

**Open University of Cyprus**  
**Faculty of Economics and Management**

**Postgraduate (Master's) Programme in Business  
Administration**

**Postgraduate (Master's) Dissertation**



**Strategic Drift, the Case of Nokia Corporation**

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**Supervisor**  
**Konstantinos Chatzimichael**

**May 2020**

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The present Postgraduate (Master's) Dissertation was submitted in partial fulfilment of the requirements for the postgraduate degree in  
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## Summary

Organizations that do not align with the external environment and not respond rapidly to changes face the risk to undergo strategic drift. Strategic drift can be described as the phenomenon where the strategy of an organization gradually fails to keep in line with the environment in which the organization operates. As a result of the above, the organization fails to keep its strategic position, which leads to an organization crisis and frequently is followed by a transformation or a bankruptcy.

The aim of this dissertation is to study the case of Nokia Corporation and support the hypothesis that Nokia had undergone a strategic drift. Nokia, after a successful course in the mobile phone market from the late 90's to late 00's, ended to the sale of its mobile phone division to Microsoft in 2014. To examine whether the hypothesis is true or not, financial data and market share figures were collected and analysed from various sources. Additionally, SWOT and Porter's five forces analysis were conducted.

As per the results of the study, Nokia Corporation, from 2009 onwards had indeed passed through all the 4 stages of strategic drift, as a consequence of wrong strategic decisions and internal weaknesses. Inability to detect the changes that occurred in the external environment and adapt accordingly was the main reason, where factors such as the inability to foresee the future of the market, the bad management, lack of expertise and underestimation of the competition gave the final hit.

## Περίληψη

Οι οργανισμοί που δεν συντονίζονται με το εξωτερικό περιβάλλον και δεν ανταποκρίνονται άμεσα στις αλλαγές του, αντιμετωπίζουν τον κίνδυνο να υποπέσουν σε μία κατάσταση γνωστή ως Strategic drift. Το Strategic drift μπορεί να χαρακτηριστεί ως το φαινόμενο όπου η στρατηγική ενός οργανισμού αποτυγχάνει κλιμακωτά να ευθυγραμμιστεί με το εξωτερικό περιβάλλον στο οποίο ο οργανισμός δραστηριοποιείται. Ως αποτέλεσμα ο οργανισμός αποτυγχάνει να διατηρήσει την στρατηγική του θέση και οδηγείται σε κρίση η οποία συνήθως καταλήγει σε ανασχηματισμό ή χρεωκοπία.

Σκοπός αυτής της διατριβής είναι η εξέταση της περίπτωση της Nokia Corporation, η οποία μετά από μια πού επιτυχημένη πορεία στην αγορά των κινητών τηλεφώνων από τα τέλη της δεκαετίας του 1990 μέχρι τα τέλη της δεκαετίας το 2000, κατέληξε στην πώληση του τμήματος των κινητών τηλεφώνων της στη Microsoft το 2014, και η επιβεβαίωση της υπόθεσης ότι η Nokia είχε υποπέσει στη κατάσταση του Strategic Drift, καθώς και οι κύριες αιτίες που οδήγησαν σε αυτό. Για τον σκοπό αυτό, συλλέχθηκαν και αναλύθηκαν οικονομικά δεδομένα καθώς και δεδομένα για τα μερίδια αγοράς των τελευταίων ετών. Επιπρόσθετα διενεργήθηκαν αναλύσεις SWAT και Porter's Five Forces analysis.

Από τα αποτελέσματα της εξέτασης φαίνεται ότι όντως από το 2009 και μετά, η Nokia είχε διέλθει και από τις τέσσερις φάσεις του Strategic drift ως αποτέλεσμα κακών στρατηγικών αποφάσεων και εσωτερικών αδυναμιών. Κύρια αιτία ήταν η αδυναμία αναγνώρισης των αλλαγών που συνέβαιναν στο περιβάλλον και η ανικανότητα προσαρμογής, υποβοηθούμενη από την αδυναμία πρόβλεψης του μέλλοντος της αγοράς, την κακή διοίκηση, την έλλειψη εξειδίκευσης και την υποτίμηση του ανταγωνισμού.

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# Chapter 1

## Introduction

Organizations are in a constant need to adapt to the changing environment in order to remain competitive. To achieve that, managers are constantly fine tuning their ways of operation and adjusting business strategies, when needed, in order to keep in line with the changing environment (Quinn,1980a) in a process that can be characterized as “incrementalism” (Quinn, 1980b). Incremental change can be seen as an adaptive process that manages to seize opportunities arising from a continually changing environment involving realignment of business strategy to the business environment instead of a radical change in direction. However, these small changes sometimes might not be enough. Managers may need to adapt to bigger changes and make more drastic changes to their strategies. If they fail to act accordingly, the company may be led to a strategic drift (Dwyer and Edwards, 2009).

Strategic drift can be described as the phenomenon where the strategy of an organization gradually fails to keep in line with the environment in which the organization operates (Johnson, 1992). In other words, strategic drift occurs when a company or an organization fails to recognize that the environment is changing and thus its strategy must also adapt to that change. Handy (1989) explains strategic drift as a gradual diversion of an organization from its original vision which happens so slowly which is not noticed, and when it does, it’s usually too late. As a result of the above, the organization fails to keep its strategic position, which leads to an organization crisis and frequently is followed by a transformation or a bankruptcy (Hensmans et al. 2012). Strategic drift is common in organizations that fail to respond fast to a dramatic change in the market and are unable to recognize that incremental adjustments must be replaced with fundamental changes (Mintzberg, 2001).

The purpose of this dissertation is to identify the factors and wrong decisions that may lead a company to undergo Strategic drift and suggest actions that must be taken in order to prevent it. One of the most notable examples of companies that fell into the Strategic Drift phase is the Nokia Corporation, which has been chosen for the case study part of this dissertation. Nokia Corporation established in 1967 from the merge of 3 Finnish companies, Nokia, Finnish Rubber Works and Finnish Cable Works, produced a



variety of products including technology equipment. During the 90's, Nokia Corporation focused solely on the mobile communications market. In 1992, the company launched the first GSM mobile phone and by 1998 it became the top mobile phone manufacturer. It held that position for almost a decade by launching a number of highly successful models that shaped the mobile communication industry and set the standards for mobile phones in the 00's. In 2007, Apple announced the release of the first iPhone and Google the launch of Android, an open source operational system for mobile devices, signaling the beginning of the smartphone era, with touchscreen devices, application stores and unified ecosystems which enabled communication across different devices. The rise of smartphones led to Nokia's failure. The company failed to realize that the market was gradually shifting in favor of smartphones and believed that people preferred QWERTY keyboards over touchscreens. Furthermore, they underestimated the impact of Operating systems and instead of trying to develop hardware and software that would fulfill the new customers' needs insisted on keeping the same old strategy thinking that customers would follow as happened in the past. When they realized their mistake and tried to come up with a different strategy, was already late. The Company could not gain its lost market share back and was forced to sell its mobile phone division to Microsoft in 2014.

What can be taught from Nokia is that any organization, no matter its size or success and market position must always adapt to change in order to remain competitive. Organizations must be able to identify changes and warning signals and respond rapidly to them. The ability to foresee the future is essential as well as the capability of identifying opportunities and threats which emerge, improve weaknesses as well as laying out strengths.

The case study deals with the following issues:

- Identifying the wrong decisions that Nokia's executives took leading to the company's failure.
- Examining the external factors which were present at the time of the Strategic drift.
- The reason why the management failed to realize that the market was changing and their lack of adaptation to those variations.
- The striking actions of Nokia's main competitor, Apple, which led to the collapse of the former and triumph of the latter.

The dissertation is divided into 5 main chapters, starting from the current chapter, Introduction. The rest is structured as follows: Chapter 2 reviews the existing international literature regarding the main causes of a strategic drift. The second part of this chapter describes what can be done and what actions must be taken in order the strategic drift to be avoided. In Chapter 3, the research methodology is presented which outlines the sources from where data was taken and the analysis performed in order to

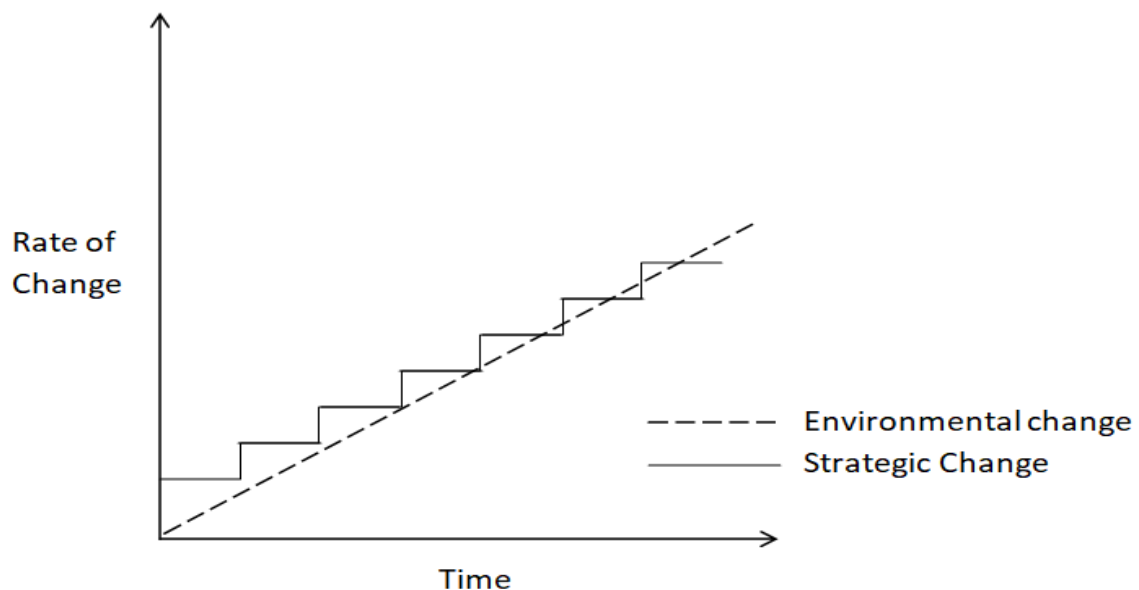
back up the hypothesis that indeed a strategic drift has been occurred. Additionally, two types of analysis are being introduced; Porter five forces and SWOT analysis. Chapter 4 is the main part of the dissertation. There the time series of the Nokia's course through the years is presented along with the major incidences that caused strategic drift. Data that supports the strategic drift hypothesis is also stated. Chapter 5 contains the discussion of the results. Porter's five forces and SWOT analysis give an insight of the internal as well as external environments of the company at that particular time are presented along with a comparison of Nokia versus Apple. Chapter 6 refers to conclusions. The main findings of the study coming into view, confirm that Nokia is indeed an example of strategic drift with four discrete phases, with the last one being the end of Nokia's mobile phone division.

# Chapter 2

## Literature Review

Organizations must constantly remain aligned to their environment in order to remain competitive. Thus they must keep revising their tactics and strategies constantly, a procedure known as “Incrementalism” (Quinn, 1980b). If the organization fails to keep in line with the environment, then it will be diverted from its original vision, lose its strategic position and undergo an organizational crisis, a state called a “Strategic drift” (Johnson, 1992).

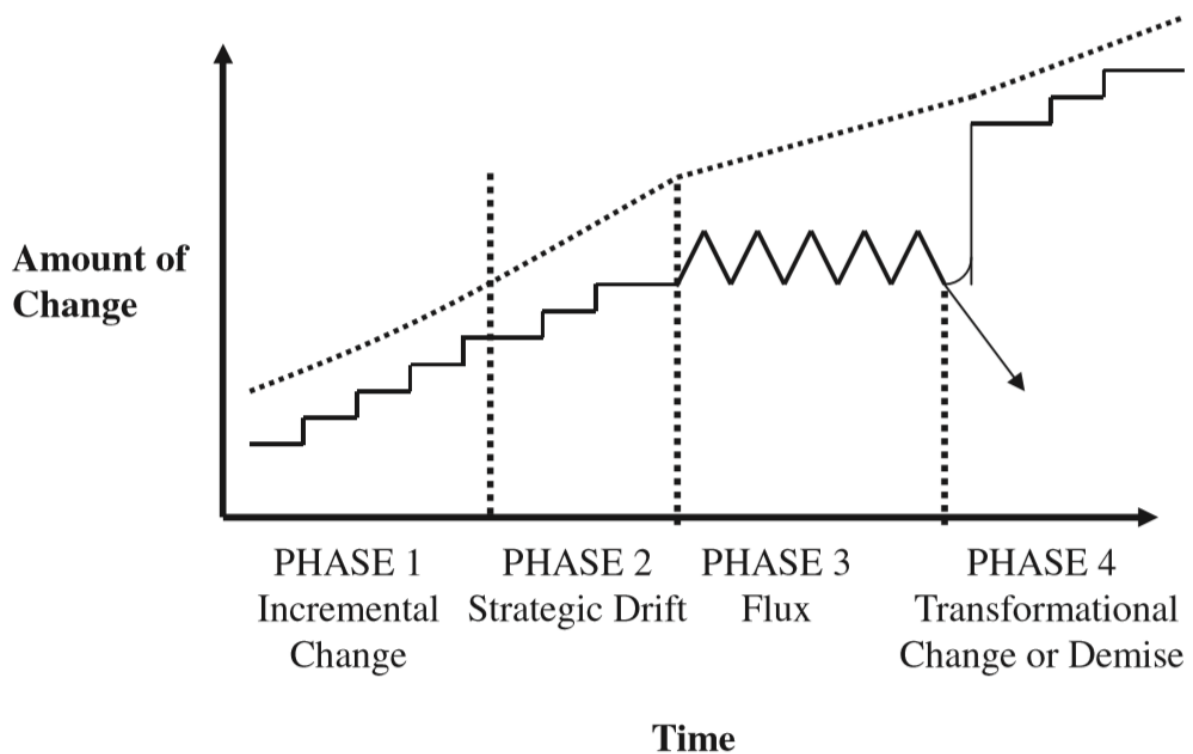
Figure 1. Incremental Change



Johnson et al. (2008) in the book “Exploring corporate strategy”, divides the strategic drift phenomenon into 4 discrete phases. In the first phase, the company’s strategy is aligned with the external environment. The environment is changing gradually, and the organization is keeping in line with those changes by making small incremental changes to its strategy. The second phase is where strategic drift actually occurs. This can happen when the environmental changes are accelerating, but not necessarily in a sudden way, and the organization does not realize it. As a result, the strategy is starting to drift away and does not align with the external environment, leading to a number of

consequences for the company, like the deterioration in financial performance, a loss of market share or the decline in the share price. In the third phase, flux occurs. During that period strategies may change but in an ambiguous manner. The organization falls into a chaotic state where internal arguments take place, management hovers between different strategies in a short period of time as an attempt to align with the environment and keep its status, but with little or no success. Finally, the fourth phase determines whether transformational change or death will end strategic drift. As things become worse there are only two options for the organization. Death (or taken over by another organization) and transformational change. Unfortunately, even if the second option is selected is already too late. Organization has already lost its previous position in the market, shareholder value has probably already been destroyed, and many jobs have been lost too.

**Figure 2.** The four phases of Strategic Drift



Strategic drifts are attributed to several factors that arise from the organization's management behaviour and culture and prevent from adapting and aligning to the current environmental changes before the drift becomes irreversible. When environmental change is sudden and not gradual enough so the incremental change to be kept in pace with it, the organization is getting out of line, while trying to adapt by making incremental changes, which instead of fixing the problem, make it worse (Dwyer and Edwards, 2009). If the company fails to adapt early enough to the external

changes, by changing its course, even the most successful strategies will wear-out and lead to failure, a phenomenon known as strategic wear-out. Past strategic choices do not guarantee future success (Gilligan and Wilson, 2009).

Johnson (1988) suggests that strategic drift occurs when external alerts are not taken into account by the managers because they are not meaningful to them. This occurs when managers unjustifiably believe that one is able to adapt to the changing environment when in fact one cannot. In addition, accustomed to a conservative strategic thinking they fail to shift perception thus they are unable to detect the changing environment. Even when they do, the corrective actions do not deviate from the current ones. Additionally, managers are resistant to changes because they are attached to the company's consolidated culture and beliefs. The status quo of the organization is preserved in such a way that leads to a tendency not to implement innovations in—organizational structure and human resources, technology adaptation, product innovation, procurement and supply chain management, internal operations, marketing and sales and customer relationship management (Johnson, 1988; Bonicci, 2015). Apart from the consolidated culture and belief of managers, their homogenous mindset can also impede the ability to recognize and adapt to external changes in technology, the economy, society or the regulatory environment (Bonicci, 2015).

Evidently there are times in successful firms when key factors such as organization culture, routines and procedures, which at first led to their success, if remained unchanged are in fact the causes that can lead to failure. The initial success is hindering the executives from dealing with other important factors such as budgeting, customer focus and costing, which finally drives the company to failure, bringing forth a situation known as the "Icarus paradox" (Miller, 1992).

Strategic drift emanates due to a strategic gap too. Strategic gap is the difference between the expected outcome of a company's strategy and the actual results (Evans, 2004). On average companies deliver only 63% of the financial performance their strategies promise. A number of components such as lack of performance tracking, failure to realize the full potential of a strategy and/or poor planning and/or execution, could eventually precipitate a strategic gap (Mankins and Steele, 2005).

Strategic opportunity can be described as the detection and exploitation of opportunities when they emerge with the goal to achieve immediate profits. However, strategic opportunism can be turned into a strategic drift if one or more of the following phenomena take place. First, a temporary transitory force that is mistaken for one that is strong enough to make a worthwhile strategic move, can lead to a marketing strategy that is not suitable for the company or the environment. Second, opportunities to create immediate profits might be considered as strategies when in fact they are not, and third,

synergies between new and existing business areas may fail to materialize due to implementation problems (Danciu, 2010).

Given the complexity of changes that occur constantly in the outer environment, there cannot be a universal formula that can be applied in order organizations to avoid strategic drift. Organizations will face various degrees of drift depending on the degree of the external changes. However, even if there is no such formula to help avoid drift, this can be eluded if an organization is capable of handling complexity. Organizations which are able to combine several modes of strategy into one complex strategic making appear to be progressing and outperforming other organizations which are less capable of coping with complicated strategic plans (Hartand Banbury, 1994). At the same time management can really make a difference the moment when the organization begins to deteriorate. At that exact moment, managers must be open minded leaving behind their old tactics and practices and see what others cannot in order to stay in touch with the external environment (Dwyer and Edwards, 2009), applying the zero-trauma principle, i.e. looking upon the future and not defend the past (Hamel and Välikangas, 2003).

The definition of customer needs can salvage an organization. Companies that manage to improve their customer service experience by offering customized expert service, loom to have a notably improvement and an increase in sales. Successful companies detect their customer specific needs and recommend products and services that are sometimes customized in order to fit their customer's needs. As a result of successful customer service, companies are able to use their reputation for quality and performance to achieve a preferred market position (de Brentani, 1995). Thinking out of the box is also beneficial. Managers when blind- following outdated strategic plans and take them too literally, face the danger of leading their organization into a strategic drift, given the fact that strategic plans are exposed to unpredicted external factors that might distort the initial plan. Up to date strategies must evolve and be treated as broad guidelines rather than rules that are not subject to any change or cannot be disputed. Instead of strictly following the proposed strategies, managers must become more creative to manipulate and harness the interests of diverse professionals, bringing change in an incremental way (Harris et al. 2009).

The improvement of communication within an organization is crucial in order for strategic drift to be avoided or overcome. Often, managers limit their sharing of information to what they think is essential for avoiding the strategic drift. But employees need a bit more in order to feel the confidence of their bosses and thus to have the will to make the extra effort that would reform everything. Thus in order to avoid the drift, it is important to receive feedback of quality from the field. Employees could provide helpful feedback if they feel that what they say is taken into account and considered by the top management (Fitchetand and Giraud, 2007).

Dialogue should be initiated in order to bring to the surface assumptions and beliefs taken for granted and begin a debate within the organization that will challenge the mental models that have come to prevail within the organization. This eventually will stimulate managers to become aware of some seemingly minor changes, that when noticed, are able to enhance the adaptive capabilities of the organization in order to prevent strategic drift (Hodgkinson and Wright, 2002). Appropriate communication is essential for closing the strategic gap. Strategic gap can be closed if the following rules apply: Being clear about what the strategy is, speak a common language between business units, discuss resource deployments early, identify priorities, continuously monitor performance and finally reward and develop execution capabilities (Mankins and Steele, 2005).

# Chapter 3

## Research Methodology

### 3.1 Research Design

This Master's dissertation is descriptive and explanatory in nature. It is a case study of Nokia Corporation, and how from being the leader in the mobile phone market eventually entered the strategic drift phase that led to the mobile phone department of the company to be sold to Microsoft in 2014. Dissertation emphasizes on the causes - internal and external- which provoked strategic drift and the reasons which hindered the company from overcoming the drift and keeping up with its former successful course of action. At the same time, this dissertation attempts to compare Nokia's course with its biggest rival, Apple, who managed to expand its market share in the mobile phone market and became one of the greatest smartphone manufacturers worldwide. It should be noted that at this chapter SWOT and Porter's analysis are employed.

### 3.2 Data collection

Archival analysis was used to collect financial information for the two companies analysed. In particular, financial data were retrieved directly from the financial statements of the companies from MacroTrends website ([macro trends.net](http://macro trends.net)) and cover the period from 2005 to 2017 (See Appendix, Table 4 and Table 5). Moreover, secondary data on mobile phone manufacturers' market share (See Appendix, Table 2) and numbers of units sold (See Appendix, Table 1) for the years 2005 to 2014 were retrieved from Gartner reports ([www.gartner.com](http://www.gartner.com)). It has been decided to include data from the year 2005 and onwards in order to have a broader frame on the Nokia's route, from the incremental stage to its peak, which followed by an irreversible fall. Operating System market share from 2010 to 2016 was retrieved from Statcounter ([gs.statcounter.com](http://gs.statcounter.com)) (See Appendix, Tables 3a and 3b). Unfortunately, no data from previous years was available. The above sets of data have been chosen since they provide information for the profitability and general financial status of each company and indicate how those fluctuated over the years. Market share data provides an overview of the general market trend.

### 3.3 Data analysis

In order to support the hypothesis of Nokia's strategic drift, graphs and simple statistical measures were initially used to track inter-temporal changes in the financial



performance of Nokia Company over the period analysed. In addition, comparative tables and graphs were constructed to identify potential differences in key financial variables between the two companies.

### **3.4 Porter's 5 forces analysis**

Porter's five forces analysis has been selected as a method because it focuses on all the aspects which shape a company's external micro-environment, and how this affects the company's ability to serve its customers and make a profit. Since strategic drift occurs from changes which take place on the external environment of an organization, it can be an ideal tool for analysing the examined companies and defining the reasons that led them to strategic drift.

Porter's 5 forces analysis is a tool for evaluating an organization's competition. The nature of competition is determined by many factors such as the treat of new entrants, the bargaining power of buyers, the bargaining power of suppliers, the threat of substitute products or services and the rivalry among existing competition. The configuration of these forces differs by industry. As expected, the strongest competitive force or forces determine the profitability of an organization and become the most important for strategy formulation. A more detailed presentation of the examined forces follows.

*Threat of new entrants:* New entrants seek to gain a part in an industry's market share that puts pressure on prices, cost and rate of investments necessary to complete. The threat of a new entry puts a cap on the profit potential of the industry. When the threat is high, existing players must keep their prices low and increase investment to detain their competitors. The threat of entrants depends on a number of factors such as the existence of barriers to entry (i.e. patents, government regulations), capital requirements, brand equity, customer loyalty, access to distribution channels and product differentiation.

*Bargain power of suppliers:* Powerful suppliers can leverage the cost of an industry and drop-down on the quality of products. Suppliers gain power when the following circumstances occur: i) A supplier is more concentrated than the industry that sells to, ii) it does not depend heavily on the particular industry for its income, iii) the industry might have a switching cost when change supplier, iv) the supplier offers a differentiated product and v) there is no substitute for the supplier's product. Powerful suppliers can be a threat to an organization and must be taken into consideration when strategic decisions have to be made.

*Bargaining power of buyers:* On the other hand, powerful suppliers are the powerful buyers. Powerful buyers can reduce supplier's products prices, demand better quality and control the market in favour of their benefit. As with powerful suppliers, buyers

gain power if there are few buyers who purchase products in large quantities, if the products being purchased are standardized and undifferentiated, if they can easily switch between suppliers with minimum cost or if they are threaten that they will start producing those by themselves.

*Threat of substitutes:* A substitute is a different product or service that has a similar function or use with the competing product or service, by different means. Substitutes are always present but are not always an obvious threat to the industry due to the fact that they may look completely unrelated to it. When the threat of substitutes increases, it introduces negative results on a company's profitability by placing a cap on its prices. The threat of substitutes is high when substitutes offer better value for money options and the customers' cost of switching to a substitute product is relatively low. In order to avoid substitute threat, a company must differentiate its products, provide better quality, or use other means such as marketing and communication to distance itself from substitutes and keep its original profitability.

*Threat of rivalry among existing competition:* Forms of rivalry between competitors include the introduction of new products, discounts and special offers, advertisement and quality improvement of current products or services among others. High rivalry can stress an industry and limits its profitability. Rivalry is intense when there are many competitors, especially with the same size and power, when the industry growth is slow, when the exit barriers for companies are high and when the competitors are highly committed to the business. Intense rivalry leads to price competition which forces competitors to lower their prices and reduce their profit potential (Porter, 2008).

### **3.5 SWOT analysis**

SWOT analysis was chosen as the second method because it is a useful technique which helps in identifying strengths and weakness which arise from the external environment, which has already being stated that plays a major role on the occurrence of strategic drift phenomenon, but additionally focuses also on the strengths and weaknesses that can be found on the inside of a company. The correlation of the two environments, internal and external, can be a useful asset on the attempt to define the reasons which force an organization to end up in a strategic drift phase.

Swot analysis idea was developed by the Harvard business school in an effort to analyse case studies and through the years ended up being considered as a major advance in strategic thinking (Panagiotou, 2003). A number of studies show that it is one of the most widely used strategy tools among managers (Madsen, 2016). SWOT analysis focuses on the analysis of the strengths and weaknesses which occur in the external environment and the opportunities and threats that arise from the organization's external environment (Worthington and Britton, 2014). An overview of the four factors that determine SWOT analysis can be found below:

### **3.5.1 Internal environment**

Strengths are characteristics that help organizations to accomplish their mission. They might include qualities of the employees', human resources competencies, financial resources, excellent products and services, brand loyalty, innovation and vision among others.

On the contrary weaknesses do not allow an organisation of achieving its goals. Weaknesses can take various forms such as poor decision making, bad management, outdated products and services, debts, high turnover among the employees, low productivity etc.

### **3.5.2 External environment**

Opportunities arise in the external environment of an organization and if detected early enough, would yield significant benefits such as increase of profit, market share expansion and cost reduction, among others. An opportunity may arise from various fields such as market, competition, industry/government and technology.

Threats can jeopardize the profitability and success of an organization leading to losses on profitability and threatening its sustainability and success. Threats include increased competition, changes on customer's habits, rapid technology changes, partner's issues etc (Osita et al, 2014).

It should be stated that just listing opportunities and strengths should be avoided since the true value of the SWOT analysis lies on the influences' contribution to the establishment of an organization's strategies. Hence, opportunities and threats must be paired to the organization's internal strengths and weaknesses in order to shape a matrix that will eventually aid managers to take the right decisions (Worthington and Britton, 2014).

## **3.6 Limitations**

The present dissertation faces a number of limitations. Most importantly this is a case-study analysis and therefore one should be careful with generalizations. Information from within the company is limited to what the company has announced. Additionally, assumptions and associations between facts that occurred and the results that followed are subject to the writer's subjective judgment and may not be fully accurate. Regarding the data collection, data for the Operating Systems' market share before 2010 could not be acquired.

# Chapter 4

## The Case of Nokia Corporation

Nokia Corporation is a notable example on how a highly successful organization can fall into the strategic drift phase if their strategy is not aligned with the external environment and if their reflexes are not quick enough to adapt to change.

### 4.1 History of NOKIA

Nokia was founded in 1865 as a single mill operation by Fredrik Idestam, a mining engineer. In 1871 Idestam along with his friend, Leo Mechelin, transformed the business into a public limited company called Nokia Ab. After World War I, the Nokia Company was nearing bankruptcy and was acquired by the Finnish Rubber Works - a manufacturer of galoshes and other rubber products. Finnish rubber works also acquired in 1932 the Finnish cable works company, that produced telephone, telegraph, and electrical cables. In 1967 the three companies merged together to form NOKIA Corporation. The newly established company produced a wide range of products such as paper items, car and bicycle tires, rubber boots, communications cables, televisions and other consumer electronics, personal computers, generators, robotics, capacitors, Military technology and equipment, plastics, aluminium and chemicals. In 1979 Nokia and Salora created a Mobira Oy, a joint venture that produced radio telephone equipment. Mobira Oy launched the world's first car-phone, Mobira Senator which weighted approximately 10 kgs.

In 1984 Nokia acquired Salora and launched MobiraTalkman, the first portable phone, which could be used in and out of car, although weighted around 5 Kgs. Three years later the company launched the first hand-held mobile phone, which was a lot lighter than Talkman with a weight of 800 grams. During the 1990's, company's leadership decided to focus solely on the mobile telecommunications market, selling the rest production units in the first few years of the decade. In 1991 the first GSM call was made using Nokia equipment. In 1992 the first handheld GSM phone by Nokia was launched, called Nokia 1011. In 1998 Nokia, Nokia became the world's top mobile phone maker leaving Motorola behind. In the following years Nokia launched a number of successfully models that helped company to keep its market share and establish its name among consumers. The successful course of Nokia won't last for long. In 2008 the launch of the first iPhone by Apple and the introduction of the first Android version, decreased Nokia's profits and market share.

On 2011 Nokia announced a strategic partnership with Microsoft and on 2014 Nokia sold its devices and services division to Microsoft. In 2016 Nokia re-entered the mobile handset business with a licensing agreement with HMD Global allowing them to offer phones under the Nokia brand.

## **4.2 The rise of smartphones**

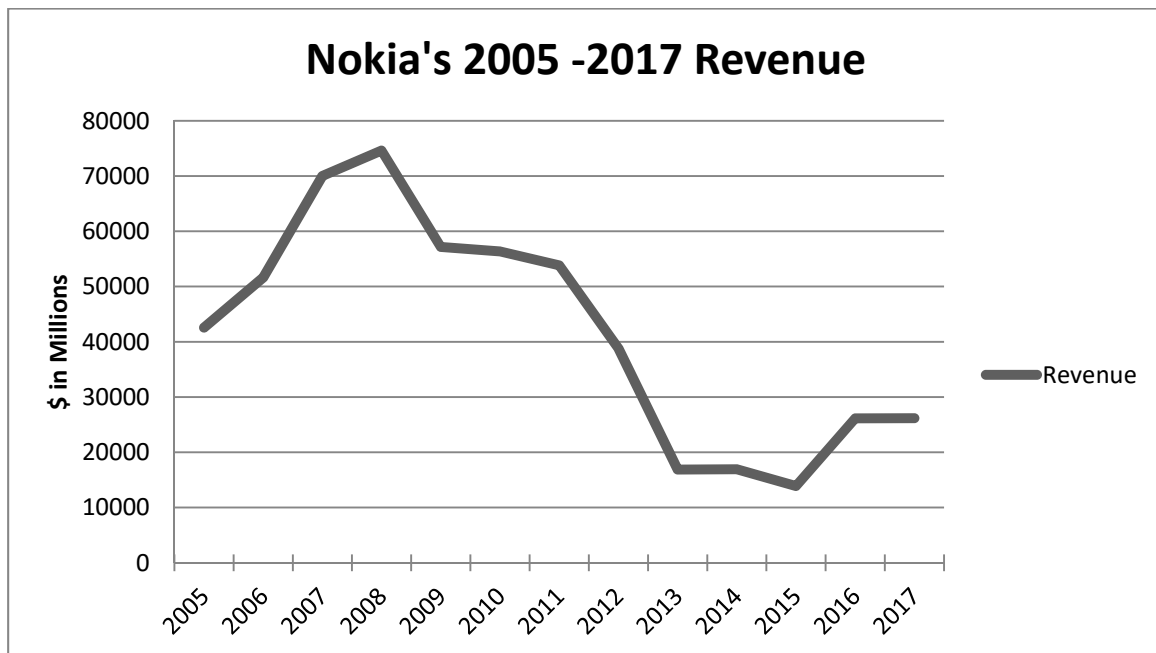
The first smartphone was designed in 1993. It included a touchscreen interface for accessing its calendar, address book, calculator, and other functions (Hosch, 2013). The Ericsson R380 that was launched in 2000 was the first phone to be introduced as a smartphone and the Nokia 9010 Communicator launched in 2001 was the first Symbian phone platform allowing the installation of additional applications. While smartphones were originally targeting a very small range of business consumers due to their higher price and complexity of use compared to feature phones (3% of total handset market in 2004), between 2007 and 2011, the smartphone sales started increasing at a faster pace than feature phones (40% compound annual growth rate, compared to 7% for feature phones rate) (Dziri, 2011). In early 2013 global smartphones sales surpassed sales of feature phones, with a 55% share of the mobile phone market in 2013, up from 42% in 2012 (IDC, 2014).

## **4.3 The fall of Nokia**

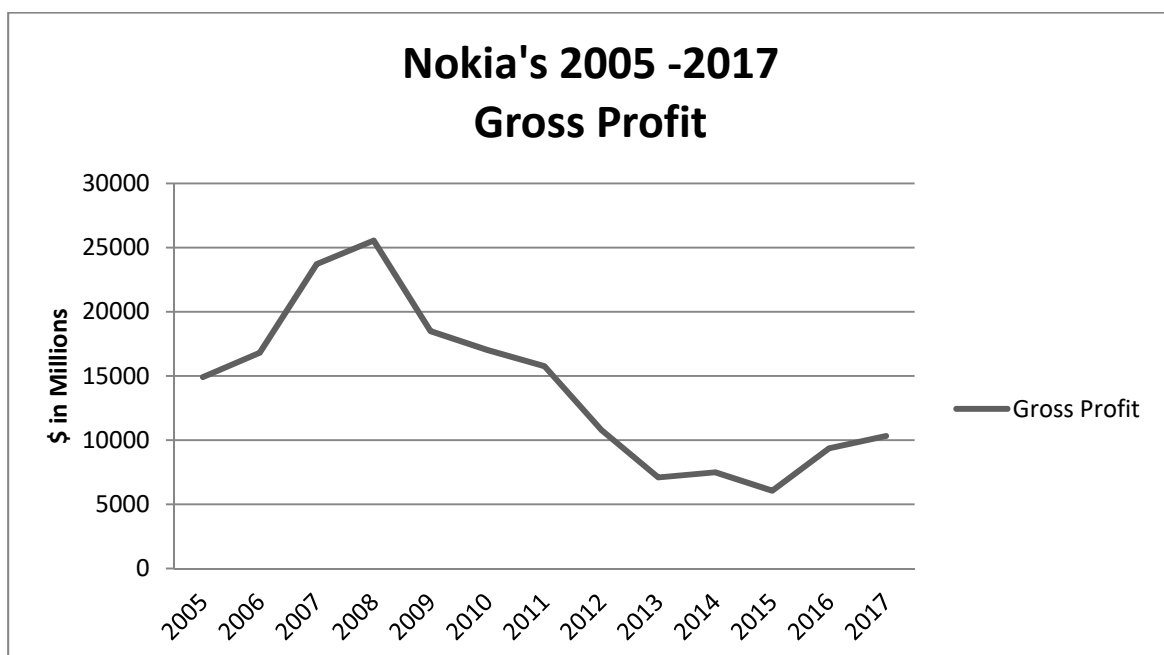
A decade after becoming the biggest phone maker in 1998, Nokia started falling behind its competitors in the most profitable and fastest growing segment of mobile phones, the smartphones. In 2005, Nokia possessed 32.5% of mobile phones market share worldwide, followed by Motorola with 17.7% (Table 2). By the end of 2013 the picture was completely different with Samsung being the leader of the market with 24.6% followed by Nokia (13.9%) and Apple in the third place with 8.3% (Table 2). Additionally, Symbian OS, the primary operation system of Nokia devices started losing its market share percentage gradually, from 34.5% in 2010 to less than 1% in 2015 (Table 3a & Table 3b).

After 2008 and onwards Nokia could not align with the new market trends and undergone into a strategic drift phase that was unable to overcome, resulting in 2013 to the sale of its mobile phones department to Microsoft. Indeed, its revenue shrunk from \$74.6 billion in 2008 to \$13.8 billion in 2015. On the same pattern Gross profit fell from \$23.7 billion on 2007 to \$6 billion in 2015.

Graph 1. Nokia's Revenue 2005-2017

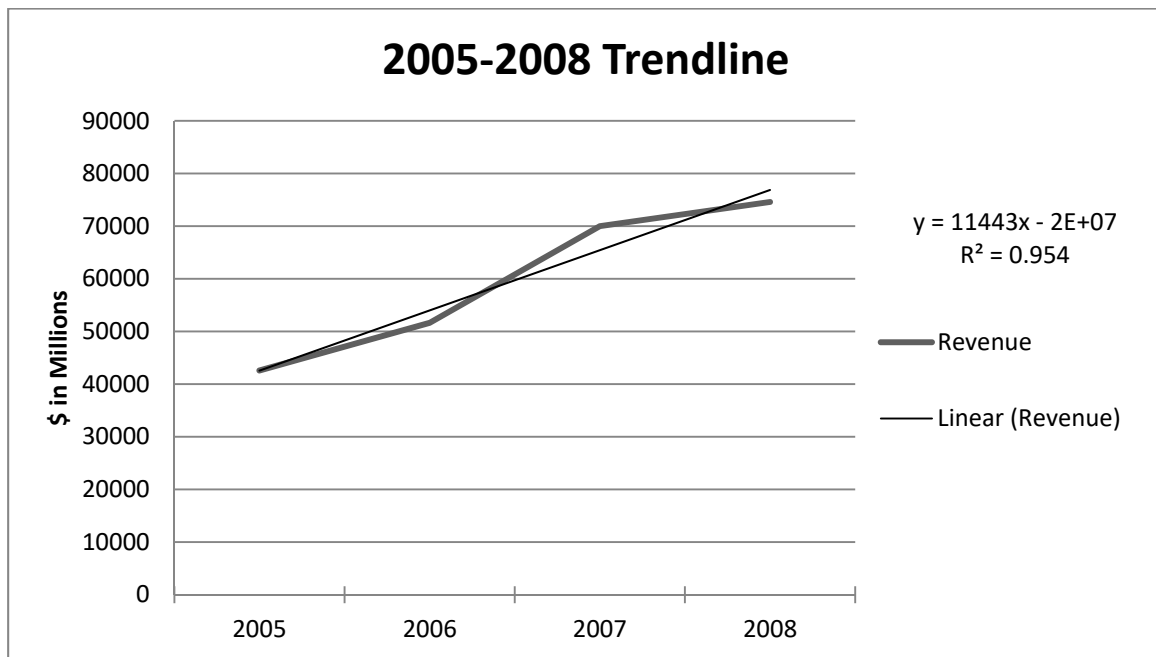


Graph 2. Nokia's 2005-2017 Gross Profit

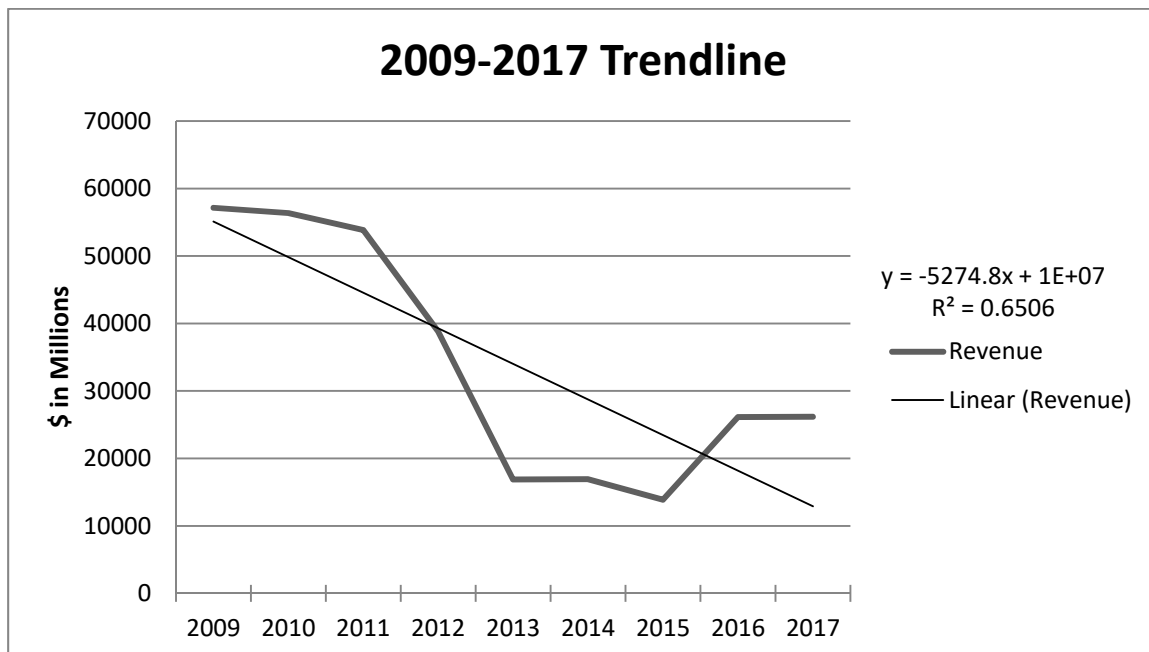


A series of bad decisions along with poor strategic thinking ended Nokia's domination as the top mobile phone manufacturer. Graphs below show how the trendline slope of Nokia's annual income shifted the years 2005 to 2008 compared to 2009 to 2017. In 2009 gross profit decreased by almost \$9 billion, a huge fall that continued the following years.

Graph 3. Nokia's 2005-2008 revenue trendline



Graph 4. Nokia's 2009-2017 revenue trendline



### 4.3.1 Transition to smart phones failure

At a time where more and more companies were beginning to develop and produce smart phones, Nokia underestimated the importance of transition to smart phones. While other competitors were trying to produce reliable and accurate touch screens for their models, Nokia was in the mindset that the touch screen concept will get failed and people will come back to the QWERTY keypad (Williams, 2019). On the other hand, that given time, smart phones were a high-end, low-volume business, on which spending

resources seemed incredibly risky. And even when the company realised that they were left behind, they thought that the strong brand name will help them catch up quickly, something that never happened (Surowiecki, 2013). Indeed, Nokia started losing its leadership in the market with the release of iPhone in June and the announcement of Android by Google the August of 2007 (Dziri, 2011).

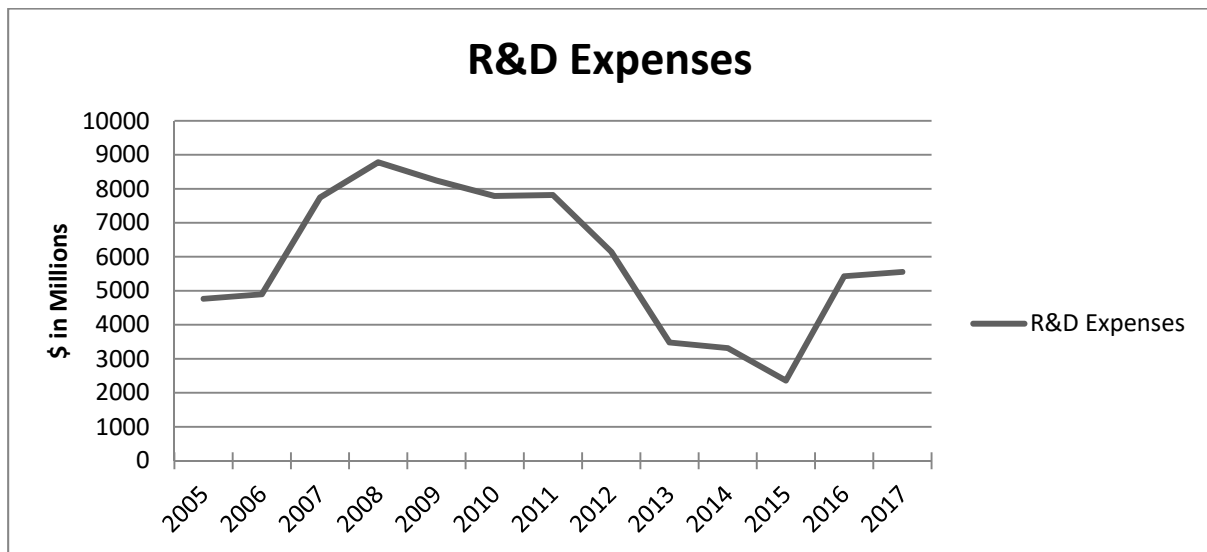
#### **4.3.2 Internal issues**

In 2004 organization reorganized into a Matrix structure. This led to the departure of vital members of the executive team, which led to the deterioration of strategic thinking. Tensions within matrix organisations are common as different groups with different priorities and performance criteria are required to work collaboratively. At Nokia, this had been accustomed to decentralised initiatives, this new way of working proved an anathema. Mid-level executives had neither the experience nor training in the subtle integrative negotiations fundamental in a successful matrix. Beyond 2004, top management was no longer sufficiently technologically savvy or strategically integrative to set priorities and resolve conflicts arising in the new matrix. Increased cost reduction pressures rendered Nokia's strategy of product differentiation through market segmentation ineffective and resulted in a proliferation of poorer quality products (Doz, 2017). The organization was suffering from a bureaucratic structure. Strategic decisions made by senior managers in one part of the firm were often cancelled out by decisions made by other managers, which led to a slow response to the new business challenges. Additionally, Nokia was suffered from a culture that lacked innovative and entrepreneurial spirit that left it unable to keep up with the pace of digital innovation, with a conservative boardroom (Knowledge@Wharton, 2010).

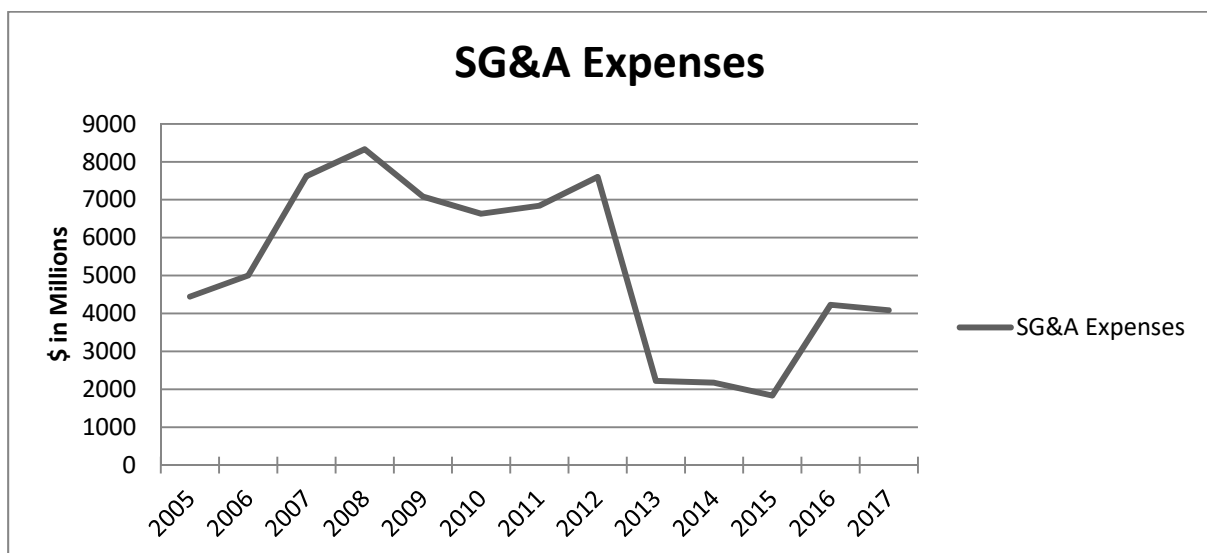
Graphs 5 and 6 below represent Research and development expenses and Selling, General and Administrative expenses respectively. It can be seen that the revenue decrease occurred in 2009 and onwards it is followed by reductions in Research and development and general administration expenses as an attempt to minimize cost and prevent any further losses.



Graph 5. Nokia's Research and Development Expenses



Graph 6. Nokia's Selling, General and Administrative Expenses

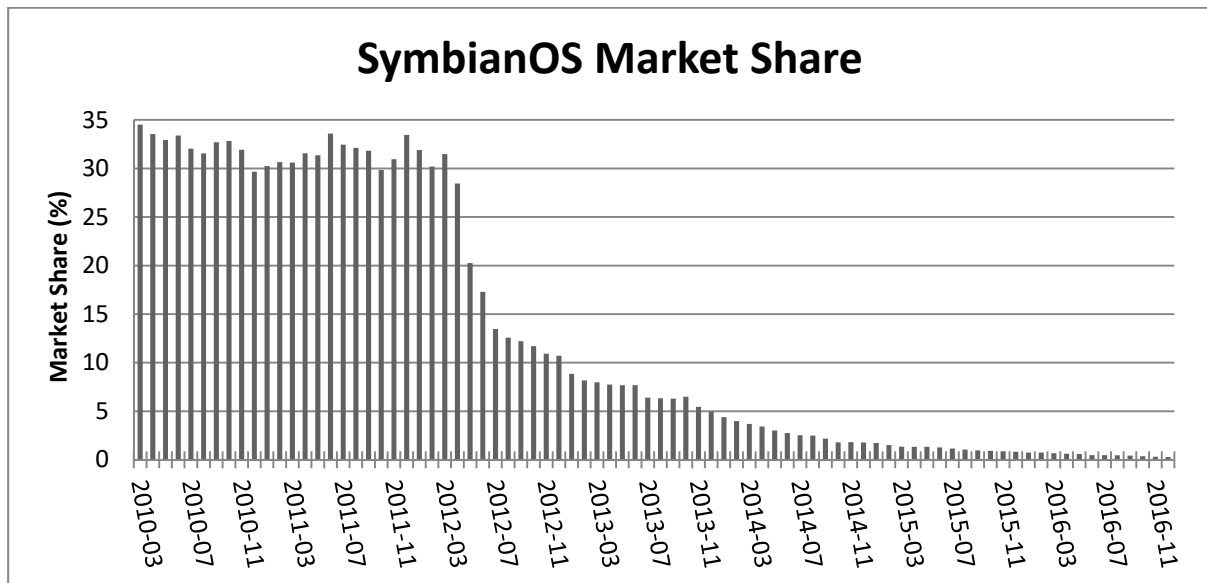


### 4.3.3 Symbian OS

While competitors realized that the newly introduced smart-phones needed a user-friendly touch interface, with apple being the first to implement that with the iOS and others who failed to create their own started to adopt Google's Android for their devices, Nokia insisted on using her own operative system, Symbian (Dziri, 2011). Symbian has been the dominant mobile phone operating system with a 63.1% share of the global market OS in 2007 (Schofield, 2008), but a number of limitations made it non-suitable for smartphones. One of Symbian's drawbacks was the lack of mobile applications and user interface, though efforts were made in order to improve the Symbian OS, still didn't manage to reach the competitor's success. It's an irony that when Google bought open software company called Android and announced the "Open

handset alliance”, a grouping of companies that would join their forces to build open source software for smartphones, Nokia was invited to join, but refused (Neelu, 2014). A second drawback of Symbian was the fact that it was difficult to be developed in order to meet the expanding user requirements, leading to slow product development (Edwards, 2013). By 2010 Symbian held 34.5% of global market share and by 2013 percentage dropped dramatically below 10%.

**Graph 7.** Symbian OS Market Share 2010-2016



#### 4.3.4 Transition to Windows Mobile

Another strategic failure of Nokia was that the transition from Symbian to MeeGo, the platform that succeeded Symbian for a short period of time, and from MeeGo to Windows wasn't quick enough. This led to developers to slow down application development for Nokia phones, which explains why Nokia's App Store was lagging in the number of available downloads (Cuthbertson and Furseth, 2015)

#### 4.3.5 Lack of Ecosystem

What Nokia failed to realize was that smartphone business was less about specific devices and more about ecosystems, a combination of hardware, operating system and of course applications. Apple and Google with Android had attracted the most developers, investors and users (The Economist, 2012). As Stephen Elop, the CEO of Nokia at that time acknowledged in his famous "Burning platform" memo, "The battle of devices has now become a war of ecosystems, where ecosystems include not only the hardware and software of the device, but developers, applications, ecommerce, advertising, search, social applications, location-based services, unified communications and many other things" (Edwards, 2013).

# Chapter 5

## Discussion of the Results

In this chapter the findings from data analysis are presented along with the SWOT analysis and Porter's five forces analysis of the organization the time. Additionally, a comparison with Apple is presented to highlight the different strategies both organizations followed and led to two different results.

### 5.1 Porter 5 forces analysis

It is important to portray the 5 forces as described by Porter, that can give an insight about the existing threats that were present at the time were Nokia started losing its place on the top of mobile phone vendors and eventually lead to the discontinuation of mobile phones production under its brand name.

#### 5.1.1 Threat of competitors

Undisputedly the major competitor of Nokia was Apple's iPhone which held 33.15% of market share in April 2010, in contrast to 37.58% of Nokia. Other more "traditional" competitors had quite smaller shares; RIM's Blackberry 15.86%, Sony 8.3% and Samsung only 2.37% at 2010. Unsurprisingly, the free availability of Android by Google had pushed a lot more competitors (i.e. HTC, LG, Motorola) in the race of smartphones leading to an increased fragmentation and eventually put more pressure to the shoulders of Nokia. As companies were realising that smartphones were the future of mobile phones a race begun in order to establish their brand name as soon as possible. Marketing and advertisement played a huge role in that race with Apple being the leader. Huge release events for every new model, cascades of rumours and "leaked photos" helped them remain at the epicentre of world's interest and helped them multiply their sales and profits. Manufacturers were competing each other in terms of hardware with faster processors, better cameras, more detailed screens and advanced wireless capabilities. Apart from the practical use of phones design also was a major aspect. People started looking at smartphones not only as telephone devices but rather as accessories that could define everyone's status. Hence companies should not only build state of the art devices but also advertise them as such in order to keep their market share or increase it. Competition was not only about hardware but also on the platform side as well. Players were trying to add more content like music, books and films and attract developers in order to build applications for their platforms.

### **5.1.2 Threat of new entrants**

The high demand for smartphones and the free availability of Android by Google opened the way for a number of new players like ZTE, Huawei and Xiaomi to enter the smartphone market. Even computer manufacturers like Acer and Lenovo jumped on the opportunity to exploit their existing Brand reputation with an extension in smartphones. Not only hardware manufacturers, but traditional software companies like Google itself started producing handheld devices. This massive flux of new entrants caused a decrease in market concentration, affecting sales and profits levels.

### **5.1.3 Threat of Suppliers**

From a hardware point of view, Nokia relies on its suppliers to supply equipment for their advanced mobile phones and a large number of equipment makers are involved, so which Nokia could switch to. But when Nokia switched the software of its devices from its own operating system, Symbian, to Windows, Microsoft gain a lot of bargain power, since it was impossible for Nokia to switch to a different supplier at that time (Jeremiah et al, 2018).

### **5.1.4 Threat of buyers**

Given that too many players entered the smartphone market, consumers had a lot of options available according to their budget and needs. But while there were many devices available for anyone to choose, the major operating systems were limited in number. However, switching between different operating systems wasn't an easy option for three main reasons. First, the absence of compatibility between platforms was very likely to lock users who wanted to transfer their applications, contacts and personal data from one platform to another. Second, systems had a completely different interface and user interaction, which implies switching to different platforms, would require adaptation time. Third, network providers in Europe and United States started offering devices with no additional, or reduced cost in exchange of a 12-24 month contract. Before the expiration of this contract consumers are less likely to replace their devices.

### **5.1.5 Threat of substitutes**

Smartphones have few potential substitutes. Tablets and netbooks are not small enough to be carried with, feature phones can only be used for phone calls and SMS, eBook readers have limited connectivity and portable music players cannot be used for phone calls.

## **5.2 SWOT Analysis**

Apart from Porter's Five Forces analysis, SWOT analysis can provide an insight of the external and internal factors that were present at the time of Nokia's fall and played their role on the final outcome. As already mentioned, Strengths and Weaknesses refer

to the internal environment, while opportunities and trends are factors that arise from the external environment of an organization.

### 5.2.1 Strengths

**Brand name:** The Nokia brand at the time was one of the most recognizable names among handheld devices manufacturers worldwide, known for its quality and durable products.

**High market share:** With a market share ranging from 32.8% to 38.6% the years 2005-2008 (Table 2), Nokia was the leader of the mobile phones market, meaning that Nokia had an advantage over the rest of the competitors, but failed to exploit. These advantages included among others:

- *Dedicated customers:* Nokia had a league of followers who were supporting the company and choosing their products over the products of the competition.
- *High quality devices:* Nokia devices are widely known for their durability, extended battery life, fine camera optics and built quality in general.
- *Distribution channels:* Nokia had already established a large and strong distribution channel, to deliver its products all over the world with customer care points and retail shops globally.
- *Experience:* Founded in 19<sup>th</sup> century, it has a leading experience in the field of communications and technology, with a strong experience and knowledge about the markets around the globe.

### 5.2.2 Weaknesses

Internal issues that the organization didn't manage to overcome and didn't realize that were pulling them back from the competition had a major impact on the company's failure. Bad management decisions, lack of expertise and slow reflexes were the Achilles' heel of Nokia.

- *Conservative management:* Manager's weren't technologically savvy enough in order to foresee new technology trend and adapt the organization strategy in order to align with. These led to confusion and eventually lower quality products, and poorly designed smartphones compared to the competition.
- *Poorly implementation of matrix structure:* Company's reorganization in 2004 into a matrix structure and reallocation of important leadership roles led to the deterioration of strategic thinking. Tensions within matrix organizations are common since different groups with different priorities are required to work collaboratively. Mid-level executives had neither the experience nor training in the subtle integrative negotiations fundamental in a successful matrix.
- *Inadequate software development expertise:* Nokia's operating System Symbian was a device-centric system that its code had to be modified and tested for every new device, something that caused delays in new phone launches and increasing

the production cost. By 2009, Nokia was using 57 different and incompatible versions of its operating system.

- *Slow reaction to the competition:* In the growing smartphones marketplace, Nokia was very slow to take an initiative and be more competitive in the market. They also did not take into consideration the competition by the small at that time companies like Huawei and Xiaomi that were entering the market
- *Unable to forecast the future:* Nokia's management was incapable of foreseeing what the future of mobile devices was. Consumers were attracted more on devices with larger screens with user-friendly touch interface and connectivity options that offer a plethora of applications and content rather than devices with high battery stamina and high durability.

### 5.2.3 Opportunities

Several opportunities arose at that time from market's transition to smartphones and the economic development of poorer countries that would benefit Nokia if were able to foresee how to exploit them in order to maximize their profits, but they didn't.

- **Smartphones demand:** The rapid expansion of the smartphones market could be a great opportunity for Nokia expand its services and product range and increase its sales even more.
- **Adaption of Android:** When Google bought Android, it started the "Open handheld alliance", a grouping of companies that would join their forces to build an open source software for smartphones, Nokia was invited to join, but refused. If Nokia had chosen to adapt Android instead of Windows Phone OS, the outcome would probably be a lot better for the company.
- **Development of underdeveloped countries:** The demand for mobile phone devices from developed countries started to increase opening a whole new market potential for mobile phones manufacturers that saw their sales increasing drastically.
- **Applications and platforms ecosystem:** The rise of smartphones demand was followed by the need for applications and content available for each platform. Consumers were looking for applications that would make them use all the advanced capabilities of their devices and make their everyday lives simpler, as well as content to enjoy on their devices such as music, videos, films and e-books.

### 5.2.4 Threats

Along with opportunities, great threats arose as well. New players from other industries appeared in the market that caused an expansion of the current competition that along with the new customers' habits transformed radically the mobile phone industry.

- **Apple's iPhone popularity:** When Apple announced the first iPhone, it started a worldwide frenzy with fans waiting in lines outside of Apple's stores in order to by first the new phone. Apple's marketing, iPhones innovative design, easy-to-

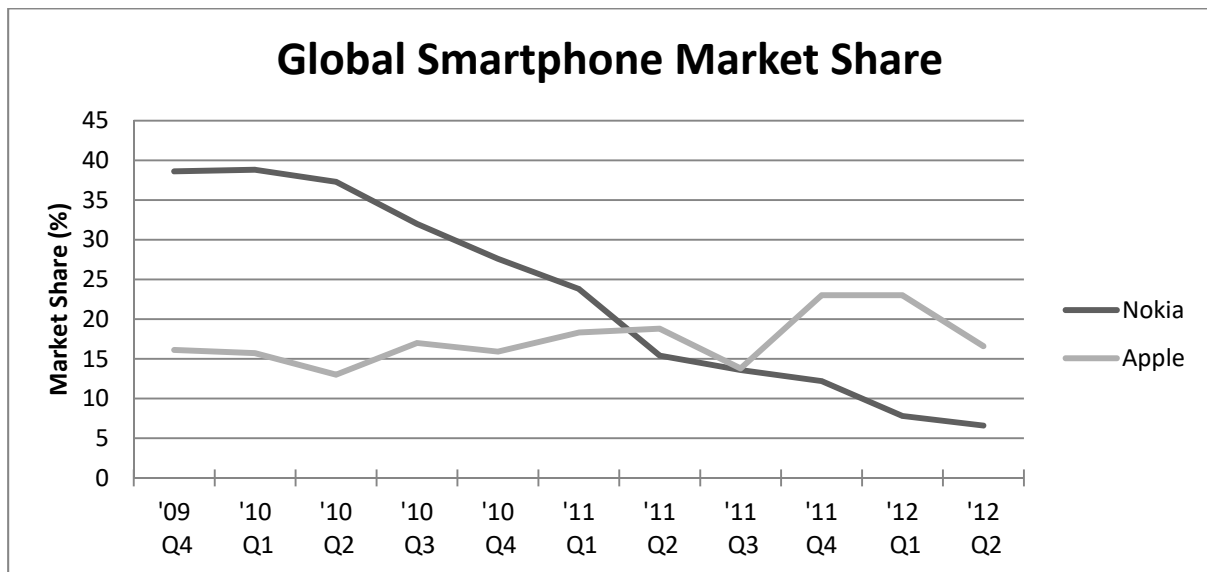
use interface, iTunes compatibility and company's reputation made iPhone the player that changed the future of mobile phones forever.

- Android OS: While the rest manufacturers couldn't build an operative system that could beat iOS by Apple, they were turned to Android instead. Android was free to use, easy to use, offered a lot of applications, had low hardware requirements and was backed by Google, a giant software provider.
- High competition: Apart from Apple, more and more competitors started to enter the market and growing rapidly. Companies like Samsung, HTC, LG, Huawei and Xiaomi soon became strong competitors that pushed Nokia back and shrunk its market share and reputation.
- Change on customer habits: New customer needs and preferences affected Nokia that was following a completely different strategy the years before; a strategy that made it the greatest player in the market. Soon it became obvious that Nokia couldn't adjust fast enough to the new requirements set by the customers, perhaps because they were over confident enough that consumers will eventually turn back to their old habits.

### **5.3 Nokia versus Apple**

At the rise of the smartphone era, Apple did all the right choices in order to become a leader in the market. Producing zero mobile phones before 2008, it already possessed 16% of global smartphone market share by the fourth quarter of 2009 and 23% by the end of 2011, in contrast to Nokia who increased its global smartphone market share by 30 percentage units in just two years (Graph. 8). The comparison of Nokia versus Apple gives an insight on what could Nokia done in order to maintain itself as a successful vendor. Apple listened to the customers and their needs and shaped its product to meet their requirements. The company realized that the future of mobile phone was the smartphone and that consumers didn't pay much attention to the device per se but the services that accompanied them. In other words what Apple did was to adapt to the changing environment while Nokia expected the environment to adapt on them. But it never did.

**Graph 8.** Global smartphone market share held by Nokia and Apple from 4th quarter 2009 to 2nd quarter 2012 from statista.com (2020, Adapted)

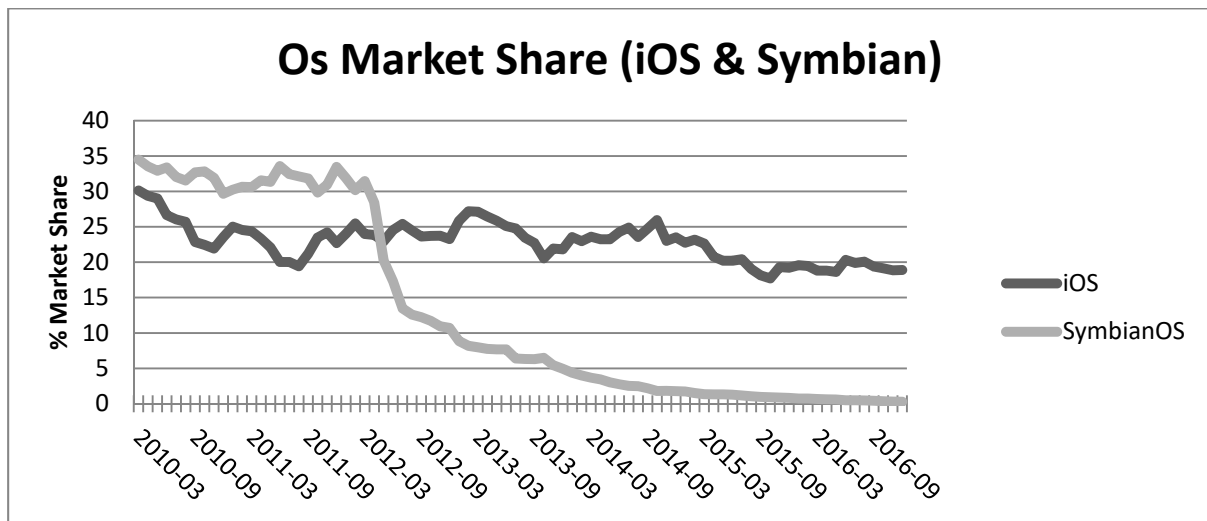


Apple is an American, multinational technology company, founded in 1976 that designs, develops and sells consumer electronics, computer software and online services. From a garage start up, the newly founded company by 1980 netted over \$100 million and had more than 1,000 employees. In 1984 Apple released Macintosh, a device with innovative features at the time graphic user interface, on screen windows and icons and a pointing device known as mouse, the predecessor of today’s Mac personal computer. In 2001 Apple introduced two new products. iTunes, a computer program for playing music and converting audio files to MP3 digital format commonly used in computers and other digital devices, and iPod, a portable MP3 player, which quickly became the market leader.

Later models added larger storage capacities or smaller sizes, color screens, and video playback features. In 2003 Apple began selling downloadable copies of major record company songs in MP3 format over the Internet. By 2006 more than one billion songs and videos had been sold through Apple’s Web site (Levy, 2019). The huge success of iPod, led to the announcement of Apple’s first smartphone, the iPhone in 2007, because the company feared that some mobile phone manufacturer would add music download and listening functionalities to its mobile phones and suppress the need for an iPod. iPhone became an instant hit as well, and by 2013 had captured almost 40 percent of the US smartphone market and over 50 percent of the operating profit in the global handset industry. Apple sold five times more smartphones than Nokia (150 million iPhones compared to 30 million Lumia windows Phones) (Cuthbertson et al. 2015:111-112).

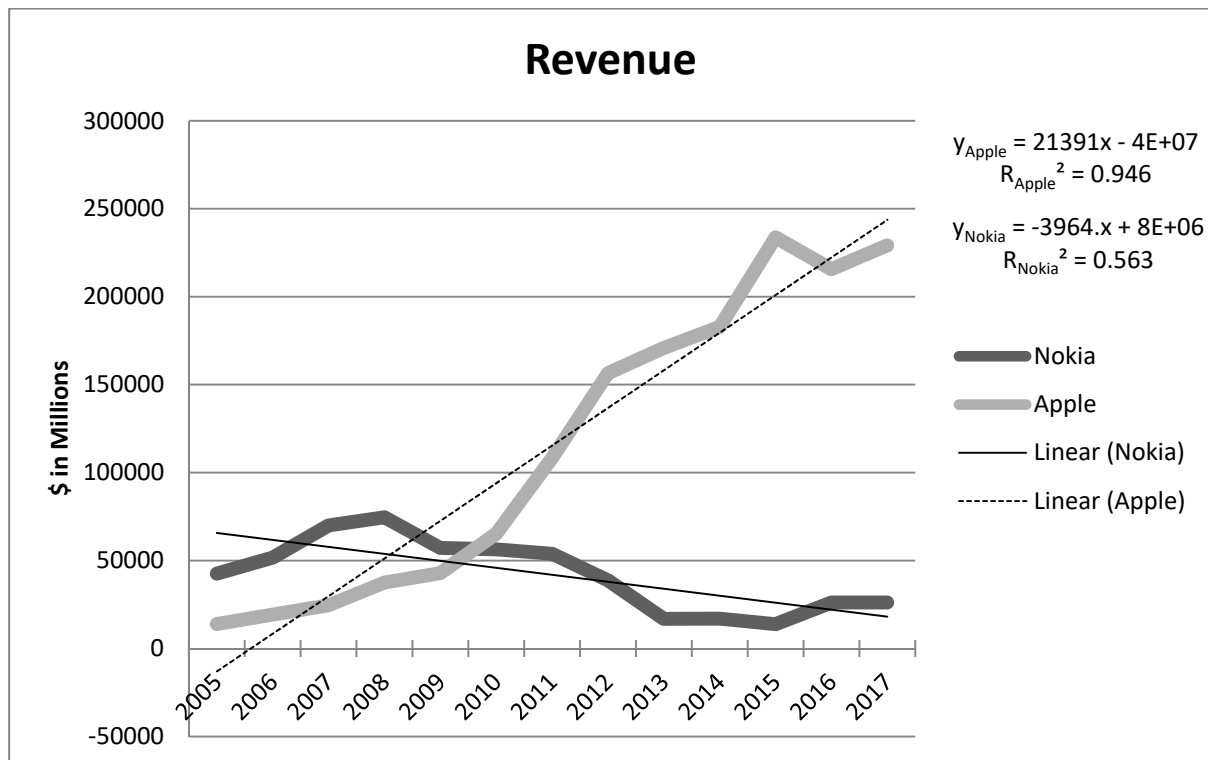


Graph 9. Market Share percentage of iOS and Symbian OS from March 2010 to December 2016



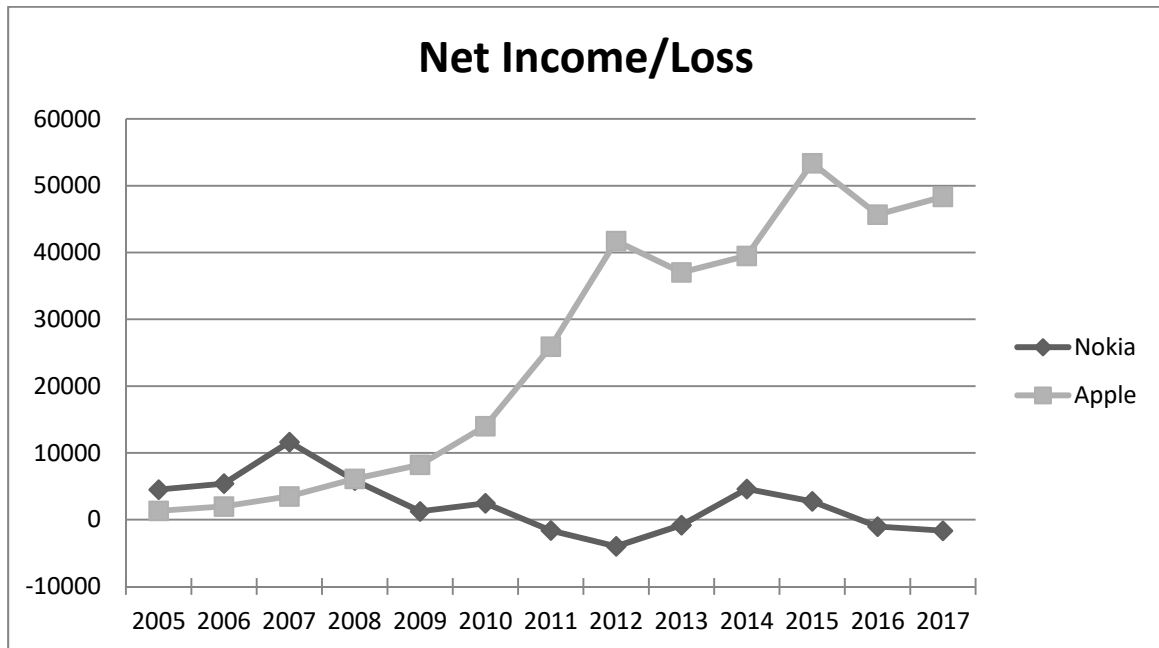
The iOS, the operating system installed on Apple’s mobile devices was highly successful, gaining a significant share of the mobile phones’ market from the early years of its distribution, ranging from 30% to 19% the period March 2010 to December 2016. On the other hand, Nokia’s OS, Symbian fell to the bottom losing 26% of the market share in just 3 years (Graph 9). Graph 9 reflects Market share % not only for smartphones but for feature phones also; Symbian was installed to Nokia’s feature phones as well, which explains why market share of Symbian was higher than iOS till May 2012, while in fact Apple was selling more smartphones devices than Nokia. Apple never produced any feature phone. The small decline of iOS over the years can be explained by the increasing popularity of Android and the increasing number of competitors that were entering the market.

**Graph 10.** Revenue of Apple and Nokia 2005-2018



A revenue analysis of both companies reveals their course through the years. While Nokia’s revenue was increasing until 2008, after 2009 the fall had begun. At the same time Apple’s revenue was increasing steadily and in 2010 it was the first time that Nokia had lower revenue than Apple, a state which continues to the years after. Trendlines for both companies reveal how their revenues will continue to increase or decrease in the future. Apple’s revenue increase will continue with a fast rate, while Nokia’s will keep falling but with a slower rate (Graph 10). Same conclusions can be conducted by the Net income to loss ratio figure (Graph 11). Apple’s ratio is increasing without any negative values while being a lot higher compared to Nokia’s. The net income/loss ratio of Nokia dropped below zero on 2011, 2012 and 2013. It emerged above zero again in 2014 after Nokia sold its mobile phone division to Microsoft to drop again in 2016.

Graph 8. Net Income to Loss Ratio



Apple's successful course is in total contrast with Nokia's failure over the "smartphone era" because Apple realized from the beginning that it wasn't just about the mobile device itself, but also the platform and ecosystem the device was a part of. On the other hand, Nokia insisted on a device-first paradigm, who failed to adapt quickly to a mobile ecosystem approach, which lead to the company's decline.

# Chapter 6

## Conclusions

The alignment of an organization with the external environment is crucial for its success. Failure to align can be resulted from a number of factors such as strategic wear-out, inability to detect the warning signals or ignore them, conservatism and strategic gap. Sudden and dramatic changes that are not detected soon enough can get the organization out of line. Failure can also be a result of the “Icarus paradox”, the idea of a leading organization that it doesn’t to adapt to the environment because the environment has to adapt to them.

A combination of the above reasons led to Nokia’s failure. The drift started mainly because company was incapable of realizing that a new era, the smartphone era was emerging. There thought was that consumers will stay loyal to the QWERTY, feature phones devices instead of the touchscreen smart ones, as they did the previous years. The company’s unsuccessful reorganization became highly bureaucratic, with minimal communication between management and staff that pressured for cost reduction, who thought that it was a risk to spend money for smartphone development. The time where other competitors were launching more simple and user friendly operating systems, Nokia insisted on its own OS, Symbian, which was perfect for feature phones but insufficient for smart devices, with no app store or other pay on demand services like music, books and films. Symbian in other words couldn’t provide a complete ecosystem. When company executives realized it they made an agreement with Microsoft in order to apply Windows mobile on their devices, but the transition was not fast enough for them to remain competitive and gain the lost ground.

The Nokia’s strategic drift can be broken down into four discrete phases as Johnson (2008) suggests:

Phase 1: Until 2008 Nokia was aligned with the external operating environment and the company was thriving, profits were increasing and market share was expanding.

Phase 2: 2009 and onwards, organization fell to the actual strategic drift phase. Financial performance indicators such as revenue and gross profit started to fall (Graph.1 and Graph. 2), indicating that company’s strategy started to drift apart and divert from its initial goal.

Phase 3: The flux. Nokia had realized that they have to change their strategy in order to prevent further loss and overcome destruction. In a desperate move they switched from Symbian OS to MeeGo for a short period of time and then to Windows mobile, slowing

down the development of mobile apps which could salvage the brand. Phase 4: Nokia failed to recover, which ended to the mobile division sale to Microsoft on 2014.

Nokia could have been saved if executives were more open-minded and out of the box thinkers so they could understand that consumers were changing habits. Their inability to forecast the future of the mobile market and exploit the new opportunities that arose that time, like the smartphone increasing demand, the Android availability, the rising demand from developing countries and the emerging market of applications and content, became the anathema for the organization and ended its successful course of the past.

The case of Nokia must become an example of avoidance to all organizations. Their executives must be aware that no matter how successful an organization is, if it doesn't respond to external stimuli on time and doesn't adapt, is facing the risk of failure.

Additional case studies must be conducted for organizations that also had undergone strategic drift in an effort to gather all the possible reasons and special instances that can lead to that result, as a way to help companies to be aware and identify warning signals before it is too late.

# Appendixes

## Appendix A

**Table 1.** Worldwide Mobile Phone Sales to End Users by Vendor (Thousands of Units)

Company	Nokia	Apple	Motorola & Lenovo	Samsung	LG	Sony Ericsson	Others
2005	265,614.80	N/A	144,920.40	103,753.60	54,924.60	51,773.80	195,575.70
2006	344,915.90	N/A	209,250.90	116,480.10	61,986.00	73,641.60	184,588.00
2007	435,453.10	N/A	164,307.00	154,540.70	78,576.30	101,358.40	218,604.30
2008	472,314.90	N/A	106,522.40	199,324.30	102,789.10	93,106.10	248,196.10
2009	440,881.60	N/A	58,475.20	235,772.00	122,055.30	54,873.40	299,179.20
2010	461,318.20	46,598.30	38,553.70	281,065.80	114,154.60	41,819.20	613292.7
2011	422,478.30	89,263.20	40,269.00	313,904.20	86,370.90	32,597.50	789680.9
2012	333,938.00	130,133.20	33,916.30	384,631.20	58,015.90	N/A	738,196.60
2013	250,793.10	150,785.90	45,284.70	444,444.20	69,024.50	37,595.70	854,321
2014	185,660.00	191,426.00	84,029.00	392,546.00	76,096.00	37,791.00	911,418.00

Source: Gartner Reports

**Table 2.** % of Market Share of Worldwide Mobile Phone Sales to End Users by Vendor

Company	Nokia	Apple	Motorola & Lenovo	Samsung	LG	Sony Ericsson	Others
2005	32.50	N/A	17.70	12.70	6.70	6.30	24.10
2006	34.80	N/A	21.10	11.80	6.30	7.40	18.60
2007	37.80	N/A	14.30	13.40	6.80	8.80	18.90
2008	38.60	N/A	8.70	16.30	8.40	7.60	20.30
2009	36.40	N/A	4.80	16.30	8.40	4.50	24.70
2010	28.90	2.90	2.40	17.60	7.10	2.60	38.5
2011	23.80	5.00	2.30	17.70	4.90	1.80	44.5
2012	19.10	7.50	1.90	22.00	3.30	N/A	46.20
2013	13.90	8.30	2.50	24.60	3.80	2.10	45
2014	9.90	10.20	4.50	20.90	4.00	2.00	48.50

Source: Gartner Reports

**Table 3a.** % of mobile phones Operating Systems market share worldwide

<b>Date</b>	<b>Android</b>	<b>iOS</b>	<b>SymbianOS</b>	<b>BlackBerry OS</b>	<b>Others</b>
<b>2010-03</b>	5.9	30.13	34.51	12.73	16.71
<b>2010-04</b>	5.58	29.38	33.54	14.06	17.45
<b>2010-05</b>	3.94	29.01	32.92	14.15	19.98
<b>2010-06</b>	3.95	26.66	33.39	14.98	21.03
<b>2010-07</b>	7.91	26.05	32.04	16.45	17.55
<b>2010-08</b>	9.22	25.71	31.54	16.95	16.57
<b>2010-09</b>	9.79	22.85	32.69	17.9	16.78
<b>2010-10</b>	10.67	22.45	32.83	18.19	15.87
<b>2010-11</b>	11.61	21.94	31.93	19.25	15.27
<b>2010-12</b>	13.6	23.57	29.66	18.04	15.12
<b>2011-01</b>	14.61	25.02	30.25	15.03	15.11
<b>2011-02</b>	15.16	24.56	30.66	14.52	15.1
<b>2011-03</b>	15.8	24.38	30.61	14.1	15.11
<b>2011-04</b>	16.05	23.34	31.56	13.54	15.49
<b>2011-05</b>	17.63	22.09	31.36	12.94	15.98
<b>2011-06</b>	17.92	20.04	33.58	12.15	16.31
<b>2011-07</b>	18.93	20.03	32.45	12.48	16.12
<b>2011-08</b>	20.6	19.41	32.12	11.84	16.02
<b>2011-09</b>	20.9	21.21	31.83	10.72	15.34
<b>2011-10</b>	22.11	23.48	29.84	9.49	15.1
<b>2011-11</b>	21.9	24.21	30.95	8.44	14.5
<b>2011-12</b>	21.83	22.71	33.46	7.78	14.23
<b>2012-01</b>	23.21	24.04	31.89	6.94	13.93
<b>2012-02</b>	24.76	25.49	30.19	6.76	12.81
<b>2012-03</b>	23.61	23.99	31.48	6.43	14.49
<b>2012-04</b>	23.79	23.85	28.45	6.1	17.81
<b>2012-05</b>	23.81	22.95	20.25	5.66	27.33
<b>2012-06</b>	25.07	24.56	17.29	5.26	27.81
<b>2012-07</b>	26.53	25.41	13.47	4.96	29.63
<b>2012-08</b>	28.21	24.48	12.58	4.65	30.07
<b>2012-09</b>	29.25	23.63	12.22	4.54	30.36
<b>2012-10</b>	30.19	23.72	11.7	4.29	30.1
<b>2012-11</b>	31.67	23.73	10.93	3.93	29.73
<b>2012-12</b>	33.19	23.26	10.72	3.53	29.29
<b>2013-01</b>	36.87	25.85	8.86	3.39	25.02
<b>2013-02</b>	36.9	27.21	8.18	3.32	24.39
<b>2013-03</b>	37.23	27.14	7.98	3.27	24.38
<b>2013-04</b>	38.34	26.46	7.75	3.27	24.19
<b>2013-05</b>	38.27	25.86	7.68	3.47	24.72
<b>2013-06</b>	37.93	25.09	7.69	3.46	25.82
<b>2013-07</b>	38.34	24.79	6.39	3.66	26.82

**Table 3b.** % of mobile phones Operating Systems market share worldwide (Continued)

<b>2013-08</b>	39.52	23.44	6.33	3.75	26.94
<b>2013-09</b>	39.82	22.73	6.3	3.75	27.41
<b>2013-10</b>	39.39	20.54	6.49	3.81	29.76
<b>2013-11</b>	41.31	21.94	5.45	3.84	27.45
<b>2013-12</b>	42.99	21.82	4.95	3.63	26.61
<b>2014-01</b>	44.62	23.55	4.39	3.02	24.43
<b>2014-02</b>	47.45	22.97	3.99	2.62	22.96
<b>2014-03</b>	48.26	23.6	3.69	2.5	21.96
<b>2014-04</b>	49.95	23.25	3.43	2.16	21.22
<b>2014-05</b>	52.23	23.24	3.02	1.88	19.63
<b>2014-06</b>	52.98	24.29	2.76	1.87	18.1
<b>2014-07</b>	53.51	24.9	2.52	1.66	17.42
<b>2014-08</b>	54.87	23.57	2.49	1.59	17.47
<b>2014-09</b>	55.7	24.73	2.18	1.57	15.84
<b>2014-10</b>	57.43	25.96	1.8	1.29	13.51
<b>2014-11</b>	59.9	23.02	1.82	1.3	13.97
<b>2014-12</b>	59.15	23.51	1.79	1.33	14.24
<b>2015-01</b>	59.78	22.75	1.73	1.3	14.44
<b>2015-02</b>	60.79	23.17	1.52	1.2	13.31
<b>2015-03</b>	61.94	22.64	1.36	1.2	12.85
<b>2015-04</b>	63.43	20.78	1.33	1.22	13.23
<b>2015-05</b>	64	20.22	1.33	1.14	13.31
<b>2015-06</b>	63.75	20.22	1.28	1.26	13.49
<b>2015-07</b>	64.08	20.41	1.16	1.19	13.15
<b>2015-08</b>	65.56	19.03	1.06	1.35	13.03
<b>2015-09</b>	66.77	18.14	0.97	1.26	12.88
<b>2015-10</b>	67.15	17.7	0.92	1.09	13.15
<b>2015-11</b>	65.73	19.3	0.88	1	13.09
<b>2015-12</b>	65.9	19.21	0.82	1.08	12.99
<b>2016-01</b>	66.28	19.58	0.75	0.98	12.41
<b>2016-02</b>	66.38	19.47	0.74	0.98	12.44
<b>2016-03</b>	68.04	18.82	0.68	0.91	11.55
<b>2016-04</b>	68.28	18.8	0.63	0.95	11.33
<b>2016-05</b>	68.84	18.63	0.6	0.93	11
<b>2016-06</b>	68.39	20.33	0.48	0.83	9.97
<b>2016-07</b>	68.79	19.89	0.48	0.76	10.1
<b>2016-08</b>	68.54	20.07	0.47	0.64	10.31
<b>2016-09</b>	69.68	19.38	0.43	0.6	9.92
<b>2016-10</b>	70.84	19.12	0.36	0.56	9.11
<b>2016-11</b>	72.01	18.85	0.31	0.52	8.31
<b>2016-12</b>	71.97	18.89	0.29	0.44	8.42

Source: Statcounter Global Stats



**Table 4.** Nokia's Income Statements (Millions of US \$ except per share data)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Revenue</b>	\$ 42,567.79	\$ 51,647.97	\$ 70,000.51	\$ 74,594.41	\$ 57,156.28	\$ 56,364.04	\$ 53,844.25	\$ 38,809.35	\$ 16,881.37	\$ 16,924.65	\$ 13,878.89	\$26,131.25	\$26,163.05
<b>Cost Of Goods Sold</b>	\$ 27,650.20	\$ 34,843.95	\$ 46,276.73	\$ 49,038.72	\$ 38,658.31	\$ 39,344.34	\$ 38,079.15	\$ 28,018.97	\$ 9,781.60	\$ 9,430.06	\$ 7,823.88	\$16,773.84	\$15,833.24
<b>Gross Profit</b>	\$ 14,917.59	\$ 16,804.02	\$ 23,723.78	\$ 25,555.69	\$ 18,497.97	\$ 17,019.70	\$ 15,765.10	\$ 10,790.38	\$ 7,099.76	\$ 7,494.59	\$ 6,055.01	\$ 9,357.41	\$10,329.81
<b>Research And Development Expenses</b>	\$ 4,762.12	\$ 4,894.63	\$ 7,742.03	\$ 8,778.92	\$ 8,240.69	\$ 7,785.47	\$ 7,816.39	\$ 6,150.13	\$ 3,478.82	\$ 3,313.95	\$ 2,360.71	\$ 5,426.77	\$ 5,556.56
<b>SGandA Expenses</b>	\$ 4,444.65	\$ 4,998.88	\$ 7,622.76	\$ 8,331.74	\$ 7,081.77	\$ 6,628.87	\$ 6,841.43	\$ 7,602.13	\$ 2,219.59	\$ 2,172.08	\$ 1,834.38	\$ 4,226.11	\$ 4,086.03
<b>Other Operating Income Or Expenses</b>									\$ -711.97	\$ -175.47	\$ 14.44	\$ -921.80	\$ -669.14
<b>Operating Expenses</b>	\$ 36,856.97	\$ 44,737.46	\$ 61,641.52	\$ 66,149.38	\$ 53,980.77	\$ 53,758.68	\$ 52,736.97	\$ 41,771.23	\$ 16,191.98	\$ 15,091.54	\$ 12,004.53	\$27,348.51	\$26,144.97
<b>Operating Income</b>	\$ 5,710.82	\$ 6,910.21	\$ 8,358.98	\$ 8,445.02	\$ 3,175.51	\$ 2,605.36	\$ 1,107.28	\$ -2,961.88	\$ 689.39	\$ 1,833.10	\$ 1,874.36	\$-1,217.26	\$ 18.09
<b>Total Non-Operating Income/Expense</b>	\$ 478.08	\$ 277.57	\$ 2,976.44	\$ -1,134.14	\$ -1,833.89	\$ -233.71	\$ -2,775.85	\$ -438.56	\$ -366.61	\$ -2,148.15	\$ -164.34	\$ -297.68	\$ -594.54
<b>Pre-Tax Income</b>	\$ 6,188.89	\$ 7,188.08	\$ 11,335.42	\$ 7,310.87	\$ 1,341.60	\$ 2,371.62	\$ -1,668.57	\$ -3,400.44	\$ 322.78	\$ -315.04	\$ 1,710.02	\$-1,514.94	\$ -576.45
<b>Income Taxes</b>	\$ 1,594.84	\$ 1,704.39	\$ 2,086.66	\$ 1,590.15	\$ 979.00	\$ 588.25	\$ 403.91	\$ 1,472.58	\$ 268.32	\$ -1,871.65	\$ 384.20	\$ -505.72	\$ 1,047.79
<b>Income After Taxes</b>	\$ 4,594.05	\$ 5,483.69	\$ 9,248.76	\$ 5,720.72	\$ 362.60	\$ 1,783.37	\$ -2,072.48	\$ -4,873.02	\$ 54.46	\$ 1,556.61	\$ 1,325.82	\$-1,009.22	\$-1,624.24
<b>Income From Continuous Operations</b>	\$ 4,280.43	\$ 5,255.27	\$ 7,688.86	\$ 7,106.83	\$ 3,451.66	\$ 3,095.48	\$ 1,395.15	\$ -862.90	\$ 54.46	\$ 1,556.61	\$ 1,325.82	\$-1,009.22	\$-1,624.24
<b>Income From Discontinued Operations</b>									\$ -1,036.07	\$ 3,064.04	\$ 1,414.65	\$ -16.60	\$ -23.74
<b>Net Income</b>	\$ 4,501.92	\$ 5,408.33	\$ 9,878.05	\$ 5,866.34	\$ 362.59	\$ 1,783.36	\$ -2,072.48	\$ -4,873.03	\$ -816.91	\$ 4,602.04	\$ 2,738.25	\$ -847.66	\$-1,688.67
<b>EBITDA</b>	\$ 5,710.82	\$ 6,910.51	\$ 8,358.98	\$ 8,445.02	\$ 3,175.51	\$ 2,605.36	\$ 1,107.28	\$ -2,961.88	\$ 1,656.39	\$ 2,227.91	\$ 2,229.68	\$ 546.66	\$ 1,816.39
<b>EBIT</b>	\$ 5,710.82	\$ 6,910.51	\$ 8,358.98	\$ 8,445.02	\$ 3,175.51	\$ 2,605.36	\$ 1,107.28	\$ -2,961.88	\$ 689.39	\$ 1,833.10	\$ 1,874.36	\$-1,217.26	\$ 18.09

Source: Macrotrends.net

Table 5. Apple's Income Statements (Millions of US \$ except per share data)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Revenue</b>	\$ 13,931.00	\$ 19,315.00	\$ 24,578.00	\$ 37,491.00	\$ 42,905.00	\$ 65,225.00	\$ 108,249.00	\$ 156,508.00	\$ 170,910.00	\$ 182,795.00	\$ 233,715.00	\$ 215,639.00	\$ 229,234.00
<b>Cost Of Goods Sold</b>	\$ 9,889.00	\$ 13,717.00	\$ 16,426.00	\$ 24,294.00	\$ 25,683.00	\$ 39,541.00	\$ 64,431.00	\$ 87,846.00	\$ 106,606.00	\$ 112,258.00	\$ 140,089.00	\$ 131,376.00	\$ 141,048.00
<b>Gross Profit</b>	\$ 4,042.00	\$ 5,598.00	\$ 8,152.00	\$ 13,197.00	\$ 17,222.00	\$ 25,684.00	\$ 43,818.00	\$ 68,662.00	\$ 64,304.00	\$ 70,537.00	\$ 93,626.00	\$ 84,263.00	\$ 88,186.00
<b>Research And Development Expenses</b>	\$ 535.00	\$ 712.00	\$ 782.00	\$ 1,109.00	\$ 1,333.00	\$ 1,782.00	\$ 2,429.00	\$ 3,381.00	\$ 4,475.00	\$ 6,041.00	\$ 8,067.00	\$ 10,045.00	\$ 11,581.00
<b>SG&amp;A Expenses</b>	\$ 1,864.00	\$ 2,433.00	\$ 2,963.00	\$ 3,761.00	\$ 4,149.00	\$ 5,517.00	\$ 7,599.00	\$ 10,040.00	\$ 10,830.00	\$ 11,993.00	\$ 14,329.00	\$ 14,194.00	\$ 15,261.00
<b>Other Operating Income Or Expenses</b>													
<b>Operating Expenses</b>	\$ 12,288.00	\$ 16,862.00	\$ 20,171.00	\$ 29,164.00	\$ 31,165.00	\$ 46,840.00	\$ 74,459.00	\$ 101,267.00	121,911	\$ 130,292.00	\$ 162,485.00	\$ 155,615.00	\$ 167,890.00
<b>Operating Income</b>	\$ 1,643.00	\$ 2,453.00	\$ 4,407.00	\$ 8,327.00	11,740	\$ 18,385.00	\$ 33,790.00	\$ 55,241.00	\$ 48,999.00	\$ 52,503.00	\$ 71,230.00	\$ 60,024.00	\$ 61,344.00
<b>Total Non-Operating Income/Expense</b>	\$ 165.00	\$ 365.00	\$ 599.00	\$ 620.00	\$ 326.00	\$ 155.00	\$ 415.00	\$ 522.00	\$ 1,156.00	\$ 980.00	\$ 1,285.00	\$ 1,348.00	\$ 2,745.00
<b>Pre-Tax Income</b>	\$ 1,808.00	\$ 2,818.00	\$ 5,006.00	\$ 8,947.00	\$ 12,066.00	\$ 18,540.00	\$ 34,205.00	\$ 55,763.00	\$ 50,155.00	\$ 53,483.00	\$ 72,515.00	\$ 61,372.00	\$ 64,089.00
<b>Income Taxes</b>	\$ 480.00	\$ 829.00	\$ 1,511.00	\$ 2,828.00	\$ 3,831.00	\$ 4,527.00	\$ 8,283.00	\$ 14,030.00	13,118	\$ 13,973.00	\$ 19,121.00	\$ 15,685.00	\$ 15,738.00
<b>Income After Taxes</b>	\$ 1,328.00	\$ 1,989.00	\$ 3,495.00	\$ 6,119.00	\$ 8,235.00	\$ 14,013.00	\$ 25,922.00	\$ 41,733.00	\$ 37,037.00	\$ 39,510.00	\$ 53,394.00	\$ 45,687.00	\$ 48,351.00
<b>Income From Continuous Operations</b>	\$ 1,328.00	\$ 1,989.00	\$ 3,495.00	\$ 6,119.00	\$ 8,235.00	\$ 14,013.00	\$ 25,922.00	\$ 41,733.00	\$ 37,037.00	\$ 39,510.00	\$ 53,394.00	\$ 45,687.00	\$ 48,351.00
<b>Income From Discontinued Operations</b>													
<b>Net Income</b>	\$ 1,328.00	\$ 1,989.00	\$ 3,495.00	\$ 6,119.00	\$ 8,235.00	\$ 14,013.00	\$ 25,922.00	\$ 41,733.00	\$ 37,037.00	\$ 39,510.00	\$ 53,394.00	\$ 45,687.00	\$ 48,351.00
<b>EBITDA</b>	\$ 1,822.00	\$ 2,678.00	\$ 4,734.00	\$ 8,823.00	\$ 12,474.00	\$ 19,412.00	\$ 35,604.00	\$ 58,518.00	\$ 55,756.00	\$ 60,449.00	\$ 82,487.00	\$ 70,529.00	\$ 71,501.00
<b>EBIT</b>	\$ 1,643.00	\$ 2,453.00	\$ 4,407.00	\$ 8,327.00	11,740	\$ 18,385.00	\$ 33,790.00	\$ 55,241.00	\$ 48,999.00	\$ 52,503.00	\$ 71,230.00	\$ 60,024.00	\$ 61,344.00

Source: Macrotrends.net

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