LEADERSHIP IN THE MOBILE SMARTPHONE MARKET

Master's Thesis
in International Business

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2.5.2012
Turku

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1   INTRODUCTION

Once upon a time – and for as many as fourteen years – there was a king in the realm of mobile smartphones. Such king, a well-known mobile phone company, was able to maintain its leadership until very recently, when another two companies started taking turns in wearing the kingdom's crown.

This story may seem like a fairytale however it's real. The continuous dynamics of the mobile phones market, more specifically in regards to smartphones, are transforming the mobile telecommunications industry and revolutionizing how companies operate and do business in such industry. Being a very recent phenomenon where Nokia, who was in the leadership for fourteen years, lost its number one position to other companies such as Apple and Samsung during second, third and fourth quarters of 2011, it's indeed a very interesting and relevant contemporary topic to be deeper analyzed.

In this research, the current competitive dynamics within the mobile smartphone market will be explored. Moreover, factors that determine a company's success, i.e. the achievement of objectives and the market positioning according to its strategic intents in such a dynamic industry will also be identified as well as what it takes to a company, in this case Nokia, to re-gain the leadership in this same market.

For a better understanding of this research study, here below is a quick walk-through into the following chapters:

Chapter 2 elucidates the background to the study where a brief overview of the telecommunications industry evolution is given, including the shift from traditional land lines to the mobile era, up to today.

Following that, on chapter 3, the research purpose and objectives, including the research questions, are further explored.

Chapter 4 brings theoretical contribution to this study since it is in this chapter that the existing literature that supports the knowledge area of interest is further explored, aiming to respond to the research questions. Classic as well as contemporary sources of information are used.

In chapter 5, the research approach is explained. The processes of collecting and analyzing data are illustrated and an assessment to the trustworthiness of the study is done.

In chapter 6, the case study about Nokia is developed and explored, beginning with a brief enlightenment of the three world's main smartphone makers.

Chapter 7 brings the analysis and discussion part, followed by chapter 8 which presents the conclusions of the research.

A summary of the whole research containing the main findings is given on the last chapter, i.e. chapter 9.

2 BACKGROUND TO THE STUDY

2.1 A brief overview of the mobile telecommunications industry's evolution

The telecommunications industry as a whole has been through a dramatic change since 1980's. Such transformation created both new opportunities and challenges for the established value chain, which is actually being deconstructed as a consequence of new entrants and the restructuring of the industry. (Li – Whalley 2002, 451). The inter-correlation among some of the main factors of the telecommunications industry's re-shaping process, i.e. the regulatory changes, the technology advances and the customer needs, is also causing a major revolution in the industry towards the so-called digital convergence which in turn is characterized by the integrated services of voice, data and video. (Dutta 2004, 403).

As part of the industry transformation, the introduction of the mobile telephony in US, Europe and Japan in the early 1950's was followed by a rapid and increasing demand for mobile services. It was during late 1970's and 1980's that the first generation (1G) of mobile phone systems, also known as the Nordic Mobile Telephone System (NMT), emerged. Among the released mobile phones to the market was the famous first handheld mobile phone from Motorola, the DynaTAC 8000x (Motorola Dyna-TAC… Retrobrick).

The second generation (2G), the Global System for Mobile Communication (GSM), which brought the digital networks along, was introduced to the market during 1990's whereas the third generation (3G), which brought along the high speed IP data networks and mobile broadband, was launched in 2002 (Facts about the Mobile. A Journey through Time).

Moreover a fourth generation (4G) wireless technology where the entire network would be IP based is already under development (4G Technology… rfcafe.com).

The high growth rate demand for mobile phones that started in the 1990's was accompanied by major changes in the telecommunications market, including the GSM standard agreement amongst European authorities and firms (Dunnewijk – Hultén 2006, 5; cf. Fransman 2000, 5, 41-43) and technical trends, especially miniaturization, which allowed the mobile devices to have a much smaller and lighter design, which in turn, transformed the mobile phone from being a business-focus tool to an everyday object that could be easily carried around. This shift represented the beginning of the mobile as mass culture. (Agar 2003, 65).

Table 1 below illustrates the shift between the use of fixed lines to mobile phones in Europe between 1993 and 2002. (Dunnewijk – Hultén 2006, 8). It was in 1997 when the demand for mobile telephony exploded globally (Fransman 2000, 42).

Table 1: Fixed and mobile telephone connections in percentage of population in 1993 and 2002.

EU-25	1993	2002
Main telephone lines	40	51
Public payphones	2	2
Cellular mobile telephone subscribers	2	76

Source: ITU, Yearbook of Statistics, Telecommunication Services 1993-2000.

This table above clearly shows the beginning of a huge revolution in the telecommunications industry. The massive changes had already significantly impacted all players in this industry who need to re-evaluate their strategies and market positions (Li – Whalley 2002, 451) in order to continue successfully competing in the marketplace.

By that time, there were three main manufacturers dominating the market, competing among them, being Nokia – from Finland, Ericsson – from Sweden, and Motorola – from United States of America (Agar 2003, 65). In early 2000's, Ericsson and Motorola were losing market share to Nokia (405 Million Mobile… Los Angeles Times 2001). Although in 2001 the first decline in the history of the mobile phones industry was recorded due to 3.2% lower sales to consumers in that year, Nokia managed to recover the market share it had lost in the previous year and ended 2001 with a remarkable 35% share of the mobile market (Mobile Phone Sales… Los Angeles Times 2002). Though similar growth was not true for Ericsson neither Motorola. On that same year, Ericsson reported loss of $204 million (INTERNATIONAL BUSINESS; Ericsson's… The New York Times 2002) while Motorola reported much less sales than in the previous year as well as a net loss in the amount of $697 million (Motorola Reports Fourth-Quarter… PR Newswire 2002).

Nevertheless, the competition scenario started to change by mid-2000's when Ericsson was replaced by Samsung as one of the three players dominating the mobile phone industry. By 2007, Nokia, Motorola and Samsung had a roughly 60% market share of the mobile phones business (Yoffie – Kim 2011).

The new mobile telecommunication market differs from the old-industry mainly due to the technological innovations that have been introduced in the market by the mobile phone makers as well as by the technical advances on the supporting infra-structure. Both factors had triggered a huge change on customers' desires, which, combined with the two original factors characterizes the market competitive dynamics.

In the early days, when the primary function of a mobile phone was to make calls, consumers used to buy their devices based on its appearance and/or the service provider. However, starting in the mid-1990's, pioneered by Nokia, the more attractive designs and user-friendly interfaces of the feature phones were the device's preferred characteristics among the consumers. (Yoffie – Kim 2011).

Market has shifted from hardware to software-focused products and the demand for simple devices has given place to a strong demand for integrated solutions, being smartphones plus applications, such as music, games and videos, to name a few. The high-end phones brought to the market various functions, altogether, in just one device, which served as a mobile phone to make calls, an internet browser, an address book, a media player, a photo and video camera and much more (Yoffie – Kim 2011).

The new mobile era, defined in this study as the mobile industry that has been experiencing huge disruptions and is being transformed quickly, is also facing a drastic change on the supply and demand dynamics, i.e. on the way industry players do business. It's not anymore solely up to mobile device manufacturers and mobile service providers (operators) to decide what will sell in the marketplace. Instead, they need to understand and offer what customers want and, on top of that, they need to anticipate customers' needs by creating new products and/or services to delight customers and make their lives' easier. Many potential customers have a considerable lack of knowledge about all the benefits a smartphone offers and therefore they don't even have the desire to purchase one. As a result, it's necessary to educate the market (Gallo 2010, 50). Companies are continuously challenged to create needs in the marketplace by innovating their products and services.

Considering that the mobile phone industry revolution is requiring all players to re-evaluate their strategies and enhance their competitive advantages, the focus of this study will be on the competitive forces that determine the leadership within the mobile smartphone industry. That will be illustrated by a case study about one of the biggest players in the industry, being a mobile devices manufacture called Nokia. How Nokia has built its strategies along the way and is competing in the market place for the smartphones' leadership will be further explored.

2.2   Mobile smartphone market

As a consequence of the mobile telecommunications industry revolution we've witnessed a shift of its focus from hardware to a more software driven industry. Yet there is still huge demand for simple mobile phones; however the increasing demand for more sophisticated products and services is notable. This phenomenon is attributed to the introduction of smartphones into the marketplace which started in 1993, with IBM Si-

mon, the first attempt from a joint venture between IBM and Bell-South to introduce a commercially viable smartphone in US market (The mobile phone: a history… PC World, 2009; cf. PC Magazine).

Although Nokia has launched its first smartphone in 1996, the Nokia 9000 communicator, it was only in 2000 that the first device in fact marketed as a 'smartphone' came to the market, the touch screen Ericsson R380. In the following years, many other manufacturers also started to develop and commercialize their smartphones.

Without any doubt, Nokia was considered the most influential and largest mobile phones' manufacturer in the world (Agar 2003, 113; Yoffie – Kim 2011). For approximately 14 years, Nokia has reigned at the top as the world's largest smartphone maker, having lost its leader position to both Apple and Samsung during the second, third and fourth quarters of 2011, according to published results (Apple is now the world's… Redmond Pie, 2011), which are illustrated in figure 1 below for the 2Q2011 when Apple took the crown from Nokia, followed by Samsung, for the first time.

Vendor	2Q11 Shipments	2Q11 Market Share	2Q10 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%
Research In Motion	12.4	11.6%	11.2	17.4%	10.7%
HTC	11.7	11.0%	4.4	6.8%	165.9%
Others	28.1	26.4%	12.8	19.9%	119.5%
Total	106.5	100.0%	64.4	100.0%	65.4%

Figure 1: Smartphones market statistics 2Q 2011, year-on-year trend (Apple now the world's largest… Engadget 2011).

Apple was crowned as the king of the smartphone industry in 2Q2011, only four years after the original iPhone was released. What a feat! Although Apple has beaten Nokia in terms of profits and revenue in January-March 2011 already (Apple phone revenues… Reuters, 2011), it was in the April-June period when Apple overtook Nokia in terms of total volume, i.e. smartphone units shipped (Apple ends Nokia's… Redmond Pie, 2011). The success wave that brought Apple to the leadership meant trouble to companies like Nokia which considered the mobile phone industry as being its realm (Moritz 2009, 341).

Nevertheless, Samsung was quite close to Apple, occupying the second position in the industry rank during 2Q2011 (as seen in figure 1) and showing a magnificent

growth of 380.6% from 2Q10 to 2Q11, whereas Apple's growth was 141.7% in the same period (Apple is now the world's… Redmond Pie, 2011).

Furthermore and already illustrating the current and though competitive dynamics within the mobile smartphones market, Samsung was finally able to surpass Apple as far as sales volume already in 3Q2011, becoming the world's leader in smartphones' sales according to the quarter's published results which showed a tremendous shift between the two top players (Samsung surges past Apple… Global Post 2011), leaving the second position for Apple. Having sold an extraordinary 27.8 million smartphones globally during 3Q2011, Samsung conquered 23.8% of the market share while Apple sold 17.1 million iPhones for a 14.6% of the smartphone market. (Samsung sold… KBS World 2011), as showed in table 2 below.

Table 2: Global smartphone market 3Q 2011

Global smartphone market 3Q2011		
Company	Shipments (millions)	Market share
Samsung	27.8	23.8%
Apple	17.1	14.6%
Nokia	16.8	14.4%
Others	55.3	47.3%

Source: Strategy Analytics

On the one hand, the fact that the late release of Apple's latest iPhone – the iPhone 4S, in October 2011, did not count to Apple's third quarter results, which were also aggravated by the fact that many consumers decided not to buy any of Apple's smartphones, but rather wait for the new version to be available – was considered one of the reasons behind Samsung taking over Apple on the sales volume of smartphones in the 3Q2011. Yet, on the other hand, Samsung performed very well with its Galaxy line, filling in the market gap with many choices, great pricing and excellent time-to-market. (Samsung beats Apple… Industry Leaders Magazine 2011).

Nevertheless, the smartphone industry dynamic changed again during 4Q2011 and what seemed to be Apple's failure, i.e. the late launch of iPhone 4S, actually counted positively for the 2011 last quarter's results, again giving the company the leader position in regards to shipped units of smartphones. Apple shipped 37 million units of smartphones during the 4Q2011 which accounted for 23.9% of the global market share while Samsung dropped to the second position in the rank, though very close to Apple, with 23.5% share of the market thank to the 36.5 million units of smartphones shipped (Q4 2011: Apple first…Worldwide Tech & Science 2012).

Former worldwide leader Nokia, which has lost its number one position of the smartphone market with sales volumes below 20 million units for the first time since 3Q2009 (Apple now the world's largest… Engadget 2011), shipped out 16.8 million smartphones during 3Q2011 and 19.6 million units in 4Q2011, which enabled the company to maintain its third position, though with a lower market share of 14.4% (Samsung beats Apple… Industry Leaders Magazine 2011) and 12.6%, respectively, if compared to 2Q2011 share of the market which was 15.7%.

Table 3: Global smartphone market 4Q 2011

Global smartphone market 4Q2011		
Company	Shipments (millions)	Market share
Apple	37	23.9%
Samsung	36.5	23.5%
Nokia	19.6	12.6%
Others	61.9	39.9%

Source: Strategy Analytics

Moreover, the company is undergoing a major transition, clearly seen after it has announced a strategic partnership with Microsoft, in February 2011, through which Nokia is adopting the Windows 7 as its primary operating system moving forward. (Apple now the world's largest… Engadget 2011).

For 10 years, from 1996 when Nokia launched the communicator series, up to 2007, when Apple introduced the iPhone to the market, business was smooth for Nokia. With the iPhone launch, Apple has made groundbreaking advances in both hardware and software as well as in channel development. The iPhone caused a tremendous disruption in the smartphone market and a revolution was started (Samsung and Apple set… Redmond Pie 2011). Samsung followed Apple and also started to ship smartphones to the market a few quarters later, bringing the smartphone industry to a completely new level.

In order to provide the big picture about how the top three players – Apple, Samsung and Nokia – has been performing as far as smartphones' market share up to now, the following figures 2 and 3 illustrate the trend of both their coverage in the smartphones market and their comparative performance. At the moment, Apple, Samsung and Nokia hold together 60% of the smartphone market. It's clearly noticed the decadent performance of Nokia compared to an amazing ascendant performance of its rivals.
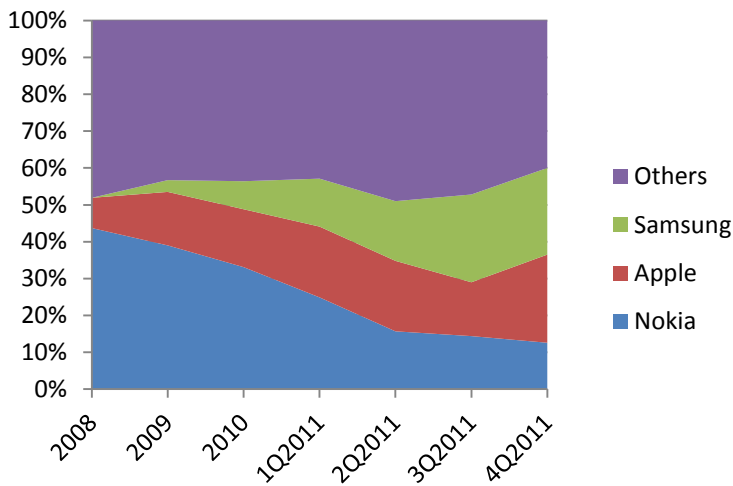
Figure 2: Smartphones % market share evolution
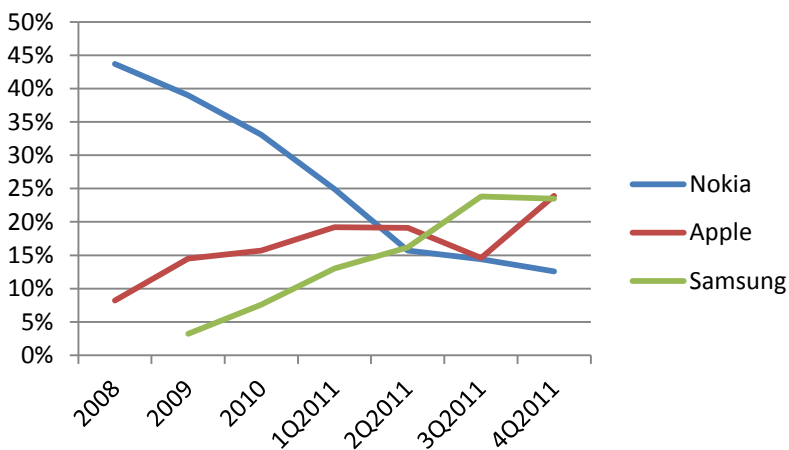
Figure 3: Top 3 smartphones makers' market share performance

Although, hardware wise Nokia has also made significant improvements, the following years after 2007 were not good for Nokia since the software platform was not indeed enhanced and the company's market share in the smartphone business continued to drop (Samsung and Apple set… Redmond Pie 2011). In addition to that, despite being strong in Europe and emerging markets such as China and India, Nokia has a weak presence in US, a key market for smartphones, which has definitely contributed to the company's market share dramatic slip (Yoffie – Kim 2011) and where Nokia plans to finally get through the doors enabled by the partnership with Microsoft (Nokia's new strategy… CNN Money 2011).

Considering the fast expansion pace and the actual dynamics of the smartphone market, which recorded a growth of 33% year-on-year in regards to the number of shipped devices (LG and ZTE…??? ABIresearch 2011) in 2011, offering a device with an appealing design is not enough to delight consumers and thus mobile phones manufactur-

ers are not anymore competing by themselves, alone. Once customers are expecting compelling mobile products, including the hardware and software, mobile phone makers are being forced to partner with other companies in order to form ecosystems which are capable to compete in the marketplace by bringing innovation and choices into it (Nokia Strategy 2011. Conversations by Nokia 2011). For that reason, Nokia announced in February 2011 that the company and Microsoft would combine their strengths in order to deliver an ecosystem to compete with the existing Apple-iOS's and Google-Android's smartphone platforms (Nokia's new strategy… CNN Money 2011).

> *The entire smartphone market is growing rapidly…the game has changed from a battle of devices to a war of ecosystems.* (Nokia CEO, 2011)

Although only Apple and Samsung took turns occupying the leader position during the last three quarters of 2011, it would not be a surprise if, in such a dynamic industry environment, the top three smartphone vendors – Apple, Samsung and Nokia – could eventually switch positions.

More changes are expected to come in the next few years and some of them might determine which mobile operating system will win as well as which smartphone manufacturer will stay on top. Such a competitive and dynamic business environment will definitely heat up the smartphone industry in 2012 (Samsung and Apple set… Redmond Pie 2011).

Considering the dramatic decline of Nokia's smartphone market share since 2007, the year when Apple launched the iPhone, shown in figure 4 below, Nokia definitely needs to re-evaluate its strategy for the smartphone business in order to recover market share and make the leap to the number one position again. How Nokia could possibly does that will be further explored in this research.
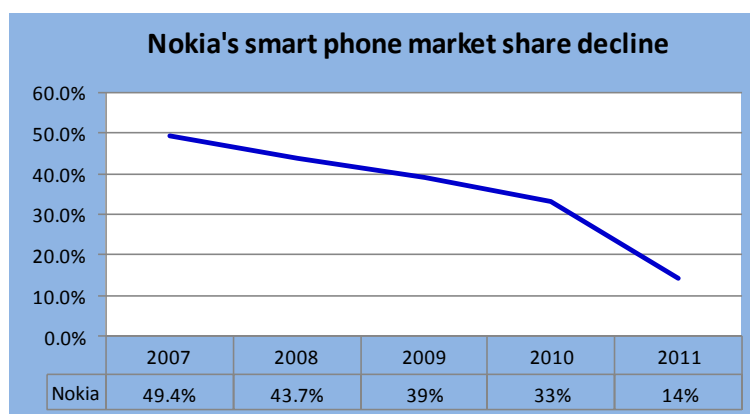
Nokia's smart phone market share decline

	2007	2008	2009	2010	2011
Nokia	49.4%	43.7%	39%	33%	14%

Figure 4: Nokia's smartphone market share

3   PURPOSE OF THE STUDY

As mentioned already in this research, the mobile telecommunications industry is undergoing a huge transformation. Along with that, market competition and as well companies' competitive advantages are evolving.

The main purpose of this research is to provide a comprehensive study on the competitive and strategic forces that shape the new mobile era as well as to elucidate what are the main elements that determine the leadership in the mobile smartphone market.

As a result of this study, more clarity and conceptual insights into the knowledge area of competing for the leadership in the smartphone industry will be provided. Moreover, and more generally, this research also aims to provide some insights to promising entrepreneurs and/or companies' executives on how to compete for the leadership position against the industry rivals in a dynamic market environment.

On the one hand, it will add relevant contribution to companies' strategic planning, including aspects such as strategy and innovation, this last one being a new way of doing or changing things for better results and, on the other hand, it will also provide a good basis for future development and research about this continuous evolving and fast expanding industry.

An additional and more specific objective that is intended to be reached by the end of this study is to provide recommendations to Nokia on how to regain the leader position in the smartphone business.

3.1   Research questions

According to Kathleen M. Eisenhardt (1989), in her paper 'Building Theories from Case Study Research', the first thing to do to get started with a case study research is to define the initial problem with tentative research questions, including the most relevant variables. For such, it's important to highlight the research purpose which has already been mentioned elsewhere in this paper and concerns to investigate and analyze the competitive dynamics of the new mobile era as well as to identify the main strategic factors that make a specific company to be the leader in its industry, in this case, the smartphone industry.

Moreover, David A. Whetten (1989) described in his paper 'What Constitutes a Theoretical Contribution?' that a combination of three elements – the What, How and Why – provides the essentials for a good and simple theory. By asking 'What?' (or Which factors?), one can basically identify the variables, constructs and/or concepts that relates to the phenomenon of interest. After identifying a set of factors, next question is 'How are those factors related to each other?' and last, but not least, one should ask 'Why

those specific factors were selected and the proposed relation among them identified?' This last question will provide the explanation, in other words, the theory assumptions that holds a model together. (Whetten 1989).

According to the purpose of this study an answer to the following research question will be pursued: How to regain the leader position in the mobile smartphone market? And based on that, and also using Whetten's approach, the research sub-questions are as follow:

1. What are the strategic factors that influence companies' competitiveness in the marketplace?
2. How do these competitive factors relate to each other?
3. Are these factors and their inter-relation important in determining a company's leadership in the smartphone industry? Why?

Considering the nature of the research questions, three main steps are to be considered on the development of this study. Firstly a deep look into the existing literature about competitiveness ought to be done in order to get a good understanding about which factors impact the competitiveness among companies and which factors determine their success in a dynamic marketplace. Secondly, whether there is a relationship amongst those factors or not need to be discussed and, if exists, it needs to be identified. And finally, the importance and relevance of those factors interdependence as a source of competitive advantage for the smartphones' manufactures will be evaluated.

3.2 Concepts and definitions

The knowledge area of this research is within the mobile telecommunications industry. Being such a wide spectrum, for the purpose of this research a narrower scope was applied and therefore the focus lays down on the smartphones' manufacturers and the smartphone market.

Considering these more specific areas of research, some unique terms were identified as having a very particular meaning and, in order to provide more clarity and better understanding throughout this study those terms are further defined in this chapter.

a) Smartphones are the evolution of mobile phones. While there's no common definition of the term across the industry (What Makes… About.com), in this research smartphones are defined as mobile devices that, in addition to their build-in functions such as digital voice service, text messaging, e-mail, internet access, photo and video camera, music player, movie playing, and even video calling, can also run innumerous applications, fact that turns it into a mobile computer. (Definition of: Smartphone. PC Magazine). Throughout this study, both terms 'smartphone market' and 'mobile smartphone market' are used as synonyms.

b) Feature phones are mobile phones that have a fixed amount of functions beyond voice service, but cannot be considered smartphones. For example, on one hand, a feature phone may have web browsing capability but, on the other hand, it limits or even prohibits download and installation of applications from an online webpage. (Definition of: feature phone. PC Magazine).

c) GSM stands for Global System for Mobile communication. It is implemented globally and is the most widely used open standard technology, accounting for more than 70% of the world's digital mobile phones subscribers. In practice, it enables users to transmit mobile voice and data services through their mobile devices. (GSM – Overview. Tutorials Point).

d) GPRS stands for General Packet Radio Service. This packed-based wireless communication service was the first implementation of packet switching within GSM. In practice, GPRS enables mobile device users to continuously stay connected to the internet and thus it's an essential enabler for third generation (3G). (Definition GPRS… SearchMobileComputing; GSM – Useful...Tutorials Point).

e) 1G/2G/3G – these acronyms stands for First Generation, Second Generation and Third Generation of the mobile phones technology. 1G was the analog standard for mobile phones introduced in the 1980's which was rapidly replaced by the 2G which was the wireless digital technology that enabled a good upgrade on the mobile phones, from analog to digital. 2G networks saw opportunity on the GSM protocol and the first 2G on GSM standards happened in 1991. Approximately ten years later the 3G was launched bringing faster data-transmission, streamlining audio and video, and greater network services. (Cell Phone… About.com).

f) CTIA is a non-profit international wireless association that has been representing the mobile telecommunications industry since 1984 at all levels of government. Members of the association include wireless carriers and suppliers as well as wireless data service providers and products' manufactures. (CTIA About Us. CTIA)

g) Ecosystem, in the context of this research, is defined as being a partnership amongst some mobile products related companies, including the smartphones' manufactures, the hardware and software suppliers, the service providers, the applications developers, the marketplace, and the customers and consumers. (Nokia Strategy 2011. Conversations by Nokia 2011).

h) Symbian is a mobile operating system for smartphones, originally developed by Symbian Ltd, company that was later on, in December 2008, acquired by Nokia. Symbian was the primary operating system (OS) used in Nokia's smartphones until the company announced, in February 2011, its new strategy to gradually move from Symbian to Windows software platform. The latest version of the software platform –Symbian^3 – was released in late 2010 while updates – Symbian Anna and Symbian Belle, were announced in May and August 2011, respectively. As

far as market share, Symbian was widely and the most used OS until very recently, beginning of 2011, when Android took the lead leaving the second place for Symbian. Figure 5 clearly shows how Symbian has been losing market share along the time in the smartphones arena. (About Symbian. Nokia; Gartner: Android leads… Cnet 2011).

i)   iOS is Apple's operating system, which was originally designed for the iPhone but currently utilized in the iPod touch and iPad as well. iOS's user interface is based on direct manipulation through multi-touch gestures and it's not licensed for use on third parties' devices. (iOS. Business Insider). At the moment, iOS is the third most used OS, accounting for 18% of the smartphones' OS market share.

j)   Android is Google's open OS originally developed by Android Inc., company that was acquired by Google in July 2005. Besides mobile phones, Android can also be used as the operating system for tablets and netbooks. (Android. Business Insider). Android has been stealing the smartphone's OS market share from the other operating systems and is currently occupying the leader position of the smartphone's OS (2Q2011), enjoying 43.4% share of the market. The expectation is that Android's share of the market will increase even more.

k)   Windows Phone 7, developed by Microsoft and launched in October 2010, is an OS aiming at the consumer market, which replaces the old enterprise market focused OS named Windows Mobile platform. Various smartphones' makers design and produce phones to run with Windows Phone 7, among them Samsung and Nokia. Windows Phone 7 OS uses multi-touch technology and its user interface is codenamed 'Metro'. (Windows Phone 7. Business Insider). Its market share is currently very low however the signed partnership with Nokia during 1Q2011 is expected to pay off and thus increase Microsoft's Windows Phone 7 share of the smartphone's OS market farther.

In order to illustrate the evolution of penetration and usage of global smartphones' operating systems, figure 5 is showed below.
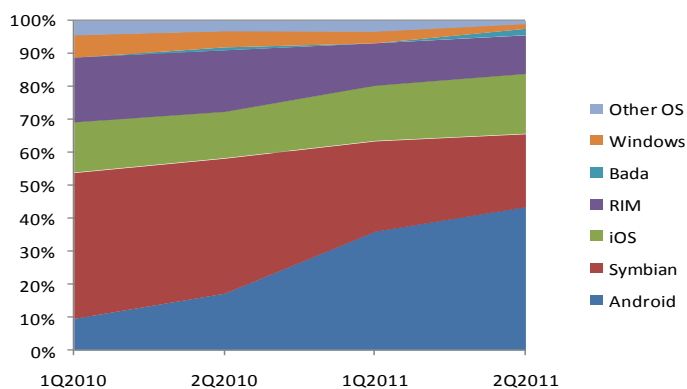

Figure 5: Smartphone's OS market share evolution 1Q2010 – 2Q2011

4 LITERATURE REVIEW AND THEORETICAL FRAME-WORKS

This chapter aims to review relevant literature in the knowledge area of strategic management, whose primary goal is to explain firm's performance and their strategy creation processes. More specifically, the areas of competitive advantages and dynamic capabilities of firms, innovation, and strategy design and implementation will be explored.

Furthermore, the objective of this literature review is to identify and draw theoretical grounds which can be used as a baseline for the development of conceptual frameworks in order to answer the research's three sub-questions and ultimately the research main question which is 'How to re-gain the leader position in the mobile smartphone market?'

Although theories of firms are considered an abstraction of the real business world they certainly address some firms' characteristics and behaviors. The fact that different theories of the firm address different aspects usually makes them complementary to each other. Economic theories of the firm, for example, cover the firms' behavior in external markets while organizational theories of the firm comprise the analysis of the firm's internal structure and the relationships among its units. Still, the resource-based view of the firm attempts to explain why some firms succeed in establishing sustainable competitive advantages and, consequently, conquering superior position in the marketplace compared to the competitors. Moreover, the emerging knowledge-based view, which is not considered a theory as such, can be thought of as an outgrowth of the resource-based view since it focuses on knowledge as being the most important strategic resource of a firm. (Grant 1996).

4.1 Competitive advantages and dynamic capabilities

A firm aiming to leverage and maintain superior performance needs to understand what the sources of competitive advantages are as well as how to sustain them. Since competitive advantages can emerge from many sources (Porter 1985, xvii), there are a number of different perspectives for a firm to take when analyzing those aspects, as for example from a resource and/or from a product perspective (Wernerfelt 1984), to name a couple of them. As a consequence of the importance to understand such causal-effect relations, this area of research has become a major one in strategic management (Barney 1991) and therefore various theories concerning the competitive advantages of firms have been developed (Morgan – Strong – McGuinness 2003). An extensive literature

about competitive advantages and dynamic capabilities is available as a source of knowledge in the field.

Taking the resource side into consideration rather than the product side, and given the complexity of the relationship amongst firm resources, dynamic capabilities and competitive advantages, it is not unlikely that a firm does not have full understanding about such relationship (Barney 1991), which, in turn, can be very unstable depending on the type of industry the firm is inserted in, especially on those so called high-velocity markets.

On the one hand, a firm's resource can be anything that is identified as strength or weakness, physical, human or organizational assets that can be used for the implementation of value-creating strategy, as for example the brand, capital, and in-house knowledge of technology, including some competencies that are essential to the firm's competitive advantage (Wernerfelt 1984; Eisenhardt – Martin 2000; Grant 1991). On the other hand, the firm's dynamic capabilities consist of specific organizational and strategic processes that create value for the firm within dynamic markets through the manipulation of resources into new value-creating strategies. In other words, by being the organizational and strategic routines by which managers acquire resources, integrate, recombine and release them, dynamic capabilities are considered as being the drivers that enable the creation, evolution and recombination of firm's resources into new sources of competitive advantages. As a result, the value of the dynamic capabilities in generating competitive advantage lies in the fact that they alter the resource base. Similarly, long-term sustained competitive advantages lies in the resources configuration put together by managers through the utilization of the dynamic capabilities, and not in the capabilities themselves. (Eisenhardt – Martin 2000). Another approach is that resources are not often productive on their own but rather the coordination and collaboration across various resources is what actually generate the firm's capabilities, which, in turn, are the source of competitive, however not sustained, advantages (Grant 1991). To conclude, neither resources nor capabilities alone are able to generate sustained competitive advantages; the ability of the firm to use its capabilities to enhance existing resources configurations for value-add strategy creation and implementation can be a source of long-term competitive advantage.

During the 1960's, a simple framework which is basically centered on the SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis was put in use to structure the researches in the area. By doing a SWOT analysis, a firm is able to identify its internal strengths that should be exploited, its weaknesses that should be avoided and eliminated, the opportunities that should be embraced, and the external threats that should be neutralized. Furthermore, the firm is able to design and implement the right strategy, based on the SWOT analysis, which would ultimately bring the desired sustained competitive advantages to the firm. (Barney 1991).

The use of such framework presents two perspectives to a firm, being: an internal analysis – strengths and weaknesses, and an external analysis – opportunities and threats. Both sides are relevant to be studied and have been given attention in the related literature. Some recent work has focused on the external analysis of opportunities and threats in its competitive environment aiming to identify the external conditions that favor firms' high performance as well as attempting to evaluate the impact of a firm's competitive environment in its performance and competitive positioning in the marketplace. Some other studies focused on the internal analysis which was correlated to the resource-based view of the firm which actually perceives the firm as a unique bundle of resources and capabilities, and links the firm's idiosyncratic attributes with its performance and competitiveness. (Barney 1991; Grant 1996).

On one hand, the resource-based view of the firm is one of the many influential theoretical frameworks used to analyze resources as a source of competitive advantages of companies and how those advantages could be sustained over time (Wernerfelt 1984; Grant 1991). On the other hand it may seem a very introspective tool of viewing and analyzing competitiveness, once the external environment and its influence are not considered. For external analysis, a different approach should be taken, by analyzing the firm from a different view.

From a resource-based view isolated perspective, firms cannot expect to generate sustained competitive advantages when strategic resources are distributed evenly amongst all the competing firms and, moreover, are interchangeable. In case the homogeneity and mobility would be true, all competing firms in a given industry would be able to create the same strategy with no any competitive advantage upon each other. This actually leads to the conclusion that to be considered a source of sustained competitive advantage, a firm's strategic resources need to be heterogeneous and not mobile. (Barney 1991).

As once discussed by Jay Barney (1991) in one of his works, and based on the assumption that firms' strategic resources are heterogeneous and immobile, a theoretical framework containing four empirical indicators – value, rareness, imitability and substitutability – could be utilized to demonstrate the potential of a firm's resources to generate sustained competitive advantages. Such empirical model highlights that, to hold the potential of creating sustained competitive advantage, a firm's resource must have four attributes; it must be valuable, capable to exploit the opportunities and neutralize threats; rare, amongst the firm's competitors; imperfectly imitable, in a sense that no other firm could replicate it; and irreplaceable, in the sense that there cannot be any strategic substitutes for it. (Barney 1991).

Moreover, it is widely recognized by some resource-based theorists and traditional strategy researchers that the company's history is also important when determining the company's long-term performance and competitive advantages meaning that a firm's

performance does not depend solely on the industry environment it's inserted in but also on the historical path it followed to arrive where it is. Although the study of firm's history impact on its performance is still in its infancy, it is worth to mention that in some cases, a firm's resources acquisition and integration processes happen throughout its unique historical path, turning the resources valuable, rare, non-imitable and non-substitutable. (Barney 1991).

One specific resource that is worth to highlight is knowledge. According to Grant (1996), the knowledge-based view goes beyond the traditional concerns of strategic management, which are strategic choice and competitive advantage. Besides those, the knowledge-based view also addresses some other concerns of theories of the firm, as the organizational structure, the role of management, the decision-making authorities, and the nature of coordination within the firm. The organizational capability of effectively coordinating and integrating the knowledge of various workers individuals definitely offers insights about the connection between that capability and competitive advantage. The need for integrating cross-functional knowledge and capabilities, as for example when developing a new product or going through an innovation process, reflects the strategic importance of having organizational (or managerial) strong capabilities within the firm. (Grant 1996).

Moreover, the knowledge-based view also contributes with a theoretical basis for a better understanding of a contemporary phenomenon consisting of organizational innovations. Many firms are going through restructuring processes of their traditional organizations through decentralization, including more horizontal-type of structures as well as team-based structures. (Grant 1996). Such trend can be explained by the increasing importance firms are giving to the cross-functional coordination and cooperation of resources, including the knowledge sharing, and their attempt to facilitate such activities.

Summarizing so far, the link among resource heterogeneity and immobility; the four empirical indicators – value, rareness, non-imitability, and non-substitutability; and sustained competitive advantages is thought of as a framework (adapted from Barney (1991) on figure 6 below) that can be used when analyzing the potential of some or all firms' resources as sources of sustained competitive advantages (Barney 1991).
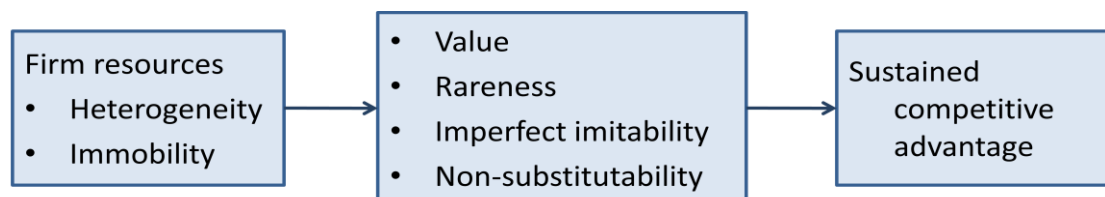

Figure 6: Resource-based framework of sustained competitive advantage

However, the resource-based framework only considers resources and their characteristics in its scope, neglecting the importance of the dynamic capabilities of the firm. Therefore the framework is somewhat incomplete for the purpose of analyzing the sources of sustained competitive advantages. Furthermore, not only identifying whether resources, the combination of them, and firm's capabilities are relevant sources of sustained competitive advantages, but rather a firm should strive for a balance between exploiting the existing resources and capabilities while developing the firm's resource base for the future (Wernerfelt 1984). Such balance would be beneficial for creating and executing a successful strategy for growth.

The pattern of dynamic capabilities is dependent upon the market dynamism. Extending the resource-based view for dynamic markets, the so called high-velocity markets, which is the case of the smartphones, the dynamic capabilities by which managers enhance the firm's internal and external competencies, specially the knowledge integration, to respond to the rapid changes are actually considered a source of sustained competitive advantages. Moreover, in those high-velocity markets, where the overall industry structure is not that clear, change is less predictable, successful business models are also unclear, and market players often shift positions, dynamic capabilities are simple, less complex than in moderately dynamic markets – but not completely unstructured, highly experiential and unstable processes. Such dynamic capabilities rely less on existing knowledge and much more on creating new-knowledge specifically adaptive to the new situation, which is done through the assimilation of real-time information, cross-functional interactions and intensive communication among resources. (Eisenhardt – Martin 2000).

Like resources, dynamic capabilities are also sometimes dependent on the firm's historical path which makes dynamic capabilities to be idiosyncratic in their details, however not excluding the fact that some specific capabilities can also present some commonalities across firms, the so called best practices. Nevertheless, the existence of common characteristics does not imply that a given dynamic capability is exactly identical across the firms. (Eisenhardt – Martin 2000).

As mentioned above already, dynamic capabilities in high-velocity markets are simple routines. That presumes there is little structure for managers to catch hold of, which is a challenge; to define the right needed amount of structure in such an uncertain scenario is not easy, letting managers in a continuous state of instability. As a result, dynamic capabilities are very difficult to be sustained in high-velocity markets and therefore the potential of such a collapse of the dynamic capabilities is perceived as a threat to competitive advantages. In other words, long-term competitive advantages are seldom achieved in high-velocity markets. In reality, in those very dynamic markets, competitive advantages are frequently short-term which opens up the strategic logic of opportunity for managers, who actually need to cope with the external challenge of

competition as well as with the internal challenge of dynamic capabilities' potential collapse, to compete by generating a series of temporary advantages. (Eisenhardt – Martin 2000).

As far as the resource-based view of the firm, it lacks logic of change which is crucial in high-velocity markets. The view of a firm being a bundle of resources is shattered in those high-velocity markets, where resources are added, dropped, and recombined frequently. Besides that, it also underestimates the difficulty in predicting how long an existing competitive advantage would last for and, as well, how challenging it is to determine the sources of future competitive advantages. (Eisenhardt – Martin 2000).

According to Porter (1985), in order to get a good understanding about the sources of competitive advantages, all the activities a firm performs – and their interactions – need to be examined. For such, the value chain concept and framework, which disaggregates a firm into its strategic activities, should be used. Being a reflection of the firm's history, strategy design and implementation, the firm's value chain supports the assessment of competitive advantage. (Porter 1985, xv-xx).

Furthermore, in order to generate the competitive advantages, temporary or not, managers are required to respond to the competitive market environment with competitive responses, which, in turn, can cause change in the industry structure (Porter 1985, 8-10). Such competitive responses are normally affected by the managers' interpretations of the external competitive environment, which can be classified in terms of Porter's five forces, and of the organization's internal capabilities. Often, managers develop analysis models through which they process data concerning the competitive environment and the firm's own dynamic capabilities to shape their competitive responses repertoire. Nevertheless, different perceptions of the competitive environment can trigger different competitive behaviors, affecting both the level and the variety of the competitive responses, as for example, if a manager's perception is of high pressure of competitive forces from its market rivals, such manager tend to intensify the firm's competitive efforts. (Giaglis – Fouskas 2011).

In order to illustrate previous research that supported the fact that top management personal preferences and perceptions are reflected on the firm's competitive actions, and also to provide a framework for analysis on the impact of managers' perceptions of the competitive environment and the internal capabilities on the innovativeness and breadth of the competitive behavior of a firm, Giaglis and Fouskas (2011) developed a study on the subject. According to them, a firm's competitive behavior is more or less innovative and also broader or less broad according to how threatening the firm's managers perceive the competitive environment as well as how they perceive the firm's organizational capabilities, i.e. whether more internally oriented, more technical capabilities; externally oriented, market sensing and linking capabilities; or mediating, which inte-

grates the previous two and also includes managerial and marketing capabilities. Table 4, adapted with the study results from Giaglis and Fouskas' (2011), shows those links.

Table 4: Links between firm's managers' perceptions of competitive environment and organizational capabilities, and competitive responses characteristics.

		Competitive responses characteristics	
		Innovativeness	Breadth
Competitive environment	Threatening by competitors and substitutes	+	n/a
	Threatening by the bargaining power of buyers	-	n/a
Organizational capabilities	Internal (technical) enhanced	-	n/a
	External (market sensing and linking) enhanced	+	+
	Mediating (managerial and marketing) enhanced	+	+

Giaglis and Fouskas' (2011) study results show that managers' perceptions of competitive environment can have both positive and negative impact to the innovativeness of firm's competitive responses, depending on the nature of the threat, whether from market competitors and substitutes or from buyers. In contrast, no links were found between managers' perceptions of competitive environment and the breadth of the competitive responses repertoire. Similarly, managers' perceptions of the organizational capabilities can also have positive and negative impacts on the innovativeness of the firm's competitive responses; if the external and/or mediating capabilities are perceived strong, tendency is that the innovativeness level of the firm's competitive response is increased, while decreased when the internal capabilities are the ones perceived stronger, showing that managers will tend to resist changing their proven previously successful competitive responses. As far as the impact on the breadth of the competitive responses, managers' perceptions of the external and/or mediating organizational capabilities being strong have a positive impact on them while perceptions of the internal ones have no association with the responses repertoire. In summary, while some perceptions of the competitive environment and organizational capabilities lead managers to compete in the marketplace with innovativeness as well as with a broad variety of competitive tools and tactics, other perceptions may increase the resistance in changing the competitive response strategy (Giaglis – Fouskas 2011).

4.2   Strategy design and implementation

Strategy can have a few definitions such as being a specific and unique configuration of activities adopted by a company (Porter 1985,11-20), or "*the match an organization*

makes between its internal resources and skills…and the opportunities and risks created by its external environment" (Grant 1991), or simply the art of creating value for the company. A common understanding, though, is that different strategies require different sets of activities and resources. A lowest-cost strategy, for example, would require a completely different set of activities and resources if compared to a differentiation strategy (Porter 1985, 11-20).

According to Kenneth Andrews (1971), who was the first to link the word strategy to business world, strategy is defined in terms of what a business can do as well as what possibilities are open to it (Harvard Business Essentials 2005, xii). In other words, he defines strategy in terms of the firm's SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis, which was further enhanced by Porter about a decade later, who sharpened the definition of strategy by adding the how part to it. How a firm ought to compete should also be part of the firm's strategy.

For over thirty years, competition has been at the core of corporate strategy; today, it is usual to hear the terms competitive strategy and competitive advantages when hearing about strategy (Kim – Mauborgne 2005). Moreover, a competitive strategy should be formulated on the basis of a thorough understanding of the competition dynamics so that its implementation ultimately provides the firm with competitive advantages and profit. According to Porter (1985), the rules of competition in any industry are embedded in five competitive forces being the rivalry among the existing competitors, the threat of new entrants, the threat of substitutes, the bargaining power of buyers, and the bargaining power of suppliers. This concept, largely known as Porter's five forces, was extensively used for the analysis of industries' structures and competitive positioning during the 1980's, when the main researches in the area of strategy analysis were focusing on the links between the strategy itself and the external environment (Grant 1991). More recently, during the 1990's, the role of the firm and its internal resources as the building blocks for the firm's strategy has also been given attention.

Although Porter's five forces was somehow challenged by resource-based critiques, such as Barney (1991) and Wernerfelt (1984), whether being or not an effective framework for analysis of industry competitiveness, Porter's value chain framework, which is considered as being a general framework for assessing the relative cost and the role in differentiation that strategic activities have (Porter 1985, 8-10), is the presently accepted model for analyzing the logic of value creation within a firm for competitive advantage (Stabell – Fjeldstad 1998).

For a sustainable competitive performance, it's important that the firm's relative position to the competition in the market is identified. By knowing its competitive position – whether it is a leader, follower or challenger, a firm can adopt the right competitive strategy. Although positioning was, not that long ago, the heart of strategy, in today's dynamic markets where technology changes rapidly, companies must be flexible

enough to respond to changes (Porter 1996) by effectively combining its internal resources and capabilities. In this way, a firm is able to build, even if temporary, competitive advantages for a strategic market positioning (Morgan – Strong – McGuinness 2003; Porter 1996).

There are two basic types of competitive advantages, low cost advantage and differentiation, which result from the firm's ability to understand the structure of its industry and better handle with the five forces by staking out a more profitable position, if compared to its rivals. For achieving above-average performance, a firm needs a competitive strategy which can be defined with basis on the combination of its competitive advantages with its competitive scope. Such combination leads to three generic strategies, being cost leadership, differentiation, and focus, illustrated in table 5 below. (Porter 1985, 11-20).

Table 5: Porter's three generic strategies

		Competitive advantage	
		Lower Cost	Differentiation
Competitive Scope	Broad target	Cost Leadership	Differentiation
	Narrow target	Cost Focus	Differentiation Focus

Comparing the three strategies, cost leadership is, perhaps, the easiest one to understand. Firstly, by pursuing the cost leadership position, a firm aims to become the low-cost producer within its industry, and not one of the multiple firms competing for the position. The firm has a broad competitive scope and its breadth is normally relevant for the achievement of the cost advantage. Furthermore, besides the cost leadership, a firm cannot neglect the bases of differentiation, meaning that buyers should perceive the firm's low-cost products and/or services as equally good as the firm's competitors. (Porter 1985, 11-20).

Secondly, a firm executing the differentiation strategy pursues uniqueness in its industry. Through the identification of some attributes perceived as important and valued by buyers, the firm seeks to position itself with unique products and/or services within the market, for which the firm can charge a premium price. However, the firm making use of differentiation strategy cannot ignore its cost position because its premium price could be nullified by a significantly lowest cost position of a competitor. (Porter 1985, 11-20).

Lastly, the focus strategy is quite different from the cost and differentiation strategies since it lies on the choice of a narrow scope within a certain industry. A firm choosing

to compete through a focus strategy selects an industry niche to grasp and dedicate itself to it. However, focusing in a narrower scope is not enough for developing above-average performance and therefore the focus strategy was defined as having two variants, being the cost focus, where a firm seeks for cost advantage in its selected niche, and differentiation focus, where, as the name suggests, a firm seeks for differentiation in its target niche. (Porter 1985, 11-20).

Although a firm should make its choice about what generic strategy to move forward with, since each of them is a different approach to developing and sustaining competitive advantage, sometimes a firm is able to pursue more than one strategy at the same time. This can happen by creating separate business units within the same company entity, each unit pursuing a different generic strategy. Moreover, a firm that commits itself to each of the three generic strategies but fails to succeed in any of them is "stuck in the middle". Due to the fact that the firm has no overall competitive advantage, a firm stuck in the middle is normally a below-average performer. To achieve, for example, cost strategy and differentiation strategy simultaneously is quite unusual, however it can be done under three conditions: competitors are stuck in the middle; cost is strongly affected by market share; or through a major innovation introduced in the marketplace. (Porter 1985, 11-20).

Furthermore, in order to compete in any industry, a firm must perform various activities which, in the end, are the basic units of competitive advantage from an activity-based theory of the firm perspective (Porter 1985, 8-10). The activity-based view of the firm provides the basis for cross-businesses strategic thinking as well as a good framework for evaluating the international competitiveness of a firm. By defining a firm as a collection of activities, strategy becomes the unique mix of activities put together to deliver a certain mix of value to pre-defined customers. From the same view, activities are considered to provide the bridge between the strategy formulation and its implementation. In other words, activities make strategy operational. Moreover, a competitive strategy requires a firm to be unique, different from its rivals (Porter 1996) since competitive advantages rely on differences which, in turn, are the basis of a firm's advantages (Henderson 1989).

Additionally to the required different activities, each generic strategy entails different resources and capabilities to be successful, which, in the end, usually translates into changes in the firm's organizational structure and culture (Porter 1985, 8-20). The success of a strategy depends on a firm performing many things well and, on top of that, integrating them well (Porter 1996). Moreover, besides being called for the success of the firm's generic strategy, internal resources and capabilities also set the direction for the firm's long-term strategy and are perceived as the primary source of profit. From a resource-based view, formulating a strategy that makes the most effective use of the

firm's internal resources and capabilities is of fundamental importance to the firm's competitive strategy. (Grant 1991).

In high-velocity markets, which is the case of the smartphone market, to understand the flow of strategy from leveraging the past to exploiting the future, as well as when, where and how often to make changes, is imperative to firms willing to perform great in the marketplace through their strategies (Eisenhardt − Martin 2000). Normally, dynamic markets have their structure changed frequently and these changes can markedly affect firms' generic strategies (Porter 1985, 11-20) and competitive positioning.

To develop a competitive strategy, managers are required to make predictions about the future and, based on those predictions, they are making important decisions about the company focus, the investment of resources, and the way activities should be coordinated across the company (Beinhocker 1999). However, since managers' perceptions, overall, are very subjective, the way they predict the future also varies according to their perceptions, which is even uncertain in a high-velocity market.

According to Beinhocker (1999), businesses should have multiple strategies rather than a singular focused strategy so that they become more robust and adaptive through the exploitation of their evolution. In general, successful firms tend to manage a portfolio of strategic initiatives across three dimensions, so called adaptive walks, supposed to defend and extend existing businesses; medium jumps, supposed to create new businesses through the use of existing capabilities; and long jumps, which are supposed to plant seeds for the yet non-existent future businesses. (Beinhocker 1999).

Moreover firms need to effectively implement their strategies in order to successfully compete in the marketplace. Even an amazing strategy is worthless if implementation is not done properly (Harvard Business Essentials 2005, xi). Normally, the strategy process starts with the firm's mission, which is translated into goals, which in turn are defined by taking the external environment as well as the internal capabilities into consideration. Once defined, these goals are the basis for the strategy formulation, which also take the external and internal environments into account. After the strategy is created, next steps are its implementation and frequent monitoring of performance. (Harvard Business Essentials 2005, xvii).

The strategy process is an essential process of a firm; in order to design the appropriate competitive strategy, managers need to understand the firm's mission, its goals, and assimilate the findings from a SWOT analysis, i.e. take in what was identified as internal strengths and weaknesses, and external opportunities and threats. On top of that, a firm's strategy must be aligned with and for the primary customers' market the firm plan to address (Harvard Business Essentials 2005, 44-45). If not grounded in a thorough understanding of the competitive rivalry's dynamics, a firm's strategy is doomed to fail (Hamel − Prahalad 1994). Above all, and even more essential for a firm's success in the marketplace, is to have the implementation of its strategy done properly. For

such, a firm should consider evaluating some elements like the firm's human resources, incentives, supportive activities, organizational structure, the firm's culture, and leadership (Harvard Business Essentials 2005, 62-75) so that they support the strategic goals.

Different from the strategy creation, which is market-oriented and entrepreneurial in essence, the implementation of a strategy, often defined as the concrete measures a firm takes for translating strategic intents into actions that ultimately produce the results, is operations-oriented.

In summary, *"strategy is about understanding what you do, what you want to become, and – most importantly – focusing on how you plan to get there"*. It is a plan which ultimate goal is to provide the firm with competitive advantages over the competition. (Harvard Business Essentials 2005, xiv).

4.3   Innovation

Innovation can be described as a firm's capability to lower costs, or improve products and/or services as well as processes, or introduce new products and/or services into the market, ahead of its competitors. Simplistically, in a nutshell, innovation can be described as a new way of doing or changing things for better results.

In the global economy companies are competing nowadays, successful products, services and even strategies are quickly copied. Innovation, as a strategy for creating long-term sustained value, matters more than ever. In an era of accelerating change where competition is ferocious, companies have no other choice than innovate. Only by innovating firms are able to outgrow in the marketplace. (Hamel 2012).

The knowledge a firm acquires during its success history is an important ingredient for developing new business processes (Kaplan 1999), although by itself it does not imply much innovative thinking. New knowledge needs to arise to help firms create their strategies which, in turn, address the challenge of sustaining growth into the future.

In order to maximize knowledge creation, which is important for innovation, firms need to come up with an institutional innovation process able to trigger innovation (Ridderstråle – Nordströmand 2007) inside the firm. Moreover, firms need to establish a systematic framework capable of identifying opportunities for discontinuous innovations that create beyond-incremental growth (Kaplan 1999).

Innovation is hard to be managed properly and therefore it is quite difficult for a firm to secure all returns on investments done in research & development. The usual way to manage innovation seems not to work anymore. Internal research & development used to be a strategic asset, a source of competitive advantage a few years ago. However, today, strong competition is also arising from companies that conduct little or no research on their own, but rather innovate by utilizing the discoveries of others. The in-

novation's paradigm is shifting from the so-called closed innovation to the open-innovation model. The way firms innovate and bring those innovations to the market-place is undergoing a dramatic change. (Chesbrough 2003).

According to Chesbrough's (2003), there are some fundamental differences between the closed and the open innovation models, as described in the comparative table below:

Contrasting Principles of Closed and Open Innovation

Closed Innovation Principles	Open Innovation Principles
The smart people in our field work for us.	Not all the smart people work for us. We need to work with smart people inside *and* outside our company.
To profit from R&D, we must discover it, develop it, and ship it ourselves.	External R&D can create significant value; internal R&D is needed to claim some portion of that value.
If we discover it ourselves, we will get it to market first.	We don't have to originate the research to profit from it.
The company that gets an innovation to market first will win.	Building a better business model is better than getting to market first.
If we create the most and the best ideas in the industry, we will win.	If we make the best use of internal and external ideas, we will win.
We should control our IP, so that our competitors don't profit from our ideas.	We should profit from others' use of our IP, and we should buy others' IP whenever it advances our own business model.

Figure 7: Closed innovation vs. open innovation

Nevertheless, being able to foster and manage innovation certainly give firms an edge. Yet, although the visionary identification of opportunities is essential for the firm's long-term growth, it is very challenging to tackle it while also managing the firm's operational challenges for the short-term results (Kaplan 1999).

On the one hand, firms need to keep developing strategies for incremental innovations in order to increase market share and protect their revenues (Kaplan 1999). Although not sufficient to sustain high performance, outperforming their rivals in the existing businesses, where the industry boundaries and the rules of competition are known, is important for firms to achieve success (Kim – Mauborgne 2005). On the other hand, it is essential that firms develop strategies for discontinuous innovations, which is a long-term investment, so that they can possibly create new markets or even new industries (Kaplan 1999). Firms need to go beyond competing in existing industries; they need to create demand for their products and/or services in order to grasp new profitable growth opportunities, in a yet-unknown market space (Kim – Mauborgne 2005).

The description of discontinuous innovations has received quite a few inputs. Michael Tushman and Charles O'Reilly (1997) suggest that it involves breaking with the past for creating new technologies, new processes and new organizational s-curves, which would mean an increased added value delivered to customers. Similarly, Gary Hamel and Prahalad (1994) as well as Clayton Christensen (1997) suggest that discontinuous innovations involve disruptive technologies or radical innovations that ultimately cause entire markets to emerge, transform, or disappear. A fact is that new technologies are very often key for discontinuous innovations. (Kaplan 1999).

Change nowadays, especially those driven by information and technological innovations, is a fact of the globally connected world (Ridderstråle – Nordströmand 2007). The shift to an innovation-driven economy has been blunt (Amabile – Khaire 2008) and technological innovation is now one of the main drivers of competition, impacting the industry structure significantly. Yet, it can potentially erode competitive advantages of some well established firms while propelling others farther (Porter 1985). Technological innovations are opening up markets than ever before to transparency and increased globalization. Firms used to know who their rivals used to be when competition was specific. However, competition became generic and firms are not anymore competing against other firms with similar products and services; firms are at present, competing for customers. (Ridderstråle – Nordströmand 2007).

One perspective, addressed by the famous *"Blue Ocean Strategy"* is that companies that create new markets and industries do not see the competition as a benchmark. Instead, they make the competition irrelevant by substantially increasing value for both customers and company itself (Kim – Mauborgne 2005).

Different from incremental innovations, which seldom challenges the original concept of a product or service, radical innovations have the power to change customers' expectations as well as industry economics, and redefine the grounds for competitive advantages. Innovation is not anymore synonym of news products and/or services and new technologies only; it rather involves entirely new business concepts, which require diversity and variety. In turn, new business concept innovation must be turn into a systemic capability whereas innovation is tackled as a dynamic process, where ideas comes up from imagination and form the basis for designing business models; from there, experiments are done and assessed, and further adapted. (Hamel 2000).

Another perspective, which was introduced by Ridderstråle and Nordströmand (1999) in their book "Funky Business", and is worth to highlight, is that to circumvent the competition in a certain market, a firm needs to appeal to the emotional side of its customers instead of the rational side. Moreover, the authors believe that true competitiveness have to be built around emotions and imagination. (Ridderstråle – Nordströmand 2007). It is a matter of conquering customers' hearts and making them passionate about the firms' products and/or services as well as the firm's brand.

5 RESEARCH DESIGN

5.1 Research approach

Since the main purpose of this research is to provide insights and understanding about an ongoing multi-dimensional phenomenon, being the competitive and strategic forces that shape the dynamics of the smartphone industry as well as to investigate further what are the key elements that make a company leader in such a dynamic environment, the research design is mainly exploratory (Malhotra – Birks 2007, 69-72).

Given the nature of the research questions which very much relates to strategic competitiveness within the smartphone industry and how the key elements and their interconnection might determine a company's success, which in this research means to occupy the leader position within the smartphone market, the exploratory research may help to establish the related variables through a flexible and versatile process that might evolve into new ideas and insights which, in turn, could be further explored as well (Malhotra – Birks 2007, 69-72).

In order to develop the research as far as the theoretical framework, a vast existing literature was initially explored. Relevant and classic literature on the knowledge area of strategic and competitive forces that shape an industry, as for example, books and journal articles from Michael Porter's, Prahalad and Gary Hamel, such as 'Competing for the future' as well as other relevant literature from Robert Grant, Jay Barney and Kathleen Eisenhardt, on the competitive advantages and dynamic capabilities of the firms as well as on the resource based view, to name a few, were deeper examined.

As the research evolved, other literature on the knowledge areas of innovation and strategy were also explored, as for example a few Harvard Business Reviews on strategy creation and implementation. Articles from pertinent sources such as Journal of International Business Studies and Strategic Management Journal were also investigated and utilized in the theoretical framework construct.

This design frame will be also enriched by a case study for further development of the research. As highlighted already elsewhere in this paper, and especially because it's part of the research topic of interest, Nokia will serve as the case study.

In order to theorize from case study, some possibilities are available. According to Welch, Piekkari, Plakoyiannaki and Paavilainen-Mäntymäki (2010), there are four methods of theorizing from case studies, being: i) inductive theory-building, ii) interpretive sensemaking; iii) natural experiment; and iv) contextualized explanation. Differences among these methods can be seen from the typology illustrated on figure 8 (Welch et. al, 2010), which shows whether the emphasis of the method is on causal explanation and/or contextualization:
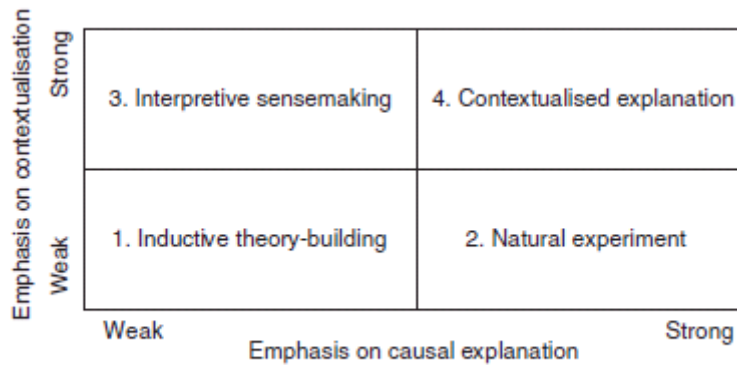
Figure 8: Four methods of theorizing from case studies

Although inductive theory-building and natural experiment methods have their philo-sophical orientation towards positivism, meaning that a case study should be an instru-ment for *"the development of testable hypotheses and theory which are generalizable across settings"* (Eisenhardt 1989), the inductive theory-building method has its theo-retical contribution as being exploratory and the case study outcome is generally an ex-planation in the form of testable propositions (Welch et. al, 2010), i.e. a more empiric approach.

As a result of the literature exploration and the case study, a kind of inductive theory-building methodology will be used in this research study for understanding how the strategic forces and competitive advantages inter-correlation influence the leadership in the mobile smartphone market.

Inside the design frame and to answer the research questions, qualitative methods will be applied, more specifically desk research, which means that the research's work will be mainly based on secondary data that can be either internal and/or external. Con-sidering that desk research process depends on the existence and availability of infor-mation and that this research's topic is a contemporary phenomenon, it's fair to say that availability of pertinent information from many different reliable sources will not be an issue. Moreover, qualitative methodologies are supposed to provide flexibility and offer a holistic and clear view of the context (Denzin – Lincoln 1994) which is perfectly ap-plicable and beneficial in this research.

Likewise, the need of conducting some interviews as a source of qualitative primary data for the case study about Nokia was evaluated. However, indeed for maintaining this research as a public study that can eventually benefit a vaster amount of people such as business men and researchers, as well as to keep the confidentiality policy es-tablished by the studied company, that option was discarded.

5.2   Data collection and analysis

There are many methods of data collection for a research study, depending on the nature of the research problem. The theory-building from case studies approach, for example, do allow adjustments and changes in data collection methods, however not forgetting that the ultimate goal of the study is to acquire thorough understanding of the explored phenomenon (Eisenhardt 1989).

For this research study, as mentioned previously already, desk research is used, i.e. mostly qualitative written sources. Initially, external secondary sources for the collection of data were explored; libraries, electronic databases and internet, journals, books and textbooks as well as magazines constitute the main source of information. On top of that, specific and key words were utilized in order to look for relevant data for the development of the research. Right after the identification of a good and appropriate literature to start with, their record was done through, for example, downloading and printing the articles from journals, buying and/or borrowing books from libraries, saving internet links, and making notes.

For the case study, which will be upon Nokia, besides the external classic literature, different sources of contemporary data, including market analysts and business experts' opinions, blogs and articles, will be used. Given the contemporary and dynamic nature of the studied phenomenon various market experts' inputs and diverse viewpoints will be used. During the data collection process, notes will be taken by either utilizing tables and charts or any other visual methodology to organize data in order to explain something.

What follows after collecting the needed information is the analysis of it. Some overlap of data analysis and collection needs to be considered when building theory from case studies since such overlap is a strong characteristic of developing such type of research. Moreover, analysis of data is considered the most important and also the most difficult part of the process. (Eisenhardt 1989).

The process of analyzing qualitative data in a research normally consists of four generic steps: data assembly, which involves gathering all collected data for the research study purpose; data reduction, which involves selecting and classifying the data; data display, which involves summarizing and presenting the data in an organized and compressed way (e.g. matrices, charts, graphs) in order to allow conclusions to arise; and last, data verification, which involves looking for explanations for the conclusive interpretations from other sources of information. (Malhotra – Birks 2007, 236-252).

In this research, a combination of two approaches for analyzing the data, being content analysis and grounded theory, will be used. Content analysis will be mainly used to enable the author to handle and interpret the collected secondary data. By reducing, simplifying, summarizing and structuring the data through the development of analyti-

cal categories for its classification (Malhotra – Birks 2007, 236-252), the author of this research will be able to better understand the constructs. The grounded theory approach, through its four steps – data coding, memo writing, theoretical sampling and analysis integration – and a systematic and simultaneous collection and analysis of data, will ultimately aid the author of this research on the development of a framework based on the case study (Malhotra – Birks 2007, 248-250).

Firstly, a within-case analysis will be done through a detailed case study, where descriptive methods as well as graphs might be used to provide deep knowledge about the case. Secondly, and for a better understanding of the case, some categories or dimensions will be identified aiming an effective compilation of the data. Another option to be considered is to separate the data by the source, which might help the researcher to acquire different and maybe unique insights according to the data source. On one hand, when a construct from one source is confirmed by evidence from another source, such construct and related findings are more solid and grounded. On the other hand, when patterns from different sources conflict, then a deeper probing is needed in order to reconcile the evidences (Eisenhardt 1989).

In a way or another, by measuring constructs and verifying relationships among all the collected data, it might be possible to go beyond the initial impressions and improve the internal validity, the reliability and generalizability of the theory, meaning that the built framework will have a very close fit to the data.

5.3   Trustworthiness of the study

The analysis of the collected data in a systematic way leading to the establishment of conclusive meaning is fundamental to turn a qualitative research into a source of knowledge generation. Therefore, the trustworthiness of the research findings and results needs to be enhanced. (Sinkovics – Penz – Ghauri 2008).

Although in quantitative research the dimensions of reliability, validity, generalisability and objectivity are the areas of biggest concern for researchers, in qualitative research, the approach is to establish trustworthiness which, according to Lincoln and Guba (1985), can be done based on the establishment of four other constructs, being credibility, transferability, dependability and confirmability (Sinkovics – Penz – Ghauri 2008; Lincoln – Guba 1985; Shenton 2004).

Firstly, in addressing credibility, researchers intend to demonstrate that a true picture of the studied phenomenon is being presented (Shenton 2004). Credibility, which refers to the traditional concept of internal validity (Lincoln – Guba 1999, 410-422; Sinkovics – Penz – Ghauri 2008) and, according to Lincoln and Guba (1985) being one of the most important factors for the establishment of trustworthiness, can be enhanced

through a handful of techniques and activities. First set of activities, such as prolonged engagement and triangulation, would be useful to increase the probability of producing credible findings; second activity, called peer debriefing, would provide an external check to the research process; thirdly, an activity aiming to refine the working assumptions as more information become available; fourth activity, called referential adequacy, would be performed to enable preliminary findings to be cross-checked with archived raw-data; and fifth and lastly, an activity called member checking could be used to directly test the findings with the human sources which they derived from. (Lincoln – Guba 1985).

Secondly, to allow transferability, researchers should be able to provide enough details of the context so that readers are able to judge whether the research findings can be applied to other circumstances (Shenton 2004). Transferability, which is considered parallel to external validity or generalisability (Lincoln – Guba 1999, 410-422; Sinkovics – Penz – Ghauri 2008), cannot be achieved solely by the researcher since his (or her) knowledge lays down only on the 'sending context', i.e. the analyzed and studied context. Nevertheless, the researcher needs to assure that the context information is precisely described and a thick description of the studied phenomenon is also provided in order to allow readers to have a proper understanding of it so that they can evaluate the transferability. By comparing the instances of the described phenomenon with those that they have seen in their situations, readers might relate the findings to their own positions. (Shenton 2004).

Thirdly, meeting dependability is difficult; however researchers should strive to allow the repeatability of the study, meaning that similar results should be obtained if and when the study is repeated within the same context and utilizing the same methods (Shenton 2004). Dependability, which is equivalent to the concept of reliability, has a strong tie with the concept of credibility where, in practice, if credibility is demonstrated then dependability is somehow also ensured through the use of overlapping methods (Lincoln – Guba 1999, 410-422; Sinkovics – Penz – Ghauri 2008). Dependability can be further enhanced through a detailed description of the processes within the research, which provides an in-depth coverage that allows readers to evaluate whether proper research methods and practices were followed and, thereby, enabling a reader and/or future researcher to repeat the study (Shenton 2004).

Finally, to achieve confirmability, researchers must demonstrate that the findings were originated from the collected and analyzed data and not from their own ideology and judgments. (Shenton 2004). Confirmability, which is comparable to objectivity and refers to the neutrality of the study (Lincoln – Guba 1999, 410-422; Sinkovics – Penz – Ghauri 2008), can be improved through a few techniques, such as, to name a few, triangulation, which is also used on the achievement of credibility; admission of the researcher's predispositions; recognition of the reasons behind choosing a specific

approach and methodology over others; and in-depth methodological description (Shenton 2004).

In the context of this qualitative research and in order to assure it is trustworthy, the constructs of credibility, transferability, dependability and confirmability were addressed in turn as follows:

Credibility was established through prolonged engagement, triangulation and peer debriefing. Prolonged engagement was done throughout the ten years the author of this research has been working for the case company – Nokia – which was a time that the author invested in learning the company's culture as well as in understanding the context which the company is inserted in. Triangulation was achieved mainly through the utilization of multiple and different theories and data sources, like book, journals, magazines and websites. Peer debriefing activity was done with a knowledgeable person, employee of Nokia, who, by reviewing the entire study, represented the devil's advocate role by asking relevant questions to foremost keep the author honest, assuring the research was exempt from biases and providing the author with the opportunity to test some working assumptions and even reconsider some that were not reasonable.

Transferability was allowed through the detailed description of the smartphone market context, including the top smartphones makers and the market competitive dynamics, as well as a precise description of the case study about Nokia, how the company has been competing over the years and the fact that it lost the leadership of the smartphone market during 2Q2011 after 14 years occupying the leader position. Moreover, additional relevant information concerning to how many and which organizations are being studied, where they're located, the data collection methods, and the data analysis methodology, which help in setting the boundaries of the study, were also provided by the author in an attempt to enhance even more the transferability of the study.

Dependability was achieved by thoroughly presenting the research design which was made through three steps, being the presentation of the research approach in chapter 4.1; the explanation of the data collection process in chapter 4.2; and the elucidation of the data analysis process also in chapter 4.2. As a result, such detailed description of the research process attempts to enable readers of this study to develop an all-round understanding of the research methods and their effectiveness, thereby expanding the dependability of this study.

Confirmability was reached through a few techniques. Besides being one of the used techniques to ensure credibility, triangulation also plays an important role in emphasizing the concept of confirmability since it reduces the effects of the researcher bias. In this study, as already mentioned previously in this chapter, triangulation was used, for example, by collecting information from many different data sources. Nevertheless the possibility of an existing subjective view by the author when drawing conclusions about the case study cannot be completely discarded and that is fine since admitting her own

beliefs and assumptions also contributes to address confirmability. Moreover, as also previously mentioned in this chapter, a thorough description of the research design – process and methodology, was done and that enables readers to determine how effective and acceptable are the constructs emerging from the study which also contributes to enhance the confirmability of this study.

In summary, by assessing the four criteria for trustworthiness established by Lincoln and Guba (1985), being credibility, transferability, dependability and confirmability, the author of this qualitative research expects that she has secured the trustworthiness of the study and, consequentially, the academic soundness of the research. (Shenton 2004).

6   CASE STUDY

The purpose of this chapter is to present an in-depth description of the contemporary phenomenon about Nokia not being able to keep up with the accelerating pace of the smartphone industry evolution. Nokia's share continuous decline in the smartphone market since 2007 culminated with the company being outperformed by two of its rivals, Apple and Samsung, during the year of 2011, meaning that by dropping two positions in the rank after fourteen years of leadership as the world's largest smartphones' maker, Nokia is now occupying the third position. In addition to that, it's also a purpose of this chapter to discuss the reasons behind that phenomenon.

An introduction to the history of the current top three smartphone makers – Apple, Samsung and Nokia will be initially given in chapter 6.1, followed by a deeper dive into Nokia since the company transformed itself into a mobile phones manufacturer in the beginning of 1990's. Adding to that, the focus is on the period that Nokia has been losing smartphone market share, which starts in 2007, emphasizing the strategies it has been designing and implementing, especially for the smartphones, and how it has organized its corporate structure along those recent years to support those strategies.

6.1   An introduction to the history of the top three smartphone makers

A successful company is not born in a day but rather developed and raised during the course of the years with lots of efforts from various people. Companies have their own unique histories and for the top three smartphones' makers, that is not different.

Although the old traditional model of having different companies developing the hardware, the software and applications has been significantly falling apart in the mobile device world (Apple COO: We're… CRN 2010), giving place to robust ecosystems, which includes devices, services, third-party providers, applications' market and delighted customers (Nokia Strategy 2011. Conversations by Nokia 2011), in this research the focus is not on the ecosystems as such but instead on the mobile products manufacturers alone. The top three players in the smartphone business are therefore considered as being Apple, Samsung and Nokia.

6.1.1   *Apple*

Apple Computer Company was born on the evening of April 1st, 1976, when two young men – Steve Jobs and Stephen Wozniak, in their twenties, and a more mature man –

Ron Wayne, in his forties, signed an agreement in an apartment in Mountain View, California (Moritz 2009, 148). The company then started its operations in one of the founders' – Steve Job's, parents' garage, in Los Altos, California, US with Jobs and Wozniak working on a computer circuit board that they called Apple I (Yoffie – Kim 2011). Already in the summer 1976, Ron Wayne left the partnership (Moritz 2009, 158), leaving the company up to the two 20-something years old friends. Apple Computer was officially formed on the 3rd of January, 1977, by Jobs, Wozniak and Mike Markkula, a thirty-three years old who had become a millionaire from a young company's public stock issue – Intel – and was living his youthful retirement in Cupertino, California, US. Later in 1977, Michael Scott joined Apple as the company's president. (Moritz 2009, 183-189).

Already in April 1978, Apple II was released to the market, making Apple the PC industry leader and unleashing a computing revolution which drove the industry to a $1 billion in annual sales in less than three years (Yoffie – Kim 2011).

However, the time between 1981, when IBM entered the PC market, and 1984, when Apple introduced the Macintosh computer in response to IBM in an attempt to recover its much impacted competitive position, was of crisis to Apple. That led to Steve Jobs being forced out in 1985, leaving John Sculley, former Pepsi-Cola executive recruited by Jobs, alone as Apple Computer CEO. (Yoffie – Kim 2011).

By 1990, Apple recovered market share and was considered the most profitable PC company in the world, reporting $1 billion in cash. However, during the 1990's, Apple Computer went through very tough situations, having its gross margin substantially dropped. During that same period, alliances were initiated and terminated and some other plans were neither successful; company strategy was undefined. Two CEO's have presided Apple during the 1990's: Michael Spindler, from 1993 to beginning of 1996 when he was replaced by Gilbert Amelio, who proclaimed that the company would return to its original differentiation strategy. (Yoffie – Kim 2011).

By December 1996, when the company was going through a very difficult situation, stumbling on the edge of bankruptcy, co-founder Steve Jobs returned to Apple (Gallo 2010, 4) as a part-time adviser (Yoffie – Kim 2011). In September 1997, Steve Jobs became Apple Computer's interim CEO (Yoffie – Kim 2011), when he started the company transformation by focusing on reinvigorating innovation internally besides reducing significantly the product lines. Steve Jobs reinvented the computers, revolutionized the music and film industries, and redefined the mobile telecommunications industry (Gallo 2010, 4-5).

Already in 1998, Apple launched an all-in-one computer – the iMac – which made Apple's sales to, again, outpace the industry average. Apple posted a $309 million profit in 1998 fiscal year, reversing the $1 billion loss of the previous year. (Yoffie – Kim

2011). It was also in 1998, for the iMac launch, that Apple renewed its logo from the 'Rainbow' multicolored bitten apple to a monochrome one.

The original Apple logo featuring Isaac Newton under the fabled apple tree.	The rainbow Apple logo, used from late 1976 to early 1998	The monochrome Apple logo, used from 1998 to late 2000, predominantly on hardware. Still appears on various products in various colors, such as iLife packaging.	Stylized Apple logo, used 2001 to around 2007 on Apple software.	Logo used from 2007 to present.

Figure 9: Apple Inc's logo evolution

In 2001, Apple redesigned its product portfolio aiming to offer cutting-edge experiences to consumers by focusing new PC products on home lifestyle and also started executing its successful retail strategy by opening the first Apple store in McLean, Virginia, US. Moreover, 2001 was an important year for Apple since it marked the beginning of the company's transformation as to become a digital convergence company, what, in turn, was kicked-off by the launch of the iPod in the same year, and followed by the iPhone in 2007 and the iPad in 2010. Steve Jobs repositioned the company by introducing non-PC products starting in early 2000's, as for example the launch of the iTunes store in 2003 and also changed the company's name from 'Apple Computer' to 'Apple Inc.' in 2007, which ended up with the company considering itself as a mobile device company by approximately one decade after the transformation had started. (Yoffie – Kim 2011).

Although entering the mobile devices market seemed a risky move for Apple when more than half of the market share was dominated by three companies, being Nokia, Motorola and Samsung (Yoffie – Kim 2011), the Apple iPhone was a huge success. Considered by Time magazine the invention of the year 2007 (Invention of the year: the iPhone, Time 2007), it completely changed the mobile phones industry dynamics.

In 2008, one year after the iPhone debut, the phone's second version was released to the marketplace together with the Apple App Store launch, meaning the extension of the iPhone's ecosystem, whereas the iPhone 3GS, the third version, went on sale in June 2009. Within two years, the iPhone jumped from zero to represent 30% of Apple's total revenue. (Yoffie – Kim 2011).

In 2010, another bold move to redefine the industry was done and yet another device positioned between a smartphone and a laptop computer was launched – the iPad (Yoffie – Kim 2011).

Apple's transformation from a PC manufacturer to a mobile device company had been a brilliant success. Much of the credit was attributed to the company's co-founder and CEO Steve Jobs (Yoffie – Kim 2011) who was considered a visionary and creative genius that changed the mobile phone industry's rules and brought it to a completely new level.

> *We believe that we are uniquely positioned to do extremely well in a mobile device world because we can integrate together seamlessly software and hardware.* (Apple COO, 2010)

Compared to others like Sony, Nokia and Samsung, Apple is the world's largest mobile company measured by revenue (Apple COO: We're… CRN 2010). Its total net revenue was $65.1 billion in 2010 and a fabulous $108.2 billion in 2011 (Apple Inc. CNN Money 2011).

In addition to that, in May 2010, Apple also surpassed Microsoft, becoming the world's most valuable technology company (Gallo 2010, vii) as measured by the total shares' value which stood at $223 billion against Microsoft's $219 billion (Apple tops Microsoft… Computerworld 2010). Apple's market capitalization in September 2011 was approximately $350 billion whereas the share value was around $380 during the same period (Apple. Business Insider).

With approximately 60,400 full-time employees worldwide, a $81.5 billion in cash (Apple now has…TNW 2011), and led by Chief Executive & Operating Officer Timothy D. Cook (Apple Inc. CNN Money 2011), who took over Apple in August 2011 after Steve Jobs resigned due to health problems, Apple was crowned as the leader of the mobile smartphone industry in 2Q2011, enjoying 19.1% of the market (Apple now the world's largest… Engadget 2011).

However, Apple's reign was very short since the company's market share had a significant drop, from 19.1% in the 2Q2011 to 14.6% in the 3Q2011, when it lost the crown to Samsung who, in turn, became the leader of the smartphones market, with 23.8% share (Samsung overtakes Apple… BBC Mobile 2011).

Apple has launched its latest smartphone, the iPhone 4S, on October 4th, 2011, with the note of being the most amazing iPhone yet. Although Apple upgraded some of the phone features, design wise there was no difference between the new iPhone 4S and the old iPhone 4, which led to a disappointment by the market analysts and consumers (Apple iPhone 4S… PC World 2011). However, despite the new iPhone 4S was considered only an incremental upgrade (Apple iPhone 4S Review. PhoneArena.com 2011) and therefore a bit underwhelming, its sales has topped 4 million units in the first 3 days

after its release to the market, according to Apple (iPhone 4S First Weekend… Apple 2011).

Figure 10: Apple iPhone 4S

According to some market analysts, the iPhone 4S was instrumental in returning the crown to Apple as the leader of the smartphone market during 4Q2011 (UPDATE 4-Samsung… Reuters 2011), which also guaranteed the company with the leadership of the smartphone market in 2011.

6.1.2   Samsung

Samsung, the Korean company whose name means "three stars" in local language, was founded in 1938 by chairman Byung-Chull Lee, in Taegu, Korea, as a small trade export business company for dealing mainly with fish, vegetables and fruits. For approximately thirty years, Samsung's focus was in the export and insurance businesses when, in 1969, the company established Samsung-Sanyo Electronics which was renamed six years later as Samsung Electro-Mechanics. In March 1977, the company merged with Samsung Electronics (Samsung's History. Samsung) and a new focus added to the Samsung group.

During the 1970's Samsung diversified in industries, including the heavy industry, textile, chemical and petrochemical. Furthermore, the home electronics business was growing and started to export the products during the period. Televisions, washing machines, refrigerators and microwave ovens were some of the products Samsung Electronics was producing during the decade. In 1976 the company achieved the milestone of having produced one million black and white TV's. (Samsung's History. Samsung).

During the 1980's Samsung diversified even more by entering the information systems and technology business which also contributed to the company's increasing focus on technology and mobile solutions. Air-conditioners, color TV's and personal com-

puters were largely produced during that decade. (Samsung's History. Samsung; History of the top… phoneArena.com 2008).

Sadly in 1987, the company founder and chairman Byung-Chull Lee passed away and his son Kun-Hee Lee took over the company. Besides restructuring some old businesses, Kun-Hee Lee also led the company to enter into new ones aiming to become one of the world's top five electronics companies. During the early 1990's, due to many challenges that were surrounding the high-tech businesses, Samsung decided to refocus its strategy, putting emphasis in developing world-class products in order to better attend the market demands (Samsung's History. Samsung). By that time, the company developed its handheld mobile phone within a business area that was marked, in 1993, by the release of an improved mobile phone compared to the previous ones, the SH-700 model. Following that, more development was taking place and, in 1999, Samsung became the worldwide leader of mobile phones as far as the CDMA market segment, detaining more than 50% of it. However, Samsung was not in the leadership position of the GSM market since it struggled to beat the competitors, Nokia, Motorola and Ericsson. (History of the top… phoneArena.com 2008).

Samsung is a very large corporation acting through many companies in a number of different industries as well as business areas, which, in turn, develop many different products. The so far successful smartphone business is part of one of the seven business units of Samsung Electronics Co., Ltd., the Mobile Communications business unit (Samsung profile 2010 report. Samsung.com). Employing approximately 164,600 people in 179 offices across 61 countries, Samsung Electronics has a vision to become a top five global brand ("Samsung Apps" to be Rolled… Samsung 2010; Samsung's History. Samsung).

During the last decade, Samsung was constantly innovating and responding to market demands with technologically advanced products. Thirteen of the company's product lines were global leaders in market share, including CDMA mobile phones. In 2002, Samsung launched the color mobile phone and by 2004 it has sold more than twenty million mobile phones in the US, market that, by 2008, was already dominated by the company. Moreover, it was also in 2008 that Samsung launched the famous OMNIA phone and named Yoon-Woo Lee as vice chairman and CEO of Samsung Electronics. In the year that follows – 2009, Samsung announced that the company would be developing its future smartphones based on its own software open platform called Bada which turned into reality in 2010 when WAVE, the first Bada smartphone was released to the market. Between 2009 and 2010, Samsung launched various new models such as the STAR phone, the 'Giorgio Armani' smartphone, Corby full touch phone and the OMNIA II, to name a few. It was also in 2010 that Samsung launched the OMNIA 7, a smartphone based on Microsoft's Windows 7 platform. (Samsung's History. Samsung).

Samsung's flagship smartphone, the Google-Android based Galaxy S, was launched in June 2010 and ever since its product line has been very successful in praising consumers and, consequentially, in boosting sales. The phone, which is considered a blockbuster globally, has sold more than five million units in a three to four months timeframe (Why Was The Samsung… Daily 2News, 2010; Samsung: 1 million Galaxy… CNN Money 2010), bringing Samsung to a wave of success. It was the Galaxy S the main contributor to Samsung's success during 3Q2011 which led the company to the number one position of the smartphones' rank list. The Galaxy S II was released to the market in August 2011 and was expected to sell very well and thus significantly contribute to the company's 4Q2011 performance results.

Figure 11: Samsung Galaxy S II

Samsung Electronics' sales and operating profit achieved record results in 3Q 2011, thanks to its mobile division, more specifically to the Galaxy S smartphone line. The company's smartphone shipments were 44% higher if compared to the previous quarter which resulted in Samsung surpassing Apple and being crowned the leader of smartphone market in terms of units sold. At present, the company is enjoying 23.8% share of the smartphone market, followed by Apple and Nokia with 14.6% and 14.4%, respectively (Samsung overtakes Apple… BBC Mobile 2011). Although Apple has already responded with the launch of the iPhone 4S and Nokia is fighting back for the leadership position with the latest releases of Nokia Windows smartphones, Samsung is also enhancing its Galaxy product line and may continue to lead or to second-lead the smartphone market during the 4Q 2011, along with Apple. (UPDATE 4-Samsung… Reuters 2011).

6.1.3   Nokia

Nokia, the Finnish company that was founded in 1865, is the oldest company among the top three smartphones' makers, with almost 150 years of history. Nokia's head office is located in Espoo, Finland and the company currently employs around 132 thousand people worldwide (Financials. Nokia 2011). Nokia has many R&D centers and nine manufacturing facilities across the globe, from Americas to Europe and Asia. The company's main strategic goal is to build great mobile products to support its mission of 'Connecting People' (About us. Nokia 2011), which is very much supported by the current logo, implemented in 1992.

Figure 12: Nokia's logo evolution

Like Samsung, Nokia was also founded as a non-technology enterprise, with focus on the forestry-related business area. Fredrik Idestam, a young engineer graduated in 1863 from Helsinki University, was granted an authorization to build his own wood pulp mill in a small town in Finland, called Nokia, and, together with Leo Mechelin, who later became a Finland's parliamentary politician, founded Nokia Ab in May 1865. (Steinbock 2001; 2010).

By the 1920's, a joint foundation of three companies – Nokia Ab, the Finnish Rubber Works (founded in 1898) and the Finnish Cable Works (founded in 1912) – started to be formed. Having been jointly owned since 1922, the three companies were officially merged in 1967 to create Nokia Corporation which besides operating in forestry, rubber, and cable, was also entering in the electronics business. The industrial conglomerate was named Oy Nokia Ab. (Steinbock 2010; The Nokia story. Nokia 2011).

After the devastation caused by the World War II (1939-1945), Oy Nokia Ab had to adapt its business to a probable different future. Mainly between 1945 and 1980, the company turned its focus to innovation and growth and, therefore, consolidated many state-controlled and private critical businesses such as electronics, radio phones and TV. In 1963, the company started to develop radio telephones for the army and emergency

services (The Nokia story. Nokia 2011). It was in 1979 that Oy Nokia Ab and Salora Oy, the leading Finnish radio and TV set producer which was also manufacturing radio phones, created a joint venture that was called Mobira Oy (Steinbock 2001; 2010; The Nokia story. Nokia 2011). That was the beginning of Nokia's mobile communications business.

The 1980's decade was a period of renewal and internationalization of Nokia's vision. The CEO at that time, Kari H. Kairamo, who took charge of Nokia in 1977, had a main goal of transforming Nokia from a diversified industrial conglomerate focused on making pulp, paper, rubber and chemicals into an international technology leader, focused on TV sets and mobile phones. It was also during the 1980's that various mergers & acquisitions took place which culminated in Nokia being the largest company in Finland by the end of the decade, time also, more specifically in 1987, when GSM (Global System for Mobile Communications) was adopted as the standard technology system for mobile communications in Europe. By that time, CEO Kairamo initiated an organizational restructure aiming more flexibility and cooperation, in order to prepare the company for international markets. Howsoever, unexpectedly on December 11th, 1988, Kairamo committed suicide and Simo Vuorilehto took over him. However the new CEO lacked experience in electronics and did not share Kairamo's wish to transform Nokia in an international technology company, Nokia recovered fast during his leadership (1988-1992) through restructuring and streamlining businesses. (Steinbock 2010).

The following decade – 1990's, was marked by many changes. In January 1992, Jorma Ollila was appointed CEO at his forty-one years of age. Jorma Ollila had joined Nokia in 1985 as a vice president of international operations and had become the company's CFO and a member of the GEB (Group Executive Board) soon right after. In 1990, Ollila was heading the small but strategic mobile phone division in a small city in Southern Finland, Salo, when he first experienced operations in the mobile industry. As he took charge of Nokia as the company's CEO, he established two priorities: to restructure operations and to promote trust inside the company. Ollila believed that if Nokia focused on the mobile communications, handsets, and infrastructure, as well as opted for the digital GSM technology standard, getting rid of the rest, the company could succeed. (Steinbock 2010).

Nokia's new strategy started to be thought of in August 1992, with the ultimate goal to start building the foundation for improved stock performance in order to please both Finnish and international shareholders (Steinbock 2010). Already on November 10th, 1992, Nokia launched the first mass-produced and commercially available GSM mobile phone, the Nokia 1011 (referring to the date of its launch), which would be produced during two years and finally replaced, in 1994, by the Nokia 2110, which was the first Nokia mobile phone to incorporate the famous 'Nokia tune' ringtone (The Nokia story. Nokia 2011; 15 years ago… Hardware 2007).

During spring 1993, Jorma Ollila proposed to the GEB that the company should sell everything but Nokia Mobile Phones (NMP) and Nokia Telecommunications, since Nokia's new strategy consisted in concentrating in the company's core businesses. (Steinbock 2010). Already in 1998, Nokia was the world's leader in mobile communications, fact that is also reinforced by the stunning increase in the company's turnover which went from EUR 6.5 billion to EUR 31 billion during 1996 to 2001 timeframe. (The Nokia story. Nokia 2011).

During the following few years, from 1999 to 2002, and encouraged by the technology advances in terms of mobile communications which enabled the internet to go mobile, Nokia launched many different and enhanced mobile phones, many with basic web-based functions, including e-mail, and built-in photo and video cameras. However, it was in 2002 that the mobile phone market was heated up, more specifically when Nokia launched its first 3G phone, the Nokia 6650, due to the fact that the third generation technology enables mobile phones users to utilize the device for many other things besides making phone calls, as for example to browse the web, download music and watch movies on the go. (The Nokia story. Nokia 2011).

The years from 2005 to 2007 were marks for Nokia. During 2005 Nokia sold its billionth phone; in 2006, CEO Jorma Ollila retired and Olli-Pekka Kallasvuo, then CFO, became Nokia's CEO; and in 2007, Nokia brand was recognized as the world's 5th most valued brand. (The Nokia story. Nokia 2011; Steinbock 2010).

Despite those achievements, Olli-Pekka Kallasvuo's era was a difficult one for Nokia. Competition in the mobile phones market, including the smartphone segment, has been getting tougher and tougher. Apple's and Google's ecosystems, with their smartphones – iPhone and Android-based devices – have been substantially growing in the marketplace and thus they became serious competitors. Nokia has been losing market share in the smartphone business since 2007 and the fact that the company needs to adapt, rethink its strategy, and transform its business, all over again, is very clear. Hence, a new president and CEO was appointed; former head of Microsoft's business division, with a strong background in software as well as in change management, the Canadian Stephen Elop took over Nokia in September 2010 (The Nokia story. Nokia 2011).

Already in February 2011, new CEO Stephen Elop announces Nokia's new strategy and, as part of that, a formation of a third ecosystem, through an alliance with Microsoft, to rival iOS and Android and ultimately strengthen Nokia's position in the smartphone market (The Nokia story. Nokia 2011). Yet, 2011 was also a dramatic year for Nokia. Besides the transformation the company is currently undergoing, it was in 2011 that Nokia lost its leadership in the smartphone business and fell to the third position in the rank as far as units sold. Nokia reported net sales of EUR 28,654 million relating to January-September 2011. More specifically, during 3Q2011, Nokia shipped

16.8 million smartphones into the market which was 38% less than the amount shipped during the same period in 2010 and accounted for a bit more than EUR 2.2 million of the quarter EUR 8,890 million net sales. Nokia reported operating loss in both second and third quarters of 2011 in the amount of EUR 487 million and EUR 71 million, respectively (Interim report. Nokia 2011; Nokia releases 3Q2011… Tekedia 2011). In a recent valuation, in June 2011, Nokia's market capitalization was calculated as being approximately $24 billion whereas the share price has been decreasing since the beginning of the year and was around $6.6 in November 2011 (Nokia. Business Insider).

Nevertheless, Nokia believes that the recent announced partnership with Microsoft will help the company to regain the lost ground in the smartphone market, by delivering innovative and differentiated products to consumers. (About us. Nokia 2011). Already on 26th of October 2011, during Nokia World 2011, an annual event for customers, partners and developers promoted by Nokia (Nokia showcases bold… Nokia 2011), and only eight months after the partnership was announced, Nokia launched its first Windows-based smartphones, the Lumia range – Lumia 800 and Lumia 710.

Figure 13: Nokia Lumia 800 and Lumia 710

6.2   Nokia's strategies and organizational structures

As mentioned already in the previous chapter, Nokia launched its first mass-produced and commercially available GSM mobile phone in November 1992. During the years that followed and for the sake of implementing the then new strategy, the company sold all the businesses except Nokia Mobile Phones and Nokia Telecommunications (Steinbock 2010, 30-31). As a result of putting enormous focus on the core business, already by the end of the decade, in 1998, Nokia was considered the world's leader in mobile communications (The Nokia story. Nokia 2011). During the following few years, Nokia launched a vast number of mobile phones, many with basic web-based functions, including e-mail, and built-in photo and video cameras. In 2002, Nokia successfully launched its first 3G phone, bringing many benefits to its customers as for example enabling them to navigate on the web and download music on the go, besides the basic

function of making phone calls. (The Nokia story. Nokia 2011). Both low-end, which are simply called mobile phones in this research, and high-end mobile phones – the so called smartphones – have been massively produced and commercialized by Nokia during 2000's decade. Nokia's portfolio of products was indeed very wide.

Being based in such a small country, as it is Finland, Nokia could not rely on the domestic market, which actually only represents approximately one percent of the company's net sales. Instead, Nokia needed to conquer other markets which resulted in the company being spread worldwide. (Steinbock 2010, 40-41). Being the largest mobile phones' maker in the world, reigning at the top of the smartphones rank for approximately 14 years, Nokia deserves recognition. The way the company structured itself as well as developed and implemented its strategies to drive the company's transformation from a mobile products company to a services and solutions company deserves attention. Let's go through those more in detail, especially regarding what concerns the smartphone business and the company's strategy.

When smartphones in fact heated up the mobile telecommunications market and the competition in this segment started getting fierce, in mid-2000's, Nokia's brand was synonym of product innovation, flexibility and fast responsiveness. By that time, Nokia had a clear growth strategy which translated in moving from a mobile phone to a mobile internet company, which in turn, revitalized the company's mission (Steinbock 2001). In regards to that, the convergence of technology which translated into the concept of bringing together the media, i.e. data and voice, and the new digital world of internet and mobility was rapidly adopted by Nokia as its strategic intent. Nokia started to implement customer commitment processes by moving its focus to consumer markets besides those markets where the company has been very successful in establishing healthy relationships with mobile operators (Steinbock 2001).

Nokia is known for restructuring its corporate organization very often. Such reorganizations are intended to support the company's strategy, taking into account changing goals and visions, as well as to adapt to the dynamic business models, aiming farther success and growth.

Nokia announced in September 2003, that the company would change its organizational structure, mainly aiming to strengthen its focus on convergence and growth. The then-new organization was taken into effect on January 1st, 2004. Such change was a dramatic one in the company's organizational model by moving from an independent way of working, where the company's structure was formed by nine business units, toward a more integrated organization, which in practice meant that the company adopted a matrix type of organization with vertical and horizontal units, emphasizing interdependence (Steinbock 2010, 102; Nokia takes the next step… Nokia 2003).

Nokia's matrix organizational structure from 2004 until 2008 had enabled the company's growth during that period, especially in the emerging markets. Nokia was divid-

ed into four relatively small units – Mobile Phones, Multimedia, Enterprise Solutions and Networks, which, supported by the horizontal functions – Customer and Market Operations (CMO) and Technology Platforms, provided flexibility to respond fast to different market demands. (Tejas).
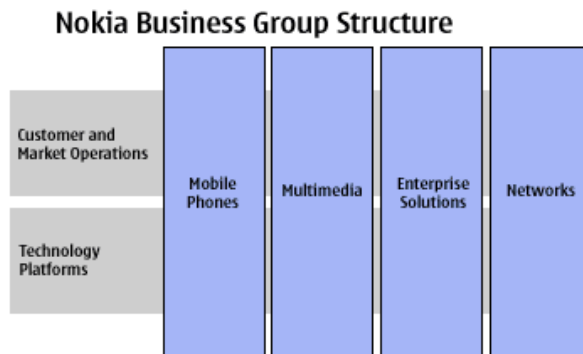
Nokia Business Group Structure

Figure 14: Nokia's organizational structure from 2004 to 2008

However, the rapidly growing and dynamic market place, especially in respect to the convergence of technologies, which was easing the development of the mobile phones as a platform, thus making them increasingly similar over the features offered to customers, brought the necessity to, again, restructure the company's organization. Therefore, in 2008, to adapt to the new market dynamics, Nokia completely changed its structured as to have three main functional business units, being Markets, Devices and Services & Software, plus the Corporate Development Office and the Corporate Functions unit, as can be seen in figure 15. Nokia Siemens Networks and Navteq, both, were included in Nokia's organizational structure by that time. (Tejas). The set-up established by then-CEO Olli-Pekka Kalasvuo, encouraged teamwork and collaboration for solving shared issues, which in turn increased commitment to achieve common goals.

Figure 15: Nokia's organizational structure from 2008 to September 2009

A chapter a part of all the restructuring, Nokia announced in September 2008, a renewal in its business strategy related to the mobility solutions offering. Partnering with leading technology companies such as Microsoft, IBM and Cisco, Nokia would focus on bringing best-in-class devices to the marketplace by combining its devices and applications with software solutions from those leading companies (Nokia renews its… Nokia 2008). Moreover, in April 2009, the company announced plans to focus its Services strategy in order to increase opportunities for third-party developers to integrate Nokia ecosystem and, hence, ultimately create a better user experience to its customers (Nokia focuses Services… Nokia 2009). As a result of this latter announcement, one month later, in May 2009, Nokia opened the Ovi online store globally, a one-stop-shop for both free and paid content such as media, games, and applications, where customers could serve themselves and applications' developers could distribute their content (Ovi store opens for business. Nokia 2009).

Also in 2009, precisely on August 27th, 2009, Nokia announced the creation of one more core unit as of October 1st, 2009 – the Solutions unit, with the intention to better support the strategy of becoming a leading mobile solutions company. Nokia was reorganized as to have four main business units. (Steinbock 2010, 102-105; Nokia fine-tunes… Nokia 2009), as illustrated in figure 16.

> *We are now fine-tuning our operations to accelerate the pace of our company's change and to increase the speed, flexibility and innovation with which we meet consumer needs. The new unit will better enable us to deliver not only first-class devices and compelling consumer services, but also complete solutions that integrate the two seamlessly.* (Nokia CEO, 2009)

Figure 16: Nokia's organizational structure from October 2009 to June 2010

Executive heads of those business units, who also integrated the Group Executive Board (GEB) were expected to work together with Nokia's CEO on executing the strategy. Moreover, Nokia executive team was referred to as a living organism due to the

fact that corporate decisions were made based on a consensus and approvals were only given if the majority of the GEB members were in agreement. Those decisions and approvals needed to be in line with the company strategy and culture. Nokia executives were expected to collaborate with each other for the achievement of the strategic goals. (Steinbock 2010, 102-105).

It was also in 2009 that the Devices unit was differentiated into three categories: mobile phones, smartphones and mobile computers (Steinbock 2010, 103). In parallel to that, by end of 2009, Nokia continued to significantly streamline its R&D operations globally to adapt to the company's new focused portfolio of products (Nokia reduces R&D… Nokia 2009).

Later on, in May 2010, Nokia announced it was simplifying the organization and a restructure again took place. Main objective of this new reorganization was to accelerate product innovation and software execution, as well as to increase competitiveness and deliver a more differentiated consumer experience. Nokia's new structure, which was turned effective on July 1st, 2010, was constituted by three different units, being Mobile Phones, Mobile Solutions and Markets. Each of those three units would focus in different areas of the strategy and of the business. The smartphones, which are the focus of this study, at the time being developed under Symbian software platform, were part of the Mobile Solutions unit (Nokia modifies its… Techknots 2010; Nokia simplifies its… Nokia 2010).

> *In addition to extending our leadership in mobile phones, we are decisively moving to respond faster to growth opportunities we expect in smartphones and mobile computers… Nokia's new organizational structure is designed to speed up execution and accelerate innovation, both short-term and longer-term. We believe that this will allow us to build stronger mobile solutions - a portfolio of products and integrated services that connect people and enable new ways of communicating, sharing and experiencing mobility.* (Nokia CEO, 2010)
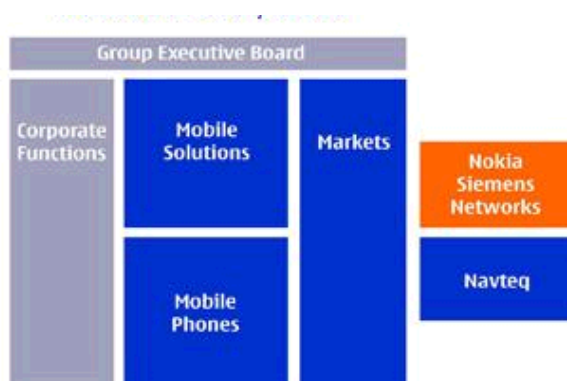

Figure 17: Nokia's organizational structure from July 2010 to March 2011

September 20th, 2010 marked the end of a chapter in Nokia's history; Olli-Pekka Kalasvuo left the CEO role as well as his position on Nokia's Board of Directors. One day later, on September 21st, 2010, a new episode started; the Canadian Stephen Elop, ex-Microsoft executive, was appointed by Nokia's Board of Directors, the first non-Finnish President and CEO of Nokia (Nokia appoints Stephen… Nokia 2010).

> *The time is right to accelerate the company's renewal; to bring in new executive leadership with different skills and strengths in order to drive company success. The Nokia Board believes that Stephen has the right industry experience and leadership skills to realize the full potential of Nokia. His strong software background and proven record in change management will be valuable assets as we press harder to complete the transformation of the company. We believe that Stephen will be able to drive both innovation and efficient execution of the company strategy in order to deliver increased value to our shareholders.* (Chairman of the Nokia Board of Directors, 2010)

In February 11th, 2011, Nokia announced a new strategy in order to accelerate the speed of execution in the dynamic competitive environment it is inserted in. The new strategy includes, among other elements, a change in the organizational structure with focus on speed, results and accountability as of April 1st, 2011 (Nokia outlines new… Nokia 2011). At present, Nokia is organized in 4 main vertical streams, being Mobile Phones, Smart Devices, Location & Commerce and Markets. Each of these streams is accountable for specific areas of the business. Mobile Phones organization is focused on bringing an affordable and modern mobile internet experience to people around the globe, mainly through a strong penetration in growth markets. Smart Devices, as the name suggests, is responsible to create the smartphones, focus of this research. Location & Commerce organization is focused on the development of services to consumers, as for example social location related services (e.g. Nokia Maps). Markets team is accountable for many things, among them marketing and sales of Nokia products, sourcing, customer care and manufacturing, to name a few. (Our structure. Nokia 2011).

The other streams, the horizontal ones that can be seen in Nokia's structure illustrated in figure 18, are as much important as the vertical organizations and their main focus is to provide support to and across the latter ones.
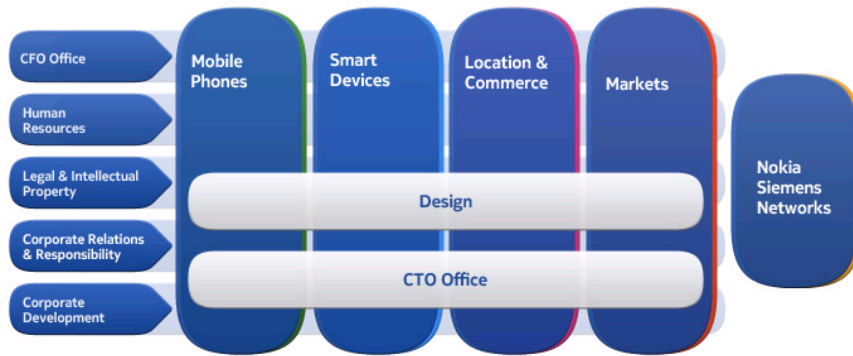
Figure 18: Nokia's actual structure since April 1st, 2011

Last, but not least, Nokia Siemens Networks, which is one of the leading providers of infrastructure for mobile telecommunications globally (Our structure. Nokia 2011), was maintained in the Nokia Group as a separated reporting entity (Nokia outlines new… Nokia 2011).

In general, truly global strategies tend to have a matrix structure as a supporting basis (Steinbock 2010) and in Nokia's case that is no different. The multidimensional matrix organization, which is held together by its people, values and culture, was recently put in place to support Nokia's new strategy announced in February 2011. Mobile Phones and Smart Devices, opposed to the past set-up, are now two independent and distinctive business units, each one responsible for its profit-and-loss as well as end-to-end accountability for the consumer experience, from product development, its management and marketing.

Nokia's new and current strategy is translated into building a sustainable leadership as a world mobile products company, which includes three main focus areas, as follow: 1. to regain the leader position in the smartphone market which will be done by building a new mobile ecosystem in partnership with Microsoft; 2. to maintain the leadership in the mobile phones market, in both volume and value dimensions, by bringing the next billion people from developing growth markets online; and 3. to sustain the future as the leading mobile products company by investing in next generation of disruptive technologies. All that will be also enabled through increased focus on speed, accountability and results. (About us. Nokia 2011).

The focus of this research, as mentioned previously already, is concerning the leadership in the smartphone market, which is one of Nokia's current strategic focus areas.

6.3   Nokia's positioning in the smartphone market

Sustainable leadership is indeed very challenging to achieve, especially in a fast moving industry such as the mobile smartphone industry, where constantly new technologies cause disruptive innovations. Similarly, company's sustained competitive advantages are extremely difficult to nurture once the disruptions impact them considerably. (Steinbock 2001). A firm enjoying sustained competitive advantage might see its advantages being nullified by the changes in the competition dynamics (Barney 1991). And that was exactly what happened to Nokia.

Nokia was able to maintain the leadership in the smartphone market globally for fourteen years until Apple and Samsung took it over during the last three quarters of 2011, by introducing amazingly innovative products that disrupted the industry and changed it completely. It's known that Nokia's performance in the smartphone market, mainly in terms of volume share, has been decreasing since 2007, when the company had almost half of the market share globally. At present, Nokia owns 15.8% share of the smartphone global market which ranks the company on the third place after Samsung (19.9%) and Apple (19%).
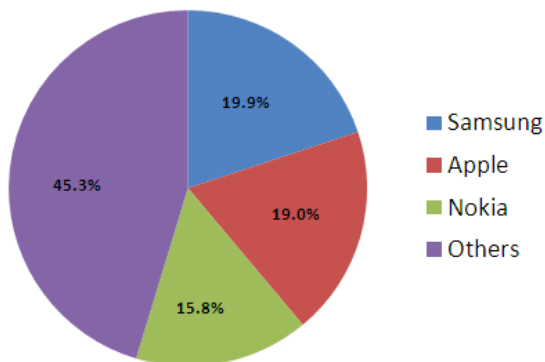

Figure 19: Global smartphone market share 2011

A big contributor to Nokia's current low smartphone market share globally which is relevant to highlight is the company's extremely low penetration in the United States of America. In the 3Q2011, Nokia had only 1.2% share of the US smartphone market (Crucial Test for Nokia… The New York Times 2011), which is currently seen by Nokia as a huge growth opportunity and therefore is being largely considered as part of the new strategy, where Nokia aims to break into the profitable US market.

As a first-mover, Nokia has benefited from the inherent advantages of pioneering the smartphones into the marketplace for many years. Nokia's strategies along the years as well as all the internal restructuring the company has constantly made in its organization have contributed to leverage the company's competitive advantages in the past. How-

ever, during the recent years, it seems that Nokia has clung to its time-tested effective strategies which led the company to fail in taking timely and effective competitive decisions. Having an 'active inertia' type of approach, Nokia has failed to constantly innovate, allowing room to its followers, who might have learned from Nokia's experiences, to introduce their innovations into the market. Nokia seems to not have given the proper attention to what Peter Drucker once wisely stated – *The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday's logic*, which if brought to Nokia's case, means that the strategies that made Nokia successful in the past are not necessarily the same strategies that will drive the company to succeed in the future.

Nokia was unable to stand up to the competition from the second-movers which tremendously impacted the smartphone business dynamic. Consequentially, the smartphone industry has new leaders and new challengers and being Nokia a challenger, the company should adapt its strategy and reinvent itself in taking the first step towards regaining the leadership.

In general, Nokia has been well executing its new strategy announced in February 2011 by Nokia's CEO Stephen Elop. What concerns the smartphone pillar of the strategy also seems to have been evolving nicely. Differently of how long Nokia used to take to develop and launch a new product, the company was able to speed up the pace to launch its first line of smartphones based on Windows software after just eight months from the announced Nokia-Microsoft alliance. The Lumia family of smartphones, as they're called, launched in October 2011, is a result from the partnership formed with Microsoft, and ultimately a result of the third ecosystem fighting to win the war in the smartphone market.

> *Nokia really needed this to happen today, and this is a new start for the company... This helps stop the bleeding and will help Nokia get back in the game.* (Analyst at Canalys research firm, 2011)

The first step was taken and seems it was a good move according to some market analysts (With New Smartphones... The New York Times 2011) however, some other analysts may disagree by saying that it was too little and too late for Nokia (Nokia unveils Windows... USA Today 2011). What is certain and seems to be common agreement is that much more are needed to bring Nokia to the top of the rank of smartphones business again.

Although some market analysts said that, despite being reasonably good, Lumia products are not going to kill Apple's iPhone or Samsung's Galaxy (Nokia unveils Windows... USA Today 2011), Nokia aims to beat Apple and Google ecosystems and respectively, the most recent smartphones from those companies, being the iPhone 4S and Samsung's Galaxy SII which runs Android OS, with the Lumia portfolio of handsets, which, in turn, are being developed to run a more user-friendly software interface and hence to be easier to use if compared with the two rivals.

Lumia devices are already being sold in many European countries as well as in a few countries in Asia and are expected to reach the American markets early in 2012. It is Nokia's intention to push the Lumia smartphones into US market through the four major operators that, together, detain over 90% of the mobile market in the country. Opposed to what was perceived in the past about Nokia not wanting to customize to the North American market in regards to the operators' demands, CEO Elop recently stated that Nokia will now be flexible to meet their demands. (With New Smartphones… The New York Times 2011).

Adding up to the penetration strategy into US smartphone market, Nokia has already been working on the development of a partnership model together with some major US operators, aiming to conquer the first-time smartphone buyers and not necessarily attempting to take over the already smartphone users currently buying Apple and Android-based devices. (Nokia to target first-time… FierceWireless 2011). Since Nokia does stand out on its Lumia handsets' prices (Nokia unveils Windows… USA Today 2011), a competitive cost might be an additional attractive to those first-time consumers who does not want to spend much in their first smartphone.

7 ANALYSIS AND DISCUSSION

On the one hand, according to Wernerfelt's (1984) resource-based view theory and Barney (1991), who have developed the framework further, companies need to leverage their internal unique competitive advantages in order to compete in the market place. On the other hand, Porter's idea of competitive advantage is associated with the market-based view paradigm, where companies compete by differentiation, low cost or focus. Both put too little emphasis on the future. These two traditional frameworks are not anymore enough to drive a company to be successful in the marketplace.

The increasing competition across global markets requires that companies innovate when developing their strategies, not only considering the cost, quality and differentiation dimensions, but also considering building strong and unique dynamic capabilities in order to succeed in the marketplace (Steinbock 2010).

It is too simplistic to define a firm as per one view of the firm only. Whether it is the resource-based view or the activity-based view of the firm, a narrower analysis is not enough to identify the firm's level of competitiveness within a certain industry. It is also very short-sighted to solely analyze the external environment in order to assess a firm's competitiveness, even if the five competitive forces are taken into account.

In order to answer the first sub-question of this research which is "What are the strategic factors that influence companies' competitiveness in the marketplace?", many considerations and perspectives need to be taken into account. A firm's competitive advantages, temporary or sustained, can have innumerous sources. Firm's internal factors are mainly identified as being resources – physical, human or organizational assets, dynamic capabilities, competitive strategy design and its implementation, firm's history, ability to innovate, and brand name. In turn, the external factors are mainly the industry structure, the relative positioning of the firm in the marketplace, the five forces – rivalry among the existing competitors, the threat of new entrants and substitutes, and the bargaining power of buyers and suppliers – identified opportunities, the dynamism of the changes, the strategy employed by the competitors, and the *status quo* in regards to the innovation paradigm. In summary, innumerous and diverse factors, some internal and others external to the company's boundaries, have influence on company's competitiveness.

Moving forward to the second sub-question which is "How do these competitive factors relate to each other?", a reference to the chapters 4.1 Competitive advantages and dynamic capabilities, 4.2 Strategy design and implementation, and 4.3 Innovation, has to be made. As discussed previously, human, physical and financial resources, being them critical or not, as well as the organizational capabilities of firms, are very important as sources for competitive advantages. From another side, competitive advantages, being temporary or sustained, are directly linked to the positioning of the firm

in relation to its rivals as well as to the firm's competitive strategy. Yet, external environment is also relevant to determine whether a firm's performance is above-average, which would give the firm some competitive advantages, or not. The industry structure and its boundaries, as well as how well competitors are performing in the marketplace, are also impacting the way firms choose to compete, e.g. the way they design and implement their strategies, based on closed or open innovation. In summary, it is not possible to segregate one factor from the other when talking about competitiveness, firm's competitive advantages and growth strategies. All factors are inter-related with each other and a company must be fast, flexible, innovative and adaptable in order to orchestrate all those factors way better than the competition.

Similarly, superior performance can only be achieved through a combination of factors, e.g. unique resources and capabilities, right mix of activities, and a competitive strategy; however, in today's hypercompetitive dynamic global market, there should be a combination of building on existing advantages whereas developing new ones for the future. To pursue a vision, a company must have the ability to well execute its strategy, timely and fast. Adding to that, those strategies need to be dynamic ones, focusing not only in shaping markets but also in creating markets, both through continuous innovation. At present, it is very important to consider the shift of the innovation paradigm from closed to open innovation when formulating strategy.

What happens to Nokia during late 2000's decade as far as the organizational changes in the attempt to adjust to the new competitive environment with new strategies was quite ineffective once company's strategic position was blurred by the pressure to continue growing in an apparent saturated market. Although the new organizational structure put in place in 2008-2010 seemed to be the right one for the then pursued strategy, Nokia's strategy itself was not crystal clear and its execution lack appropriateness. Nokia succeeded in restructuring the organization but failed in creating the markets of the future, and that made the company go through a period of steady declining profits.

By then, Nokia still had a sizable smartphone market share, strong reputation and talented human resources and thus it was mainly exploring innovations on the basis of the closed innovation paradigm which meant that the company was most of the time, generating its own ideas, developing and testing them, building the new products, commercializing and distributing them. Furthermore, with the profit gained with the new products' sales, Nokia was reinvesting in its internal R&D, which led to many other discoveries and innovations. Such virtuous circle seemed to work however it was not enough. Once the virtuous circle was broken by, for example, the need for a faster time to market, the open innovation paradigm emerged rapidly as an effective business model utilizing both internal and external ideas to generate value. The closed innovation model was no longer sustainable, and Nokia started slowly to adapt to the new way of innovating its products and services.

Although Nokia has been making huge efforts to change the company's mindset as to transform itself into a sustainable leading mobile products company, the speed with what the transformation has been happening is not fast enough. The once aligned activities supporting the leader position Nokia occupied for many years are now disconnected due to the fact that Nokia has compromised its way through a series of incremental changes since late 2000's. Clearly, Nokia did not fully understand the relationship among its resources, capabilities and competitive advantages and thus Nokia's competitive strategies were significantly affected by the market changes and dynamism. Nokia's challenge now is to start over, from a challenger position. Nokia needs to reconnect with its competitive strategy by refocusing on its unique core business and realigning the company's activities with it by deploying its unique resources and capabilities. Nokia needs to get out from the 'active inertia' and start innovating again. The dramatic changes in technology, markets and competition that have been occurring in the smartphone industry claim for constant innovation. Breakthrough strategies supporting radical innovations are needed, now!

Although a good variety of analytical tools and frameworks is available nowadays for firms to use in their evaluations of the competitive external environment as well as the internal environment which help them to design the appropriate strategy to compete and succeed in the marketplace, these tools and frameworks offer no help for firms in tackling discontinuous innovation in their strategic agendas.

That leads to the third sub-question of this research: "Are these factors and their inter-relation important in determining a company's leadership in the smartphone industry? Why?". The answer here is no. Although a well-orchestrated combination of the competitive factors is very important in helping a firm to perform above-average, also taking the external factors into consideration, in the fast changing smartphone industry of today, a firm willing to be the leader has to be the one dictating new rules, conquering an untapped market, and establishing the new industry boundaries.

Therefore, Nokia needs to follow a kind of "Blue Ocean" strategy through which the company is able to reconstruct the smartphone industry structure and its market boundaries by implementing strategic actions and creating new rules, taking both incremental and discontinuous innovations into account. Nokia must begin by turning its strategic focus away from the competitors to possible opportunities and from existing customers to potential new customers. By doing so, Nokia will be able to gain insights on how to reconstruct the elements that are valued by potential customers across the smartphone industry boundaries.

For that purpose, the following developed framework, which consolidates relevant aspects of other existing frameworks, and is also an output of this research, could be used to assist Nokia in analyzing its current position as a challenger in the mobile smartphone market as well as to better understand how to identify the important factors

that should be taken into account when formulating a winning strategy, especially in those so called high-velocity markets. Although this below framework, showed in figure 20, is a kind of general checklist for firms to comply with, adaptable to all three pillars of the strategy, if existent, it can be isolated used to analyze one single pillar as for example, in Nokia case, the strategic intent to regain the leadership in the smartphone market.
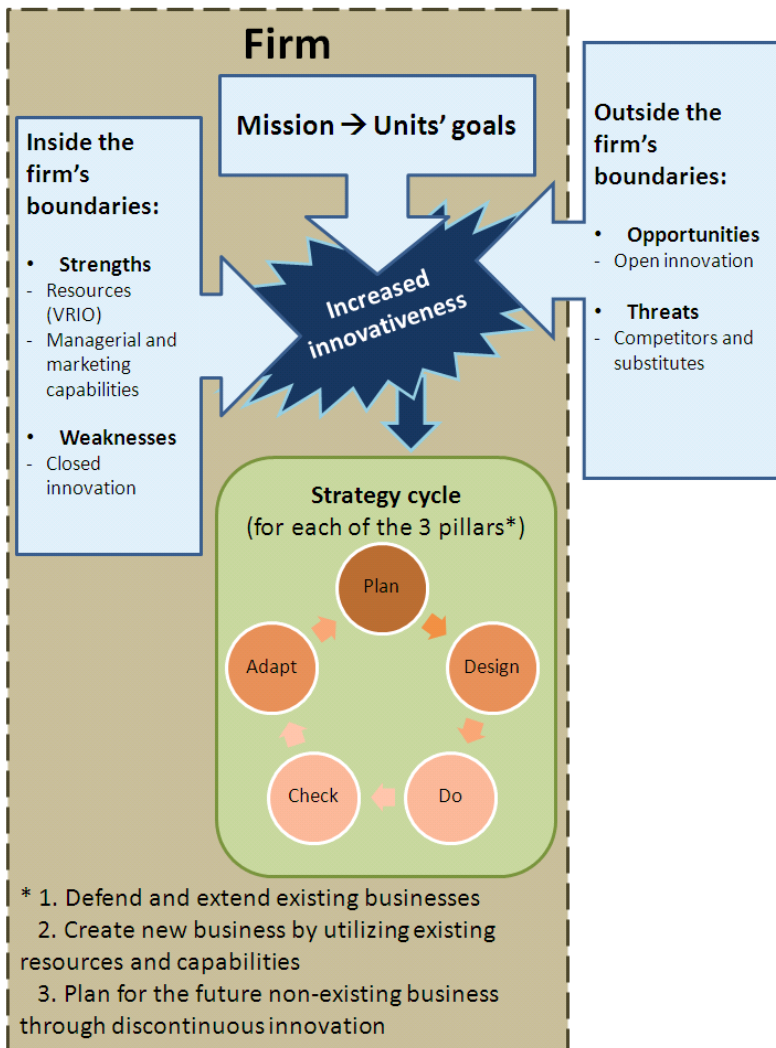

Figure 20: Framework for analyzing firm's competitive positioning and strategies

When applied to Nokia's strategic intent of recovering the leadership in the mobile smartphone market, both internal and external factors should be taken into account, which, in turn, can be identified through the utilization of well-known theoretical models such as SWOT analysis, resource-based framework and Porter's five forces. Internally, it is important to identify the valuable, rare, imperfect imitable and non-substitutable resources as well as whether the firm has strong managerial and marketing-related capabilities for innovativeness maximization on the strategy formulation

process. Similarly, and outside the firm's boundaries, it is also relevant to identify where the threats are coming from, whether from existing competition and substitutes or not. If from these ones, it can also foster an increased innovativeness when developing a new competitive strategy. Also externally, business partners collaborating in the process of innovating products and/or services are also considered an important source for strategy innovation. In addition to that, a simple cycle process – PDDCA – of planning and designing the strategy according to the firm's mission and units' goals, followed by its implementation and execution (the Do step), and afterwards by a check and an adjustment steps must be continuously done. Innovation models – closed versus open innovation, should be considered as well when developing the strategy. Adopting the open innovation concept is clearly the way to move forward in the smartphone industry not only because it nurtures discontinuous innovations, which is essential for the creation of new markets, but also because smartphones' services and applications are being mainly developed by third parties as part of the ecosystem.

8   CONCLUSIONS

Seeking the answer to the question *why do some firms succeed while others fail?* or simply trying to understand what accounts for the sustained success of some firms has initiated an extensive research which started over fifth years ago. A conclusion that emerged from such studies is that a firm's success (or failure) is inevitably associated and actually results from the interplay of innumerous factors, being some under the control of firm's managers and some not. Another conclusion was that it is fundamental that a firm understands the dynamics that influence and impact their long-term success so that it continues to succeed. (Tushman – O'Reilly III 1997).

Developing strategies in hypercompetitive dynamic industry, such as the smartphone industry, where technological innovations and changes are constantly emerging is an astounding proposition due to high level of uncertainty. The needs of customers, the configuration a product/or service should be in order to please the customers, as well as the best mix of activities that should be performed to deliver them become the unknown. That uncertainty usually triggers the reestablishment of the industry boundaries which can make some companies very profitable due to an exponential growth through the exploitation of a unique competitive advantage. However, an imitation period is inevitable and consequentially profit is temporary since strategic convergence ultimately destroys the industry profitability. (Porter 1996).

The drive for growth leads companies into many product areas (Porter 1996) and, in Nokia case that is reflected in the three different pillars of the strategy. While one pillar of the strategy is about maintaining the leadership in the mobile phones, i.e. the lower-cost devices, another pillar is about re-gaining the leadership in the smartphones market, and lastly, but not least, the third side is about sustaining competitive position for the future. In order to succeed, each of those pillars requires different resources, different capabilities, and different activities.

Along the years, mainly starting in 2008, Nokia has been doing numerous organizational moves in order to cope with the various changes in its strategy and resources configuration, capabilities and activities combination. Somehow, the company was "stuck in the middle" with a strategy that seems to have kept the business running for some three years, although it did very little to distinguish the company from its best competitors. Nokia was unable to make the right decision faster enough to avoid losing the leader position in the smartphones business during 2011 for Apple and Samsung. Nokia's trajectory in the smartphone business illustrates the typical patterns of success followed by failure and innovation followed by inertia (Tushman – O'Reilly III 1997).

Opposite to what Clayton Christensen (1997) has recommended to new businesses representing disruptive innovations, which is actually that those businesses have to be spun out, Tushman and O'Reilly III (1997) suggest that a firm should be able to com-

pete simultaneously in more than one environment by managing streams of innovation. For example, to compete on the basis of cost and quality in mature markets, where firms know the technology and processes, requires totally different strategy as well as different capabilities, if compared to what is required to compete on the basis of speed and adaptability with uncertain technology and the fast changes of the emerging markets. (Tushman – O'Reilly III 1997).

With such a broad strategy, Nokia is somehow following Tushman's and O'Reilly III's (1997) idea of managing different innovation streams through the three pillars of the company strategy, which is also aligned to Beinhocker's (1999) idea of a firm having multiple strategies in order to become more adaptive. Also, on the same line of thought, Nokia is definitely taking the three dimensions – adaptive walks, medium jumps and long jumps – to concurrently sustain the existing business and create new business, both with the existing capabilities and by developing new ones.

So, the answer to the main question of this study, "How to regain the leader position in the mobile smartphone market?" is quite complex. Never before has the smartphone industry been changing so quickly and its boundaries been so blurred.

While Nokia is transforming the company and challenging the smartphone competition with great new products, it is also important that the company innovates proactively and builds the organizational capabilities for the long-term strategic renewal, ultimately aiming the smartphone leadership recovery. While still formulating strategies and action plans to reduce uncertainty, Nokia also needs to start viewing such uncertainty as an opportunity for discontinuous innovation.

Restructuring, getting smaller for better supporting the strategy through a more effective use of the internal resources and capabilities is not enough for recovering the leadership. For such, Nokia needs to make drastic changes, which in principle the company has started with the Nokia-Microsoft alliance for the windows phones, and by moving more toward the open innovations. Still, Nokia must also regenerate its core strategies and reinvent the industry by thinking and acting differently to ultimately amaze customers and overtake competitors. As a challenger, Nokia must be different, and design and implement a different strategy. To be the leader, Nokia must also take charge of the smartphones' industry transformation.

Given that the smartphone market is very broad and likely not a winner-takes-all market, there are still plenty of opportunities to be grasped. The global market for devices capable to navigate on the internet is supposed to grow substantially for the next 4 years, especially for smartphones, as illustrated in figure 21.
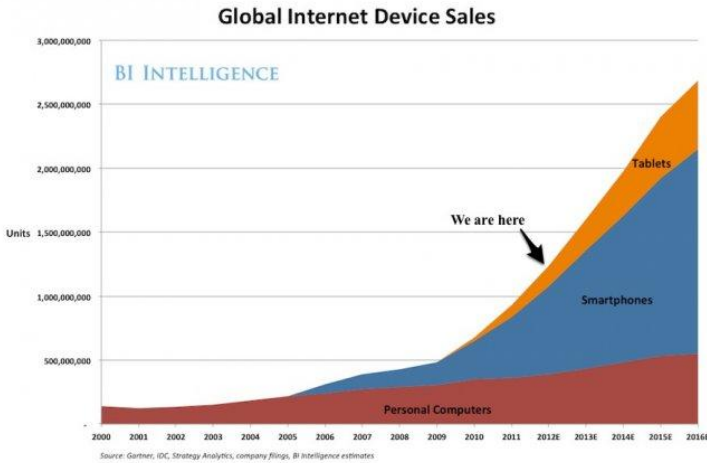
Figure 21: Estimated global market for internet-capable devices.

Moreover, being the US mobile market a huge opportunity for smartphones penetration since smartphones make up to only 40% of the total US mobile market, leaving the remaining 60% to the feature phones (40 Percent of U.S. Mobile… Nielsenwire 2011), as can be seen in figure 22 below, Nokia has a good chance to grow the company's market share in the country and thus globally.
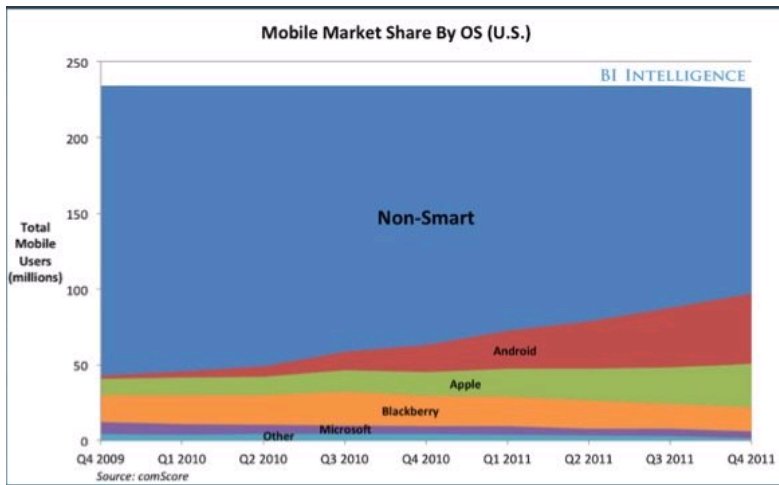

Figure 22: US mobile phone install base per OS

The "Blue Ocean", i.e. the opportunity to get smartphones in the hands of non-smartphones users, in US is still huge. Similarly, an untapped market for smartphones is also a reality on developing markets. Nokia, together with Microsoft, needs to put great efforts in breaking into those markets, especially the US market, with amazingly great products and services so that the company starts its recovery journey to the top of the smartphone makers' rank again.

9   SUMMARY

The purpose of this study was to explore the main strategic factors that influence competitiveness within the dynamic and rapid changing smartphones industry and ultimately to identify what is needed for a company, in a relative challenger position within the same industry, to re-gain the leadership. The reason behind conducting this study is that Nokia lost the leadership position in the smartphone business for both Apple and Samsung during 2011.

Theories on the knowledge areas of competitive advantages and dynamic capabilities as well as on strategy development and innovation were used to elaborate the answers sought through the research's questions. The three sub-goals of this study were: 1. Investigate the strategic factors that influence companies' competitiveness; 2. Identify whether there is inter-relation among these factors; and 3. Identify whether or not these factors and their inter-relation are important in determining a company's leadership in the smartphone industry.

This qualitative research applied descriptive approach and used secondary sources of data as desk research as well as a case study as an additional research methodology. The case study concentrated in how Nokia has been competing along the years within the smartphones industry as well as how the company has been re-structuring its organization and formulating its strategies to foster superior performance and consequentially succeed in the marketplace through its competitive advantages.

The relevant factors that influence competitiveness and their inter-relation were identified. Renowned frameworks and models presented in this study such as the resource-based framework of sustained competitive advantage, the SWOT-analysis methodology, Porter's five forces and generic strategies, are indeed helpful in analyzing competitiveness. It was concluded though that even if a company is able to apply them appropriately, they are not sufficient for providing the company with all the relevant information to build a competitive strategy to successfully compete in the smartphone market and eventually become the leader. For such, much more is needed. A company willing to be the leader of today's smartphone business must reinvent its core strategy and create new markets. Moreover, it is important for a challenger to adopt the open innovation concept and seek for developing discontinuous innovation which would lead the company to conquer the "Blue Ocean" and transform the industry.

REFERENCES

Agar, Jon (2003) *Constant touch: a global history of the mobile phone*. Icon Books Ltd., UK.

Amabile, Teresa M. – Khaire, Mukti (2008) Creativity and the role of the leader. *Harvard Business Review,* October 2008.

Barney, Jay (1991) Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99-120.

Barney, Jay (1991) Firm Resources and Sustained Competitive Advantage. *Journal of Management*, Vol. 17(1), 99-120.

Beinhocker, Eric D. (1999) Robust Adaptive Strategies. *Sloan Management Review*, Spring Issue, Vol. 40(3), 95-106.

Chesbrough, Henry W. (2003) *Open Innovation: the new imperative for creating and profiting from technology*. Harvard Business School Publishing, Boston, Massachusetts, US.

Denzin, Norman K. – Lincoln, Yvonna S. (1994) *Handbook of qualitative research*. Sage Publications, US.

Dunnewijk, Theo – Hultén, Staffan (2006) A Brief History of Mobile Telecommunication in Europe. *United Nations University – Maastricht Economic and social Research and training centre on Innovation and Technology*, The Netherlands. Working paper #2006-034.

Dutta, Amitava (2004) Telecommunications industry. *Encyclopedia of Information Systems*, 403-417.

Eisenhardt, Kathleen M. – Martin, Jeffrey A. (2000) Dynamic Capabilities: What Are They? *Strategic Management Journal*, Vol. 21, 1105-1121.

Eisenhardt, Kathleen M. (1989) Building theories from case study research. *The Academy of Management Review*, Vol. 14(4), 532-550.

Fransman, Martin (2000) Evolution of the telecommunications industry into the internet age. In: *The International Handbook on Telecommunications Economics*, ed. by Edward Elgar Publishing.

Gallo, Carmine (2011) *The innovation secrets of Steve Jobs: insanely different principles for breakthrough success*. McGraw-Hill, USA.

Giaglis, George M. – Fouskas, Konstantinos G. (2011) The impact of managerial perceptions on competitive response variety. *Management Decision*, Vol. 49(8), 1257-1275.

Grant, Robert M. (1991) The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review*, Spring Issue, Vol. 33 (3), 114-135.

Grant, Robert M. (1996) Toward a knowledge-based theory of the firm. *Strategic Management Journal*, Vol. 17(Winter Special Issue), 109-122.

Hamel, Gary – Prahalad, C.K. (1994) *Competing for the Future.* Harvard Business School Press, Boston, Massachusetts, US.

Hamel, Gary (2000) *Leading the Revolution.* Harvard Business School Press, US.

Hamel, Gary (2012) *What Matters Now: How to Win in a World of Relentless Change, Ferocious Competition, and Unstoppable Innovation.* Jossey-Bass, Wiley Imprint, San Francisco, CA, US.

Harvard Business Essentials (2005) *Strategy: create and implement the best strategy for your business.* Harvard Business School Press, Boston, US.

Henderson, Bruce D. (1989) The Origin of Strategy. *Harvard Business Review*, November-December.

Kaplan, Soren M. (1999) Discontinuous Innovation and the Growth Paradox. *Strategy & Leadership*, Vol. 27(2), 16-21.

Kim, W. Chan – Mauborgne, Renée (2005) Blue Ocean Strategy: From Theory to Practice. *California Management Review*, Spring Issue, Vol. 47(3), 105-121.

Li, Feng – Whalley, Jason (2002) Deconstruction of the telecommunications industry: from value chains to value networks. *Telecommunications Policy*, Vol. 26(9-10), 451-472.

Lincoln, Yvonna S. – Guba, Egon G. (1985) *Naturalistic Inquiry*, Sage Publications, Beverly Hills, California, US.

Lincoln, Yvonna S. – Guba, Egon G. (1999) Establishing trustworthiness. In: *Qualitative Research*, ed. by Bryman, Alan – Burgess, Robert, 397-444. Sage Publications, London, UK.

Malhotra, Naresh K. – Birks, David F. (2007) *Marketing research: an applied orientation*. Prentice Hall, Inc., England.

Morgan, Robert E. – Strong, Carolyn A. – McGuinness, Tony (2003) Product-market positioning and prospector strategy. An analysis of strategic patterns from the resource-based perspective. *European Journal of Marketing*, Vol. 37(10), 1409-1439.

Moritz, Michael (2009) *Return to the Little Kingdom: Steve Jobs, the creation of Apple, and how it changed the world.* Duckworth Overlook, UK.

Porter, Michael E. (1985) *Competitive Advantage. Creating and Sustaining Superior Performance.* Free Press, New York, NY, US.

Porter, Michael E. (1996) What is Strategy? *Harvard Business Review*, November-December. In: *Strategy for Business*, ed. by Mazzucato, Mariana, 10-31. Sage Publications, London, UK.

Ridderstråle, Jonas – Nordströmand, Kjell (2007) Funky Redux. *Business Strategy Review*, Winter Issue, Vol. 18(4), 43-47.

Shenton, Andrew K. (2004) Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22, 63-75.

Sinkovics, Rudolf R. – Penz, Elfriede – Ghauri, Pervez N. (2008) Enhancing the Trustworthiness of Qualitative Research in International Business. *Management International Review*, 48(6), 689-714.

Stabell, Charles B. – Fjeldstad, Oystein D. (1998) Configuring value for competitive advantage: on chains, shops, and networks. *Strategic Management Journal*, Vol. 19, 413-437.

Steinbock, Dan (2001) *The Nokia Revolution. The Story of an Extraordinary Company That Transformed an Industry.* AMACON, New York, NY, US.

Steinbock, Dan (2010) *Winning across global markets. How Nokia creates strategic advantage in a fast-changing world.* Jossey-Bass, San Francisco, CA, US.

Tushman, Michael L. – O'Reilly III, Charles A. (1997) *Winning through innovation: a practical guide to leading organizational change and renewal.* Harvard Business School Publishing, Boston, Massachusetts, US.

Welch, Catherine – Piekkari, Rebecca – Plakoyiannaki, Emmanuella – Paavilainen-Mäntymäki, Eriikka (2010) Theorising from case studies: towards a pluralist future for international business research. *Journal of International Business Studies*, 1-23.

Wernerfelt, Birger (1984) A Resource-based View of the Firm. *Strategic Management Journal*, 5(2), 171-180.

Whetten, David A. (1989) What constitutes a theoretical contribution? *The Academy of Management Review*, Vol. 14(4), 490-495.

Yoffie, David B. – Kim, Renee (2011) Apple Inc. in 2010. Harvard Business School.

15 years ago: the first mass-produced GSM phone. Hardware, November 9th, 2007. <http://www.reghardware.com/2007/11/09/ft_nokia_1011/>, retrieved 8.11.2011.

40 Percent of U.S. Mobile Users Own Smartphones; 40 Percent are Android. Nielsenwire, September 1st, 2011. <http://blog.nielsen.com/nielsenwire/online_mobile/40-percent-of-u-s-mobile-users-own-smartphones-40-percent-are-android/>, retrieved 11.12.2011.

405 Million Mobile Phones Sold in 2000, and Makers Still Get Stung. Los Angeles Times, January 10th, 2001. <http://articles.latimes.com/2001/jan/10/business/fi-10497>, retrieved 5.11.2011.

4G Technology – An Overview. rfcafe.com. <http://www.rfcafe.com/references/articles/4G-Technology-An-Overview.htm>, retrieved 5.11.2011.

About Symbian. Nokia. <http://symbian.nokia.com/about/>, retrieved 10.11.2011.

About us. Nokia 2011. <http://www.nokia.com/global/about-nokia/company/about-us/about-us/>, retrived 8.11.2011.

Android. Business Insider. <http://www.businessinsider.com/blackboard/android>, retrieved 15.11.2011.

Apple COO: We're A Mobile Device Company. CRN, February 23rd, 2010. < http://www.crn.com/news/client-devices/223100456/apple-coo-were-a-mobile-device-company.htm>, retrieved 20.10.2011.

Apple ends Nokia's 15-year-reign at the top to become world's top smartphone vendor. Redmond Pie, July 21st, 2011. <http://www.redmondpie.com/apple-ends-nokias-15-year-reign-at-the-top-to-become-worlds-top-smartphone-vendor/>, retrieved 11.9.2011.

Apple Inc. CNN Money. <http://money.cnn.com/quote/financials/financials.html?symb=AAPL>, retrieved 25.10.2011.

Apple iPhone 4S Review. PhoneArena.com, October 21st, 2011. <http://www.phonearena.com/reviews/Apple-iPhone-4S-Review_id2859>, retrieved 30.10.2011.

Apple iPhone 4S: The Good, Bad, and Unknown. PC World, October 5th, 2011. <http://www.pcworld.com/article/241119/apple_iphone_4s_the_good_bad_and_unknown.html>, retrieved 30.10.2011.

Apple is now the world's leading smartphone manufacturer! Redmond Pie, August 6th, 2011. <http://www.redmondpie.com/apple-is-now-the-worlds-leading-smartphone-manufacturer-report/>, retrieved 11.9.2011.

Apple now has $81.5B in cash, 13.2M sq. ft. of facilities and 60K employees. TNW, October 27th, 2011. <http://thenextweb.com/apple/2011/10/27/apple-now-has-81-5b-in-cash-13-2m-sq-ft-of-facilities-and-60k-employees/>, re-trieved 30.10.2011.

Apple now the world's largest smartphone manufacturer, Samsung checks in at number two. Engadget, August 4th, 2011. <http://www.engadget.com/2011/08/04/apple-now-the-worlds-largest-smartphone-manufacturer-samsung-c/>, retrieved 11.9.2011.

Apple phone revenues beat Nokia: Strategy Analytics. Reuters, April 21st, 2011. <http://www.reuters.com/article/2011/04/21/us-apple-nokia-idUSTRE73K36W20110421>, retrieved 11.9.2011.

Apple tops Microsoft as world's most valuable tech firm. Computerworld, May 26th, 2010. <http://www.computerworld.com/s/article/9177401/Apple_tops_Microsoft_as_world_s_most_valuable_tech_firm>, retrieved 20.10.2011.

Cell Phone Glossary: What is 1G vs. 2G vs. 2.5G vs. 3G vs. 4G? About.com. <http://cellphones.about.com/od/phoneglossary/tp/1g2g3g4g.htm>, retrieved 22.11.2011.

Crucial Test for Nokia as Latest Smartphones Arrive. The New York Times, October 23rd, 2011. <http://www.nytimes.com/2011/10/24/technology/24iht-nokia24.html>, retrieved 10.12.2011.

CTIA About Us. CTIA. <http://www.ctia.org/aboutCTIA/>, retrieved 10.11.2011.

Definition GPRS (General Packet Radio Services). SearchMobileComputing. <http://searchmobilecomputing.techtarget.com/definition/GPRS>, retrieved 10.11.2011.

Definition of: feature phone. PC Magazine. <http://www.pcmag.com/encyclopedia_term/0,2542,t=feature+phone&i=62894,00.asp#fbid=J7ONX6p67Nn>, retrieved 8.11.2011.

Definition of: Smartphone. PC Magazine. <http://www.pcmag.com/encyclopedia_term/0,2542,t=Smartphone&i=51537,00.asp>, retrieved 8.9.2011.

Facts about the Mobile. A Journey through Time. <http://www.mobilen50ar.se/eng/FaktabladENGFinal.pdf>, retrieved 5.11.2011.

Financials. Nokia 2011. <http://www.nokia.com/global/about-nokia/investors/financials/financials/>, retrieved 8.11.2011.

Gartner: Android leads, Windows Phone lags in Q1. Cnet, May 19th, 2011. <http://news.cnet.com/8301-13506_3-20064223-17.html>, retrieved 10.11.2011.

Gartner: Apple Handset Sales Top Sony Ericsson, Motorola. PCMAG.com, Feb 9th, 2011. <http://www.pcmag.com/article2/0,2817,2379925,00.asp#fbid=J7ONX6p67Nn>, retrieved 29.10.2011.

GSM – Overview. Tutorials Point. <http://www.tutorialspoint.com/gsm/gsm_overview.htm>, retrieved 9.11.2011.

GSM - Useful Acronyms. Tutorials Point. <http://www.tutorialspoint.com/gsm/gsm_useful_acronyms.htm>, retrieved 10.11.2011.

History of the top five phone manufacturers. Samsung. phoneArena.com, September 10th, 2008. <http://www.phonearena.com/news/History-of-the-top-five-phone-manufacturers_id3083/page/3>, retrieved 3.11.2011.

Interim report. Nokia, October 20th, 2011. <http://i.nokia.com/blob/view/-/278866/data/1/-/Request-Nokia-results2011Q3e-pdf.pdf>, retrieved 8.11.2011.

INTERNATIONAL BUSINESS; Ericsson's 2001 Loss Is First in 50 Years. The New York Times, January 26th, 2002. <http://www.nytimes.com/2002/01/26/business/international-business-ericsson-s-2001-loss-is-first-in-50-years.html>, retrieved 5.11.2011.

Invention of the year: the iPhone. Time, November 1st, 2007. < http://www.time.com/time/specials/2007/article/0,28804,1677329_1678542_1677891,00.html>, retrieved 20.10.2011.

iOS. Business Insider. <http://www.businessinsider.com/blackboard/ios>, retrieved 15.11.2011.

iPhone 4S First Weekend Sales Top Four Million. Apple Press Info, October 17th, 2011. Apple. <http://www.apple.com/pr/library/2011/10/17iPhone-4S-First-Weekend-Sales-Top-Four-Million.html>, retrieved 30.10.2011.

LG and ZTE Battle for the Bronze in Q3. ABIresearch, October 28th, 2011. <http://www.abiresearch.com/press/3806-LG+and+ZTE+Battle+for+the+Bronze+in+Q3>, retrieved 3.11.2011.

Mobile Phone Sales Show First Decline. Los Angeles Times, March 11th, 2002. <http://articles.latimes.com/2002/mar/11/business/fi-techbriefs11.txt.2>, retrieved 5.11.2011.

Motorola DynaTAC 8000x. Retrobrick. <http://www.retrobrick.com/moto8000.html>, retrieved 5.11.2011.

Motorola Reports Fourth-Quarter, Full-Year Results. PR Newswire, January 22nd, 2002. <http://www.prnewswire.com/news-releases/motorola-reports-fourth-quarter-full-year-results-75593887.html>, retrieved 5.11.2011.

Nokia – restructuring a giant. Tejas. <http://tejas-iimb.org/articles/16.php>, retrieved 30.11.2011.

Nokia appoints Stephen Elop to President and CEO as of September 21, 2010. Nokia, September 10th, 2010. <http://press.nokia.com/2010/09/10/nokia-appoints-stephen-elop-to-president-and-ceo-as-of-september-21-2010-2/>, retrieved 30.11.2011.

Nokia fine-tunes its organization: Establishes Solutions unit, Alberto Torres to head unit and join the Group Executive Board. Nokia, August 27th, 2009. <http://press.nokia.com/2009/08/27/nokia-fine-tunes-its-organization-establishes-solutions-unit-alberto-torres-to-head-unit-and-join-the-group-executive-board/>, retrieved 30.11.2011.

Nokia focuses Services strategy to align more closely with third parties. Nokia, April 28th, 2009. <http://press.nokia.com/2009/04/28/nokia-focuses-services-strategy-to-align-more-closely-with-third-parties/>, retrieved 30.11.2011.

Nokia modifies its organisational structure. Aims to accelerate innovation and consumer experience. Techknots, May 11th, 2010. <http://www.techknots.com/mobiles/nokia-modifies-its-organisational-structure-aims-to-accelerate-innovation-and-consumer-experience/>, retrieve 30.11.2011.

Nokia outlines new strategy, introduces new leadership, operational structure. Nokia, February 11th, 2011. <http://press.nokia.com/2011/02/11/nokia-outlines-new-strategy-introduces-new-leadership-operational-structure/>, retrieved 30.11.2011.

Nokia reduces R&D operations in Japan. Nokia, November 24th, 2009. <http://press.nokia.com/2009/11/24/nokia-reduces-rd-operations-in-japan/>, retrieved 30.11.2011.

Nokia Releases 3Q2011 Results – 38% Drop In Smartphone Shipment, €71 Million Loss. Tekedia, October 23rd, 2011. <http://tekedia.com/26874/nokia-releases-3q2011-results-38-drop-smartphone-shipment-71-million-loss/>, retrieved 8.11.2011.

Nokia renews its business mobility solutions offering and strategy. Nokia, September 29th, 2008. <http://press.nokia.com/2008/09/29/nokia-renews-its-business-mobility-solutions-offering-and-strategy/>, retrieved 30.11.2011.

Nokia showcases bold portfolio of new phones, services and accessories at Nokia World. Nokia, October 26th, 2011. <http://press.nokia.com/2011/10/26/nokia-showcases-bold-portfolio-of-new-phones-services-and-accessories-at-nokia-world/>, retrieved 8.11.2011.

Nokia simplifies its organizational structure to accelerate execution and innovation. Nokia, May 11th, 2010. <http://press.nokia.com/2010/05/11/nokia-simplifies-its-organizational-structure-to-accelerate-execution-and-innovation/>, retrieved 30.11.2011.

Nokia Strategy 2011. Conversations by Nokia 2011. <http://conversations.nokia.com/nokia-strategy-2011/>, retrieved 1.11.2011.

Nokia Strategy and Financial Briefing [video]. Conversations by Nokia. <http://conversations.nokia.com/2011/02/11/stephen-elop-and-steve-ballmer-answer-questions-from-nokia-conversations-readers/>, retrieved 1.11.2011.

Nokia takes the next step in structuring its organization for convergence and growth. Nokia, September 26th, 2003. <http://press.nokia.com/2003/09/26/nokia-takes-the-next-step-in-structuring-its-organization-for-convergence-and-growth/>, retrieved 30.11.2011.

Nokia to target first-time U.S. smartphone buyers with Windows Phone. FierceWireless, October 31st, 2011. <http://www.fiercewireless.com/story/nokia-target-first-time-us-smartphone-buyers-windows-phone/2011-10-31>, retrieved 11.12.2011.

Nokia unveils Windows smartphones to catch rivals. USA Today, October 26th, 2011. <http://www.usatoday.com/tech/news/story/2011-10-26/nokia-unveils-windows-7-based-smartphone/50930536/1>, retrieved 11.12.2011.

Nokia. Business Insider. <http://www.businessinsider.com/blackboard/nokia>, retrieved 11.11.2011.

Nokia's new strategy: Windows Phone 7. CNN Money, February 11th, 2011. <http://money.cnn.com/2011/02/11/technology/nokia_microsoft/index.htm>, retrieved 1.11.2011.

Our structure. Nokia 2011. <http://www.nokia.com/global/about-nokia/company/about-us/structure/our-structure/>, retrieved 24.11.2011.

Ovi store opens for business. Nokia, May 26th, 2009. <http://press.nokia.com/2009/05/26/ovi-store-opens-for-business/>, retrieved 30.11.2011.

Q4 2011: Apple first with 500.000 units more than Samsung second, in world's smartphones market share. Worldwide Tech & Science, January 26th, 2012. < http://worldwidegadget.blogspot.com/2012/01/q4-2011-apple-first-with-500000-units.html>, retrieved 31.1.2012.

Samsung and Apple set to end Nokia's 14-year reign at the top to become world's largest smartphone makers. Redmond Pie, June 14th, 2011. <http://www.redmondpie.com/samsung-and-apple-set-to-end-nokias-14-year-reign-at-the-top-to-become-worlds-largest-smartphone-makers/>, retrieved 11.9.2011.

Samsung Apps to be Rolled Out in Multiple Product Lines to Support a New Dimension of Home Entertainment with a Few Clicks of the Remote. Samsung, January 7th, 2010. <http://www.samsung.com/us/news/newsRead.do?news_seq=16458&page=1>, retrieved 6.11.2011.

Samsung beats Apple in third sales quarter. Industry Leaders Magazine, October 30th, 2011. <http://www.industryleadersmagazine.com/samsung-beats-apple-in-third-sales-quarter/>, retrieved 1.11.2011.

Samsung Overtakes Apple In 3Q2011 Smartphone Market, Nokia Stops Its Slide. Tekedia, November 1st, 2011. <http://tekedia.com/27539/samsung-overtakes-apple-3q2011-smartphone-market-nokia-stops-slide/>, retrieved 3.11.2011.

Samsung overtakes Apple in smartphone shipments. BBC Mobile, October 28th, 2011. <http://www.bbc.co.uk/news/business-15489523>, retrieved 6.11.2011.

Samsung profile 2010 report. Samsung.com. <http://www.samsung.com/us/aboutsamsung/corporateprofile/download/samsung_profile_2010_English.pdf>, retrieved 6.11.2011.

Samsung Sold 27.8 Mn Smartphones in 3Q. KBS World, October 29th, 2011. <http://world.kbs.co.kr/english/news/news_Ec_detail.htm?No=85631&id=Ec>, retrieved 1.11.2011.

Samsung surges past Apple in smartphone sales. Global Post, October 29th, 2011. <http://www.globalpost.com/dispatch/news/business-tech/111029/samsung-surges-past-apple-smartphone-sales>, retrieved 1.11.2011.

Samsung: 1 million Galaxy S smartphones in 45 days in the US. CNN Money, August 29th, 2010. http://tech.fortune.cnn.com/2010/08/29/samsung-galaxy-million/, retrieved 6.11.2011.

Samsung's History. Samsung. <http://www.samsung.com/us/aboutsamsung/corporateprofile/history06.html>, retrieved 6.11.2011.

The Mobile Phone: A History in Pictures. PC World, September 30th, 2009. <http://www.pcworld.com/article/172837/the_mobile_phone_a_history_in_pictures.html>, retrieved 8.9.2011.

The Nokia story. Nokia 2011. <http://www.nokia.com/global/about-nokia/company/about-us/story/the-nokia-story/>, retrieved 8.11.2011.

The One Chart You Need To See To Understand Mobile. Business Insider, November 7th, 2011. <http://www.businessinsider.com/the-one-chart-you-need-to-see-to-understand-mobile-2011-11>, retrieved 1.4.2012.

UPDATE 4-Samsung surges past Apple in smartphones, upbeat on Q4. Reuters, October 28th, 2011. http://www.reuters.com/article/2011/10/28/samsung-idUSL3E7LP1N320111028, retrieved 6.11.2011.

What Makes a Smartphone Smart? About.com. <http://cellphones.about.com/od/smartphonebasics/a/what_is_smart.htm>, retrieved 8.11.2011.

Why Was The Samsung Galaxy S Sold In Over 5 Million Units? Daily 2News, October 11th, 2010. <http://www.daily2news.info/850/why-was-the-samsung-galaxy-s-sold-in-over-5-million-units/>, retrieved 6.11.2011.

Windows Phone 7. Business Insider. <http://www.businessinsider.com/blackboard/windows-phone-7>, retrieved 15.11.2011.

With New Smartphones, High Hopes for Nokia and Microsoft Union. The New York Times, October 26th, 2011. <http://www.nytimes.com/2011/10/27/technology/with-new-smartphones-high-hopes-for-nokia-and-microsoft.html>, retrieved 11.12.2011.