenly into 24 equal monthly payment installments added to the bill which made expensive smart phones more accessible and appealing.

## 6.2 Apple iPhone - The game changer

The release of this handset in 2007 made a big and much needed change in the direction that smartphones were heading. Its simplistic design with a solid body and few physical buttons and an extremely graphic and easy to learn user interface made it attract the attention of a much larger and more style conscious crowd that in the past probably frowned upon the idea of smartphones. Also its seamless link with Apple's computers introduced a new and easy way to synchronize your mobile phone and personal computer, which has required more effort in the past with issues such as missing drivers and incompatibility of operating systems.

Apple's iPhone is a good example of a package deal. The phone is sold by only authorized service providers is ready to use out-of-the-box, without any complicated preliminary set up measures required from the user. It is instantly ready for internet access and downloading any third party application available through Apple's App Store is just a click away.

No actual user training is needed, as every function is behind a dedicated icon and the settings menu is highly simplistic. Based on the author's personal observations the iPhone has made traditional mobile phone users into smart phone enthusiasts by offering a solid and simple user experience.

In this research paper the author considers Apple's iPhone concept to be a trend setter which possessed innovation and elements that would soon be seen in other manufacturer's devices. These include a large screen, simplistic design, very graphic user interface and integrated application marketplace.

## 7 Quantitative research on smartphone users

For this thesis a request to answer an online survey made with eLomake was sent by email to gather quantitative user information from smartphone owners. The email was sent to the students and faculty members of Laurea University of Applied Sciences' Otaniemi and Leppävaara campuses. The questionnaire carries out marketing research needed for the study. As Malhotra and Birks (2006, 14) suggest there are six stages of marketing research process which follow a linear path:

- Stage 1: Problem definition
- Stage 2: Research approach developed
- Stage 3: Research design developed
- Stage 4: Fieldwork or data collection

- Stage 5: Data preparation and analysis
- Stage 6: Report preparation and presentation.

The process of making this survey follows the description above, as each stage can be identified within the works.

### 7.1 Aim of the survey

As this study is suggesting that modern smartphones are easier to use and are used by a larger type of mobile phone user than earlier, a survey gathering user information seemed important to back-up the study. While users with a larger interest in technological devices have been efficiently using smartphones for years it has been the users with less technical background that have found smartphones only recently.

The main question behind the survey is how smartphone owners use their phones and how easy they find the experience.

The author suggests that if users who have owned a smartphone for a short time are using their device in a very versatile manner and for many other functions than calls, it gives evidence that through modern design, marketing and selling, smartphones have become more user-friendly and less of a product for only the tech-crowd.

### 7.2 Design of the survey

The survey was made using the eLomake web service, which allows you to design questionnaires and to monitor and record the results. Distribution of the online questionnaire was done through email and social media such as Facebook.

The questions in this brief survey (Appendix: 1) try to map user habits by asking for gender, age group, years of smartphone ownership, detailed types of usage of various functions and applications and also purchase criteria. With only nine questions that required only yes/no or tick the box answers the survey was very fast and easy to answer. There was no prize offered to reward the participants.

There was also the option to contact the author about any issues regarding the research, which made it possible to complete the questionnaire even if some parts were unclear and needed elaboration.

Permission was applied from Laurea University of Applied sciences to conduct this questionnaire (Appendix 2). Permit was granted (Appendix 3) for the time period of 04.05.2012 - 29.05.2012. This procedure was needed to gain access to email mailing lists of students and faculty members of the school's different units around the metropolitan area.

### 7.3 Reliability and validity

An accurate and proper survey should show reliability which is “the extent to which a measurement reproduces consistent results if the process of measurement were to be repeated” Malhotra and Birks (2006, 140) and validity “the extent to which a measurement represents characteristics that exist in the phenomenon under investigation” Malhotra and Birks (2006, 140).

The goal of the survey was to find out how easy smartphone owners perceive versatile and efficient use of their device. As the questionnaire was mainly sent to students at Laurea University of Applied sciences it will add reliability to the research as students tend to be interested in modern technology and follow new trends. Especially the students studying business and technology should be keen to utilize modern technology i.e. smartphones in their studies and working life. Also the questionnaire was very brief and took very little time to complete, which will make it very easy to repeat and a similar response could be expected.

Added validity to the questionnaire is brought by the medium it was made in. The web service eLomake provided freedom for the answerer to participate best suited for their schedule and without any reservations, or time limits. The possibility to approach the author with any questions brought a more personal touch to the survey.

### 7.4 Results

The questionnaire was sent out to roughly 3500 recipients. It received 345 answers which was a very positive outcome, as the goal was to reach 100 answers. The data collected by this survey is from May 2012 and the questionnaire was online the whole month.

Only one contact was made through email and only three through social media about the questionnaire. All four contacts concerning the survey were about unclear issues in the last question measuring purchase criteria. There was only one option available for choice and they would have wanted to choose multiple criteria. For the purposes of this research only the most important criteria was needed and the figure below paints a clear picture of what users found to affect their purchase the most.

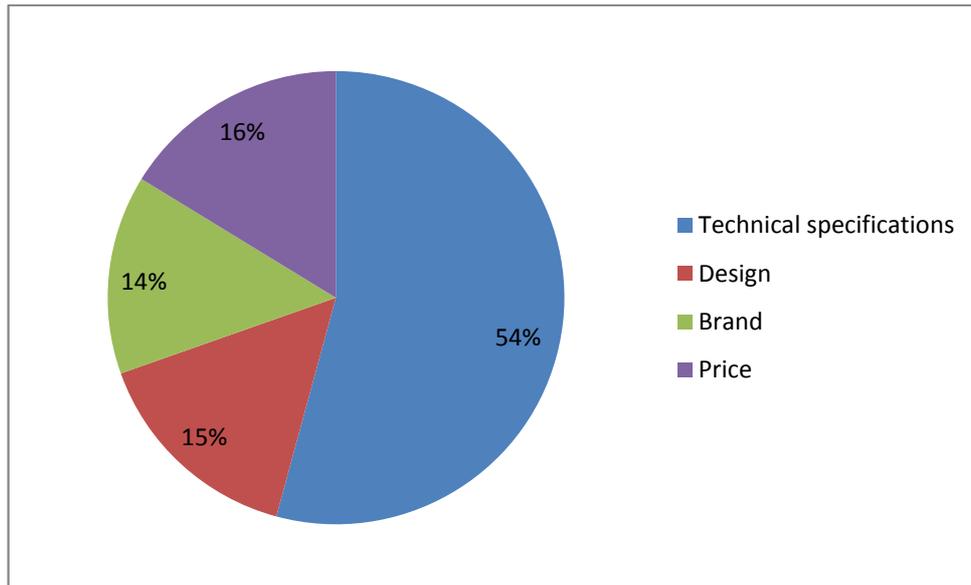


Figure 5: Smartphone purchase criteria

As the figure above displays many users found the most important aspect affecting purchase to be the technical specification of the device. Often it is a combination of the four attributes that appeals the most to the buyer, but here emphasis was on only one criterion. As over half chose technical specifications it can be assumed that they also want to get their money's worth in terms of performance and usability.

The claim of this research is that modern smartphones have evolved into more user-friendly devices than those of the past. As the figure below indicates the most popular operating systems are the new and highly graphic iPhone's iOS alongside Android. This is leaning to the author's suggestion that Apple's iPhone and its peers provide one solution to the problems discussed in chapter 4.

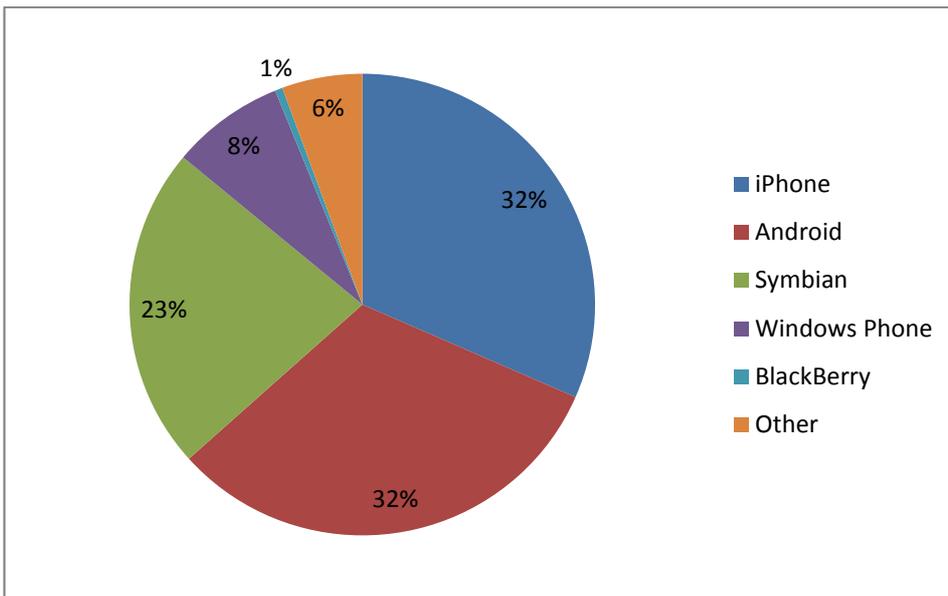


Figure 6: Smart phone operating system preferences

The results of the survey clearly indicate that the vast majority of the 345 participants use their smartphones to perform tasks that they could also do on a personal computer, such as internet, email and social media. Also 330 participants answered that they find the before mentioned tasks easy to perform on a smartphone and 314 in turn answered that they download and install third party applications on to their phone.

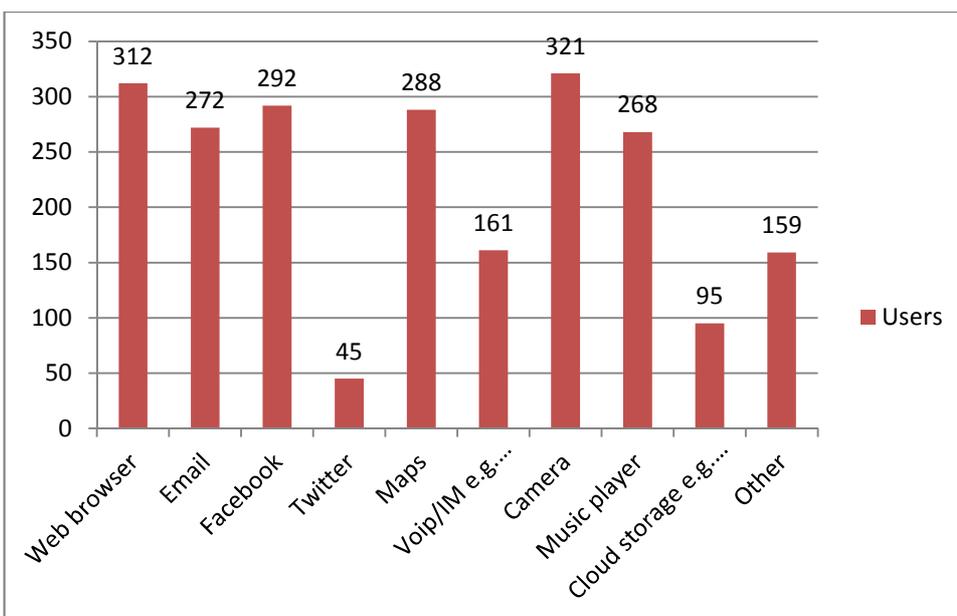


Figure 7: Smartphone use

As said earlier in chapter 6 the author feels that Apple's iPhone launched in 2007 is in a big way responsible for the revolution that made smartphones more appealing to a larger public. A lot of that is due to improvements in the issues explained in chapter 4. The figure below indicates that a larger cluster of participants are fairly new smart phone owners. Many reasons could have affected this with the possibility that smartphone in the past have been harder to use as this research paper has claimed.

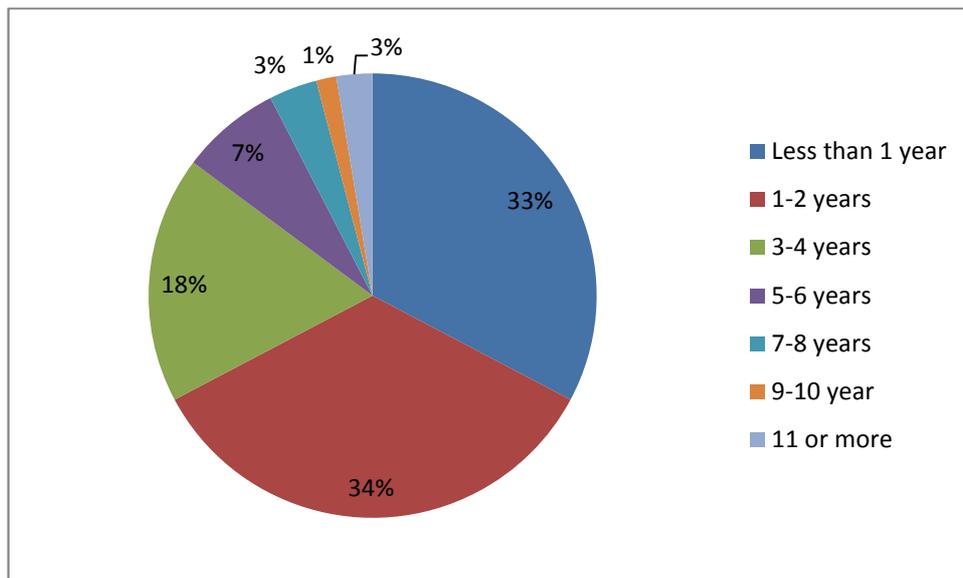


Figure 8: Years of smartphone ownership

## 8 Conclusion

Upon gathering material for this study many memories of smartphone use of the past came to life. The author has owned and used smartphones of various manufacturers for ten years and the three major problems presented in this study seemed to play a big role in every turn when reminiscing past use. It seemed therefore very important to incorporate them into this research paper and the concept of this study would not be complete without them.

Marketing theory focusing on integrated marketing communications was chosen to create the theoretical framework for this study. As the theory provides solid support for the research it is the author's own personal research, opinions and experience that makes this study what it is from the initial spark that started the idea to making it into a ready research paper.

Communication in smartphone marketing has often followed a similar approach which became evident when observing the three competitors Apple, Samsung and Nokia as this study did. Throughout history mobile phones have been marketed through an idea of something that can be achieved with the new device and the same applies with the previously mentioned manufacturers marketing their flagships. Each company aggressively brings forth their respective model's technical innovations and promises added value to the user when applied said innovations.

Analyzing the data from the questionnaire painted a rather clear picture that modern and fairly new users of smartphones are utilizing their functions effectively. This means phone usage other than calls and SMS. Also the newest and most user friendly phone user interfaces seemed to be the most popular. All this backs up the author's claims that modern smartphones have overcome the problems presented in this study and become more user-friendly.

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## Appendix 1: Smartphone survey

### Smartphone survey

I am conducting this survey for my bachelor's thesis to record the user traits of smartphone owners.

It would be much appreciated if you could take part in this survey. It should only take up a minute, or two of your time.

Answering this is anonymous and the information will be used only by me.

In case of any arising questions please feel free to contact me: wille.wahlberg@laurea.fi

#### User info

Gender:

- Male  
 Female

Age:

- 18-24  
 25-30  
 31-40  
 40-50  
 51-60  
 61+

#### Phone use

How long have you had a smartphone?:

- Less than 1 year  
 1-2 years  
 3-4 years  
 5-6 years  
 7-8 years  
 9-10 year  
 11 or more

Phone type:

- iPhone  
 Android  
 Symbian  
 Windows Phone  
 Other  
 BlackBerry

Applications used:

- Web browser  
 Email  
 Facebook  
 Twitter  
 Maps  
 Voip/IM e.g. Skype/Viber/Whatsapp  
 Camera  
 Music player  
 Cloud storage e.g. iCloud/Dropbox/Google Drive  
 Other

Do you find it easy to use the above mentioned applications on a smartphone?:

- Yes  
 No

Do you download applications?:

- Yes  
 No

How frequently do you use your phone for other purposes than calls/SMS?:

- Every hour  
 Daily  
 Weekly  
 A few times a month  
 Never

Which of the following criteria affects your purchase decision the most in smartphones?:

- Technical specifications  
 Design  
 Brand  
 Price

## Appendix 2: Research permit application



Tutkimuslupahakemus

1 (1)

07.5.2012

**Työn tekijä/t:** Wille Wahlberg 1102224**Koulutusohjelma/korkeakoulu/yliopisto:** Business Management/Laurea UAS**Toimipiste:** Otaniemi**Ohjaaja/ohjaajat:** Eeva Miettinen**Työn nimi:** Bachelor's thesis**Tavoitteet/tutkimusongelma:** Käyttäjäkysely älypuhelinikäyttäjille**Tarvittavien tietojen / aineistojen määrittely:**

-eLomakkeella toteutettu kyselylomake

-Kysymyksiä: ikä, sukupuoli ja älypuhelimien käyttötapa

<https://elomake3.laurea.fi/lomakkeet/5669/lomake.html>**Aikataulu:** 4.5.2012 - 29.5.2012**Liitteet:**

## Appendix 3: Research permit



Tutkimuslupa

1 (1)

09.5.2012

Työn tekijä/t: Wille Wahlberg 1102224

Koulutusohjelma/korkeakoulu/yliopisto: Business Management / Laurea UAS

Toimipiste: Otaniemi

Ohjaaja/ohjaajat: Eeva Miettinen

Työn nimi: Bachelor's thesis

Tavoitteet/tutkimusongelma: Käyttäjäkysely älypuhelimkäyttäjille

Tarvittavien tietojen / aineistojen määrittely:

-eLomakkeella toteutettu kyselylomake

-Kysymyksiä: ikä, sukupuoli ja älypuhelimien käyttötapat

<https://lomake3.laurea.fi/lomakkeet/5669/lomake.html>

Aikataulu: 4.5.2012 - 29.5.2012

Liitteet:

Aineiston käsittely tutkimuksen puitteissa

Tutkimusluvan myöntämisen ja tietojen/aineiston luovuttamisen ehtona on se, että tutkimuksen/selvityksen tekijä sitoutuu huolehtimaan tietojen käsittelystä ottaen huomioon henkilötietojen käsittelyä ja yksityisyyden suojaa koskevan lainsäädännön. Tutkimuksen/selvityksen tekijä on velvollinen käyttämään tietoja/aineistoa luottamuksellisesti ja ainoastaan tämän tutkimuksen/selvityksen tekemiseksi sekä turvaamaan tarkastelemiensa henkilöiden intimitettiin ja anonymiteetin. Tutkimuksen/selvityksen toteuttamisen jälkeen aineisto hävitetään asianmukaisella tavalla.

Espoossa 9.5.2012

Ari Poikola  
johtaja

jakelu: Sonja Vanala, Eeva Miettinen, Kimmo Pettinen, Maarit Fränti