

Lappeenranta University of Technology
Faculty of Technology Management
Degree Program in Information Technology

Bachelor Thesis

Anni Sirén

**Apple, Nokia and RIM –
Rivalry and Co-operation between Three Mobile Phone Corporations**

Examiner: Professor Jari Porras

Instructor: Professor Jari Porras

ABSTRACT

Lappeenranta University of Technology
Faculty of Technology Management
Degree Program in Information Technology

Anni Sirén

Apple, Nokia and RIM – Rivalry and Co-operation between Three Mobile Phone Corporations

Bachelor Thesis

25.8.2011

40 pages, 6 tables, 3 pictures

Examiner : Professor Jari Porras

Keywords: Nokia, RIM, Apple, Smartphone, Blackberry, iPhone, patent infringement, copyright infringement

The purpose of this paper is to gather enough evidence to speculate the future of Nokia, Rim and Apple. The thesis goes over the history, current events and business model of each company. This paper includes differences between the companies and co-operation and rivalry, such as patent infringement cases. The study is limited to smartphones and their future. The result of this study is that Apple will continue its steady increase in market share, while Nokia will first decrease and after the launch of the Windows Phone it will rise again. RIM's result has not been as good as in past years and it has lost market share. The decrease of share price may lead to acquisition by a company interested in RIM technology.

TIIVISTELMÄ

Lappeenrannan teknillinen yliopisto

Teknistaloudellinen tiedekunta

Tietotekniikan koulutusohjelma

Anni Sirén

Apple, Nokia and RIM – Rivalry and Co-operation between Three Mobile Phone Corporations

Kandidaatintyö

25.8.2011

40 sivua, 6 taulukkoa, 3 kuvaa

Työn tarkastaja: Professori Jari Porras

Hakusanat: Nokia, RIM, Apple, älypuhelin, Blackberry, iPhone, patenttiloukkaus, tekijänoikeusloukkaus

Työn tavoitteena on koota tarpeeksi todisteita Nokian, RIM:n ja Applen tulevaisuuden näkymien arviointia varten. Työssä käydään läpi yhtiöiden historia, ajankohtaiset asiat ja business-mallit. Työhön sisältyvät myös yhtiöiden eroavaisuudet sekä yhteistyö ja kilpailu, kuten esimerkiksi patenttikiistat. Tarkoitus on rajata työ älypuhelimiin ja niiden tulevaisuuteen. Työssä tullaan siihen lopputulokseen, että Applen vakaa nousu markkinaosuuksissa jatkuu, kun taas Nokia ensin laskee ja uuden Windows-puhelimen julkaisun jälkeen nousee. RIM:n tulos on ollut edellisiä vuosia huonompi ja se on menettänyt markkinaosuuksiaan. Riittävä osakekurssin lasku saattaisi saada RIM:n teknologiasta kiinnostuneen yrityksen harkitsemaan sen ostamista.

FOREWORD

I want to thank Lauri Siren for his advice and support.

Table of Contents

1	INTRODUCTION.....	3
1.1	BACKGROUND.....	3
1.2	GOALS AND LIMITATIONS	3
1.3	THESIS STRUCTURE	4
2	APPLE.....	5
2.1	BACKGROUND.....	5
2.2	CURRENT EVENTS	6
2.3	SMARTPHONE BUSINESS MODEL.....	7
3	NOKIA	9
3.1	HISTORY	9
3.2	CURRENT EVENTS	11
3.3	SMARTPHONE BUSINESS MODEL.....	13
4	RIM: RESEARCH IN MOTION	15
4.1	BACKGROUND.....	15
4.2	CURRENT EVENTS	17
4.3	SMARTPHONE BUSINESS MODEL.....	18
5	COMPARE AND CONTRAST	20
5.1	PAST EVENTS	22
5.2	FUTURE EVENTS.....	27
6	CONCLUSION	28
	BIBLIOGRAPHY	30

SYMBOL AND ABBREVIATION DIRECTORY

Ab.	Aktiebolag or 'limited-liability company'
CDMA	Code Division Multiple Access
CEO	Chief Executive Officer
EDGE	Enhanced Data Rates for GSM Evolution
EUR	Euro
GM	General Motors
GPS	Global Positioning System
GSM	Global System for Mobile Communications
HD	High Definition
IFRS	International Financial Reporting Standards
ITC	International Trade Commission
LAN	Local Area Network
LED	Light Emitting Diode
Ltd.	limited-liability company
NATO	North Atlantic Treaty Organization
NGC	Nokia General Communications
OS	Operating System
Oy.	Osakeyhtiö or 'limited-liability company'
RIM	Research in Motion
SMS	Short Message System
UMTS	Universal Mobile Telecommunications System
US	United States
USA	United States of America
USB	U.S. Bancorp
USD	United States Dollar
WLAN	Wireless-LAN

1 INTRODUCTION

The history of the cellular mobile phone is not all that long. On April 3, 1973 Martin Cooper made the very first phone call with the Motorola Dyna-TAC mobile phone. Before this most 'mobile phones' were too large to carry and most of them were installed in cars. (Sokala, 2002)

In this paper I am researching three major mobile phone companies: Apple, Nokia and Research in Motion (RIM). These companies are all pioneers in their own fields. Nokia was making electronics since the early 1960s, Apple launched its first computer in 1977 and RIM started making two-way pagers in the 1990s. This paper is a short look into the history and future of these three companies.

1.1 Background

The reason I chose this topic is because I find the mobile phone industry very compelling and I feel that it is on a verge of change. Nokia is one of the major mobile phone companies and has a major influence in the field, but it has suffered from steady decline and its future looks uncertain. Apple is a brand name product, which is marketed as cool, hip and easy to use. RIM is a smaller company constructed around smartphones with an encrypted e-mail system. Apple is mostly based on entertainment, such as their app store, while RIM is focused on the need for privacy which is important for people like businessmen and lawyers.

All three companies have landed a spot in the top five smartphone vendor list and they have a history of co-operation and rivalry. Nokia and Apple have been at the center of copyright and patent infringement lawsuits since October 2009 and Nokia has used the RIM e-mail-program in the early 2000's. All three companies also have their own operating systems: Apple has the iOS, Nokia has Symbian, and RIM has its RIM OS. This makes the corporations similar, unlike for example Samsung which uses Android, an operating system developed by Google.

1.2 Goals and Limitations

My goal is to research the co-operation and rivalry between Apple, Nokia and RIM and speculate about the future of these companies. There is much rivalry between different mobile phone companies fighting for the same clientele. A big part of speculating the future

is researching the past, so for each company I have written about its history.

I have limited my research to European and North American markets and smartphones. My reasoning is that Nokia, Apple and RIM are very strong in these areas. I chose smartphones since it is the common denominator that connects these three companies together.

1.3 Thesis Structure

1. Introduction

Why I have chosen this topic, background and a short introduction to the topic.

2.-4. Apple, Nokia, RIM

I will have a chapter dedicated to each of the three companies, giving a brief background, overview of current events and business model and show how much they depend on the success of their smartphone business.

5. Compare and Contrast

In this chapter I will compare and contrast the three companies. In this chapter I will discuss the co-operation between these companies; how they work together and share knowledge or if they don't I will find out why. In this chapter I will go over the rivalry between these companies. This will include court cases the three have issued each other, and alleged copyright infringement cases.

6. Conclusion

In this chapter I will conclude the paper with what I have learned and discuss future speculation of how these companies will succeed in their field.

2 APPLE

In 2007 John Sculley, a former Apple CEO, made a speech in which he said “real genius is seeing something that is totally obvious, maybe 20 years ahead of anybody else. Steve Jobs would be a real example of that. Steve saw where all of this was going long before any of this existed,” (BSR, 2007 pp. 38). This statement is a good comparison of what Apple has been for more than two decades.

2.1 Background

The most important person in Apple’s history is its co-founder Steve Jobs. He was born in San Francisco in 1955, but soon moved to Cupertino. Even though Jobs was interested in electronics from a young age, he dropped out of Reed College after his first year and moved back to California. Soon, he got a job at Atari and on April 1, 1976 he founded Apple Computer Inc with Steve Wozniak. (Kahney, 2008, Linzmayer, 1999) But, Steve Jobs was soon called “unproductive and uncontrollable” and in 1985, after a long struggle with CEO John Sculley, Jobs quit before he could be officially fired (Kahney, 2008: pp. 7).

In 1997, Jobs was coaxed back to Apple. Apple was in a crisis; it was not making profit and its market shares were down. Jobs knew that Apple was only a few short months from bankruptcy, and the only way to save the company was to focus on what it did best: build easy-to-use computers for consumers and creative professionals. Jobs stripped down Apple’s products and created a new innovative business model in which there were only four major computer choices: a professional and consumer oriented desktop and laptop. (Kahney, 2008)

The Apple brand name has been very powerful from the very start of its history. In 1977 Apple introduced the first mass market PC, the Apple II. In 1984 the Mac computer was launched and this was the first computer to implement a graphical interface for the mass market. In 1991 Apple released the PowerBook and this set the trend to all laptops to come. (Cusamono, 2008) The iPod was the product that transformed Apple from a mere PC company into a successful international brand. In the last ten years Apple has managed to make a strong line of popular products, mainly products like the iPod, iPhone and iPad. Apple’s main achievements can be seen in picture 1.

1976: Apple Computer was founded
 1977: First mass market PC, Apple II, was launched
 1984: Mac Computer introduced
 1985: Steven Jobs leaves Apple
 1991: PowerBook introduced
 1997: Steven Jobs as CEO
 1998: iMac Designer PC released
 2001: iPod released, Mac OS X released
 2003: iTunes music and media service released, Windows version of iTunes released
 2007: iPhone released, Apple Computer becomes Apple Ltd.
 2010: iPad released
 2011: iPhone 5 release in September

Picture 1. Timeline (Linzmayer, 1999; Cusumano, 2008;)

The main focus of Apple is to be user friendly and to create devices that anybody can use with ease. “As technology becomes more complex, Apple’s core strength of knowing how to make very sophisticated technology comprehensible to mere mortals is in even greater demand,” Jobs told the Times. “Jobs always looks at things from the perspective of what was the users experience going to be”, John Sculley said (Kahney, 2008, pp. 61, 63).

The first iPhone was launched in 2007. It was very popular in the United States even though it was expensive and it was offered by only one operator. The smartphone market share of the iPhone steadily grew to a staggering 17.3 percent by the end of 2008. (Hakkarainen, 2009) The iPhone is Apple’s best selling product by far with over 25,000 million dollars in sales, as seen in table 1.

Table 1. Table of Apple Product Sales in Millions of USD.(Apple, 2008, 2009, 2010)

	2006	2007	2008	2009	2010
Total net sales	19,315	24,578	37,491	42,905	65,225
Mac Unit sales	7,375	7,051	9,715	10,396	13,662
iPhone sales	N/A	630	6,742	13,033	25,179
iPod sales	7,676	8,305	9,153	8,091	8,274
iPad sales	N/A	N/A	N/A	N/A	4,958

2.2 Current Events

On January 17, 2011 CEO Steven Jobs took an unspecified amount of sick leave from Apple. (Helft, 2011) Jobs’ leave is believed to cause anxiety with investors and consumers, because of the heightened competition the company faces. Steve Jobs is seen as the face of the company and is said to be inseparable from the company’s success. In March, Jobs made a

surprise appearance to introduce the new iPad 2. Jobs also made an announcement at Apple's annual Developers Conference in San Francisco on June 6, 2011. On August 24, 2011 Steve Jobs resigns as CEO of Apple and Tim Cooks, the former Chief Operating Officer, took over as the new CEO. Jobs will stay on as chairman of the board. (Bilton, 2011; Apple, 2011a; Gupta et al. 2011)

Jobs is leaving at a critical time for Apple as the company has overpowered most of its rivals in the technology industry with the iPhone and iPad, but giants like Google, Microsoft and Samsung have narrowed Apple's lead. Google's Android software recently began outselling the iPhone in the United States. This might have caused Apple to begin offering the iPhone on Verizon Wireless, ending more than three years of exclusivity at AT&T in the United States. On June 6, 2011 Apple announced its new iOS5, the OS X Lion and the iCloud. These features are available fall 2011. (Apple, 2011b) On July 19, Apple announced its third quarter results in which iPhone sales had grown 142 percent and the iPad sales grew 183 percent. "We are thrilled to deliver our best quarter ever, with revenue up 82 percent and profits up 125 percent," Steve Jobs announced. (Bilton, 2011; Apple, 2011a; Apple, 2011c)

2.3 Smartphone Business Model

A part of Apple's business strategy is to bring a new product model every few years. There have been four iPhone models since its initial release in 2007. The newest model, the iPhone 4, was released in June 2010 and the new iPhone 5 is expected to be released in September 2011. (Apple, 2010) Since Apple is selling only one product at a time, it is very dependent on the success of that product. Apple has a tendency to trust in the popularity of its brand and it believes in the loyalty of its customers. In a 2009 survey by the CFI Group showed that the Windows Mobile users had a low level customer satisfaction rating with a rating of 66/100. The iPhone ranked first with 83/100, then Google Android (77) and RIM BlackBerry (73). (Eaton, 2009)

The iPhone is very similar to Apple's music player the iPod touch. They look alike and have a similar user interface. The iPhone 4 has two different models according to capacity and color. It is sold in 16 GB and 32 GB versions in black and white. Apple is an exclusive company in the sense that it likes to limit its sales to certain retailers. This was an advantage, as Apple got a part of the operating profits after the phone was sold. However, in June 2008,

Tim Cook announced that second-generation iPhones will not continue this model. However, most operators still provide Apple with subsidies for the iPhone. In the United States the iPhone was only sold by the operator AT&T until February 2011, when the CDMA version of the iPhone 4 was launched by Verizon. Both of these operators sell sim-locked iPhones meaning that the customer can only use the operator that they bought it from. (Apple, 2010; Carew & Madway, 2011; Reuters, 2008)

Another feature that Apple uses to its advantage is their successful App Store where applications are sold. Similar features are the iTunes Store that sells music and the iBookstore that sells e-books. The App Store allows customers to buy third-party applications and books through Mac or Windows-based computers or wirelessly to an iPhone, iPad or iPod touch. This is a major source of revenue for Apple. (Apple, 2010)

One of the key aspects of Apple is its innovative nature. Under Job's leadership, Apple has earned a reputation as one of the most innovative companies in technology. In 2010 the Business Week named Apple the most innovative company in the world (BusinessWeek, 2010). This was the sixth year in a row that Apple had earned first place. Innovation at Apple is largely about shaping technology to the customer's needs, not trying to force the user to adapt to the technology. In 2007, the management consultancy Booz Allen Hamilton released a study of worldwide research and development spending. Booz Allen Hamilton cited Apple as one of the thriftiest R&D spenders in tech, and one of the most successful. According to Booz Allen Hamilton, Apple's 2004 R&D-to-sales ratio was 5.9 percent, compared to the industry average of 7.6 percent. "By rigorously focusing its development resources on a short list of projects with the greatest potential, the company created an innovation machine that eventually produced the iMac, iBook, iPod and iTunes." (Kahney, 2008 pp.191)

"The roots of Apple were to build computers for people, not for corporations," Jobs has said. It has been clear for years that Apple does not compete in the same market as PC companies. Apple goes after the most profitable segment of the market, not the most number of machines. (Kahney, 2008)

3 NOKIA

Nokia is a multinational mobile phone company with a diverse past. The origins of Nokia can be traced back to 1865 and in the 1990's the Nokia we know today started to immerge. Today it is the largest of the three companies studied with over 132,000 employees located in 120 countries. In the last year, however, Nokia has seen some major setbacks and it has been losing its number one spot in the smartphone industry to Apple with Samsung close behind.

3.1 History

Nokia's history dates back to 1865 when the Finnish mining engineer Fredrik Idestam established a wood-pulp mill in Southern Finland. (Laitinen, Leppänen, 2001, pp. 8). In 1918 Eduard Poló, already the owner of the Finnish Rubber Works, bought Nokia Ab and four years later Poló bought the Finnish Cable Works Ltd. Finally, in 1966 these three companies formally became known as 'Oy Nokia Ab.' which is the start of modern Nokia. Picture 2 gives a timeline of important events in Nokia's history. (Häikiö, 2001a)

1865: Fredrik Idestam establishes wood-pulp mill in Tampere
1871: Nokia Ab. established
1898 Finnish Rubber Works Ltd. was established
1912 Finnish Cable Works Ltd. was established
1918: Eduard Poló, buys Nokia.
1922: Eduard Poló buys Finnish Cable Works Ltd
1960: Electronics department was established in the Finnish Cable Works
1963: Finnish Cable Works begin to work on radiotelephones
1966: Nokia Ab, Finnish Rubber Works and Finnish Cable Works fuse together into Oy Nokia Ab
1975: Nokia made a radiotelephone co-operation agreement with Salora
1977: Televa Oy and Nokia Oy establish a company called Telefenno Oy
1979: Nokia Oy and Salora create the company Mobira, which makes car phones
1980: Nokia's English name becomes Nokia Corporation
1981: Televa Oy becomes Telenokia Oy, when Nokia buys majority of shares
1984: Nokia purchases Salora and Luxor and introduces the first mobile car phone: Mobira Talkman
1985: Nokia's image 'Rubber work' company with electronics as a hobby. First NMT pocket phone: Mobira Cityman
1986: Mobira is renamed Nokia-Mobira
1987-88: Nokia buys German television factory Standard Elektrik Lorentzin and becomes the third largest television producer in Europe
1989: Salora fused into Nokia.
1989: Nokia-Mobira becomes Nokia Mobile Phones Ltd.
1991: World's first GSM call was made from a Nokia phone. Nokia sells all computer production to ICL
1992: Telenokia Oy becomes Nokia Telecommunications Oy
1994: First communicator with e-mail and fax introduced
1997: Oy Nokia Ab becomes Nokia Oyj
1999: Nokia Telecommunications Oy becomes Nokia Networks Oy. Nokia introduces the WAP-phone with internet access
2007: Nokia Networks becomes Nokia Siemens Networks
2011: Nokia made a deal with Microsoft to use their software in Nokia phones

Picture 2. Timeline (Häikiö, 2001a,b,c ; Nokia, 2011; Bruun & Wallén, 1999)

In 1991 trade with the Soviet Union collapsed and the National Bank of Finland, who was a major Nokia stockholder, was getting ready to sell-out. This and the depression in the early 1990s caused business to decline and for a while Nokia's future was uncertain. After the disastrous losses in the television and computer industry the smartest move for Nokia was to concentrate solely on mobile phones. Nokia was lucky in the sense that its competitors were not failing in so many areas and thus did not concentrate in any one field. (Häikiö, 2001b, c; Sokala, 2002)

Nokia was now able to concentrate in developing and promoting a new age of mobile phones. In 1991 Jorma Ollila (Nokia CEO 1992-2006) started to work on the Nokia brand and in 1992 the well known slogan "Connecting People" was created. Nokia's main goal was to become the world leading mobile phone company and it achieved this goal in 1998. During this year, Nokia started to develop smartphones as we know them today. The next big issue was choosing an operating system for the new device. Microsoft already had an operating system WindowsCE that Nokia was considering, but it did not seem stable enough, so Nokia chose to use Symbian instead. A year later, Nokia started to create the first mobile phone that could be used to access the Internet. Part of what made Nokia so successful in the 1990s and 2000s was their superb logistics. With the explosive growth in mobile phone technology, Nokia had to renew its logistics and managed to create a superefficient supply-chain and manufacturing system. (Ewing, 2007; Häikiö, 2001c, 2009)

In the next ten years mobile phones became more complex with more features such as: messaging, e-mail, music, pictures, video, Internet, etc. In 2001 Nokia published Nokia 7650 with a new color screen and 0.3 megapixel camera. In 2009 phones had 8 megapixel cameras that could take full HD quality video. (Häikiö, 2009) Today Nokia phones have touch screens, navigation, movies, and games. The new Nokia Windows Phones are scheduled launch in the fourth quarter of 2011.

In the 2000s two major changes happened. First Nokia lost its foothold in the USA: in 2001 Nokia's USA market profit was 5.6 billion euros and in 2008 only 1.9 billion euros. At the same time Nokia's sales tripled in China from two to six billion euros and almost quadrupled in India. Decline started in 2002 as Nokia's United States sales started to decrease rapidly. One reason might be that Nokia did not have the operator relations needed to operate in the

United States as Nokia did not want to be controlled by US operators and wanted the freedom to sell mobile phones elsewhere. Nokia also had trouble catching up with latest trends: for example the slim, clam-shell Motorola Razr in 2004, and Apple's iPhone's touch screen in 2007. (Häikiö, 2009)

In 2007 Google launched its own Android operating system and Nokia started to worry. Nokia reacted to this by acquiring Symbian Ltd. in June 2008 and making it available with open source terms. Now for a minimal fee, any registered member could use it in any unit. This was meant to keep customers from using any of Google's programs, but it did not stop customers from buying Google phones. (Hakkarainen, 2009)

3.2 Current Events

Nokia has seen a steady decline in popularity recently, so major changes had to be made. In September 2010 Nokia changed its CEO from Olli-Pekka Kallasvuo to the first non-Finnish CEO Stephan Elop, the former head of the business department responsible for the Microsoft Office franchise at Microsoft. On February 11, 2011 Elop had a press conference in London, England in which he announced Nokia's new agreement with Microsoft. The agreement included: "plans for a broad strategic partnership with Microsoft to build a new global mobile ecosystem, with Windows Phone serving as Nokia's primary smartphone platform" (Nokia, 2011a. pp. 41).

On May 31, 2011 Nokia gave a statement saying that they will not reach their 2011 profit goals. This statement caused Nokia shares to plummet 17.5 percent, closing at 4.75 euros in Helsinki. The company said "multiple factors are negatively impacting" sales, particularly lower selling prices and reduced sales volume. Nokia said it had increased confidence that the first Nokia-Microsoft phone would be shipped in the fourth quarter of 2011. Nokia also stated that it was still investing in the Symbian lineup and intensifying its focus on point-of-sales marketing. Nokia blamed the situation in China and Europe as the reason for this decline. George Evens, the director of international equities at Oppenheimer Funds said "Smart phones running Apple and Google software are capturing the high end while low-cost Asian companies are beating Nokia in the market for cheap handsets". Evans continues by stating that he could not see how Nokia is going to survive. (Nokia, 2011c; Pressman, 2011; Sajari, 2011; Ando, Prodhan, 2011)

Even though Nokia remains the world’s largest mobile phone maker by unit sales, it has fallen behind Apple to the No. 2 position when measured by revenue generated in the mobile phone market. The decrease in sales can clearly be seen in table 2. The successes of the iPhone and devices using the Android OS have left Nokia scrambling for market shares in high-end smartphones. In April 2011, Nokia said it would cut nearly 20 percent of its costs over three years, a goal that is likely to and has resulted in thousands of layoffs. (Ando, 2011; Jolly, 2011; Nokia, 2011c)

Table 2. Selected Financial Data, in EUR millions (Nokia, 2011a)

	2006	2007	2008	2009	2010
Net Sales	41 121	51 058	50 710	40 984	42 446
Operating profit	5 488	7 985	4 966	1 197	2 070

Part of this decline was expected as Nokia announced its move to Microsoft’s Windows software. Analysts said they were not sure if the company can catch up even if it starts selling Windows-based phones in the fourth quarter. “We would continue to avoid the stock as Symbian smartphone sales are falling off faster than expected, and we are skeptical that new Windows Phone models will be able to replace lost profits,” said Gleacher & Co analyst Stephen Patel. (Ando, Prodhan, 2011) Many different analyst companies are anxious about the future of Nokia. “We are concerned that the erosion that the company has suffered in Q2 is just the beginning and that there could be worse to follow”, wrote Nomura’s Global Technology Specialist Richard Windsor. (Heavens & Merriman, 2011)

As Nokia’s setbacks continued rumors of sellout started to emerge. There have been rumors that various companies are willing to buy Nokia. Some of the potential buyers are Microsoft, Korean Samsung, Taiwanese HTC, Chinese Huweita and ZTE. None of the aforementioned companies were willing to comment to Helsingin Sanomat. (Välimaa, 2011) CEO Stephen Elop told the United States financial news channel CNBC that “those rumors are baseless, there are no conversations” with Microsoft. (Ando, Prodhan, 2011)

These rumors show the difficulties Nokia has charting its own course during the awkward phase after it announced its dramatic new strategy, but before it actually has any product to sell. Nokia has landed itself in the Osborne effect, where a company places itself in a difficult

position by announcing technology still under development. Announcing that a Windows phone will appear at some point in the future and Symbian and the brand new MeeGo phone development has been stopped, is a very poor choice in a volatile environment. While Nokia is in a sort of limbo, selling product lines its already announced to be obsolete, Apple's iOS and Google's Android both are growing in market power. (Shankland, 2011)

3.3 Smartphone Business Model

Nokia's current smartphone business model consists of a partnership with Microsoft. In the future Nokia new smartphones will be Windows-phones. The official strategy is to form a "broad strategic partnership with Microsoft that would combine (Nokia's) respective complementary assets and expertise to build a new global mobile ecosystem for smartphones. Under the proposed partnership, (Nokia) would adopt, and license from Microsoft, Windows Phone as (Nokia's) primary smartphone platform" (Nokia, 2011a, pp. 43). Nokia plans to make the Windows Phone its primary smartphone platform in the next two years. Meanwhile, Nokia will continue to make Symbian phones. (Nokia, 2011a)

Before the Nokia-Microsoft venture Nokia's official smartphone business model stated that: "We make smartphones for a broad range of consumer groups, addressing the market for feature rich mobile devices offering Internet access, entertainment, location based and other services, applications and content. With smartphones, we capture value from traditional single purpose product categories, including music players, cameras, pocket-able computers, gaming consoles and navigation devices, by bringing combinations of their various functionalities into a single device," (Nokia, 2011a pp. 45-46).

At the Open Mobile Summit in May, 2011 Elop described several elements of Nokia's new strategy including, "Nokia will carry favor with mobile phone carriers that don't always get along with Apple and Google...We must delight the consumers with photography, optics, haptics, location-based services and other technology...We have the assets to make that possible, as does Microsoft". (Shankland, 2011; Open Mobile Summit, 2011)

In 2009 the Windows Mobile was the third most popular operating system for business use in the United States after the BlackBerry OS and iPhone. (Rysavy, 2009) Nokia's smartphone industry has been declining while its competitors have been rising and since HTC has seen

good results with the Windows Phone operating system, Nokia took the risk to implement it. (Nokia, 2011a) Nokia chose the new Windows Phone OS since it needed a huge change to get consumers excited about Nokia products again. Even with the negative comments by analysts in general the change has managed to give a lot of publicity for Nokia. Abandoning Symbian and moving onto new challenges is a risky maneuver, but it will be rewarded when new Windows Phones are launched.

4 RIM: RESEARCH IN MOTION

Research in Motion (RIM) is based in Waterloo, Ontario, Canada. Its main focus is its smartphone brand BlackBerry. RIM's best selling point is an encrypted e-mail system, which is important for businessmen who want to be certain of secrecy. RIM's success is the ability to sell phones in the high end market: to consumers such as senators and other government officials.

4.1 Background

Mihalis "Mike" Lazaridis and Doug Fregin, childhood friends who studied at the University of Waterloo, launched Research in Motion (RIM) Inc. in February 1984. They soon hired Mike Barnstign, a fellow student who was just finishing his master's degree in computer science. Their first job was a 600,000 USD contract from General Motors for networked display terminals that could scroll messages and updates across LED signs on GM's assembly line. This was a good start, but Lazaridis wanted the company to move in a different direction; into wireless electronics. Mike Lazaridis and his financial backers knew that RIM needed a skilled manager and in 1992 he found Jim Balsillie. Balsillie was hired and without delay he was put in charge of business development and strategy, with a "mandate to find investment capital, take RIM's technologies to market and build sound client relations." Balsillie and Lazaridis soon became co-CEOs of RIM. (Sweeney, 2009)

In early 1996, RIM's engineers had pulled together a usable two-way flip-top Mobitex pager, about the size of a "large bar of soap". Lazaridis believed that RIM's potential customers craved solutions in the way of small, user-friendly handhelds with a secure and reliable system of transmission. Lazaridis launched the RIM 900 Inter@ctive Pager in September 1996 at the PCS '96 trade show in San Francisco. It was one of the world's first wireless data devices, and the world's first pocket-sized, two-way pager. RIM launched its BlackBerry wireless e-mail service across North America in January 1999. The BlackBerry was the first wireless device that synchronized with company mail systems so that users did not need a different e-mail address when traveling. This became a very big selling point. (Sweeney, 2009)

Balsillie was so sure that it would take a very short time for business users to get hooked on

the BlackBerry and soon he hired “evangelists” to seed thousands of devices to influential professionals on Wall Street and Capitol Hill. This helped make BlackBerry a must-have tool for leading journalists, lawyers, political aides, members of the US Congress, and big banking and brokerage firms. RIM sales boosted by 80 percent, to 85 million USD. In the year 2000’s RIM revenue leapt another 160 percent, to 221 million USD. By February 2000, and even before entering Europe, RIM had 164,000 BlackBerry subscribers in 7,800 companies. Major events in RIM’s history can be seen in picture 3. (Sweeney, 2009)

- 1984: RIM is launched
- 1996: Mobitex pager launched
- 1999: BlackBerry wireless e-mail service launched in North America
- 2009: Acquired Torch Mobile which enabled the use of WebKit-based browser
- 2010: First time on the top 5 smartphone vendor list (IDC)
- 2010: Playbook announced

Picture 3. Timeline (Sweeney, 2009)

After the September 11, 2001 attacks, more United States federal authorities signed up for BlackBerry services for their reliability. Even the United States current president Barack Obama said to CNN that “It's just one tool among a number of tools that I'm trying to use, to break out of the bubble, to make sure that people can still reach me” (Hakkarainen, 2009). When Obama first came to office he stated that: “In just the first few weeks, I’ve had to engage in some of the toughest diplomacy of my life. And that was just to keep my BlackBerry” (Sweeney, 2009 pp. 9). With many new launches out of the way, RIM now had to contend with the slowing down of the North American telecom business. It had reliably expanded, sometimes by 10 percent a year, since RIM went into the smartphone business. But it stalled in the summer of 2008, and then fell that autumn, under the weight of repackaged subprime United States mortgages (Sweeney, 2009). These changes can be seen in table 3.

Table 3. Revenue in USD millions (RIM, 2011a, 2009, 2007)

	2006	2007	2008	2009	2010	2011
Devices	1,439	2,215	4,768	9,089	12,116	15,956
Service	383	560	860	1,402	2,158	3,197
Software	156	173	234	251	259	294
Other	86	87	145	321	420	460
Total:	2,065	3,037	6,009	11,065	14,953	19,907

In 2009, the BlackBerry monopolized the business industries in the United States. The United States congress was RIM's first big client, and the United States government is still the biggest consumer of BlackBerrys. Security is the key element. BlackBerry messages are secured with NATO-grade encryption, and network managers love the ability to freeze or wipe data from a lost or stolen BlackBerry. RIM has also adapted the BlackBerry to serve the consumers, and today more than 60 percent of users are outside the enterprise, buying their services from telecom providers. (Sweeny, 2009; Business Monitor International Ltd, 2010)

4.2 Current Events

In the last few years Research in Motion has given up more ground to Apple and Google in the competitive North American smartphone market. Analysts speculate that RIM cannot keep up with its competition and it is simply too far behind competitors such as Apple and Google. RIM's shares dropped on June 3, 2011 after a research firm said the company's slice of the United States market for high-end mobile phones narrowed in the past three months to April. The latest figures dropped RIM from second to third place. "The Canadian company's struggle to compete is unlikely to get any easier, with Apple's upcoming iCloud service expected to hurt RIM," Sterne Agee analyst Shaw Wu wrote in a note. (Sharp, 2011a; Olive, 2011)

Shares of RIM have decreased more than 40 percent in value since a February 2011 peak above \$70. The U.S. Bancorp (USB) lowered its price target on the stock citing concerns over increasing competition and uncertainty over timings of RIM's product launches. USB said it did not believe RIM's management structure was optimal. Mike Lazaridis and Jim Balsillie share roles as co-chairmen and co-chief executives, and Balsillie has now become chief marketing officer as well. The call to limit the roles held by co-founder Mike Lazaridis and Jim Balsillie adds to RIM's struggle. The setup "makes it more difficult for the board of directors in general to ask management difficult questions," Northwest and Ethical Investments' vice-president of ethical funds, Bob Walker, told Reuters. Sterne Agee said the launch of iCloud, Apple's online music and storage service, could result in collateral damage for RIM. Some aspects of the service are more attractive than RIM's own push network technology. RIM's revenue and gross profit margins could erode if Apple decides to offer some base services for free, Sterne Agee said in a note to clients. Investors want RIM to come up with a credible response to Apple's iPhone and iPad, and to smartphones based on

Google's Android operating system. (Sharp, 2011a, 2011b; Olive, 2011)

RIM promises impressive devices to challenge Apple's slick iPhone and devices using Google's Android software. Cellular version of its PlayBook tablet is imminent, RIM says. "We believe RIM has now squandered nearly every opportunity and competitive advantage it enjoyed through ineffective R&D resource management, delayed product launches and misreads of the competitive environment," Morgan Stanley analyst Ehud Gelblum wrote in a note to clients. Most eyes will focus on RIM's forecast for the current quarter, which ends in late August. The upshot in the April profit warning was a brisk earnings forecast for RIM's fiscal 2012, which runs until early March, but many see it as only a question of time before RIM has to abandon that target too. The more optimistic analysts suggest RIM still has a window of opportunity for its next batch of phones as telecom companies avoid Nokia until its Microsoft partnership starts bearing fruit. "It is not in the carriers' interest to have an Apple/Android duopoly, and in the short term they have no one else to turn to," Scotia Capital's Gus Papageorgiou said. "Nokia is out of the game, at least for this year. They (carriers) want these devices to be successful." (Sharp, 2011c)

4.3 Smartphone Business model

BlackBerry smartphones use wireless, push-based technology that delivers data to mobile users' business and consumer applications. It integrates e-mail, voice calling, browser, calendar, media player and numerous other applications, making it easy for customers to stay connected and entertained on the go. (RIM, 2011a)

RIM is dependent on an increasing number of significant global carrier partner customers with respect to the sales of its products both in terms of the numbers of devices sold and the aggregate value of its sales. The primary direct customers for the BlackBerry wireless solution are wireless carriers. (RIM, 2011a) RIM's solutions are mainly classified into two end-customer segments: business and government, and consumer. In the business and government section, RIM offers BlackBerry Professional Software, a wireless solution for small and medium-sized organizations that delivers enterprise security and controls; and BlackBerry Voice System, which provides enterprise users with single-number reachability and access to the corporate phone system. In the consumer segment, RIM offers BlackBerry Unite!, a free PC-based software product that allows small groups of people to stay

connected on their mobiles. (Datamonitor, 2009)

In RIM's annual fiscal report RIM states that it believes that to make a successful BlackBerry you need: "small size and light weight converged devices, reasonable battery life, intuitive interface and ease of use, integration with corporate PBX, extensive geographical coverage, competitive pricing, flexible architecture, end-to-end security, trusted brand, push-based outbound port architecture, extensive customer care capabilities, multi-network support, connectivity to enterprise e-mail and applications, connectivity to personal messaging, social networking, multimedia and other applications, and access to third party applications." (RIM, 2010b pp. 10) The most important aspects of RIM's business model is producing multiple models a year, depending on user needs. The focus of the main features is security and push-based e-mail.

Today RIM is a "leading designer, manufacturer and marketer of innovative wireless solutions for the worldwide mobile communications market. Through the development of integrated hardware, software and services that support multiple wireless network standards, RIM provides platforms and solutions for seamless access to time-sensitive information including e-mail, phone, SMS messaging, Internet and intranet-based applications." (RIM, 2011a) RIM has a new line of phones that was launched in August, 2011. These are BlackBerry Bold 9900/9930, BlackBerry Torch 9850/9860 and the BlackBerry Torch 9810.

5 COMPARE AND CONTRAST

Overall, the smartphone market grew by 79.7 percent in the last year thanks to new smartphones, as well as lower prices on older models. “The rise of Android as a prominent mobile operating system has allowed several suppliers to gain share quickly,” Kevin Restivo, senior research analyst with IDC’s Worldwide Quarterly Mobile Phone Tracker, said in a statement. “Also, the relatively nascent state of smartphone adoption globally means there is ample room for several suppliers to comfortably co-exist, at least for the short term.” (Albanesius, 2011)

On June 13, Nomura said that Samsung will become the world’s largest smartphone maker this quarter, overtaking struggling Nokia which has lead the market since 1996. In the next quarter Nomura sees Apple also overtaking Nokia, pushing Nokia to number three in the rankings. “Nokia looks set to relinquish its smartphone crown to Samsung and Apple,” Nomura analysts said in a research note. “Further emphasizing the shift in power to Asia is our forecast for HTC to almost match Nokia during 2012.” Research firms Gartner and Canalys both said they saw Nokia losing smartphone volume leadership later this year. “If Nokia’s new phones are not well received in the third quarter and with the Galaxy S2 ramping up, Samsung might overtake them and become the smartphone leader in Q3,” said Gartner analyst Carolina Milanese. “There is certainly a very close three-way battle going on for top spot in global smartphone volumes between Nokia, Apple and Samsung during the second quarter,” stated Neil Mawston, analyst at Strategy Analytics. “With Symbian demand crashing, there is growing opportunity for Samsung or Apple to grab the lead,” said Mawston. Overall, Nokia still makes more mobile phones than Samsung due to its strong position in basic mobile phone models and its wider distribution network in emerging countries. (Virki, 2011)

During the first quarter of 2011, the release of the Verizon iPhone and the smartphone expansion in China helped boost Apple’s first quarter shipments, pushing it even closer to Nokia. According to data from IDC, Apple reached record worldwide shipment volumes for a single quarter. Nokia remained the top smartphone vendor with 24.3 percent of the market, and IDC found that demand for Symbian-based smartphone “remained strong” in Europe and

Asia. Nokia is now transitioning from Symbian to Windows Phone 7, which IDC said could hurt Nokia's market share as competitors increase their smartphone production. RIM, meanwhile, landed in the number three spot with 14 percent of the market, which is down from 19.1 percent last year. It did, however, manage to grow its presence outside of North America. At BlackBerry World, RIM unveiled the BlackBerry Bold 9900 and 9930, as well as BlackBerry OS 7, but IDC found that many of RIM's shipments were for older, cheaper devices. (Albanesius, 2011)

In the second quarter of 2011, the worldwide smartphone market grew 65.4 percent (seen in table 5), marking the third consecutive quarter where total shipments exceeded 100 million units. "The smartphone market crowned a new leader in 2Q11, and its name is Apple," said Ramon Llamas, senior research analyst with IDC's Mobile Phone Technology and Trends team. "Ever since the first iPhone launched in 2007, Apple has made market-setting strides in hardware, software, and channel development to grab mindshare and market share. Demand has been so strong that even models that have been out for one or two years are still being sought out. With an expected refresh later this year, volumes are set to reach higher levels." Kevin Restivo, senior research analyst with IDC's Worldwide Mobile Phone Tracker stated that: "The smartphone market leadership change signifies the parity that comes with a fast-growing market such as smartphones. There is no runaway leader in the market, which means there could easily be further Top 5 vendor changes to come." (IDC, 2011a) Nokia is still leader in the worldwide mobile phone race as seen in table 5, but Nokia's smartphone volumes have decreased quite dramatically which indicates that it will be very difficult to get back to first place.

Table 4. Top Five Smartphone Vendors Q2 2011 (Units in Millions) (IDC, 2011a)

Vendor	2Q11 Unit Shipments	2Q11 Market Share	2Q10 Unit Shipments	2Q10 Market Share	2Q11/2Q10 Change
Apple	20.3	19.1%	8.4	13.0%	141.7%
Samsung	17.3	16.2%	3.6	5.6%	380.6%
Nokia	16.7	15.7%	24.0	37.3%	-30.4%
RIM	12.4	11.6%	11.2	17.4%	10.7%
HTC	11.7	11.0%	4.4	6.8%	165.9%
Other	28.1	26.4%	12.8	19.9%	119.5%
Total	106.5	100%	64.4	100%	65.4%

Table 5. Top Five Mobile Phone Vendors Q2 2011 (Units in Millions) (IDC, 2011b)

Vendor	2Q11 Unit Shipments	2Q11 Market Share	2Q10 Unit Shipments	2Q10 Market Share	2Q11/2Q10 Change
Nokia	88.5	24.2%	111.1	33.8%	-20.3%
Samsung	70.2	19.2%	63.8	19.4%	10.0%
LG Electronics	24.8	6.8%	30.6	9.3%	-18.9%
Apple	20.3	5.6%	8.4	2.6%	141.8%
ZTE	16.6	4.5%	12.2	3.7%	36.0%
Other	145	39.7%	102.3	31.2%	41.7%
Total	365.4	100%	328.2	100%	11.3%

IDC expects total smartphone shipments to reach 452.5 million units in 2011, building from the momentum in 2010. Adding to this is the increasing focus on the mass market. Looking ahead to 2015, IDC believes total smartphone shipments will reach 925.7 million units, resulting in a compound annual growth rate of 25.0 percent for 2010–2015. (IDC, 2011a)

5.1 Past Events

There is not much co-operation between these three companies, but on November 8, 2002 Nokia and Research in Motion (RIM) announced that they signed a BlackBerry software licensing agreement. Under the terms of the agreement, RIM has granted Nokia the right to use and distribute certain BlackBerry software in conjunction with Nokia products on

a global basis. (Nokia, 2002) In 2005 Nokia Enterprise Solutions bought the license for RIM's BlackBerry e-mail-program and made it work on the Nokia Communicator 9300. (Hakkarainen, 2009) On December 4, 2008 Nokia and RIM announce that they have renewed their patent license agreement. The agreement covers the worldwide use of standards essential patents for GSM, WCDMA and CDMA2000 technologies. (Nokia, 2008)

Apple CEO Steve Jobs launched the eagerly awaited iPhone at Apple's World Wide Developers conference in San Francisco June 2007. The iPhone was not your normal Nokia, and it earned Apple a coveted spot in the top ranks of handset makers, grabbing 13 percent of the smartphone market in its first year. Jobs's first version lacked many of BlackBerrys key business features and it did not have RIM's use of bandwidth and superior security. The two devices were not yet competitive as the BlackBerry is seen as an enterprise-class phone for business power users, while the iPhone is a "multimedia machine". But clearly the trend is toward unified devices that could be used seamlessly in both markets. With its good design and excellent mobile browser, the first iPhone sported the crude EDGE network, which did not support push e-mail technology. Regardless, the iPhone had RIM concerned as it sold very well and a 3G version with better security was on the way. (Sweeney, 2009)

RIM's initial response to the coming of the iPhone was long overdue. Beginning with the Curve and Pearl, it took the rough MS-DOS-style fonts and crafted them into smooth and modern typefaces. At the same time, the company boosted the screen resolution to handle them. It also worked to produce radios and software optimized for the new 3G networks from Verizon and AT&T. Apple's major advantage was its superb Safari browser and ease of Web access. RIM's first reply to the Apple challenge was the BlackBerry Bold. RIM launched the feature-packed BlackBerry Bold 9000 on May 12, 2008 beating Apple's iPhone 3G to market by a month. The Bold was the first 3G BlackBerry device, bringing a level of faster data downloads to BlackBerry owners in North America and around the world over UMTS networks, with download speeds almost three times faster than EDGE. The major thing that bugged reviewers was the BlackBerry Web browser, which still was not ready to go head to head with iPhone's or Google's G1, which uses WebKit, the open-source cousins of Apple's Safari. (Sweeney, 2009)

RIM's approach to Wi-Fi was also problematic for some, but the company had to retain a

proper level of paranoia about corporate security. The Bold and other BlackBerrys with Wi-Fi have a browser setting called “HotSpot Browser”, which gives users direct Wi-Fi network access to the Internet without having to go through a secure BlackBerry Internet Service or a BlackBerry Enterprise Server. This is by far the fastest browsing experience on a BlackBerry since it was unsecure internet. While BlackBerrys are still slower than iPhones in rendering Web pages or executing JavaScript, RIM was making big browser strides. The Bold’s enhanced HTML helped the device mimic or emulate desktop viewing. Users could pick whether they wanted to view sites in full desktop-style HTML or in the older mobile version. (Sweeney, 2009)

On June 9, 2008, Steve Jobs introduced the iPhone version 2.0, for 3G wireless networks. This device was a truly ‘smart phone’. Jobs argued that it had enough security to satisfy all but the most paranoid IT manager. At the same time, he also launched Apple’s iPhone software development kit (SDK) and an online application store in iTunes where developers could sell software. It had better integration with iTunes and the new App Store for programs and freebies. Apple also added true GPS to the iPhone and launched a new cloud computing sync setup called MobileMe, with push e-mail into the cloud and quick delivery down to all devices. It provided sync and storage for anybody. And Apple was rolling it out to the world for 100 USD a year. In 2008, United States orders totaled 10 million units. In one year, Apple had addressed most of the criticism head-on and come up with some superb solutions. Also, the accelerometer and finger-swiping gestures in the devices opened up a whole new territory for smartphones, from gaming to medical diagnosis. In the three days after launch, Apple sold 1 million iPhone 3Gs in twenty-one countries. In the month following the iPhone 3G launch, the bad news bearers drove RIM stock down 31 percent from a record 148.13 USD in June 2008. (Sweeney, 2009)

When the iPhone 3G excitement died down, people started to look at both the Apple and RIM devices with a more critical eye. They found that, unlike RIM’s Bold, Jobs’s new device did not have stereo Bluetooth for wireless listening, video recording, it lacked multitasking, it did not work at a tethered modem, and it still did not have office level security. Users got frustrated by not being able to swap SD memory cards or carry along an extra power supply. When the first rumors of the iPhone 2 surfaced, jittery investors sold RIM short, assuming the company would get overpowered by Apple. But RIM actually

experienced a big bump in United States sales, with its share of the smartphone market growing from 35 percent in the fourth quarter of 2007 to 45 percent in the first quarter of 2008. In the twelve months since the original iPhone launch, retail sales of the BlackBerry grew 38 percent. (Sweeney, 2009)

The main gainers of Nokia's share of the global smartphone market empire are Apple and RIM. But even if Nokia has declined, analysts feel they are finding their feet again and starting to compete. In the spring of 2008, Nokia cut its ties with RIM's BlackBerry brand on its new business handsets, the E71 and E66. These were the first e-series Nokia devices not to use BlackBerry connect for e-mail, but rather Microsoft Exchange, forcing consumers to make a direct choice between the brands. Some analysts felt that Nokia was making a big mistake, since BlackBerry Connect was one of the main selling points for their best-selling devices. In July 2008, Nokia moved against the RIM OS on another front by spending 410 million USD to acquire the rest of the Symbian operating system. Nokia now has its sights firmly on the North American smartphone market, currently dominated by RIM, Apple, and Google-based machines. Nokia occupies only a small United States niche, primarily because it refused to cave in to the demands of United States carriers for control over design and performance. Even though its Nokia N95 had live video and a 5-megapixel camera, it still did not lock in consumer interest. But that is changing, as Nokia has decided to mend fences with the United States telecommunication companies. (Sweeney, 2009) In October 2008 smartphone markets were divided into RIM's BlackBerry at 15.2 percent, Nokia at 38.9 percent and Apple iPhone at 17.3 percent (Hakkarainen, 2009).

Another big issue is patent infringement. These companies are constantly fighting with each other on their patent rights. Nokia and Apple have been in a two year long patent war with each other. It all started on October 22, 2009 when Nokia gave a press release stating that it had filed a complaint against Apple with the Federal District Court in Delaware, USA, alleging that Apple's iPhone infringes Nokia patents for GSM, UMTS and wireless LAN standards. The patents are said to be infringed by all Apple iPhone models shipped since the iPhone was introduced in 2007. (Nokia, 2009a) On December 11, 2009 Apple countersues Nokia claiming that Nokia is infringing 13 of Apple's patents (Apple, 2009). On December 29, 2009 Nokia "requests ITC investigation into Apple patent infringement". Nokia filed a complaint with the United States International Trade Commission (ITC) alleging that Apple

infringes Nokia patents in virtually all of its mobile phones, portable music players and computers. Nokia claimed that Apple infringes on 7 of Nokia's Patents. (Nokia, 2009b)

January 15, 2010 Apple filed its own ITC complaint, seeking to ban Nokia from importing infringing phones into the United States (ITC, 2010; Virki, Billingham, 2010). On May 7, 2010 Nokia announced that it has filed a complaint against Apple with the Federal District Court in the Western District of Wisconsin, alleging that Apple iPhones and iPad 3G products infringe five important Nokia patents. (Nokia, 2010a) December 16, 2010 Nokia announced that it has filed claims in the High Court in England, Dusseldorf and Mannheim District Courts in Germany and the District Court of the Hague, Netherlands, alleging that Apple infringes Nokia patents in many of its products sold in these countries. (Nokia, 2010b)

On March 29, 2011 Nokia filed a second ITC complaint against Apple infringes additional Nokia patents in virtually all of its mobile phones, portable music players, tablets and computers. Nokia does not agree with the ITC's initial determination that there was no violation in that complaint and is waiting to see the full details of the ruling before deciding on the next step in the case. (Nokia, 2011d) On March 25, 2011 Apple won the first round with Nokia as a United States judge James Gildea ruled that Apple did not violate any of the five Nokia patents discussed in the December 2009 complaint. The next step will be for the entire commission to either uphold or throw out Gildea's decision. (Bartz, 2011)

On June 14, 2011 Nokia announced that it has signed a patent license agreement with Apple. The agreement will result in settlement of all patent litigation between the companies, including the withdrawal by Nokia and Apple of their respective complaints to the US International Trade Commission. The financial structure of the agreement consists of a one-time payment payable by Apple and on-going royalties to be paid by Apple to Nokia for the term of the agreement. The specific terms of the agreement are confidential. Stephan Elop stated that: "We are very pleased to have Apple join the growing number of Nokia licensees. This settlement demonstrates Nokia's industry leading patent portfolio and enables us to focus on further licensing opportunities in the mobile communications market." This agreement is expected to have a positive financial impact on Nokia's recently revised outlook for the second quarter 2011 of around break-even non-IFRS operating margin for Devices & Services. (Nokia, 2011e)

5.2 Future Events

IDC analysis states that Google Android smartphones will reach 40 percent market share by the end of the year while Nokia's Symbian phones will continue to decline. IDC predicts that Nokia's Windows Phones will reach a 20 percent market share by the year 2015, if Nokia and Microsoft co-operation continues. IDC also speculates that smartphone delivery will increase by 55 percent in the next year. (Reuters, 2011)

"The worldwide smartphone market is heading for certain growth in the years ahead," says Ramon Llamas, senior research analyst with IDC's Mobile Phone Technology and Trends team. "What will change is the operating system landscape underpinning the market. Android has a growing list of OEM partners which have selected Android as the cornerstone of their smartphone strategy. In addition, Nokia's decision to embrace Windows Mobile/Windows Phone will propel this operating system to the number 2 position worldwide by 2015. In the same fashion, Symbian-powered smartphones will quickly decrease in the coming years. Finally, BlackBerry and Apple's iOS will experience slow and steady growth but will be limited by deployment on their own respective devices." (Llamas et al. 2011)

As smartphone sales increase they will be the driving force of the mobile phone industry. "This means feature phone makers will either need to become smartphone dependent or consolidate that part of the market." (IDC, 2011c) It seems that QWERTY-keyboard phones are also losing market share as smartphones become increasingly popular. The greatest impact is on some of the world's largest suppliers of mobile phones, such as Nokia. Nokia is losing market share in the feature phone category to low-cost suppliers. The future of feature phones is not any better in the years to come. Shipment growth of the device type will not exceed 1.1 percent in any year forecasted by IDC. (IDC, 2011b)

6 CONCLUSION

The main purpose of this thesis was to inspect three smartphone companies (Apple, Nokia, RIM) and to speculate their future. Writing this thesis was challenging as the companies are in a state of continuous change and the subject was so broad I had to critically focus on certain areas. The summer of 2011 was a very interesting time to study Nokia, RIM and Apple as so many things have happened: Nokia and Apple finally made peace with their patent infringement case, Nokia and RIM both did not manage to meet their profit goals, Nokia's new MeeGo phone, Apple's new iPhone 5 will be launched in September, Nokia falling to third place in smartphone vendor rankings, etc.

I made a SWOT analysis to compare these companies. It helps evaluate the strengths, weaknesses, opportunities and threats of these companies. The results can be seen in table 6.

Table 6. SWOT chart of Apple, Nokia and RIM

	Apple	Nokia	RIM
Strengths	<ul style="list-style-type: none"> - strong brand - user friendly - voted most innovative company six times - many hit innovations - App Store, iTunes - iCloud 	<ul style="list-style-type: none"> - many smartphone models - Windows Phone - largest mobile phone maker in the world 	<ul style="list-style-type: none"> - many smartphone models - very popular with governments and high security companies
Weaknesses	<ul style="list-style-type: none"> - iPhone sim-locked (USA) - expensive products - one model per year 	<ul style="list-style-type: none"> - not able to follow trends (razr, touch screen) - Windows Phone - sales not well established in the USA 	<ul style="list-style-type: none"> - not able to follow trends (touch screen) -small consumer niche
Opportunities	<ul style="list-style-type: none"> - operators base growth potential in USA - innovative nature appeals to consumers - rapid growth in market share 	<ul style="list-style-type: none"> -joint venture with Microsoft - good opportunities in developing countries, such as China, India 	<ul style="list-style-type: none"> - good opportunities in developing countries

Threats	- competition: Google (Android), Nokia (Symbian), Microsoft (Windows Phone 7)	- competition: Apple (iOS), Google (Android) - not being able to reach profit goal, 2Q2011	- competition: Apple (iOS), Google (Android) - not being able to reach profit goal, 2Q2011 - danger of getting acquired by larger company
---------	---	---	---

Apple seems to be doing very well, with a huge increase in sales and jumping to the number one spot in smartphone sales. Since Apple is so dependent on its single product, it needs the iPhone 5 to be just as popular as the first four models. It is a year since the iPhone 4 was launched and it did very well in sales, but will customers buy a new iPhone right after buying the iPhone 4? Apple needs to make sure that the features in the new iPhone are so appealing that customers will want to buy a new one after only a year of use. There will always be Apple customers who will buy every device that Apple will bring to market. I believe Apple will be as successful as it has been in the past, as long as they keep up their innovative devices coming out a regular basis as their last hit, the iPad, has been tremendously successful.

Nokia market share has declined in the last quarter. It came in third in market share in the smartphone vendor list, but was still able to keep its first place in the overall mobile phone race. Nokia is very optimistic about the new Windows Phone that is scheduled to be launched in the fourth quarter of 2011. The new N9 or the Linux based MeeGo phone insures that Nokia customers can get good quality phones even with the Windows Phone still in the future. If the Nokia-Microsoft joint venture is successful, Nokia will do well when the new line of Windows Phones is launched, but meanwhile drop in sales is likely as consumers are waiting for the new Windows Phones.

RIM has also had some setbacks in the last quarter. RIM was unable to keep its profit margin and is in fourth place in the smartphone rankings. Still the fact that RIM is on the top five smartphone vendor list is good, since only a year ago RIM was on the list for the first time. RIM also has an opportunity to expand into developing countries with the manufacturing of cheaper phones. In early August RIM launched a new set of phones. If this new line of phones is not successful then RIM will continue to decline and might eventually merge with another company.

BIBLIOGRAPHY

Literature:

1. Bruun, Staffan & Wallen, Mosse: *Nokian Valtatie*. Gummerus Kirjapaino Oy, Jyväskylä, 1999.
2. Butcher, Lee: *Accidental millionaire: the rise and fall of Steve Jobs at Apple Computer*. Paragon House, New York, 1988.
3. Häikiö, Martti: *Fuusio*. Edita Publishing Oy, Helsinki, 2001. a
4. Häikiö, Martti: *Strum und Drang*. Edita Publishing Oy, Helsinki, 2001. b
5. Häikiö, Martti: *Globalisaatio*. Edita Publishing Oy, Helsinki, 2001. c
6. Häikiö, Martti: *Nokia*. Edita Publishing Oy, Porvoo, 2009.
7. Kahney, Leander: *Inside Steve's Brain*. Penguin Books Ltd, USA, 2008.
8. Laitinen, Erkki K. & Leppänen, Rolf: *Global success and the role of strategic steering and management accounting systems: Case Nokia Group*. University of Vaasa, 2001.
9. Linzmayer, Owen W.: *Apple Confidential: The Real Story of Apple Computer, Inc.* Chapter 1. No Starch Press, 1999. Internet WWW-page, URL: <http://extras.denverpost.com/books/chap0411h.htm> (1.6.2011).
10. McQueen, Rod: *Blackberry: the inside story of Research in Motion*. Key Porter Books, Toronto, 2010.
11. Pantzar, Mika & Ainamo, Antti: *Nokia-The Surprising Success of Textbook Wisdom*. Kuluttajatutkimuskeskus, Helsinki, 2001.
12. Pulkkinen, Matti: *The breakthrough of Nokia mobile phones*. Helsinki School of Economics and Business Administration, Helsinki, 1997.
13. Sokala, Hannu: *Maailma taskussa*. Tammi, Keuruu, 2002.
14. Sweeny, Alastair: *Blackberry planet: the story of Research in Motion and the little device that took the world by storm*. John Wiley & Sons Canada, Toronto, 2009.
15. Young, Jeffrey: *iCon: Steve Jobs, the greatest second act in the history of business*. Wiley, Hoboken, N.J., 2005.

Newspapers:

1. Ando, Ritsuko: *Nokia drops targets, shares slump to 13-year low*. Reuters. Internet WWW-page, URL: <http://www.reuters.com/article/2011/05/31/nokia-idUSLDE74U1CO20110531> (31.5.2011).
2. Ando, Ritsuko; Prodhan, Georgina: *Nokia on the ropes as analysts slash targets*. Reuters, Internet WWW-page, URL: <http://www.reuters.com/article/2011/06/01/us-nokia-idUKTRE74U2JN20110601?type=companyNews> (1.6.2011).
3. Bartz, Diane: *Apple wins skirmish in Nokia patent war*. Reuters, Internet WWW-page, URL: <http://www.reuters.com/article/2011/03/25/apple-nokia-patent-idUSN2516869720110325> (25.3.2011).
4. Bilton, Nick: *In unusual move, Apple previews new software plans*. New York Times, Internet WWW-page, URL: <http://www.nytimes.com/2011/06/01/technology/01apple.html?ref=applecomputerinc> (31.5.2011).
5. BusinessWeek: *The 50 Most Innovative Companies*. Bloomberg BusinessWeek, Internet WWW-page, URL: http://www.businessweek.com/magazine/content/08_35/b2908034920416.htm (9.8.2011).
6. Carew, Sinead; Madway, Gabriel: *Verizon iPhone hits store shelves, end AT&T lock*. Reuters, Internet WWW-page, URL: <http://www.reuters.com/article/2011/02/10/verizon-iphone-idUSN1026271420110210> (10.2.2011).
7. Eaton, Nick: *Survey: Windows Mobile users 'have no idea' they use it*. Seattle PI, Internet WWW-page, URL: <http://blog.seattlepi.com/microsoft/2009/09/30/survey-windows-mobile-users-have-no-idea-they-use-it/> (30.9.2009).
8. Ewing, Jack: *Why Nokia is Leaving Moto in the Dust*. Bloomberg Businessweek, Internet WWW-page, URL: http://www.businessweek.com/magazine/content/07_31/b4044050.htm (30.7.2007)
9. Gupta, Poornima; Chan, Edwin: *Steve Jobs quits as Apple CEO, Cook takes over*. Reuters, Internet WWW-page, URL: <http://www.reuters.com/article/2011/08/25/apple-idUSN1E77N22S20110825> (24.8.2011)

10. Heavens, Louise; Merriman, Jane: *Nokia shares extend fall, analysts slash targets*. Reuters. Internet WWW-page, URL: <http://www.reuters.com/article/2011/06/01/us-nokia-idUKTRE74U2JN20110601?type=companyNews> (1.6.2011).
11. Helft, Miguel: *Jobs takes sick leave at Apple again, stirring questions*. New York Times, Internet WWW-page, URL: <http://www.nytimes.com/2011/01/18/technology/18apple.html?pagewanted=1> (17.1.2011).
12. Howitt, Chuck: *RIM to cut 2,000 jobs across global operations*. The Record, Internet WWW-page, URL: <http://www.therecord.com/news/business/article/568622--rim-to-cut-2-000-jobs-across-global-operations> (15.8.2011).
13. Jolly, David: *Nokia lowers second-quarter forecast and abandons 2011 profit goals*. New York Times, Internet WWW-page, URL: <http://www.nytimes.com/2011/06/01/technology/01nokia.html?ref=nokiaincorporation> (31.5.2011).
14. Olive, David: *Analysis: RIM revival must start at the top*. TheRecord, Internet WWW-page, URL: <http://www.therecord.com/news/business/article/570875--analysis-rim-revival-must-start-at-the-top> (8.8.2011).
15. Pietarinen, Harri: *Pakkorako: Nämä nokialaiset myydään ale-hintaan*. Helsingin Sanomat, Internet WWW-page, URL: <http://www.taloussanomat.fi/informaatioteknologia/2011/06/09/pakkorako-nam-nokialaiset-myydaan-ale-hintaan/20118103/12> (9.6.2011).
16. Pressman, Aaron: *Even deep value investors see little in Nokia*. Reuters, Internet WWW-page URL: <http://www.reuters.com/article/2011/06/09/us-nokia-value-investors-idUSTRE7586NJ20110609> (9.6.2011).
17. Reuters: *Apple changes iPhone business model*. Sydney Morning Herald, Internet WWW-page, URL: <http://www.smh.com.au/news/biztech/apple-changes-iphone-business-model/2008/06/10/1212863586054.html> (10.6.2008)
18. Reuters: *IDC arvioi: Nokian Microsoft-puhelimille runsaan viidenneksen markkinaosuus*. Helsingin Sanomat, Internet WWW-page, URL: <http://www.hs.fi/talous/artikkeli/IDC+arvioi+Nokian+Microsoft-puhelimille+runsaan+viidenneksen+markkinaosuus+/1135266790154> (9.6.2011).

19. Sajari, Petri: *Nokian teknologiajohtajan Rich green otti aikalisän*. Helsingin Sanomat, Internet WWW-page, URL: <http://www.hs.fi/talous/artikkeli/Nokian+teknologiajohtaja+Rich+Green+otti+aikal is%C3%A4n/1135266773401> (9.6.2011).
20. Sharp, Alastair: *RIM loses more U.S. market share to Apple, Google*. Reuters, Internet WWW-page, URL: <http://www.reuters.com/article/2011/06/03/us-rim-research-ubs-idUSTRE7523PP20110603> (3.6.2011a).
21. Sharp, Alastair: *RIM investors seeks change; PlayBook going global*. Reuters, Internet WWW-page, URL: <http://www.reuters.com/article/2011/06/10/us-rim-playbook-idUSTRE7592AG20110610> (10.6.2011b).
22. Sharp, Alastair: *After RIM warning, all eyes on new product outlook*. Reuters, Internet WWW-page, URL: <http://www.reuters.com/article/2011/06/14/us-rim-idUSTRE75D5RB20110614> (14.6.2011c).
23. Virki, Tarmo; Billingham, Erica: *Timeline: Nokia vs Apple: legal battle*. Reuters Internet WWW-page, URL: <http://www.reuters.com/article/2010/05/07/us-nokia-apple-timeline-idUSTRE6464QC20100507> (7.5.2010).
24. Virki, Tarmo: *Samsung, Apple to end Nokia's smartphone reign*. Reuters, Internet WWW-page, URL: <http://www.reuters.com/article/2011/06/13/us-nokia-smartphones-idUSTRE75C18O20110613> (13.6.2011).
25. Välimaa, Mikko: *Huhut Nokian ostamisesta jatkuvat markkinoilla, yhtiö ei kommentoi*. Helsingin Sanomat, Internet WWW-page, URL: <http://www.hs.fi/talous/artikkeli/Huhut+Nokian+ostamisesta+jatkuvat+markkinoilla+yhti%C3%B6+ei+kommentoi/1135266757496> (8.6.2011).

Other references:

1. Abbott, Marilyn R.: Notice of investigation. ICT, Internet WWW-page, URL: http://www.usitc.gov/secretary/fed_reg_notices/337/337_701_institution01252010s gl.pdf (1.25.2010).
2. Albanesius, Chloe: *IDC: Consumers Snapping Up Apple, HTC, Samsung Smartphones*. PCMAG.com, Internet WWW-page, URL: <http://www.pcmag.com/article2/0,2817,2385013,00.asp> (6.5.2011) .
3. Apple: *Form 10-K*. Cupertino, California, 2008.

4. Apple: *Apple Countersues Nokia*. Apple, Internet WWW-page, URL: <http://www.apple.com/pr/library/2009/12/11countersue.html> (11.12.2009a).
5. Apple: *Amended Form 10-K*. Cupertino, California, 2009b.
6. Apple: *Form 10-K*. Cupertino, California. 2010.
7. Apple: *Apple to unveil next generation software at keynote address on Monday, June 6*. Apple, Internet WWW-page, URL: <http://www.apple.com/pr/library/2011/05/31wwdc.html> (31.5.2011a).
8. Apple: *iCloud, iOS5, OS X Lion*. Apple, Internet WWW-page, URL: <http://www.apple.com/> (7.6.2011b).
9. Apple: *Apple Reports Third Quarter Results*, Internet WWW-page, URL: <http://www.apple.com/pr/library/2011/07/19Apple-Reports-Third-Quarter-Results.html> (19.7.2011c).
10. Business Monitor International Ltd: *Company Profiles*. United States Telecommunications Report Q1, pp. 71-76, 2010.
11. Business Strategy Review: *Falling off the Apple cart*. London Business School: pg. 34-38. 2007 (BSR)
12. Cusumano, Michael: *Technology Strategy and Management: The Puzzle of Apple*. Communications of the ACM, Vol. 51 No. 9: pg. 22-24, 2008.
13. Datamonitor: *Company Spotlight: Research in Motion Limited*. Datamonitor, pp. 265-271, August 2009.
14. IDC: *Mobile Phone Recovery Continues with Nearly 22% Growth in First Quarter, According to IDC*. IDC, Internet WWW-page, URL: <http://www.idc.com/getdoc.jsp?containerId=prUS22322210> (29.4.2010).
15. IDC: *Apple Rises to the Top as Worldwide Smartphone Market Grows 65.4% in the Second Quarter of 2011, IDC Finds*. IDC, Internet WWW-page, URL: <http://www.idc.com/getdoc.jsp?containerId=prUS22974611> (4.8.2011a).
16. IDC: *Worldwide Mobile Phone Market Grew More Than 11% in the Second Quarter; Feature Phones Decline for First Time in Almost 2 Years, According to IDC*. IDC, Internet WWW-page, URL: <http://www.idc.com/getdoc.jsp?containerId=prUS22962811> (28.7.2011b).
17. IDC: *Worldwide Mobile Phone Market Grew Nearly 20% in the First Quarter; Smartphones and Vendors Outside the Top 5 to Growth, According to IDC*. IDC,

- Internet WWW-page, URL: <http://idc.com/getdoc.jsp?containerId=prUS22808211> (28.4.2011c).
18. Llamas, Ramon T., Stofega, William, Drake, Stephen D., Crook, Stacy K.: *Worldwide Smartphone 2011-2015 Forecast and Analysis*. IDC, Internet WWW-page URL: <http://www.idc.com/getdoc.jsp?containerId=227367> (3.2011).
 19. Nokia: *Nokia and Research in Motion sign BlackBerry Software Licensing Agreement*. Nokia, Internet WWW-page, URL: <http://press.nokia.com/2002/11/08/nokia-and-research-in-motion-sign-blackberry-software-licensing-agreement/> (8.11.2002).
 20. Nokia: *Nokia and Research in Motion renew patent license agreement*. Nokia, Internet WWW-page, URL: <http://press.nokia.com/2008/12/04/nokia-and-research-in-motion-renew-patent-license-agreement/> (4.12.2008).
 21. Nokia: *Nokia sues Apple in Delaware District Court for infringement of Nokia GSM, UMTS and WLAN patents*. Nokia, Internet WWW-page URL: <http://press.nokia.com/2009/10/22/nokia-sues-apple-in-delaware-district-court-for-infringement-of-nokia-gsm-umts-and-wlan-patents/> (22.10.2009a).
 22. Nokia: *Nokia requests ITC investigation into Apple patent infringement*. Nokia, Internet WWW-page, URL: <http://press.nokia.com/2009/12/29/nokia-requests-itc-investigation-into-apple-patent-infringement/> (29.12.2009b).
 23. Nokia: *Nokia sues Apple in Wisconsin for infringement of Nokia patents*. Nokia, Internet WWW-page, URL: <http://press.nokia.com/2010/05/07/nokia-sues-apple-in-wisconsin-for-infringement-of-nokia-patents/> (7.5.2010a).
 24. Nokia: *Nokia files patent infringement complaints against Apple in the UK, Germany and the Netherlands*. Nokia, Internet WWW-page, URL: <http://press.nokia.com/2010/12/16/nokia-files-patent-infringement-complaints-against-apple-in-the-uk-germany-and-the-netherlands-2/> (16.12.2010b).
 25. Nokia: *Form 20-F 2010*. Washington D.C., 2011. a
 26. Nokia: *Structure*. Nokia, Internet WWW-page, URL: <http://www.nokia.com/aboutnokia/company/structure> (27.5.2011b).
 27. Nokia: *Nokia Lowers Device & Services second quarter 2011 outlook and updates full year 2011 outlook*. Nokia, Internet WWW-page URL:

- <http://press.nokia.com/2011/05/31/nokia-lowers-devices-services-second-quarter-2011-outlook-and-updates-full-year-2011-outlook/> (31.5.2011c).
28. Nokia: *Nokia Files second ITC complaint against Apple*. Nokia, Internet WWW-page, URL: <http://press.nokia.com/2011/03/29/nokia-files-second-itc-complaint-against-apple/> (29.3.2011d).
 29. Nokia: *Nokia enters into patent license agreement with Apple*. Nokia, Internet WWW-page, URL: <http://press.nokia.com/2011/06/14/nokia-enters-into-patent-license-agreement-with-apple/> (14.6.2011e).
 30. Open Mobile Summit, Internet WWW-page, URL: <http://www.openmobilesummit.com/index.aspx> (4.8.2011).
 31. RIM: *Annual Information Form*. Waterloo, Ontario. 3.3.2007.
 32. RIM: *Annual Information Form*. Waterloo, Ontario. 28.2.2009.
 33. RIM: *RIM Announces TSX Approval for Common Share Repurchase Program*. RIM, Internet WWW-page, URL: <http://press.rim.com/financial/release.jsp?id=4214> (13.7.2010a).
 34. RIM: *RIM fiscal 2010*. RIM, Internet WWW-page URL: http://www.rim.com/investors/documents/pdf/AIF/AIF_Fiscal_2010.pdf (1.4.2010b).
 35. RIM: *Annual Information Form*. Waterloo, Ontario. 26.2.2011.
 36. Rysavy, Peter: *Air Pressure: Why IT Must Sort Out App Mobilization Challenges*. Information week, Internet WWW-page, URL: <http://www.informationweek.com/news/mobility/business/222000504> (12.9.2009).
 37. Shankland, Stephan: *CEO Elop: Nokia acquisition rumors 'baseless'*. CNet News, Internet WWW-page, URL: http://news.cnet.com/8301-30685_3-20070247-264/ceo-elop-nokia-acquisition-rumors-baseless/ (9.6.2011).