UNIVERSITY OF VAASA

FACULTY OF BUSINESS STUDIES

DEPARTMENT OF ACCOUNTING AND FINANCE

Juan Carlos Arreguin Picazo

IMPACT OF MERGER AND ACQUISITION ANNOUNCEMENTS

ON THE ACQUIRING SHAREHOLDERS' WEALTH:

The Case of Nokia and Apple

Master's Thesis in Accounting and Finance

Financial Accounting

VAASA 2012

TABLE OF CONTENTS   **page**

TABLE OF FIGURES   **page**

TABLES

UNIVERSITY OF VAASA
Faculty of Business Studies
Author: Juan Carlos Arreguín Picazo
Topic of the Thesis: Impact of merger and acquisition announcements on the acquiring shareholder's wealth: The case of Nokia and Apple
Name of the Supervisor: Sami Vähämaa
Degree: Master of Sciences in Economics and Business Administration
Department: Department of Accounting and Finance
Major Subject: Accounting and Finance
Line: Financial Accounting
Year of Entering the University: 2007
Year of Completing the Thesis: 2012 **Pages:** 72

ABSTRACT

Academic research on merger and acquisitions has been driven on studying the short and long term impact that acquisition announcements have on the shareholder wealth for the acquiring and target firms. This study concentrates on describing in the short term the impact that M&A announcements have on the acquiring firm's stock market returns taking into account acquisitions that have been carried out by two important players within the telecommunication industry Apple and Nokia from 2005 to 2010.

In order to calculate the normal returns for the acquiring firms, the market model based on the capital asset pricing model (CAPM) was used. Also, the NASDAQ 100 market index was used in the market model. The Abnormal returns (AR) will be cumulated to obtain cumulated abnormal returns (CAR) over a window period (-3, 3) after that, statistical test will be done for ARs and CARs to ensure the statistical validity of stock reaction to M&A announcements.

The results showed from the empirical analysis of this research are consistent with the hypothesis that was formulated indicating that the M&A announcements do have an impact on the stock prices and returns in the short term, meaning that they have an influence during the day of the announcement and three days after.

1. INTRODUCTION

Mergers and Acquisitions (M&A) have caught the attention over the last three decades of a variety of management disciplines encompassing the financial, strategic, behavioral, operational and cross-cultural aspects of this risky and challenging activity. However, M&A continues to be a highly popular form of corporate development. (Cartwright & Schoenberg 2006.)

As a part of the wide field of corporate finance M&A have become the most interesting transactions among capital markets that involve millions or maybe billions of dollars every year. According to Langford & Brown (2004) M&A tend to peak in waves when two catalysts are present: a major discontinuity in the business environment caused, for example by new technologies, new or rapid growing markets or regulatory change and the emergence of new source of finance. During times of financial crisis M&A deals are more common. As a result, strong companies will buy other companies to create a more competitive and cost-efficient company. Furthermore, it is generally accepted that over the course of all business cycles, mergers and acquisitions play a key role in modernizing industries (Gell, Kengelbach and Ross 2008: 5).

At least in the financial theory, M&A create synergies and economies of scale, expanding operations and cutting costs. M&A can change industry's market structure. Thus, such strategic moves will affect all market participants, including the bidder, the target and the existing or potential rival firms. These impacts will be directly reflected in the firm stock prices in an efficient market (Fama 1970). Many companies around the world find the best way to get ahead is to expand ownership boundaries trough M&A.

Increasing the shareholder value is one of the main reasons why many companies buy or merge with other because two or more companies together are more valuable than two separate. Scientific research has been done from different perspectives in order to study, develop, understand and measure the forces that drive companies to acquire or merge with others.

1.1. Problem statement

As per Meziane Lasfer (2006) the traditional paradigm in financial economics is that agents are fully rational. In consequence, this view has widely been successful in explaining the relationship between the agents and the principals, and in providing strong models with useful implications for financial decision making. One implication about these models' set in the rational expectations framework is that M&A are value maximizing decisions and that the benefits from such decision should accrue to both the target and the bidder shareholders. In particular, on the announcement day of M&A, we should expect share prices of both the bidder and the target to increase proportionally, as rational decisions-makers would undertake such decisions only if the gains are positive and material.

After analyzing different scientific research for the literature review on page 7, it was found that most of the investigations have been driven on studying the short and long-term impact of mergers and acquisitions announcements on the acquiring and target firms shareholder's returns. However, the relationship between M&A announcements and stock returns for companies within the telecommunication industry has not been widely studied but studies already made on this industry have been assessing the impact that M&A announcements have on the stock returns. For instance, the acquisition announcements in the Korean telecommunication sector are considered good news in the markets and they have a positive impact on the stock market returns for the acquiring firm when they are followed by a related significant event (Yang 2005).

In consequence, the aim of this thesis is to describe in the short term the impact that M&A announcements have on the acquiring firm's stock market returns in the U.S. telecommunication industry taking into account the period from 2005 to 2010. In order to assess the level of the stock market reaction to the M&A announcements, the following hypothesis has been formulated:

H1: M&A announcements create value for the acquiring firm in terms of positive stock market returns during and after the day of the announcement.

This research will be done based on the event study methodology, which will determine the impact of M&A announcements on the stock market prices. Moreover, the NASDAQ-100 stock market index was used in the market model to calculate the impact that M&A announcements have on stock prices. Also, returns are calculated from the difference of logarithmic price quotations.

In order to calculate the impact of the M&A announcements on the stock returns the market model is used, which is basically presented as a regression model of the stock returns and returns of the market index. The independent variable is the announcement day and the dependent variable is normally represented in the regression as the time series of the stock indices, in other words, the logarithm stock market return.

1.2. Structure of the thesis

The structure of this study is represented by three main sections. First, the introduction chapter gives a general overview about the world of M&A; it will describe the research problem and the academic contributions. Basically, the second section will create the theoretical framework involved in M&A announcements and stock market reactions. Also, throughout the second section the market efficiency theory is presented in chapter three followed by the value of a stock in chapter four. The latter three chapters will cover the empirical part and findings. The chapter fifth will describe the data, the hypothesis and the methodology of the thesis. The empirical results will be documented in the chapter sixth and the last chapter seventh will present the conclusion and suggestions for further research.

1.3. Literature review

A wide variety of empirical research on the effects of M&A on the shareholders wealth has been done during the last decade and they have found either a positive or negative correlation between the M&A announcements and the stock market returns for the acquiring firms during and after the day of the announcement.

The literature review will define the framework of this investigation with purpose to support or reject the findings. In sum, this section describes the findings regarding the impact of M&A announcements on the stock market returns during and after the day of the announcement. Subsequently, I discuss some works related to the post-merger's performance. Then the focus is on the acquisition announcements and their impact of the stock returns within the telecommunication industry. Finally, at the end of this section table 1 on page 14 will present a summary of the literature review of the most relevant papers that were analyzed for this investigation.

1.3.1 Overview of M&A announcements

According to Becher David (2000) based on a research of 558 M&A from the bank industry during the period 1980-1997 found on average that bidders make neither profits nor losses, targets gain and firms combine are still gaining. Andrade, Mitchell and Stafford (2001) agreed that is complicated to admit in the short term that acquiring firm shareholders are the winners or losers within M&A announcements.

Chatterjee, Richardson and Zmud (2001) investigated the behavior of the stock prices for the firms that announced a new CIO position within the organization. Based on the event study methodology and using an observation sample of 96 press releases from 1987 to 1998, the authors revealed positive abnormal returns for days (0) and (+1). Indeed, the finding suggested that the announcement of the creation of new CIO position within the firm influences positively the markets.

Bessler and Murtagh (2002) investigated the stock market reactions to M&A announcements of 26 cross-border Canadian banks and 17 domestic acquisitions of other financial services firms. Although, their findings indicated that foreign M&A in the wealth management and retail banking sectors created value, while foreign M&A in the insurance sector did not. The opposite was true for domestic acquisitions.

The findings of Langford and Brown III (2004) support the idea that most of M&A destroy value for acquiring company's shareholders during the announcement period. Delaney & Wamuziri (2004: 65) explored the impact of mergers announcements on acquiring firms' and target firms' stock performance in the UK construction industry during the period 1996 to 2001 and their results showed that shareholders of the target companies gained from the acquisition process while the bidding firms shown no signs of improvement.

Kirchhoff, Schiereck and Mentz (2006) with a sample of 69 international M&A between real estate financial institutions from 1995 to 2002 affirmed that M&A create value due that acquiring firms had significant positive cumulated abnormal returns.

Lasfer (2006) reviewed the investigation and conclusion done by Ben-Amara & Andre (2006) on the impact that Canadian-family controlled firms and control group of widely-held companies have on the bidder's abnormal returns in the short term. Lasfer agreed with the author's conclusion highlighting that family-controlled firms not necessary destroy value during M&A announcement date because the abnormal returns are higher than those of non-family-controlled firms. Lasfer concludes suggesting to the authors to incorporate in the analysis the variable size applying the Heckman method, which is used to measure endogeneity.

Demirbag, Keong and Tatoglu (2007) revealed that significant value creation in terms of stock returns was not found in a sample of three giant pharmaceutical M&A during the period 1995 to 2004. However, the performance of the pharmaceutical companies during the post M&A was significantly better in terms of profits than the pre M&A.

Ting Kien (2007) proved that during buoyant periods, announcements of real estate acquisitions have positive effects in stakeholder wealth. Malone & Zicheng Ou (2008) using a sample of 529 acquisitions during 1990 to 2005, found that domestic M&A had a positive impact in the abnormal returns for the acquiring firms.

Pfister & Campart (2007) investigated the partnership announcements and their potential of value creation focusing on the stock market value of the firms. Their sample consisted on 227 partnerships during the period of 1995-2000 that corresponds to the high-tech bubble of the late 90s. Using an event study approach to assess the value creation the authors concluded that the abnormal returns associated to the formation of partnerships are significant higher in the biotechnological industry than in other sectors.

Petmezas Dimitri (2008) focusing in hot markets with high stock prices found that in the short-run market rewards acquisition attempts when optimistic beliefs of investors over bullish periods are an important factor of acquisition returns. Downturn deals have a higher chance of creating shareholder value and delivering greater returns on average. (Gell, Kengelbach and Roos: 16).

Hulland, Murshed and Swaminathan (2008) revealed that depending on the motives that drive firms to mergers and acquisitions the strategic emphasis alignment, misalignment and marketing resources can influence on the shareholder value creation. The methodology approach used was the event-study and the final sample consisted of 206 acquisition announcements made in the electronics, food and chemical industry. The authors were high interested in capturing the value creation of the combine returns to both acquirer and target firms. Hulland et al. (2008: 45) concluded that strategic misalignment can create value when the M&A motive is diversification. On the other hand, the strategic alignment can create value when the M&A motive is the consolidation of the firm.

Anand and Singh (2008) examined the merger and acquisitions announcements of five banks in the Indian banking sector during the period 1999-2005. The purpose of the

study was to estimate in the short term the impact of the announcement events on the bidder and target shareholders' wealth using the event study approach. The outcome of the study revealed that positive and significant returns to the shareholders of bidder banks and target banks.

Gao (2010: 833-50) examined the impact of managerial horizons on acquirers' announcement returns, and long term performance after the M&A. With a sample of 2894 of completed announcements deals from 1993 to 2004 and using the event study method, he estimated a 3 day cumulative abnormal return (CAR) over the event window (-1, 1) around the announcement day (day 0) based on the market model using value weighted index returns (CRSP) and he also calculated the post-merger stock performance using the long term buy and hold performance of the abnormal returns (BHAR3). The variables were estimated within and (-200,-60) event window relative to the announcement date. Gao concluded that companies controlled by long-horizon managers showed a low performance of the abnormal returns around the day of the announcement and contrasting a better post-merger stock return performance than do the bidders managed by short-term horizon managers.

Kling Gerhard & Weitzel (2011) with the purpose to identify the level of influence that firm's governance and industry specific effects have on the success of the M&A made by Chines acquires. They analyzed a sample of 4374 domestic and cross-border Chinese M&A deals around 2001-2008 applying the market adjusted model to calculate the abnormal returns for a 3 day event window around the announcement day (-1, +1). They concluded that Chinese cross-border M&A add value to the acquiring firm's shareholders but not significantly more than the domestic ones. Moreover, firm governance and industry specific effects play an important role to enhance the value creation and the future success of the M&A.

Dimpfl (2011) studied the impact that U.S. news announcements have on the German stock market and he concluded that significant abnormal returns are obtained around the announcement event. When macroeconomic news are typically announced about 1 hour

before US stock market opens, German investors take advantage of the fact that trading in Germany is possible at the exact time of these news announcements and tries to assess the impact on the DAX.

Ruiz & Requejo (2011) investigated how weak or strong legal and institutional environments impact European acquiring firms' shareholder value around the day of acquisition announcement of domestic and cross border target firms for a period of 5 years starting from 2002. In the study conducted with the event study method the final number of observations consisted of 469 M&A announcements in which target firms where represented from 40 different countries. The authors concluded that legal and institutional are significant variables that positive influence acquiring firms' stock returns on cross-border acquisitions than domestic deals. In other words, the stronger the legal and institutional environments of the acquiring firm, the more positive the effect on acquiring firm shareholders' valuation of M&A, and vice versa (see. Ruiz et al. 2010: 70).

1.3.2. Post-merger and acquisition

As described in the previous section most of the studies on M&A focus on the short run of the daily stock returns surrounding the day of the event announcement date. According to Hitt, Harrison, Ireland, and Best (1998) the short term market performance approach may not fully absorb anticipated benefits from M&A deals (Yen and André 2007: 381). Therefore, the following studies look at the long-run performance (from one to five years) of the acquiring firms after the mergers.

Agrawal, Jaffe and Mandelker (1992) conducted a post-merger performance of the acquiring firms and they concluded that stockholder of the acquiring firms are negatively impacted suffering a wealth loss over the five years following the merger and acquisition deal. L'her, Kooli and André (2004) aimed to examine the main variables of post-acquisition abnormal returns (AR) performance with the purpose to understand the

sources of value creation. With a calendar-time portfolio approach and an observation sample of 267 Canadian deals during 1999-2000. The authors concluded that cross-border deals do not have a relevant impact for value creation. In a nut shell, the Canadian bidders significantly underperform over the post- event period.

Yen and André (2007) added that ownership structure, individual governance mechanism and characteristics of the legal system are important variable of performance in English origin countries. Moreover, with a sample of 287 deals carried out in 11 different countries during the period 1997-2007 testified that merger and acquisition deals create value when they are linked with high levels of concentration ownership. In contrast, separation of ownership and voting rights generate the destruction of value.

Dutta and Jog (2009) analyzed a sample of 1300 acquisitions from 1993 to 2002. The purpose of their investigation was to explain the behavior of post-acquisition stock long term abnormal returns and operating performance of Canadian acquiring firms using the event-time and calendar-time methodologies. Dutta et al. (2009) revealed in their finding no negative long-term abnormal returns.

Sutton and Steigner (2011) reviewed 460 U.S. firms that announced and completed cross-border M&A during the 1987 and 2004. Hence, they proposed on their analysis that cultural distance between the bidders and the target firms impacts the internalization benefits of the acquirers in cross-border mergers. Summarizing, they suggested that post-merger performance indicates that that acquirer firms with high levels of intangible assets in the form of technological know-how and cultural differences significantly benefit from internationalization in countries with cultural differences.

1.3.3. M&A in the telecommunication industry

Wilcox, Chang and Grover (2001) after examined 44 M&A concluded that M&A of U.S. firms have a positive impact on the market value of participating firms. Furthermore, they found that value can be created for players involving domestic M&A by bringing the diverse ownership of technology, content, and distribution together. On the contrary, Ferris and Park (2001) found that shareholders of the acquiring firms experience a clear wealth loss.

According to Warf (2003) in order to increase profitability and efficiency to search for economies of scale, deregulation, globalization, technological change and corporate tax benefits are the main factors that have characterized the M&A in the telecommunication industry. Yang (2005) concluded that M&A announcements are considered as good news in the markets and they are expected to be followed by a significant event. Hence, the M&A announcement has a better positive effect on the stock price of the acquirer than on the target's stock price. Besides that, the initial announcement of M&A has a more favorable effect on the stock price of the acquirer than it does on the stock price of the target.

Kallunki, Pyykkö and Laamanen (2009) investigated how the research and development (R&D) expending level of a firm can influence its current market value and profitability through technology focused M&A. They took a sample of 1879 completed M&A deals with a U.S. firm acquiring technology targets from 1993 to 2006. Laamanen et al. (2009: 859) suggested that M&A deals between two technology firms enhance the stock market valuation of an acquirer's R&D spending and the results are contrary for the M&A with only targets as technology firms. In addition to the previous statement, evidence was found of a decrease in the stock market value of a non-technology acquirer's R&D spending in the M&A of technology firms. Also, they authors also revealed that technology acquiring firms are able to translate the R&D pending into future profitability than non-technology acquirers.

Table 1. Literature review summary.

Author and year of Publication	Data	Methodology	Event study-time line	Final conclusions
Chatterjee et al. 2001	Observation sample of 96 press releases of newly created CIO positions from 1987 to 1998	Event study methodology & Market model	Event window : (-1,1) Estimation window: begins 300 trading days before the vent date and ends 45 before the event	the results revealed positive abnormal returns for days 0 and +1
Grover et al. 2001	44 M&A events in the Telecommunication Industry from 1996-1998	Event study & Market Model	Event window (-2,0) Estimation window: (-201)	The announcements of Telecommunication activities do impact the market value of the firm
Lasfer, 2006	327 M&A bids made by 232 Canadian firms over 1998-2002	Event study & Market Model	Event window: (-1,1) Estimation window: -240 to -40 days, relative to the announcement	On the announcement day AR are relatively higher for family controlled firms than those non-family controlled firms
Pfister et al. 2007	281 partnership announcements in the biotechnology/pharmaceutical industry from the period 1995-2000.	Event study & Market Model	-200 days preceding the Event window 21 days	Partnerships events generate higher AR
Hulland et al. 2008	206 acquisition announcements made in the electronics, food and chemical industry from 1990-2001	Event study & Market Model	Event window: (-1,1)	Strategic misalignment can create value when the M&A motive is diversification. On the other hand, the strategic alignment can create value

				when the M&A motive is the consolidation of the firm
Anand et al. 2008	5 M&A announcements in the Indian Banking Industry from the period 1999-2005	Event study & Market Model	Event window : (-40,40) Estimation window : (-120,120)	M&A announcements in the Indian banking industry has positive effect on the bidder and target shareholders' wealth
Dutta et al. 2009	1300 M&A events from 1993 to 2002	Event study and Calendar study	Stock return performance in the post event period starting from the day of the announcement of a completed deal	Canadian Markets reacts positively to acquisition announcements within a short period of time
Dimpfl et al. 2011	High frequency DAX index observations 2003-2006	Event study & Market Model	Event Window: (3:30 p.m., 2:30 p.m. CET) Estimation Window: (10:30 a.m., 13:30 p.m. CET) CET central europe time	significant abnormal returns are obtained around the announcement event
Ruiz et al. 2011	469 M&A announcements from the period 2002-2006	Event Study & Market Model	Event Window: (-20,20) Estimation window: (-200,-21)	legal and institutional are significant variables that positive influence acquiring firms' stock returns on cross-border

				acquisitions than domestic deals
Kling et al. 2011	4374 domestic and cross-border Chinese M&A deals around 2001-2008	Market adjust model	Event window: 3 day-widow around the announcements (-1,1) Estimation Window	Chinese cross-border M&A add value to the acquiring firm's shareholders but not significantly more than the domestic ones

2. MERGERS AND ACQUISITIONS: OVERVIEW

According to the Economist the acquisitions of other companies are investment decisions that should be essentially evaluated on the same criteria as say, the purchase of new items of machinery. However, there are two important differences between takeovers and many standard investments. First, takeovers are frequently resisted by target's managers, bidders often have little or no access to intelligence about their targets beyond published financial and market data. Second, many takeovers are undertaken for longer-term strategy motives, and the benefits are often difficult to quantify. However, the acquisition decision is thus a complex one, and it involves significant uncertainties. (Pike & Neal; 2003: 742.)

2.1. Merger and Acquisitions Waves

The first question that comes to mind is why M&A occurs and why is important to understand how merger waves can be anticipated. According to Depamphilis (2010) there are two possible scenarios in which M&A occurs. The first explains that waves occur when firms of any industries react to shocks within their operating ecosystem like: the emergence to develop new technologies and products, obtained new distribution channels or sustain rise commodity prices. The second scenario presents that waves occur when managers utilized overvalued stock in order to buy the assets of lower valued firms. Nevertheless, capital availability plays a determinate role in determining M&A wave because shocks alone without enough liquidity are not able to begin a wave of merger activity.

The economy history can be split so far into M&A waves based on the merger activities in the business world as follows:
- First wave started from 1897-1904 and characterized by horizontal mergers.
- Second wave started from 1916-1929 and characterized by vertical mergers.
- Third wave started from 1965-1969 and characterized by conglomerate merger.

- Fourth wave started from 1981-1989 and characterized by congeneric mergers, hostile takeovers and corporate riding.

- Fifth wave started from 1992-2000 and characterized by cross-border mergers.

- Sixth wave started from 2003-2008 and characterized by shareholder activism and private equity. (Depamphilis 2010:23-27.)

Niinivaara (2010:25) also supported that the sixth and latest M&A wave took place during 2003-2008, ending in the economy slowdown caused by the emerging crisis. Coincidently high stock market valuations have been reported during this merger wave (e.g. Maksimovik & Phillips 2011; Jovanovic & Rousseau 2001).

Four years have already passed since the financial global crisis began in 2007. The global economy continuous to recover and after two year of low activity, mergers and acquisitions are also showing signs of recovery since 2010 and M&A deals will keep growing rising the concept of the beginning of a new M&A wave. Horizontal mergers activity have dominated during 2010 due acquirers have been ready to pay higher premiums because cost saving and synergies are easier to find. It's not a surprised that after the financial crises finalized the top industry sector for M&A during 2010 was the financial and the second was for the energy extraction. (Kengelbach & Roos 2011.)

2.2. Types of Mergers and Acquisitions

Pike et al. support the idea that there are two mechanisms in which managers are confident to positively impact the shareholders' wealth through acquisitions: 1) when managers believe that the target company can be acquired at less than its true value and 2) when managers believe that two firms will be worth more if merged than if operated as two separated entities. (2003: 750-51.)

Mergers and acquisitions can be divided into three different types such as: horizontal, vertical and conglomerate. These three different types of mergers will try to explain the

fit of the acquired company to the current business carried on by the acquiring firm (Green 1998: 19).

Horizontal mergers occur when a company acquires another company from the same industry and at the same stage of the production process. This particular type leads to the elimination of competence within the market and increase the market share of the acquiring firm, and to an increase of the concentration of the industry. Also, horizontal merger can be presented when one firm combines with another in its same line of business. (Brigham & Gapenski 1991: 965.)

Vertical mergers are characterized when the target is in the same industry as the acquirer but operates at a different stage of the production chain. The acquiring company desires to increase its control over more sources of supply and distribution. One example of this type of mergers consists in a steel producer's acquisition of one of its own suppliers, such as an iron or coal mining firm, or an oil producer's acquisition of a petrochemical firm which uses oil as raw material. (Brigham et al. 1991: 965.)

The third type of merger is generally called as conglomerate or unrelated diversification merger and this occurs when both the acquirer and target firms are operating in different industries. Brighham et al (1991: 965) describes that this type of merger is used when unrelated companies are combined.

2.3. Motives for Mergers and Acquisitions

Table 2 on page 20 indicates that there are many different and complex factors driving the motives for M&As' bids of the acquiring firms, which probably will generate the expected benefits or value creation for the bidder's equity. Among the main motives for mergers for strategic and financial reasons included are the following:

Tax motivations: the advantages and disadvantages of tax motivations can differ from country level perspective. Meaning that in U.S. it can be applied if the bidder or target firm has a tax loss carry-forward. General speaking refers to tax loss carried forward as the ability of the firm to deduct past losses from its current taxable income. However, this advantage is used in mergers but not for holding companies. (Brigham et al. 1991: 961.)

Synergy motivations: the combination of two firms will be beneficial if both combine will have a value greater than the sum of the values of the separate firms (Ross, Jordan & Westfield 1998: 718). Within the context of mergers, synergy means that the performance of firms after a merger will be better than the sum of their performances after the merger. There can be two types of synergy. The first type of synergy results in economies of scale, which refers to decrease cost and the second type of synergy results in increased revenues such as cross-selling.(Pike & Neale 2003: 752.)

As per the above paragraph, *economies of scale* are derived from synergy: achieving this class of economies will allow the acquiring firm to share central services such as office management, accounting, marketing, financial control, executive development (Brealey, Myers & Allen 2006: 874). In other words, economies of scale are associated to cost savings and large scale of production. For example, merging businesses in the same business line will allow eliminations of some of the duplicated overhead cost.

To enter new markets: this particular motive of merger is used by firms that need to expand their product line, don't have enough channels of distribution to access to different market segments, or lack the expertise to develop different products. Merger and acquisitions are a simpler and quicker way of expanding. (Pike & Neale 2003: 752.)

To acquire market power: to obtain higher earnings will be always easier when there are fewer competitors in the market. Through M&A takeovers reduce the market competition creating what we called Monopoly. Although, they are often justified by the

need of enhance ability to be able to compete internationally or to secure the home market. (Pike et al. 2003:752.)

To Grow: This is one of the most common motives for mergers. It can be cheaper and less risky for the acquiring firm to merge with another within a similar line of business than to expand operations internally. Once a firm has identified a business opportunity that must be closed fast and the only opportunity is by acquiring a company with competencies and resources necessary and, most likely, complementarities to the acquiring company to take advantage of the opportunity. (Brealey et al. 2006: 876.)

To eliminate inefficiencies: Firms with unexploited opportunities to cut cost and increase sales and earnings. Such firms likely are candidates for acquisition by other firms with better management. (Brealey et al. 2006: 876.)

Table 2. Strategic opportunities, Merchant bank 3i (Pike et al. 2003: 765).

Where are you	How to get to where you want to be
Growing steadily but in a mature market with limited growth prospects	● Acquire a company in a younger market with a higher growth rate
Marketing and incomplete product range or having the potential to sell other products or services to your existing customers	● Acquire a company with a complementary product range
Operating at maximum productive capacity	● Acquire a company making similar products operating substantially below capacity
Under-utilizing management resources	● Acquire a company into which your talents can extend
Needing more control of suppliers or customers	● Acquire a company which is, or give access to, a significant customer or supplier
Lacking key clients in a targeted sector	● Acquire a company with the right customer profile
Preparing for flotation but needing to improve your balance sheet	● Acquire a suitable company which will enhance earnings per share
Needing to increase market share	● Acquire and important competitor
Needing to widen your capability	● Acquire a company with the key talents and/or technology

2.4. Financial Effects of Mergers and Acquisitions

Ross et al. (1998: 725-26) argues that diversification can reduce systematic risk. Therefore, *"the value of an asset depends on its systematic risk, and systematic risk is directly affected by diversification".* Nevertheless, diversification does not deliver value to the shareholders due they can diversified their portfolio on their own at much lower cost. The financial effects are discussed as follows:

To increase earnings per share: In general researchers have concluded that M&A have an important impact on the earning per shares growth of the acquiring shareholders, well known as boot-strapping effect. This is just a financial illusion that generates

growth from purchase slowly growing firms with low price-earning rations. (Ross 1998; Pike 2003; Brealey 2006.). Also, Pike et al. (2003: 754-756) agreed that the most common way of increasing EPS has been through acquiring other companies with lower P:E ratios.

To lower financing cost: According to Brealey et al. (2006: 880) when two firms merged they can borrow at lower interest rates due that both companies combined guarantee each other's debt even if one of them fails.

2.5. The Mechanics of a Merger

When the target firm has been already identified and valued by the acquiring firm, the acquisition moves into the structuring stage. Damodaran (2002: 713) highlighted three interconnected steps in this stage: the first refers to the decision on how much to pay for the target firm, in the second step the bidder determined how to pay for the deal and whether to borrow any of the funds needed. In the last step, the acquiring firm should decide the accounting treatment of the deal because it can impact both taxes paid by the stockholder in the target firm and how the purchase is accounted for in the acquiring firm's income statement and balance sheet. Jones (1986) explained that the process of integration of a new company is a complex mix of corporate strategy, management accounting and applied phycology (Pike et al. 2003: 769).

During the complex process of M&A there are different aspects that need to be assessed such as financial, economic, social and legal. These aspects are explained as follows.

2.5.1. Merger Antitrust Law

The effects of the M&A can be analyze by federal antitrust law authorities, which will determine if in any line of commerce the impact of M&A will tend to create any kind of

monopoly or inhibit the free market competition. Antitrust law could be supervised and carried out by de federal Government in either two ways: by a civil suit brought by the Justice Department or by proceeding initiated by the Federal Trade Commission. (Brealey et al 2006: 887.)

2.5.2. The Form of M&A

After consider the law aspect in M&A we should take into account the forms of acquisition. First of all we can enhance to merge the two companies, in which the acquiring firm assumes all the control of the assets and liabilities of the target firm. The second form would be determined by purchasing the seller's stock in exchange for cash, shares or other securities. Finally the third form is to buy some or all the seller´s assets and the payment is made to the selling firm. (Brealey et al 2006: 887.)

The cash offer does not put to the risk of adverse movement in share prices during the period of the acquisition announcement. The targeted shareholders can easily adjust their portfolio than if the received shares, in which dealing costs are involved. Although, if the stock return expected on the assets of the target firm is bigger than the cost of the borrowing, the earning per share (EPS) of the acquiring firms may increase. On the other hand, equity can be more costly to service than debt. There could be a negative impact for controlling the balance if bigger benefits coming from the equity of the bidder are held by institutions looking for an opportunity to sell their holdings (Pike et al. 2003: 756:757).

2.5.3. Merger Accounting

Before, during and after the process of any M&A the management is concerned about how the purchase will be reflected in the acquiring company's financial statement. Since 2001 the acquiring companies do not have any other choice than choose the

accounting method and they have to follow the new accounting rules that required the buyer to use the purchase method of M&A accounting introduced by the Financial Accounting Standards Board (Brealey 2006: 887).

Ross et al. (2006: 714-15) argued that the bidder company usually decide whether the acquisitions should be treated as purchase or pooling of interests.

- Merger treated as a purchase accounting method of reporting acquisitions requires that the assets of the target firm can be reported as their fair market value on the books of the bidder. Using this method an asset called goodwill is created for accounting purposes.
- Mergers treated as a pooling of interests, where the assets of the acquiring and the acquired firm are pooled. In other words, the balance sheets are pooling together.

So far there is not evidence showing that acquiring firms can create more value under one accounting method than using other. In other words, the accounting method has not cash flow consequences.

2.5.4. Merger Tax Considerations

According to Brealey et al. (2006: 888) M&A can be either taxable or tax-free. M&A are considered taxable when the payment done by the acquiring firm is fully in cash and the stockholders are treated as having sold their shares, and they must pay tax on any capital gains. When the payment is done using shares, the M&A is considered as tax-free and the share holders are treated as having exchanged their old shares for new ones; thus capital gains and losses are not recognized.

Beside the above considerations the status of the M&A also affects the taxes paid by the merged firm afterwards. After a tax-free M&A, the merged firm is taxed as if the two

firms had always been together. During a taxable M&A, the assets of the selling firm are revalued, the resulting write-up or write-down is treated as a taxable gain or loss, and tax depreciation is recalculated on the basis of the restated asset values.

In other words, the write-up effect means that the depreciation effect on the acquired firm's assets can be increased in taxable acquisitions. Pointing out that an increase in depreciation is a non cash expense, but it has the desirable effect of reducing taxes. Since 1986 the Tax Reform Act in U.S. was reform and the write-up effect is now considered as tax gain. (Ross et al. 1998: 715.)

2.5. Valuing Mergers and Acquisitions

According to Marren (1993) *"the most difficult decision an executive faces in negotiating an acquisition is the price to be paid. The decision is difficult because there are many factors to consider, like the process by which the target company is being sold, the expected competition, the future profitability of the target, expected synergies, complex tax rules, alternate legal forms of affecting a transaction and accounting considerations"*.(Björklund 2010: 25.)

Once a firm has identified the purpose and the most suitable candidate for its acquisition the following logical step is to assess the value to pay for it. Therefore, firms can be valued using different approaches as book value, economic value, or replacement value. Also another approach that has been also applied is the breakup value (Brigham et al. 1991: 964.).

2.5.1. Key Factors of Target Valuations

Figure 1 describes the important factors that should be considered during the acquisition of the target valuation. For Deodorant (2002: 701), the valuation of an acquisition does not differ from the valuation of any firm and its value is a function if its cash flows from existing assets, the expected growth in its cash flow during a high growth period, the length of the high-growth and the firm's cost of capital.

The intrinsic value is one of the first elements to analyzed due it basically represents the future cash flows based on the net present value of the target firm. Moreover, this status quo of the acquisition of a target firm begins by assessing the firm value with existing investing, financing, and dividend policies. Furthermore, the market value is the same as the share-price; it projects the market participants' valuation of the company. Purchasing value is the price that acquiring firms anticipate to be paid before to be accepted by the target firm. One more factor that determines the value of the target firm is called synergy value which represents the net value of the cash flows that will be obtained from the improvements already made when the companies are combined. The latter is the value gap which explains the difference between the intrinsic value and the purchase price. (Eccless et al. 1999: 139-140.)
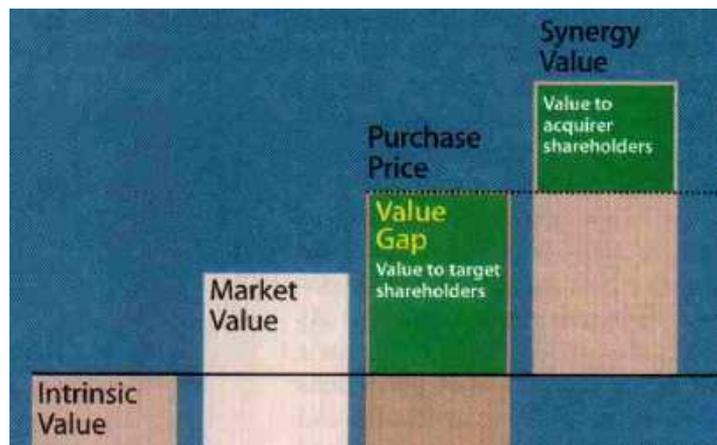
Figure 1. Breakdown of target valuation (Eccles et al. 1999:140).

3. MARKET EFFICIENCY THEOREM

According to Mussavian and Dimso (2000) the concept of efficiency is important in the field of Finance. The concept is used to determine a market where relevant information is incorporated into the price of financial assets. The market efficiency term was pointed out for the first time by Bachelier during 1900 and, he stated that "*past, present and even discounted future events are reflected in market price, but often show no apparent relation to prices changes*". One of the most important definitions of market efficiency refers to the extent to which available information is absorbed into the structure of the share prices (Pike et al. 2003:46).

3.1. The Efficient Market Hypothesis (EMH)

Ross et al. (1998: 358) argued that the EMH can be for instance seen and approved when the investors get what the paid for when they buy securities, and firms receive what their stocks and bonds worth when they sell them. Furthermore, the EMH was accepted for Fama (1970) and he pointed out that security markets were quite a lot efficient in showing information of individual stocks and about the market as a whole. He also, categorized in three different forms the market efficiency according to the information reflected in the securities prices such as: 1) weak form of efficiency, 2) semi-strong form of efficiency and 3) strong form of efficiency.

3.2. Types of Market efficiency

According to Brealey et al (2006: 337) there are three different forms of market efficiency that are defined by the degree of information reflected in security prices, as a follows:

- Weak market efficiency: In the form of weak efficiency today's stock prices reflect the information recorded in past prices and is therefore useless to make any estimates of future returns. Malkiel (2003: 3) suggested that stock prices follow a random walk, meaning that price changes in value are independent of each other. However, the weak market efficiency is linked to a random walk. "The logic of the random walk idea is that if the flow of information is unimpeded and information is immediately reflected in stock prices, then tomorrow's price change will reflect only tomorrow's news and it will be independent of the price change today".

- Semi-strong market efficiency: This form reflects not just past prices it also contains all other published information, such as mergers and acquisitions, first quarter's earnings, etc. The market is efficient in this sense if price will adjust immediately to public financial announcements. According to Pike et al. (2003: 48) there is no benefit in analyzing existing information already published such as, dividend and profit announcements because this information has been already captured in the current stock prices.

- Strong market efficiency: In this form of market efficiency prices reflect all the public and private information that can be gathered by an arduous financial analysis of the company and the economy. The market price reflects the true or intrinsic value of the share based on the future cash flows. Therefore, no one can beat the market and earn abnormal returns (Pike et al. 2003: 48).

In a nutshell, the weak type of the efficient market hypothesis completely reflects the information implied in the historical course of past prices. The semi-strong type attests that all publicly available information can be reflected on the prices. While, the strong form of the efficient market hypothesis proved without any doubts that the information that is known to any investor is also captured by the market prices. (Mussavian et al. 2000: 4.)

3.3. Random walked theory

The theory of random walk shows that the future of the price levels of securities is not longer to be predictable than a series of cumulated random numbers. From the statistical point of view the theory explains that successive price changes are independent, identically distributed random variables. In other words, the series of price changes has no memory. However, the past cannot be used to predict the future (Fama 1965).

Kendall (1953) examined a sample of 22 UK stock and commodity price series. He suggested, that *"in series of prices which are observed at fairly closed intervals the random change from one term to the next are so large as to swamp any systematic affect which may be present"*. As consequence, these empirical observations were labeled as the random walk model or random walk theory. (Mussavian et al. 2000: 2.)

3.4. Anomalies of the efficient market hypothesis

According to Damoran (2002: 135) "*Studies of market efficiency have uncovered numerous examples of market behavior that are inconsistent with existing models of risk and return and often defy rational explanation. The persistence of some of these patterns of behavior suggests that the problem, in at least some of these anomalies, lies in the models being used for risk and return rather than in the behavior of financial markets*"

Time and size are two of the main anomalies in the EMH. Size effect is presented when the market is less efficient for smaller firms. In other words, shares of smaller companies tend to yield higher average returns than those of the larger companies of comparable risk. This difference can be explained by the higher risk and trading cost involved in dealing with smaller companies. Another reason can be also explained by the financial institutions when they inattention small firms offering what appear to be high returns because the maximum investment is relatively small. (Pike et al. 2003: 54.)

Timing effects are described by the long term, when disparities in share returns seem to correct themselves. For example, a share that is performing poorly in one year is probably to do better the following year. Also, prices tend to rise during the last fifteen minutes of the day's trading, but the first hour on Monday trading is characterized by heavy selling, the same does not applied for buying. (Pike et al. 2003:54.). There are different peculiarities in return differences across calendar times that are indicative of inefficiencies, for example the January and weekend effects (Damodaran 2002: 139).

3.5. Implications of market efficiency

Pike et al. (2003: 52) and Damodaran (2002:114) described some of the implications of market efficiency that are commonly generated on investment strategies as follows:

- Equity research and valuation is a costly task that would not provide benefits.
- A strategy of minimizing trading would be superior to a strategy that required frequent trading.
- A strategy of randomly diversifying across stocks, carrying little or no information cost, would be superior to any other strategy that created larger information and execution cost. Meaning that the there is no value added by portfolio managers.
- The timing of new issues of securities is not critical. Market prices are a fair reflection of the information available and rationally evaluate the degree the risk in shares.
- The corporate managers possess information not yet released to the market; there is an opportunity for influencing the prices.
- Corporate management should aim to make decisions that maximize shareholder wealth.

4. DETERMINING THE VALUE OF A STOCK

According to Ross et al. (2006: 206) the value of a stock is given by its present value of future cash flows. The cash payoff to owners of common stocks comes in two forms: 1) as cash dividends paid periodically and 2) capital gains or losses as a result of selling out the stocks.

The general model to determine the stock's value is explained with the following formula:

$$(1) \quad P_0 = \frac{Div_1}{1+r} + \frac{Div_2}{(1+r)^2} + \frac{Div_3}{(1+r)^3} + \cdots = \sum_{t=1}^{\infty} + \frac{Div\ t}{1+r\ ^t}$$

P_0 explains the present value of the common stock investment. Div_t, is the dividend paid at period t, and r is the discount rate of the stock and is greater than the interest rate in the case where the stock is risky. In over all, the results of the stock valuation model can be interpreted by the level of its expected dividends such as: 1) zero growth 2) constant growth and 3) non constant growth.

The summary of the dividend growth model is presented as a follows:

$$(2) \quad P_0 = \frac{Div}{r} \qquad \text{zero growth}$$

$$(3) \quad P_0 = \frac{Div}{r-g} \qquad \text{constant growth}$$

$$(4) \quad P_0 = \sum_{T=1}^{T} \frac{Div\ (1+g_1)t}{(1+r)t} + \frac{Div_{T+1}/r - g_2}{(1+r)T} \qquad \text{non constant growth}$$

4.1. Risk and expected return models

A common definition of risk in finance points out that the expected outcome for an event would possibly diminish the value of an investment (Adams 2001: 564). Risk also refers to the likelihood that we will receive a return on an investment that is different from the return we expect to make. "*the spirit of the definition of risk in finance is captured best by the Chinese symbols for risk "danger" and "opportunity", making risk a mix of danger an opportunity.* In financial terminology, "danger" is named risk and "opportunity" is named expected return. (Damodaran 2002: 61.)

The models that best attempt to measure the risk and expected returns on an investment are detailed as follows.

4.1.1. Capital asset pricing model (CAPM)

William Sharpe, John Lintner and Jack Traynor during 1960 made one of the most important contributions to the financial world with the Capital Asset Pricing Model. CAPM is a powerful tool able to make predictions on how to measure risk and the link between expected return and risk (Fama and French 2004). The model itself explains how individual securities are valued, or priced within an efficient capital market. "*Basically, it implicates discounting the future expected returns from holding a security at a rate that adequately reflects the degree of risk incurred in holding that security. It concludes that when an efficient capital market is in equilibrium, all securities are correctly price, and the relationship between the risk and return is given by the security market line (SML)*". (Pike et al. 2006: 326.)

The following formula describes the SML:

$$(5) \quad ERj = Rf + \beta j \, (ERm - Rf)$$

The CAPM assume that when an efficient capital market model is in equilibrium. For example, all securities are correctly priced, the relationship between risk and return is describe in the following figure:
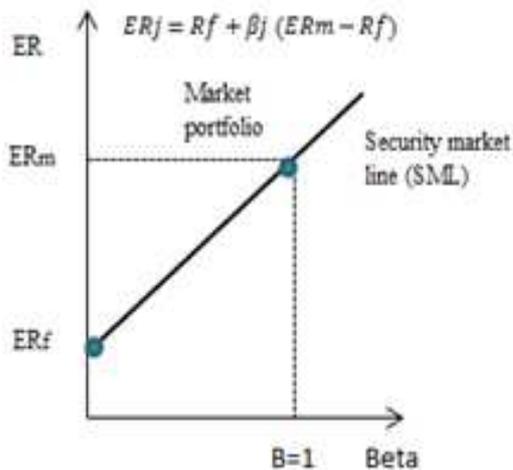
Figure 2. Security Market Line (Pike et al. 2003:346).

In the last three decades many studies have showed that the average stock returns are affected by many patterns that cannot be explained by CAPM. According to Fama (1996) the patterns affecting the stock returns could be related to its size (ME, stock price times number of shares), book-to-market equity (BE/ME, the ratio f the book value of common equity to its market value), earning/price (E/P), cash flow/price (C/P), and past sales growth (see. Banz 1978; Reinganum 1980; Rosenber, Reid & Lanstein 1985, and Lakonishock, Sheleifer & 1994).

4.1.1.1. Assumptions of the CAPM

According to Friedman (1953) theories are built on assumptions with the purpose to synthesize and expose the relevant relationship among determinant variables. In economics, and related science, it is accepted that the legitimacy and reliability of the theory stands on the empirical accuracy of its predictions rather than on the realism of

its assumptions (Pike et al. 2003: 350). Some of the most relevant assumptions of the CAPM are listed as follows:

- The investors always aim to maximize the utility of the stock shares they hold.
- The investors operate at the sample planning horizon.
- In order to choose from a variety of investment opportunities, investors focus on the expected return and risk.
- Investors are rational and risk-averse.
- Investors can borrow or lend unlimited amounts at a similar rate of interest.
- No transaction costs exist for trading with securities.
- Dividends are taxed at the same rate as the capital gains.
- Investors are price-takers. Meaning that they cannot influence on the market price. (Pike et al. 2003: 350.)

Some of the assumptions above are evidently not true, but the results obtained from CAMP analysis have not suffered any relevant disturbance related to them. However, the incorporation of more realistic assumptions also does not affect the implications of the analysis. On the other hand, the used of single time period is one of the limitations that diminish CAPM applicability. One of the CAPM assumptions tells that investors usually adopt a one period time horizon for holding securities. Whatever the length of the period, the rates of return put on investor expectations are rates of return over the hold holding period. Meaning, that is the same for all investors (Pike et al. 2003: 350-356).

Fama et al. (2004) also supported that the Capital Asset Pricing Model is based on unrealistic assumptions. For instance, they argued that investors care only about the mean and variance of one-period portfolio, and also how their return covaries with labor income and future investment opportunities. In synthesis, portfolio's return variance does not incorporate other key dimension of risk. At least, market beta is not enough to measure an asset's risk.

4.1.2. Fama French: three-factor model

The Fama & French three-factor model is now widely use in empirical research that requires a model of expected returns and estimates the α_i from the time series regression in order to measure how quickly stock prices respond to new information. The model also describe that the excess of returns on a broad market portfolio, from the CAPM, is an incomplete explanation of the expected return on a portfolio in excess of the risk free rate. (Black 2006: 505.). In consequence, the most ambition model in the current financial literature is the Fama & French three-factor model, which proposes that the cross-section of average returns can be explained mainly by three factors (Nartea, Ward and Djajadikerta 2009: 181).

According to Fama & French (1996) his model states that the expected return on a portfolio with a high level of risk free rate [$E(R_i) - R_f$] could be explained by the sensitivity of its return of three different factors: a) by the excess of returns on a broad market portfolio [$R_M - R_f$]; b) by the difference between the return on a portfolio of small stocks and a return on a portfolio or large returns (SMB, small minus big); and by the difference between the returns on a portfolio of high-book-to-market stocks and the return on a portfolio of low-book-to-market stocks (HML, High minus low).

The expected excess return on portfolio i is described by the three factor model by Fama and French as a follows:

$$(6) \quad E(R_i) - Rf = b_i \left[E(RM) - Rf \right] + s_i E(SMB)\, h_i E(HML)$$

Where $E(RM) - Rf$, and $E(HML)$ are expected premiums, and the factor sensitivities or loading b_i, s_i and h_i, are the slopes in the time series regression. Furthermore, one input made by the expected return equation of the three-factor model is the implementation of α (intercept) in the time-series regression (Fama & French 1996):

$$(7) \quad Rl - Rf = \alpha l + bl\,[RM - Rf] + sl(SMB) + hl(HML) + \varepsilon l$$

the three factor model in equation 6 and 7, with intercepts in equation 7 equals to (0.0) to all assets i and, it is a illiberal description of returns and average returns that according to Fama and French (1996) the model absorb much of the variation in the cross-section of average stock returns, and it also absorbs most of the anomalies that have blighted the CAPM. The Three- Factor Model does not explain expected returns for all securities and portfolios. Therefore, it cannot explain the continuation of short-term returns (Fama et al. 2004)

4.1.3. Arbitrage pricing theory (APT)

A different approach to calculate expected returns is the APT that was introduced by Ross (1976). This theory states that stock returns depends partially on different types of macroeconomic factors such as: inflation, oil prices, interest rates, etc. Also, it partially depends on events related to the firm.

Pike & Neale (2003: 358) explained that the risk linked to a stock can be nullified by leaving only the macroeconomic risk as the determinant of a required security returns. They also argued that theoretically a riskless portfolio can be constructed and it could offer the risk-free rate of interest. If the portfolio gave a higher return, investors could make a profit without incurring any risk borrowing at the risk-free rate to buy the portfolio. The process of arbitrage continues until the portfolios' expected risk premium could be zero. On the contrary, if the portfolio offer a lower return than the one expected, it is possible to make an arbitrage profit by running the strategy in reverse, as selling the diversified zero-sensitivity portfolio and then invest in other securities.

The following formula calculates the expected risk premium of a stock:

$$(8) \quad ERj = Rf + \beta_1(ERFactor_1 - Rf) + \beta_2(ERfactor_2 - Rf) + \ldots + uj$$

Where ERj is the expected rate of return on stock j, ERfactor1 is the expected return on macroeconomic factor 1, β1 represents the sensitivity of the stock j to factor 1 and uj indicates the random deviation based on certain events impacting on the stock's returns.

5. DATA AND METHODOLOGY

The purpose of this chapter is to walk through the financial data, variable definition and the methodology applied in this thesis. This section also explains how the variables were chosen and how the data obtained. Furthermore, the methodology use for this investigation and the methodology used in previous studies are also discussed.

5.1. Data description

I will study the M&A that have been carried out by two of the most important players within the mobile telecommunication industry Apple and Nokia during the period starting from January 2005 to December 2010.

The data used for this research was collected from various sources like Thomson Financial SDC provided by Vaasa University, Financial times and Yahoo Financial data base. The data included for this research had to fulfill the following requirements:

- The bid announcement should be made from 2005 and the end of the year 2010.
- The target should not be a public firm.
- The bidders acquire at least 50% of the target's common stock.
- The deal must be completed.
- The acquiring firm should be listed on the NASDAQ-100 Stock Market Index. This requirement is part of the methodology employed in the analysis in order to identify the value added.

As described above several criteria has been taken into consideration in the screening process. In addition, publicly traded firms like Apple and Nokia were included because daily stock prices were needed for the statistical financial analysis. Our initial number of observation consisted of 25 merger and acquisition announcements made by Nokia and 12 by Apple. After applied to the sample the requirements mentioned above, the final

observation sample consisted of 11 completed acquisition deals, 6 for Nokia and 5 for Apple.

For each acquisition event the following data was collected such as: transaction size of the deal in millions of American dollars, target firm, acquiring firm, day of the announcement and a description of the M&A. In addition, daily returns were obtained from Yahoo financial data base.

5.2. Methodology description

Since the main objective of this study is to analyze the stock market response of any M&A announcement. The Event Study analysis, which asses the impact of any announcement of certain relevant events is used in this study.

According to Benninga Simon (2008: 371) [e]vent studies are one of the most powerful and widely used applications of the capital asset pricing model (CAPM). The Event Study analysis is based on the assumption that individual stock returns over time can be predicted relative to the overall market. Thus the abnormal return for a firm can be evaluated. If the abnormal returns are statistically different from zero, the null hypothesis explains that the event under study does not impact stock returns it can be rejected (Mei & Sun 288: 2008).

For Suarez Marta (2002: 405) the event study attempt to estimate to what extent a particular event influences the return on the share, that is to what extent returns on a share differ from those expected is such event has not taken place. Concerning this, the null hypothesis assumes the non existence of abnormal returns. These abnormal returns are defined as the difference between the actual returns observed and those expected according to the model, in a time window located around the announcement of a certain event. If the empirical evidence rejects the hypothesis, it would imply the existence of statistically significant abnormal returns. The magnitude of this abnormal behavior of

the share around the instant when the event effectively occurs constitutes a measure of its impact on the wealth of the firm's shareholder.

According to Mackinlay (1997: 15), there are two common choices for modeling the normal return: the constant mean return model that assumes that the mean return of a given security is constant through time, and second the market model that assumes a stable linear relation between the market return and the security return.

The event study analysis used in this research can be explained as a follows: First of all we defined the relevant announcement day (0) and the observation period for each event. In this study, I will describe the returns behavior of the acquiring firm within a relatively short term observation period (-3, +3). Basically, the purpose of using a short term observation period is to asses the M&A announcement effect during and after the day of the announcement.

The following figure 3 illustrates the event study time line in which the acquisition announcement day occurs at time (0), and the event window is represented as $T_1 + 1$ to T_2. The length of the estimation window is represented as T_0 to T_1.
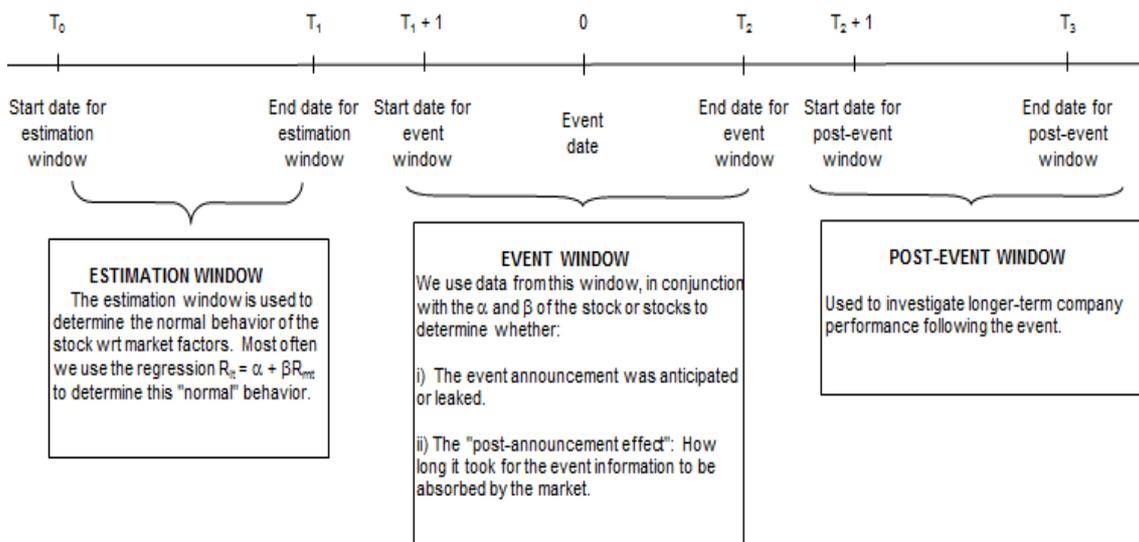
Figure 3. The event study time line (Benninga 2008:372).

Secondly to calculate normal returns for each of the acquiring firms we used the Capital Asset Pricing Model. The normal return is the beta adjusted return of each acquiring firm estimated with a market model (OLS-regression) within a time period of (-200, -4). We can define the normal return as the return that would be expected on a prior basis if the M&A did not take place.

With the following formula the daily returns for each firm can be calculated:

$$(9) \quad Rj,t = ln[Pj,t/Pj,t-1]$$

Where Rj,t is the logarithmic return in this case for the acquiring firm j on day t and Pj,t is the share price of the same firm j.

Afterwards to estimate the normal returns for each acquiring firm the common market model (OLS-regression) is applied by using the next formula:

$$(10) \quad Rj,t = \alpha j + \beta j Rmt + \varepsilon jt$$

Rmt is the logarithmic return of the general market index of the U.S. stock exchange (e.g., NASDAQ-100 composite index) at time t. αj and βj, which are market model parameters estimated by the regression for the time period (-200,-4). εjt is the residual or error term that has a mean of zero and is not correlated with the market portfolio Rmt. Logarithmic returns as the OLS-regression is based on the assumption that the variables are normally distributed (arithmetic stock returns have left-skewed distribution. The normal return for the share j on a normal day t is calculated as a follows:

$$(11) \quad NRjt = \alpha j + \beta j Rpt$$

Based on the methodology, the abnormal returns for all days within the observation time frame of the sample should be calculated. The abnormal daily returns are defined by the difference between the actual returns and the estimated normal returns. The abnormal returns are calculated using the equation below:

$$(12) \quad ARjt = Rjt + NRjt$$

$$= Rjt - (\alpha j + \beta j Rmt)$$

After calculating the abnormal returns, the next step is to calculate the cumulative abnormal return (CAR). The cumulative abnormal returns are defined as the sum of average abnormal returns for the observation period (-3, +3) describe as a follows:

$$(13) \quad CAR = \sum_{T-3}^{T+3} AR$$

The last but not the least stage of the methodology will be focus on determining the statistical significance of the event day returns. Assuming that the abnormal returns for each acquiring firm are independently and identically distributed and normally distributed across the shares, as a result the ratio of the abnormal return to its standard distribution deviation has the following t-distribution:

$$(14) \quad t = (ARt/(\sigma\ AR)) \sim t(N - 1)$$

σAR represents the sample standard deviation of the average returns before the announcement day. The formula above will show whether the abnormal returns statistically significantly differ from zero.

Finally, T-Statistic test will be used in order to determine if the existence of statistical significance of the event on the cumulative abnormal returns differ from zero. T-Statistic test is applied using the next formula:

$$(15) \quad t = (CARt/(\sigma\,CARt) \sim t(N-1)$$

Where σCAR = √n * σCAR and σAR is the standard deviation of the average returns.

5.3. Mobile Telecommunication Market

The empirical part of this investigation is based on a case study made at Nokia and Apple. Our initial number of observation consisted of 25 M&A announcements carried out by Nokia and 12 by Apple within the telecommunication industry.

The mobile telecommunication industry had been growing rapidly since the 90s, and today the majority of the population owns a mobile phone. The mobile telecommunication market has been characterized in terms of mobile and smart phones. Mobile phones have been specially use for calling and text messaging. However, currently many different models increasingly offer internet access and mobile application which provides more experiences for the end customer. Volume wise the smart phone segment has been intensively growing what it makes it more affordable and attractive to large range of consumer groups. The demand has been also positively impacted on the emerging third category of devices, like tablets and e-readers (Nokia Annual Report 2010:44).

Cause by the expansive connection of the computing, mobility, consumer electronics and service industries, the competitive landscape of the mobile device market has been subject of significant changes. In other words, the success for mobile product manufacturers is shaped by their ability to build, catalyzed or be part of a competitive

ecosystem in which different industry participants are creating communities of mutual and beneficial partnership with the purpose to bring their new offering to the market. Hence, the competitive landscape is characterized more and more as competition between different ecosystems rather than individual hardware manufacturers or products. (Nokia Annul Report 2010: 44.)

5.3.2. Presentation of Apple

Apple Inc. is an American corporation founded on 1976 in California that designs and markets a range of personal computer, mobile communication and media devices, and portable digital music players, and offers a variety of related software, services, peripherals, networking solutions, and third party digital content and applications. Apple believes that keep investing in research and development is key important in order to continuing offering innovative product and technologies. As a result, Apple's strategy is focused on expanding its market opportunities in the mobile telecommunication and media services reasons why Apple will invest in new business strategies and acquisitions. Such activities may involve significant risk and uncertainties, including distraction of management from current operations, insufficient revenue to offset liabilities and expenses linked to with the strategy, inadequate return of capital, and unidentified issues not discovered in the company's due diligence. (Apple Annual Report 2010.)

At the end of 2010, Apple operates 317 retail stores including 233 stores in US and 84 stores internationally and employed 49,400 worldwide employees. Also at the end of 2010, Apple reported USD 65.23 billion annual sales worldwide, USD 39.541 billion costs of sales with a gross margin of USD 25.7 billion and the capital expenditure (CAPEX) totaled USD 7.3 compared to USD 5.5 billion presented at the end of 2009 (Apple Annual Report 2010).

5.3.1. Presentation of Nokia

Nokia Corporation is a public limited company founded in Finland. Throughout 146 years of history, Nokia has emerged from its origins in the paper industry to become o world leader within mobile communications. For 2010, Nokia employed 132,427; had productions facilities for mobile products and network infrastructure in nine countries; sales in more than 160 countries; and a global network of sales, customer service and other operation units. Nokia has been heavily investing in the last few years in service and software development tools, including acquiring a number of companies with specific technology assets and expertise.

Furthermore, Nokia had reported total net sales for EUR 42.4 billion (USD 56 billion) and its operating profit was 2.1 billion (USD 2.7 billion) at the end of 2010 (Nokia Annual Report 2010:41). Nokia also reported for 2010 that the amount of CAPEX, excluding acquisitions, totaled EUR 679 million, compared to EUR 800 million estimated for 2011.

6. EMPIRICAL RESULTS

In this section, the empirical results of the thesis are presented. The empirical analysis of this investigation is based on the acquisition announcements made by two international leading companies in the telecommunication industry Apple and Nokia. The final observation sample consisted of 11 completed acquisition deals, five for Apple and six for Nokia during the period of 2005 to 2010. In order to assess the impact of the acquisition announcements the data of the daily stock prices and returns has been used for this purpose. The methodology applied for this investigation has been detailed in the previous chapter five.

Moreover, for both companies Apple and Nokia, I will concentrate on analyzing the impact that each of the acquisition announcements have on their stock returns. This results are obtained from the used of ordinary least squares (OLS) regression based on the data sample.

6.1. Apple results and analysis

Table 3 on page 42 summarized the Apple's estimation window results that will support to measure the impact of acquisition announcements made by Apple starting from 2006 to 2010. The degree of sensitivity measured by the beta coefficient shows a positive stable trend behavior, meaning that there is an evident respond of the Apple's stock returns to the market index changes. The beta coefficient is greater than 1.2 for four of the acquisitions samples indicating that Apples stock price is more volatile than the market. For the acquisition sample of 2009 the beta coefficient is closer to 1 indicating that the normal return and the market return moves in the same proportion.

Also in Table 3 the R-squared results show the accountability that the Nasdaq-100 index has over the Apple's returns. For 2009, 69% of the Apple's stock returns variations are accounted of the Nasdaq-100 market Index. However, for 2006, 27% is the lowest R-

squared value that has been registered and in which the market index does not have a significant influence in the apple's returns variability.

Table 3. Apple Returns: Estimation window.

M&A year	A	β	R-squared	Std error
2006	-0,0001	1,2867	0,2776	0,0216
2008	0,0014	1,4430	0,5935	0,0188
2009	0,0017	1,0315	0,6987	0,0110
2010	0,0010	1,2302	0,6057	0,0102
2010	0,0010	1,2464	0,6077	0,0103

In Table 4 is shown the empirical results for a single acquisition deal completed on 2006 by Apple. The results for this single sample revealed that Apple's ARs prior to the day of the acquisition announcement showed positive and negative abnormal returns. For the acquisition announcement day Apple's AR was positive. However, the AR positive result during the announcement day is not considering a statistical significant value according to the t-test. Furthermore, after the acquisition announcement ARs and CARs showed a positive tendency on the returns except for the day 1 due they performed negatively.

Table 4.

Event Window							
	Apple acquisition 2006						
(-3,3)	-3	-2	-1	0	1	2	3
AR	-0.0063	0.0068	-0.0096	0.0048	-0.0013	0.0100	0.0539
AR Sig t-test	-0.2926	0.3164	-0.4460	0.2229	-0.0604	0.4621	2.5012
CAR	-0.0063	0.0005	-0.0091	-0.0043	-0.0056	0.0044	0.0583

0 refers to the acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

Table 5 describes the acquisition deal carried out by Apple on 2008. The CARs projected positive results before, during and after the acquisition day. In addition, Apple's acquisition announcement had a positive impact on the ARs and CARs for the three consecutive days after the announcement.

Table 5.

Event Window							
	Apple acquisition 2008						
(-3,3)	-3	-2	-1	0	1	2	3
AR	0.0321	-0.0260	-0.0038	0.0215	0.0077	0.0097	0.0070
AR Sig t-test	1.7065*	-1.3802	-0.2032	1.1446*	0.4116	0.5175	0.3731
CAR	0.0321	0.0061	0.0023	0.0239	0.0316	0.0414	0.0484

0 refers to the acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

Table 6 presents the empirical finding of Apple's acquisition made in the year 2009. During the testing process on how the M&A event impacted Apple shareholder's wealth was proved that cumulative abnormal returns showed a negative trend around the acquisition announcement day. Moreover, it's important to highlight that this particular event lead to a negative ARs on the announcement day and after with the exception of day (+2) and (+3) that slightly showed positive returns. The results corresponding to the

acquisition announcement were slightly negative for both CAR and AR, for the last one was also registered a negative statistical significant result.

Table 6.

Apple acquisition 2009							
Event Window (-3,3)	-3	-2	-1	0	1	2	3
AR	-0.0282	-0.0072	0.0042	-0.0231	-0.0198	0.0095	0.0294
AR Sig t-test	-2.5641	-0.6555	0.3789	-2.0943	-1.7939	0.8648	2.6709
CAR	-0.0282	-0.0355	-0.0313	-0.0544	-0.0741	-0.0646	-0.0352

0 acquisition announcement day0 refers to the acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

Table 7 reported the ARs and CARs results derived of one of the acquisition bids made by Apple during 2010. It is evident that during the day of the announcement the abnormal returns obtained were negative and no statistical significant except for the positive results of the cumulative abnormal returns. The same trend was observed for the day before and after the acquisition announcement day. Nevertheless, no statistical significant but slightly positive ARs results could be observed on the second day before and after the announcement event day. It is relevant to highlight the positive trend that CAR results kept during the whole event window period (-3, +3).

Table 7.

Apple acquisition 2010							
Event Window							
(-3,3)	-3	-2	-1	0	1	2	3
AR	0.0202	0.0091	-0.0022	-0.0031	-0.0035	0.0041	-0.0038
AR Sig t-test	1.9688*	0.8903	-0.2139	-0.3013	-0.3427	0.40063	-0.3709
CAR	0.0202	0.0293	0.0271	0.0240	0.0205	0.0246	0.0208

0 acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

In table 8 is described the level of impact caused on the Apple's ARs and CARs by Apple's acquisition announcement bid also carried out in 2010. The event window period evaluated for this sample (-3, +3) showed mix results. On the day of the acquisition announcement the results were slightly negative for both abnormal and cumulative returns, and the AR showed also negative and no statistical significance. Besides that, the ARs on day 1 and 3 performed also positively after the announcement. Also, the performance of the CARs after the acquisition announcement day (0, +3) was positive.

Table 8.

Apple acquisition 2010							
Event							
Window (3,3)	-3	-2	-1	0	1	2	3
AR	-0.0035	0.0038	-0.0035	-0.0002	0.00878	-0.0047	0.00193
AR Sig t-test	-0.3446	0.3690	-0.3388	-0.0227	0.85289	-0.4556	0.18727
CAR	-0.0035	0.0003	-0.0032	-0.0035	0.00531	0.00062	0.00255

0 acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

6.2. Nokia results and analysis

Table 9 highlights Nokia's estimation window performance. It is evident that Nokia's beta coefficient is less than 1, meaning that Nokia's return will have a smaller change in comparison to the Nasdaq-100 market return, but exceptionally for 2009 Nokia stocks will expect a higher return. Also from Table 9 the R squared values shows a really low but positive performance indicating that any change in the Nokia's returns will be less than 50% responsibility of the Nasdaq-100 market index changes.

Table 9. Nokia Returns: Estimation Window

M&A year	α	β	R-squared	Std error
2005	0,0003	0,8659	0,2298	0,0140
2006	0,0010	0,9449	0,3485	0,0131
2007	0,0023	1,0891	0,3922	0,0137
2008	-0,0024	0,9871	0,5011	0,0269
2009	-0,0018	1,2115	0,4306	0,0266
2010	-0,0011	0,9001	0,1729	0,0213

The following table 10 represents the Nokia's acquisition bid in 2005. One day before the announcement the abnormal returns and the cumulative returns indicated a negative impact, whereas the results for the ARs and CARs imply positive results for the second and third day before the event. In spite of that, negative results during the day of the acquisition where presented for AR and CAR. On the other hand, the results indicated positive earning in ARs but no statistical significant during the 3 days following the announcement event. Moreover, negative CARs were obtained for the same days after the event.

Table 10.

Event Window (-3,3)	-3	-2	-1	0	1	2	3
Nokia acquisition 2005							
AR	0.0018	0.0086	-0.0127	-0.0110	0.0059	0.0033	0.0018
AR Sig t-test	0.1287	0.6125	-0.9078	-0.7850	0.4191	0.2352	0.1261
CAR	0.0018	0.0104	-0.0023	-0.0133	-0.0074	-0.0042	-0.0024

0 acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

Table 11 describes the results derived from the acquisition deal made by Nokia in 2006. During the day of the announcement the abnormal return performed a really small growth but not enough to be consider statistical significant. In contrast, the cumulative abnormal return was negative. Before and after the acquisition announcement (-3, + 3) the ARs and CARs imply mix results. However, it is interesting to remark the second day after the event because the AR as the CAR projected slightly earning but not enough to be considered statistical significant.

Table 11.

Event Window (-3,3)	-3	-2	-1	0	1	2	3
Nokia acquisition 2006							
AR	-0.0120	-0.0033	0.0026	0.0016	-0.0004	0.0183	-0.0026
AR Sig t-test	-0.9173	-0.2504	0.2007	0.1214	-0.0295	1.3922*	-0.1972
CAR	-0.0120	-0.0153	-0.0127	-0.0111	-0.0115	0.0068	0.0042

0 acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

Table 12 corresponds to Nokia's acquisition announcement event carried out in 2007. The empirical results in this sample reflected a negative trend on the acquisition day and after (0, +3), meaning that both ARs and CARs showed negative returns. On the other hand, the following 3 days before the announcement the AR and CAR returns reported slightly positive earnings but not statistical significant.

Table 12.

Event Window (-3,3)	-3	-2	-1	0	1	2	3
				Nokia acquisition 2007			
AR	0.0065	0.0069	0.0002	-0.0148	-0.0199	-0.0126	-0.0122
AR Sig t-test	0.4724	0.5072	0.0137	-1.0786	-1.4517	-0.9193	-0.8896
CAR	0.0065	0.0134	0.0136	-0.0012	-0.0210	-0.0336	-0.0458

0 acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

In table 13 is reported the M&A announcement that Nokia made during 2008. The results indicate positive AR and negative CAR on the day of the acquisition announcement. Also , negative AR results were collected after the event, except for the second day after the announcement in which the abnormal returns were positively impacted and resulted statistical significant as per the t-test.

Table 13.

Event Window (-3,3)	-3	-2	-1	0	1	2	3
				Nokia acquisition 2008			
AR	-0.0107	-0.0225	0.0044	0.0104	-0.0546	0.07495	-0.0725
AR Sig t-test	-0.3990	-0.8390	0.1640	0.3863	-2.0324	2.7904*	-2.7002
CAR	-0.0107	-0.0333	-0.0288	-0.0185	-0.0731	0.00189	-0.0706

acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

Table 14 describes how the M&A announcement bid made in 2009 impacted Nokia's returns performance. Starting 3 days before the event, the performance described by the ARs and CARs projected mix results, highlighting the positive trend of the ARs on the first and the third day before the announcement. The post-event AR performance showed negative figures. In spite of that, during the third day the AR resulted positive but not statistical significant.

Table 14.

Nokia acquisition 2009							
Event Window							
(-3,3)	-3	-2	-1	0	1	2	3
AR	0.0087	-0.0263	0.0108	-0.0073	-0.0285	-0.0056	0.00203
AR Sig t-test	0.3266	-0.9889	0.4069	-0.2732	-1.0707	-0.2101	0.07635
CAR	0.0087	-0.0176	-0.0068	-0.0141	-0.0425	-0.0481	-0.0461

0 acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

Table 15 shows one of the relevant M&A announcement deals achieved by Nokia in 2010. The results collected during the (-3) days prior to the announcement day revealed a completely negative tendency in the abnormal returns and also a negative impact for the cumulative abnormal returns. This table also describes that during the day of the announcement the results also showed no positive signs especially for the AR. On the contrary, opposite results can be observed post- event more precisely for day (+2) and (+3) in which the abnormal returns were positive impacted but they were not enough statistical significant as per the t-test. Although, on day (+2) the both AR and CAR delivered negative results.

Table 15.

| Nokia acquisition 2010							
Event Window							
(-3,3)	-3	-2	-1	0	1	2	3
AR	-0.0068	-0.0009	-0.0273	-0.0100	0.00684	-0.0012	0.01264
AR Sig t-test	-0.3218	-0.0400	-1.2845	-0.4703	0.32188	-0.0554	0.5946
CAR	-0.0068	-0.0077	-0.0350	-0.0450	-0.0382	-0.0393	-0.0267

acquisition announcement day

***denotes significance at the 10%, **at the 5% and *at the 1% level

Figure 4 projectes both Apple and Nokia CARs average values three days before and three days after the acquisition announcememets. Apple's cumulative abnormal return values for the period (-3, -2) shows a small loss, for the following window period (-2, -1) indicates again a negative performance, while for the period starting from day (-1) until the day of the announcemnt (0) the CARs value projection showed a small recovery but no significant. On the other hand, the CARs performance describe during the period (0, +1) showed again a slightly falling. However, during the following days (+2, +3) the CARs values showed a significant positive trend.

In addition, Apple's CAR values showed a negative trend below Zero for the window period (-3, 0). This trend also continous before day 1. Starting from day (+1) until day (+3) after the announcement day CARs values for Nokia had a better performance but below zero. Neverthelss, the figure showed that the acquisition annoucement had definitely a positive impact on the CARs after the announcemnt day.

All in all, the CARs performance indicate a positive trend after the acquisition announcemnt day (1, +3) for both companies Nokia and Apple. The positive tendecy for the CARs during the acquisitions annuncements indicates that the market and the investors are responding positively after the announcements.

Figure 4. Cumulative abnormal return: Nokia vs. Apple.
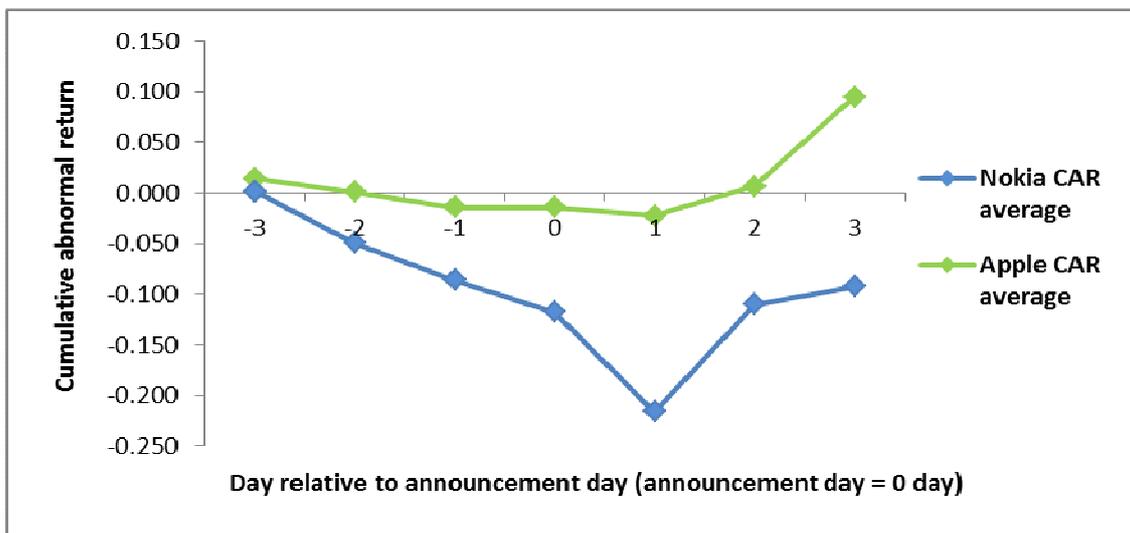
The reported results obtained are rather similar to other investigation already done. Petmezas Dimitri (2008) focusing in hot markets with high stock prices found that in the short-run market rewards acquisition attempts when optimistic beliefs of investors over bullish periods are an important factor of acquisition returns. Yang (2005) concluded that M&A announcements are considered as good news in the markets and they are expected to be followed by a significant event. Hence, the M&A announcement has a better positive effect on the stock price of the acquirer than on the target's stock price. Chatterjee et al. (2001) found that the announcement of new CIO position influence positively the markets and the abnormal returns for the day of the announcement and one day after (0,1). Also, Anand et al. (2008) proposed in their study positive and significant returns to the shareholders of bidder banks and target banks.

7. CONCLUSION AND SUGGESTION FOR FURTHER RESEARCH

The objective of this research was to analyze in the short term the impact that M&A announcements had on the acquiring shareholders wealth from 2005 to 2010 in the telecommunication industry with a final observation sample that consisted of 11 completed acquisition deals, six for Nokia and five for Apple.

Focusing on a short event widow, several previous studies have investigated how M&A announcements have an impact on the wealth of the shareholders. Previous literature concluded that M&A announcements are able to create value and the acquiring firms describe positive abnormal returns (see e.g. Kirchhoff et al. 2006, Pfister et al. 2007, Hulland et al. 2008, Kling et al. 2011 and Ruiz et al. 2011). In order to assess the stock market reaction to the acquirers' M&A announcements the following hypothesis was formulated for the basis of this investigation:

H1: mergers and acquisitions announcements create value in the short run for the acquiring firm in terms of positive stock market returns after the day of the announcement (0, +3).

The empirical analysis in this thesis was based on the event study methodology, which measured the impact of M&A announcements on the stock market returns. The use of the event study methodology is widely accepted as one of the most common application of Capital Asset Pricing Model and it is also base on the assumption that individual stock returns can be predicted over time. Thus, abnormal returns can be evaluated documented by Benninga (2008), Mei (2008) and Suarez (2002).

In order to calculate the normal returns for the acquiring firms, the market model based on the capital asset pricing model (CAPM) was estimated over a (-3, +3) period before, during and after the acquisition announcement. Also, the NASDAQ-100 market index was used in the market model. The Abnormal returns (AR) were cumulated to obtain

cumulated abnormal returns (CAR) over a window period of (-3, 3) after that, statistical test (T-tests) was done for ARs to ensure the statistical validity of stock reaction to M&A announcements.

The results obtained from the individual analysis to five different acquisitions carried out by Apple showed mixed results. A small negative impact on the abnormal returns were found in the day of the announcement for three of the acquisitions, while for the other two the announcement had a positive impact in the day of the announcement. On the other hand, for the Nokia case, the analysis was made for six different acquisitions and the results that were found are also mixed. Nokia's abnormal returns were negative in four of the acquisitions and positive for two of them during the day of the announcement.

In addition, the average of the cumulative abnormal returns for both companies Apple and Nokia were compared during the period (-3, +3). In consequence, the results showed a negative tendency of the CARs for both Nokia and Apple during the period (-3, 0) to the acquisition announcement day. On the other hand, for three (+3) consecutive days after the announcement day, the CAR's results for both Nokia and Apple projected a positive trend excepting the period (0, +1) that showed a lost only for Nokia's CAR.

The results showed from the empirical analysis of this research are consistent with the hypothesis that was formulated indicating that the M&A announcements do have an impact on the stock prices and returns in the short term, meaning that they have an influence during the day of the announcement and three days after. Also, they could be considered as good news or bad news in the speculative capital markets. All in all, it can be concluded that even though a large body of research studies find that stock's returns are positive and significantly impacted in the short run, the outcome of this investigation point out that stock price reaction to M&A announcements reacts also on the same way for bids carried out from 2005 to 2010 in the Telecommunication industry.

M&A and its value creation are always a topic so much discussed in the financial field including a variety of research studies stating the pros and cons. This investigation contributes to the global financial literature giving more insights in the way of analyzing the financial consequences of the M&A announcement in the short run for companies that play an important role within the telecommunication industry.

Evidently, this study has some limitations. For this study we only took into account 5 and 6 acquisition carried out by Apple and Nokia respectively during the period 2005 and 2010 and the estimation window was only 200 days before the announcement and we did not differentiate from the domestic and cross border acquisitions. Future research can be extended on the telecommunication industry to measure the post-merger impact after the M&A announcement on the acquiring and target firms' stock returns. In addition, could be quite interesting to split the acquisition between domestic and cross border in order to see the outcome.

REFERENCES

Agrawal, A., Jaffe, J.F. and Mandelker, G.N. (1992). *The Post-Merger Performance of Acquiring Firms: A Re-examination of Anomaly*. The Journal of Finance. Vol. 4, pp.1605- 1621.

Anand, M. and Singh J. (2008).Impact of Merger Announcements on Shareholders' Wealth: Evidence from Indian Private Sector Banks. The Journal of Decision Makers is the property of Vikalpa. Vol. 33. No. 1, pp. 35-54.

Andrade, G., Mitchell M. and Stafford E. (2001). *New Evidence and Perspectives on Mergers*. Journal of Economic Perspectives. Vol. 15 No. 2, 2001, pp. 103-120.

Apple Annual Report 2010.

Benninga, Simon (2008). *Financial modeling*. Third edition. Cambridge, Massachusettsetc: Mit Press, pp. 371-396. ISBN 978-0-262-02628-4.

Bonham, H.B., CFA. (2001). *The Complete Investment and Finance Dictionary*. Adams Media Corporation. ISBN:11-58062-372-7.

Björklund, J. (2010). *Master's thesis: Private Company Discounts in Mergers and Acquisitions. Evidence from U.S.A.* Aalto University School of Economics. Pp. 25

Brealey, Richard A., Myers, Stewart C. and Allen, F. (2006). *Corporate Finance*. New York: McGraw-Hill. ISBN 0-07-111551-X.

Brigham, F.E. and Gapenski C.L. (1991). *Financial Management, Theory and Practice*. Sixth edition. The Dryden Press International Edition. ISBN 0-03-032672-9

Cartwright, Susan & Schoenberg, Richard (2006). *Thirty years of mergers and acquisitions Research: recent advances and future opportunities*. British Journal of management. Vol. 17, pp. S1-S5.

Chatterjee, Debabroto, Richardson, J. Vernon and Zmud W. Robert (2001). *Examining The Shareholder Wealth Effects of Announcements of Newly Created CIO Positions*. MIS Quarterly. Vol. Num. 25, pp. 43-70.

Damodaran, A. (2002). *Investment Valuation: Tools and Technics for Determining the Value of Any Asset*. Second Edition. Wiley Finance. ISNB 0-471-41488-3

Delaney, T. Frank and Wamazuri, Sam C. (2004). *The impact of mergers and acquisitions on shareholder wealth in the UK construction industry*. Engineering, construction and architectural management. Vol. 11, pp. 65-73.

Depamphilis, Donald (2010). *Merger and Acquisitions Basics: All You Need to Know*. Academic Press, 23.9.2010, pp.304.

Dimpfl, Thomas (2011). *The impact of US news on the German stock market-An event study analysis*. The Quarterly Review of Economics and Finance. Vol. 51, pp. 389-398. DOI: 10.1016/j.qref.2011.007.005

Dobbs, R., Goedhart, M. and Suonio H. (2007). *Perspectives on corporate finance and strategy. Are companies getting better at M&A*. Mckensey & Company. Num. 22, pp. 7-11.

Dutta, S., Jog, V. (2009). *The long-term performance of acquiring firms: A re-examination of an anomaly*. Journal of Banking & Finance. Vol. 33, pp. 1400-1412. Doi:16.16/j.bankfin.2009.02.004.

Eccles, G.R., Lanes, L.K. and Wilson, C.T. (1999). Are You Paying Too Much for That Acquisition?. Harvard Business Review. Pp. 136-146.

Fama, Eugene (1965). *The Behavior of Stock-Market Prices*. The journal of Business. Vol. 38, No. 1, pp. 34-105.

Fama, Eugene (1970). *Efficient Capital Markets: A Review of Theory and Empirical Work*. Journal of Finance, 25, 383-417.

Fama, F. Eugene and French, R. Kenneth (1996). *Multifactor Explanation of Asset Pricing Anomalies*. Journal of Finance Vol. LI, No. 1, pp. 55-82.

Fama, F. Eugene and French, R. Kenneth (2004). *The Capital Asset Pricing Model: Theory and Evidence*. Journal of Economic Perspective. Vol. 8, pp. 25-46.

Gao, Huasheng (2010). *Market Valuation, Managerial Horizon, and Acquisitions*. Financial Management. pp. 833-850.

Gell, J., Kengelbach J. and Roos A. (2008). *The return of the strategist: creating value with M&A in downturns*. The Boston consulting group report. pp. 6-29.

Green, Milford B. (1990). *Mergers and Acquisitions: Geographical and Spatial Perspectives*. Great Britain, London: Biddles Ltd, Guildford and King's Lynn. ISBN 0-415-04267-4.

Grover, V., Wilcox, H. K. and Chang (2001). *Valuation of mergers and acquisitions in the Telecommunication Industry: A Study on Diversification and Firm Size*. Information & Management. Vol. 38, pp. 459-471.

Hsu, Li-Tzang & Jang, Soo-Cheong (2007). *The post-merger financial performance of hotel companies*. Journal of hospitality & tourism research.

Hwa, K.Ting (2007). *Impact of the Asian Financial Crisis on Corporate Real Estate Acquisitions. Journal of Corporate Real Estate*. Vol. 9 No. 4, 2007, pp. 239-256.

Hulland, J., Murshed F, and Swaminathan V. (2008). *Value Creation Following Merger and Acquisition Announcements: The Role of Strategic Emphasis Alignment*. Journal of Marketing Research. Vol. XLV, pp. 33-47. ISSN: 0022.2437

Kaplan, N. Steven (2006). *Mergers and Acquisitions: A Financial Economics Perspective.*

Kengelbach, Jens and Roos, Alexander (2011). *Riding the Next Wave in M&A; Where are the opportunities to create value?*. Boston Consulting Group 2011, pp. 2-38.

Kling, Gerhard & Weitzel, Utz (2011). *The Internationalization of Chinese companies: Firm characteristics, industry effects and corporate governance*. Research in International Business and Finance. 25 (2011), pp. 357-372.

Laamanen, T., Pyykkö, E. and Kallunki P. J. (2009). *Stock Market Valuation, Profitability and R&D Spending of the Firm: The Effect of Technology Mergers and Acquisitions*. Journal of Business Finance & Accounting. 36(7) & (8), pp. 838-862.

Langford, Ron & Brown, Collin III (2004). *Making M&A pay: lessons from the world most successful acquirers*. Strategy and leadership. Vol. 32, pp. 5-14.

Lasfer, Meziane (2006). *Discussion of Separation of Ownership from control and Acquiring Firm Performance: The Case of Family Ownership in Canada*. Journal of Business Finance & Accounting. 33 (3) & (4), pp. 544-549

L'Her, J-F., André, P., Kooli, M. (2004). *The long-Run Performance of Mergers and Acquisitions: Evidence From the Canadian Stock Market*. Financial Management. pp.27-43.

Mackinlay, Craig A. (1997). Event *studies in economics and finance*. Journal of Economic Literature. Vol. 35, pp. 13-39.

Malkiel, G. Burton (2003). The *Efficient Market Hypothesis and Its Critics*. CEPS working paper No. 91.

Malone, B. Christopher & Ou, Zicheng (2008). *Acquisition actions in Australia: a test of acquisitions theory*. International Journal of Managerial Finance. Vol. 4, pp. 220.231.

Mei, bin & Sun, Changyou (2007). *Event analysis of the impact of mergers and acquisitions on the financial performance of the U.S forest products industry*. Forest policy and economics.

Mussavian, Massoud and Elroy, Dimson (2000). *Market Efficiency*. The Current State of Business Disciplines. Vol. 3, pp. 959-970. ISBN 81-7600-523

Nokia Annual Report 2010.

Park, M. D., Yang, C. Nam and Ha (2002). *Mergers and Acquisitions in the telecommunication industry: Myths and reality*. ETRI journal, Vol. 24, pp. 56-64.

Petmezas, Dimitris (2008). *What drives acquisitions? Market Valuation and bidder performance.* Journal of Multinational Financial Management. pp. 1-21.

Pike, Richard. and Neale, Bill. (2003). *Corporate Finance and Investments: Decisions and Strategies*. England: Prentice Hall, Financial Times. ISBN 0-273-65138-2

Pfister, Etienne and Campart. Sandy (2007). *Technology, Cooperation and Stock market value: An Event Study of a New Partnership Announcements in the Biotechnology Pharmaceutical Industries*. Taylor & Francis Group. DOI:10.1080/10438590600661764

Ross, Stephen A., Westerfield, Randdolph. W. and Jordan, Bradford D. (1998). *Fundamentals of Corporate Finance*. United States of America: McGraw-Hill. ISBN 0-07-561273-9

Ruiz-Feito, Isabel & Requejo-Menéndez, Susana (2011). *Cross-border Merger and Acquisition in different legal environments*. International Review of Law and Economics. 31, pp. 544-549.

Sutton, K.N., Steigner, T. (2011). How Does National Culture Impact Internationalization Benefits in Cross-Border Mergers and Acquisitions?. The Financial Review. Vol. 43, pp. 103-125.

Vidal, Suarez and Marta M. (2002). *Stock market response to the formation of global alliances: evidence from Spanish corporations*. European Business Review. Vol. 14, pp. 401-408.

Yang, Dong-hoon (2005). *Stock market reaction to mergers and acquisitions in anticipation of a subsequent related significant event: Evidence from the Korean Telecommunications industry*. Review of Pacific Basin Financial Markets and Policies. Vol. 8, No 3, pp. 185-200.

Yen, T.-Y. and André, P. (2007). *Ownership structure and operating performance of*

acquiring firms: The case of English-origin countries. Journal of Economics and Business. Vol. 59, pp. 380-405. Doi:10.16/j.jeconbus.2007.04.003.