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Mergers & Acquisitions:

The Case of Microsoft and Nokia

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Abstract

Due to the financial downturn and the emergence of new devices in the global handset market has led companies to change their business strategies. Indeed, Mergers and Acquisition are considered one of the best strategies to increase shareholder value despite its hardship to be well-implemented. For this reason, a consolidation between Microsoft and Nokia may create new opportunities to challenge the market. Thereby, the focus of this dissertation will be the calculation of the additional value created by combining both firms bearing in mind the companies' financial situations. All this considered, Nokia's average share price during the last year is considered to have a 0.14% upside potential and synergies are estimated around 13% of Nokia's average market capitalization. As a result, an offer at 19.4% premium over Nokia's average market capitalization will be suggested with 100% in cash.

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1. Introduction

The aim of this dissertation is on Mergers & Acquisitions processes where two firms will be presented and analyzed exhaustively, demonstrating at the end, the main reasons justifying the consolidation between them. Further, these two companies are Microsoft and Nokia, two well-known and recognized technology enterprises operating in the Mobile Industry.

This dissertation provides a deep theoretical analysis, followed by a practical analysis taking into account the companies' historical standalone situation. Thereby, the Literature Review will contemplate the existing academic literature about the M&A topics.

Furthermore, an Industry and Company analysis will be provided, describing the historical background of the industry and current trends. Additionally, each one of the companies will be described: their main segments, financial indicators and performance in the stock market.

Afterwards, a performance forecast of both firms will be computed, translating the Microsoft's and Nokia's information into numbers. The following section will focus on the valuation of the merged entity, defining the main sectors where an additional value is expected to arise.

Lastly, after the consolidation benefits calculation, an acquisition offer will be proposed. Indeed, it is in this section that a proposal will be defined with the main goal of being positively well-perceived by the markets.

2. Literature Review

Being the main goal of a company which starts negotiating in a market is the creation of value to the shareholders, has led organizations to start looking at different forms of creating and at the same time, increasing the value. Among a set of strategies, Mergers and Acquisitions were considered as a coherent and sophisticated strategy, allowing creating value not only for the acquiring company, but also for the target company. Nevertheless, the positive consequences resulting from those corporate mergers are far from clear. The players on the takeover project usually underestimate the potential benefits from M&A, and therefore the additional value originated by the combined entity is usually scarce since it is incorrectly estimated (Damodaran, 2005), destroying consequently shareholder value rather than increasing it.

Damodaran (2005) defines synergy as the additional value generated by combining two entities, which create opportunities impossible to achieve operating each one independently. Moreover, problems and errors on the value estimation affect directly the firms' resources allocation which is a key driver of an organization performance (Luehrman, 1997). Thus, the best form to minimize those biases is firstly, value both companies independently, then values the combined organization, as the sum of the values computed initially, and finally values the combined firm with the synergies that will be created due to the takeover.

The following describes the organization of this Literature Review: the first section is composed by the Valuation methods, which describes the Cash-flow approaches and the method of "comparables" (Relative Valuation); the second section includes M&A topics and related issues, as Synergies, types of M&A, Cross-border M&A and Emerging Markets, Methods of Payment and Post-acquisition returns.

2.1 Valuation Methodologies

According to Copeland, T. et al (1990), "financial valuation is indeed central to setting business strategy". In fact, the firm's value estimation is for general managers and financial experts an important step to determine how well their firms allocate resources and take strategic decisions based on those values (Luehrman, 1997), in a word, valuation knowledge is basically a requisite for a participation in a firm's resource allocation choices (Myers, 1974). Based on the sizeable "portfolio" of existing valuation approaches, each organization should adopt the valuation method that better matches its

current situation, information available and its future perspectives of growth. Albeit, it is also important to highlight the fact that some valuation approaches create the same results under certain assumptions as it is the case reported by Oded, J. (2007) on which, the four discount cash flows approaches lead to the same value for companies that rebalance their debt. Welch (2004) considers the coherent and unbiased analysis of the company capital structure and capital structure changes a way to increase the likelihood of adopting the correct valuation method.

As a consequence, under the Financial Literature is unanimous the existence of two large groups of methods to estimate value: the Discounted Cash-Flow approaches (DCF), as the most accurate and flexible method for valuing organizations (Goedhart, M. et al, 2005) and the Valuation by Multiples (Relative Valuation) which can generate insights into specific drivers creating value in the industry (Lie and Lie, 2002). Jointly, Young, M. et al (1999) go further and distinguish those approaches in terms of spotlight: focus on Equity Values and focus on Enterprise Values. The distinction between them it is easy to highlight. While the first method focus on Equity Values computes only the value of Equity, on the other hand, methods focus on Enterprise Values compute the value of Equity plus the value of Debt.

Besides this distinction, it is primordial to analyze and distinguish each Valuation Method mentioned above. Starting with the Discounted Cash-Flow methodologies, these approaches imply forecasting future cash-flows and discounting them to their present value at a specific and proper rate which reflects their level of risk (Luehrman, 1997). At the same time, the most common DCF approach is to discount the future cash-flows by the weighted average cost of capital –WACC- (Kaplan and Ruback, 1996). According to Oded, J. (2007), there are four cash-flow methods to value a company: Adjusted Present Value (APV), Capital Cash Flows (CCF), Cash Flows to Equity (CFE) and Free Cash Flows to the Firm (FCFF). The only three differences between them are: which cash flows are discounted and; at which discount rate and how the interest tax shields associated with the debt financing are valued. Some authors as Goedhart, M. et al, (2005) claim DCF analysis delivers the best valuation results.

In turn, the Valuation by Multiples requires the computation of specific multiples for a set of benchmark and similar companies and therefore finding the company's assets

value based on these benchmark multiples (Lie and Lie, 2002). The point in this approach is the choice and application of the correct and accurate multiple (Goedhart, M. et al, 2005).

However, Kaplan and Ruback (1995) conclude that "there is no obvious method to determine which measure of performance…is the most appropriate for comparison". In response to the accurately estimation of the firm's cash flows through DCF methodologies, Lie and Lie (2002) affirm that DCF analysis is frequently left behind in favor of Relative Valuation, and the Valuation by Multiples provides the lowest valuation error (Koeplin, Sarin and Shapiro, 2000). There is also another valuation method which will not be approached here – Return-Based method – on which the value of an asset is the differential between return and cost of capital (Damodaran, 2002), as it is the case of Return on Equity and the Economic Value Added (EVA).

Besides this distinction, Luehrman (1997) also refers to a tool for valuing opportunities – Option Pricing Theory – considering an "opportunity is analogous to an option, where you have the right to buy or sell at a certain price" and on which the asset's value depends on a future event. Thus, it should be viewed as a supplement to the DCF methods and not as a replacement. Taking into account the strengths and weaknesses of each method, which will be deepened farther more in detail, even though it is essential to refer the most reliable value estimations are the result of combining both methods together (Kaplan and Ruback, 1996). Thereby, the present analysis will be focused on FCFF, APV and Multiple methodologies.

2.1.1. Cash-Flow Approaches

A valuation based on discounted cash flows starts with the estimation of the nominal and real future cash flows (Luehrman, 1997), and it is also in this initial phase where the valuation errors usually appear (Damodaran, 2002) due to the expectations about the growth rates, return on invested capital and growth periods, which may be scattered. In many cases as Damodaran (2002) shows, for purposes of simplicity the cash-flows are forecasted for a limited period of time and expected to grow at a constant nominal rate in perpetuity. This assumption is quiet important, seeing that every increase in the

horizon of the valuation reduces the valuation errors allowing consequently to a better corporate performance (Ohlson and Zhang, 1999).

The second step of this methodology refers to determine the proper rate on which cash flows will be discounted. Since each cash flow has a level of risk which directly implies the use of a distinct discount rate, we must do assumptions to estimate the correct cost of capital, which is usually, computed using the Capital Asset Pricing Model (Kaplan & Ruback, 1996).

2.1.1.1. The Cost of Capital

The process of estimation the cost of capital is one of the most critical inputs in many corporations as many companies operate in several industries (Kaplan & Peterson, 1998). Copeland, T. et al (1990) consider it as the opportunity cost of investing in a similar risk-project. Moreover, the cost of capital can be provided by specific financial tools (debtholders) as bonds, securitization, hybrids, bank debt and convertibles (Shivdasani & Zak, 2007). In order to compute the correct cost of debt capital, this is a result of the risk-free rate plus a default-risk spread depending on the firm's probability of default. On the other hand, it can also be provided by equityholders, in spite of the approaches to compute the correct costs of equity capital being less consensual. Indeed, among the various existing theories about the estimation of the cost of equity, the most commonly-used is the Capital Asset Pricing Model (CAPM). According to Kaplan and Peterson (1998), the CAPM defines linear relationship between the cost of equity and the slope coefficient (beta) in a regression of the company's equity returns, in other words, the CAPM embodied by Sharpe (1964), Lintner (1965) and Black (1972) conclude that the return of an asset is the sum of the risk-free rate and the risk-premium, which depends on beta. However, the use and adequacy of the CAPM in practice has been questionable by some authors. For instance, Fama and French (1996) argue that the main implication in market equilibrium of this method is that, the "value-weight market portfolio is mean-variance-efficient", in a word, beta explains the expected return and for a beta risk there is a positive expected premium. Ferson and Locke (1998) claim that improving the procedures on the estimation of market risk premiums would allow a superior cost of equity estimation rather than using the CAPM.

Despite the distinction mentioned above, firms prefer debt instead of equity when receiving returns because a rise on the debt ratios reduce the probability of its shareholders being compensated in a potential situation of financial depression. As a consequence, the cost of unlevered equity must be lower than the cost of levered equity.

The expected returns implied by the CAPM for the Unlevered and Levered firm are described below:

$$R_e = R_f + \beta_l \times (R_m - R_f) \qquad R_u = R_f + \beta_u \times (R_m - R_f)$$

where R_f is the risk free rate, β_u is the firm's unlevered beta or systematic risk, β_l is the firm's levered beta, and $R_m - R_f$ is the risk premium required by investors to invest in a firm with the same level of β as the stock market, or market risk premium.

As we have mentioned above, one of the commonly-used discount rate in cash flow calculation approaches is the tax-adjusted discount rate or weighted average cost of capital (Kaplan & Ruback, 1996). According to this "method", WACC represents a weighted average of the after-tax costs of different sources of capital (equity and debt), in which each one is weighted by the fraction of the capital structure it represents (Luehrman, 1997). Albeit, this approach has been questioned by several authors; for instance, Kaplan and Ruback (1996) argue that a correct WACC practice is hard to achieve due to the cost of capital being recomputed each period as a result of changing leverage over time, making this approach too exhaustive. In turn, the use of this model in a constant growth context implies certain assumptions with regard to the discount rates to be used in computing the tax shields (Massari, M. et al, 2007).

In fact, the WACC methodology considers that capital structure is rebalanced which implies that when future asset values are uncertain, the value of future debt tax shields will be also uncertain (Miles & Ezzell, 1980). On the other hand, the more complex a company's capital structure and tax position is, the more likely it is that errors in estimation will occur (Luehrman, 1997). For example, Welch (2004) argues that the main determinant of capital structure is the stock returns. Moreover, there is also a

tendency to use book values rather than market values in the estimation of the capital structure, which becomes WACC an old fashioned measure (Luehrman, 1997).

Below it is presented the WACC formula:

$$WACC = R_e \times \frac{E}{E+D} + R_d \times \frac{D}{E+D} \times (1 - T_c)$$

where R_e is the cost of equity and R_d is the cost of debt, E is the equity and D the debt, and T_c is the corporate tax rate.

Indeed, WACC's main advantage is that it bundles the two sources of capital together in order to discount them only once (Myers, 1974), but given the set of complexity presented on the capital structure of firms today, WACC has been increasingly replaced by other methods (Massari, M. et al, 2007).

2.1.1.1.1. Risk-Free Rate (R_f)

Oded, J (2007) defines the first element of the CAPM Model as the expected return on investment without default risk, which is the same of saying when β is zero, the cost of equity (either levered or unlevered) is equal to the risk-free rate. Moreover, Copeland, T. et al (1996) conclude that the application of the long-term Treasury bond yield in terms of maturity for the computation of the risk-free rate in the cost of capital calculations permits a consistent and correct valuation on which risk-free rate is somewhat less dependent on inflation.

2.1.1.1.2. Beta (β)

The second element of the CAPM Model is according to Damodaran (2002) a measure of exposure to the systematic risk of the stock. Kothari, S. et al (1995) concluded that the higher is β, the more negative effects market shocks will create. Firstly, as a way to increase precision, it is common to estimate the beta of a group of firms operating solely in the same industry as the firm who is being valued. Nevertheless, betas may also differ

across firms within an industry (Kaplan & Peterson, 1998). Consequently, several approaches have appeared for the estimation of the systematic risk.

Kaplan and Ruback (1996) propose valuations using three measures of betas: a firm-based measure, an industry-based measure and a market-based measure; the latter basically assumes the systematic risk for all the firms analyzed equals the risk of the market assets. Meanwhile, Kaplan and Peterson (1998) propose an average beta for the industry (industry-based measure) in order to avoid errors. The methodology that will be approached will be thereby an industry-based measure, on which will be only accounted corporations with the same growth, size, cyclicity, gains and leverage levels.

According to Kaplan & Peterson (1998), the first step should be the calculation of the firms' betas operating in the same industry followed by the computation of the weighted average of all values (called "Industry betas" by Kaplan & Peterson, 1998). Afterwards, a cross-sectional regression of betas against the industry percentages is computed and a "Market-capitalization-weighted industry betas" is achieved. According to Berk (1995), it is also extremely important to come up with a relation between beta and market capitalization. Indeed, Berk (1995) concludes that firms with higher risk have smaller market capitalizations due to the extra risk premium incorporated on the discount rate of those firms.

Below it is presented the firm's levered beta:

$$\beta_l = \beta_u[1 + \frac{D}{E} \times (1 - T_c)]$$

Furthermore, as Kaplan & Peterson stated, the betas of individual business units cannot be calculated using historical return information and additionally, firms are constantly changing its capital structures, thus beta is mandatorily changing too. In order to overcome that limitation, betas should be calculated on the basis of published estimates of the firm's unlevered beta for the industry in question (Copeland, T et al, 1990).

2.1.1.1.3. Market Risk Premium ($R_m - R_f$)

The last parameter that remains to be estimated in the CAPM model is the market risk premium which represents the difference between the expected return on the market (Rm) and the risk free rate (Rf) mentioned above (Oded, J., 2007). It depends on the levels of liquidity, information availability and the economic environment (Damodaran, 2002). Moreover, the computation of the market risk premium should use the arithmetic average historical risk premium (Kaplan & Ruback, 1996). Additionally, Koller, T. et al (2005) consider that the historical risk premium for a mature equity market is nearly 4,5 percent.

In fact, the importance of the expected market returns leads to the use of the most representative equity market due to the inability to compute the market portfolio. According to Damodaran (2002), a good index is the one which includes the highest number of securities (seen the wide equity market), assuming they are market weighted. As Fama and French (1996) refer, one of the main limitations of CAPM is mainly due to miscalculations of market portfolio. Therefore, a good approach to avoid such errors is the one mentioned by Damodaran (2002), on which, the default spread affiliated with the country rating has to be multiplied by the average of equity to bond market volatility and then added to the historical risk premium.

2.1.1.2. Free Cash Flow to the Firm Model

According to Kaplan & Ruback (1996), the Free Cash-Flow to the Firm Model (FCFF) is "the most commonly-used DCF approach, on which the value of a leveraged firm can be calculated by discounting the unleveraged cash flows to the firm at the firm weighted average cost of capital (WACC).
Thus:

$$Firm\ Value = \sum_{i=1}^{n} \frac{FCFF_i}{(1+WACC)^i} + \frac{FCFF_{n+1}/(WACC-TGR)}{(1+WACC)^n}$$

Indeed, this formula is composed by two stages: the first is computed the present value of cash-flows up to some preselected horizon date (n), which according to Ohlson & Zhang (1999) is rarely superior to 15 years; and the second is calculated to the present value of cash-flows beyond the horizon date referred as the terminal value (TGR represents the terminal growth rate).

Moreover, other authors such as Damodaran (2005) values the FCFF model as the amount of cash earned by a company after paying all taxes, expenses and reinvestment needs, but before dividends and interests to debtholders or equityholders.

Below is presented the FCFF model according to Damodaran (2005):

$$FCFF = EBIT\ (1\text{-}T) - Capital\ Expenditures + Depreciation - \Delta NWC \pm other\ Non\ cash\ items$$

Once again, it is essential to refer that these cash-flows must be discounted at the firm WACC (Massari, M. et al, 2007), which is the discount rate that adjusts for the tax effect. Next, it will be analyzed the following two FCFF parameters: the Terminal Value and the Expected Growth Rate.

2.1.1.2.1. Terminal Value

After the computation of the operating cash-flow plus and/or minus the investment effects up to a certain point in the future (Luehrman, 1997), it is required to execute the second stage of this methodology: the present value of cash-flows beyond the horizon date (Terminal value). The terminal value is thereby, the capital cash-flow in the last forecast year (terminal year) and then adjusting it for the difference between cost of capital and expected growth rate (Damodaran, 2005).
Thus,

$$Terminal\ Value = \frac{FCFF_{n+1}}{(Cost\ of\ Capital - Exp.growth\ rate)}$$

In fact as formula shows, the Terminal Value is very delicate to possible changes in the expected growth rate and in the cost of capital (Oded, J., 2007).

2.1.1.2.2. Expected Growth Rate

While Kaplan & Ruback (1996) argue that terminal cash-flow grow at a constant nominal rate in perpetuity, assuming that Depreciation is equal to Capital Expenditures in the capital cash-flow in the terminal year, Copeland, T. et al (1990) claim the importance of the growth factor in obtaining the enterprise value, and mandatorily in the WACC. Hence, the Expected Growth rate is the product of the Reinvestment rate (RR) multiplied by the after-tax return on capital (ROC) (Damodaran, 2005).

Thus:

$$RR = \frac{(Cap.Expenditure - Depreciation + \Delta NWC - \Delta Debt)}{Net\ Income}$$

$$ROC = \frac{Net\ Income}{(Total\ Assets - Excess\ Cash - Non\ Interest\ Bearing\ Current\ Liabilities)}$$

Concerning to the Terminal Growth rate (TGR) stated above on the firm's value formula, Damodaran (2005) also argues that no organization can grow faster than its current economy in the long-term period. Consequently, TGR at a constant rate shall be computed as the real or nominal expected growth rate of the economy's GDP depending on whether the cash-flows will be included or not on the inflation parameter on its computation.

2.1.1.3. Adjusted Present Value (APV)

The APV approach, often called "valuation in parts" suggested by Myers (1974), besides being less susceptible to valuation errors than the traditional WACC, it also computes how much a firm asset is worth and where this value comes from (Luehrman, 1997). Indeed, Myers (1974) argues that the valuation of a firm's assets is the sum of

two categories of cash-flows: the real cash-flows (revenues, cash operating costs, capital expenditures) related to the business operation; and the "side effects" associated with the financing program (interest tax shields, cost of financial distress, subsidies, hedges, issue costs and agency costs). In a word, the first part of this technique can be considered as the value of an all-equity firm, while the second piece can be considered as the value added by a firm's choice of capital structure (Kaplan & Ruback, 1996). Nevertheless, it is also important to highlight that the value of all financing side effects might introduce excessive complexity to this method and for this reason, because often mostly are disregarded, paying attention only to the interest tax shields (Damodaran, 2005).

Therefore, the first task on the APV model consists of the firm business valuation as if it was financed entirely with equity (unlevered firm). Thus:

$$\textit{Value of the Unlevered Firm (Vu)} = \sum_{i=1}^{n} \frac{FCFF_i}{(1+R_u)^i} + \frac{FCFF_{n+1}/(R_u - TGR)}{(1+R_u)^n}$$

As it is shown, the procedure is precisely the same as the FCFF model; the only difference reports to the applied discount rate: in this case, it is used the unlevered cost of equity (R_u) rather than the WACC.

The second task on the APV approach is related to the value associated with the financing program that firm expects to use. According to Luehrman (1997), the net effect of the financing program value should be positive, otherwise, the company would use solely equity financing. As a result of a company will hardly be financed entirely with equity, so the Value of the Tax Shields (VTS) is described below:

$$\textit{Value of Tax Shields} = \sum_{i=1}^{n} \frac{D_i \times R_d \times T_c}{(1+R_d)^i} + \frac{D_i \times R_d \times T_c/(R_d - g)}{(1+R_d)^n}$$

where D_i represents the net debt, $R_d$represents the levered cost of equity, T_c represents the corporate tax rate, and g represents the perpetual tax shield growth.

Luehrman (1997) highlights that interest tax shield normally appear as a consequence of interest payments which are deductible on the corporate tax return. Moreover, the same author pays attention to the fact that in the long-term period as the indebtedness grows at the same rate as the firm, thus, g will be equal to TGR (terminal growth rate). Regarding the discount rate used in the model, Myers (1974) and Luehrman (1997) argues that tax shields should be discounted using the cost of debt as a discount rate because firms almost defaulting are unable to use tax shields in spite of their ability to pay interest. However, Milles & Ezzel (1980) have an opposite point of view, giving relevance of using the cost of equity as the appropriate discount rate.

As a result of those two assessments, it is plausible to add the probability of firm default to the cost of debt in order to reach a rate that reflects riskiness, as from Luehrman's point of view (1997), tax shields are more risky than debt itself.

Besides the value of interest tax shields, there are other important side effects which can also be added or subtracted to the all-equity firm value, namely the value of a firm in case of distress (CFD). Thus:

$$Cost\ of\ Financial\ Distress = \sum_{i=1}^{n} \frac{\%CFD_i \times Vu_i}{[1+R_d+P(D)]^i}$$

In practice, CFD represents the product between the values of and unlevered firm (V_u) and the percentage of loss in a company's value (Damodaran, 2005). Meanwhile, this percentage is highly variable across industries, that Andrade & Kaplan (1998) argue to be on average a value between 10% and 20%.

Thereby, as Myers (1974) claimed, the final task refers to add all the parts together and then, we get an estimate of the APV methodology.

$$Firm\ Value = V_u + [1 - P(D)] \times VTS - [P(D) \times CFD]$$

Once again, the VTS must be multiplied by the probability of no default inasmuch VTS only exists while a firm is operating, and similarly, the CFD has to be multiplied by the probability of default.

According to Luehrman (1997), APV is highly helpful in the valuation of cross-border takeovers, although the use of the correct valuation approach depends on the nature of a firm's capital structure (Kaplan & Ruback, 1996). Indeed, the APV represents a model which can incorporate easily the impact of dividend policy, or even transaction costs in financing, and is extraordinarily transparent concerning in adjustments to the discount rate (Myers, 1974).

Notwithstanding, the APV concept presents certain handicaps: first of all, the income from stocks can be taxed in a different way, when the investor files a personal tax return; in addition, analysts usually ignore the use of other financing side effects in order to avoid complexity in getting the APV estimation (Luehrman, 1997). For this reason, Kaplan & Ruback (1996) proposed a new APV technique called "Compressed APV" as an upgrade of the traditional APV method, in which the all-equity discount rate is applied to the whole firm's expected capital cash-flows, either the real cash-flows, or the side effects.

2.1.2. Relative Valuation

Even though the DCF methodologies computed the most reliable estimations, the use of multiples provided the smallest valuation errors (Kaplan & Ruback, 1996). To this extent, it becomes essential to analyze the use of Multiples valuation in the estimation of the corporate value. Relative Valuation focus on what the market expects a firm's ability to create profit to be based on its position against similar firms operating on the same industry around the same time (Koeplin, Sarin, Shapiro, 2000). In practical terms, enterprise value estimation starts by finding a set of comparable transactions and then calculate such transaction multiples of several relevant financial parameters, such sales or earnings. Finally, the estimated multiple is applied to the values of those parameters for the firm which is being valued (Kaplan & Ruback, 1996). Nevertheless, the success of such method is inherent to the ability in identifying transactions that shows specific characteristics such as, risk, growth rate, capital structure, size and liquidity, which are closely related to those of the firm which is being valued. Thus, the correct choice of comparable companies and the use of the right set of multiples are essential to prevent misunderstandings (Goedhart, M. et al, 2005).

According to Koeplin, J. et al (2000) and matching with Goedhart, M. et al (2005) main findings, a firm with similar size and timing of cash-flows, as well as, growth, leverage and risk levels is considered a suitable comparable firm.

Notwithstanding, such comparable firm is only possible to meet in the same industry or business segment (Lie & Lie, 2002). Hereupon and according to Alford (1992), the first task should be the definition of a firm's business segment through a four-digit SIC code (Standard Industrial Classification), which identifies in what industry a certain company belongs to. Furthermore, from the portfolio of companies selected, it is essential to focus on those with similar ROC and growth expectations (Goedhart, M. et al, 2005).

The second half of this methodology concerns to the selection of the correct set of multiples. Indeed, a good multiple is the one which is difficult to manipulate through leverage and which describes the firm's capacity to create profits as well (Goedhart, M. et al, 2005). At the same time, the superiority of enterprise-value multiples (as enterprise-value-to-EBITDA multiples) over equity-value multiples (as Price-earnings multiples) is evident, since the latter is directly affected by changes in the capital structure, while the former is not affected by depreciation effects, although some analysts have used both (Kaplan & Ruback, 1996). Moreover, enterprise-value multiples should also be adjusted for non-operating items, like excess cash, employee stock options, operating leases and pensions (Goedhart, M. et al, 2005). In addition, another recommendation presented by the same author is the following: multiples should also be based on forecasted information if available, or on the latest information released.

Koeplin, J. et al (2000) consider four types of multiples valuation ratios based on EBIT, EBITDA, sales and book value, and in fact, the ratio results for public transactions were higher than for private transactions. Therefore, private firms sell at a discount relatively to similar public firms. Meanwhile, Lie & Lie (2002) reported that EBITDA multiples generated better estimates than EBIT multiples. According to Alford (1992) and Lie & Lie (2002), the accuracy and performance of estimates vary by firm size, profitability and the value of intangible assets in the firm, emphasizing that valuation by multiples

are more accurate for large (Alford, 1992) and financial (Lie & Lie, 2002) companies than for nonfinancial companies.

As it was referred above, companies with high intangible assets, as "Dot-com" enterprises, which have been recently created, with a lower sales percentage and negative profits, the use of nonfinancial multiples, such as website visitors or subscribers, on its own valuation may deliver better results (Goedhart, M. et al, 2005).

Of the presented multiples, there is no consensus as to which multiple performs the best results, even though they should be taken into account in any valuation process (Koeplin, J, et al, 2000).

2.2. M&A related issues

Despite the large wave of acquisitions since the late of 1990's, according to Lajoux (1998) on average, takeovers have failed to generate value for those who invested and live up to the financial expectations of those transacting them. Indeed, an acquisition process, either domestic or cross-border deal requires a sequence of activities which are difficult to accomplish due to limited information and time, as well as, poor management of the whole process by the intervening companies (Jemison & Sitkin, 1986). Thereby, according to Very & Schweiger (2001), an acquisition process requires firstly, the identification and evaluation of potential target firms, followed by the election of the best targetable company and consequently starting the negotiation stage with their owners, managers and other stakeholders. Finally, the last step is related to invest in post-acquisition integration. Hence, this section will address the main types of M&A, the resulting Synergies, then it will focus on the aspect of cross-border deals and emerging markets and to conclude, how synergy benefits are shared among two companies.

2.2.1. Main types of M&A

According to Damodaran (2002), a firm can be acquired by another company or by outside investors and its own managers. In fact, the form as M&A is driven; it will affect directly the method of payment and the post-acquisition outcome (Loughran & Vijh, 1997).

By that means, an acquisition by another company can also be classified as: merger, tender offer, consolidation and acquisition of assets. In mergers, the target company is integrated into the acquiring company, so both shareholders intervene on the acquisition process. On the other hand, in tender offers, the integration depends on the approval or not by the target shareholders; for instance, if target shareholders accept the tender, this will result into a merger in which the acquiring firm gains control. In a consolidation process, a new firm is created by both intervening companies, so it requires the participation of both shareholders. The last form concerns to the purchase of assets by the acquirer, thus it only requires a target shareholder approval. On the other hand, in the case of a company being acquired by its own managers (Management Buyout) or external investors (Leveraged Buyout), these acquisition processes normally take the form of tender offers where the target company becomes a private business (Wruck, 2008).

Meanwhile and according to the same author, it is essential to highlight that Leveraged buyout (Private Equity) markets are leaning to boom and bust cycles due mainly to hostile deal pricing and the laid-back credit market conditions. As such acquisitions are executed through raising debt, who holds the debt is the main question mark. Not only banks, but also private hedge funds have increased its importance in private-equity transactions, creating information problems for those who funded the Leverage buyout debt (Acharya, V. et al, 2007). Therefore, capital requirement modifications and more information provision about risk exposure are required measures to avoid such cycles and the related debt problems.

Besides this differentiation, Loughran & Vijh (1997) also advocate a distinction between aggressive and friendly takeovers, referring that mergers are usually friendly, while tender offers use a hostile tone during the whole acquisition process. At the same time, Stahl & Voigt (2005) argue for the speed of integration, highlighting that a faster acquisition leads to a simpler culture assimilation process. Last but not least, a M&A

between firms competing on the same industry or business segment tends to increase the probability of success compared to those operating in different industries, without the required know-how to interfere on the target's core business (Barkema & Vermeulen, 1998).

2.2.2. Synergies - "The creation of value"

According to Damodaran (2005), synergy is defined as the increase in value that comes from the combination of two enterprises to create a more valuable company. On the other hand and also mentioned by the same author, valuing control consists of revaluing only the target company with a different and presumably better management in place and compare this value to the one obtained with the existing management in place. This distinction must be essentially and separately done in order to avoid double counting and to distinguish between control value-oriented acquisitions and synergy value-oriented purchases.

As the spotlight of this analysis is the synergies created by M&A, it becomes crucial to address about the synergies achievement. Synergies can be reached through cost reductions, or revenue enhancements, or even through both simultaneously (Sirower & Sahni, 2006). In other words, the increase in value can be a result of reduction in the cost of capital or an increase in the expected cash-flows (Damodaran, 2005), albeit companies are normally more triumphant in reducing costs than in increasing revenues (Sirower & Sahni, 2006). Moreover, for a synergy to create value, there must be a further growth in the return on capital to the combined firm.

Furthermore, synergies can be grouped into three groups: Operating Synergies, Financial Synergies and Dubious Synergies (Damodaran, 2005). Operating Synergies refer to a better development of the existing assets resulting into higher growth potential, increasing pricing power, economies of scale and scope and combination of distinct skills. On the other hand, Financial Synergies refer to tax benefits through tax deductions or accumulated losses, increasing debt capacity through a lower earnings variance, the use of excess cash in new opportunities - Cash-slack – and finally, Diversification which depends on a firm's size and its corporate governance and its

effects are far from clear, varying across industries. In fact, the same authors quoted that markets do not recognize the success of diversification to generate value. Ultimately, Dubious Synergies in which markets react positively to its announcements, can take the form of accretive purchases (higher EPS post-acquisition) and fast-growing enterprises.

In turn, the valuation of such synergies is unanimous among analysts (Damodaran, 2005), using the DCF methodologies to compute the additional value created, but its evidence is difficult to evaluate though. In spite of the synergy potential at the time of the takeover, only a small percentage of mergers deliver additional value due to the excessive price paid by acquiring firms and the operations of both intervening firms did not fit (Kaplan & Weisbach, 1992). Moreover, markets perceive M&A takeovers as a surprise; regardless prices adjust quickly (Kiymaz & Kilic, 2004). Thereby and based on historical evidence, Damodaran (2005) mentions three facts which might help to increase the probability of M&A success in creating synergies: firms with similar size have a higher likelihood of failure than small/large firm combinations; cost reduction takeovers have a higher probability of delivering on synergy than takeovers based on growth synergy; lastly, the acquisition of private businesses has a greater probability of success than acquisition of publicly traded firms (Shivdasani & Zak, 2007).

2.2.3. Cross-Border M&A and Emerging Markets

The partnerships or takeovers between companies headquartered in different countries usually raise certain interrogations about how to value such M&A, the entry process and the future perspectives of success (Very & Schweiger, 2001). In fact, the increasing Globalization of markets for goods, services, labor and capital has led companies to start searching for new opportunities abroad and in emerging markets, in order to expand its operations overseas (Zenner, M. et al, 2008). Thus, on the last decade, the markets witnessed a growth of Cross-border transactions, representing one-fourth of the total value of the M&A market (Very & Schweiger, 2001).

Zenner, M. et al (2008) report the main reasons for this growth in cross-border takeovers: Globalization, Geographic diversification, in which emerging market companies increasingly seek cross-border transactions, and tax benefits. Additionally,

short-term factors can also live on over time, like: high-relative valuations (increasing purchase power when stock prices are great), currency changes (for instance, a cheap U.S. dollar), Sovereign wealth funds behaving as reserve future funds, and finally decreasing domestic competition given in theory, foreign acquirers seem to pay more than domestic acquirers in cross-border transactions (Bruner, 2004).

However, cross-border M&A present several implications that we must take into account in terms of valuation in order to avoid misjudgments. Differences in terms of currency in which to execute the valuation (normally, using the currency of the target's cash-flows), taxation (foreign or domestic tax rates), cost of capital, risk assessment among jurisdictions, inflation and cash-flow valuation approaches are crucial to compute (Koller, T. et al, 2005). As a consequence of foreign exchange risk as political risk as well, it is also fundamental to adjust expected cash-flows through a probability weighted scenario method (James & Koller, 2000). Thereby, a foreign currency cash-flow can be discounted at the foreign currency discount rate, converting the result into home currency at the spot exchange rate or; at the home currency discount rate, converting the result into home currency at the expected exchange rate (Froot & Kester, 1995). It is important to refer that foreign currency discount rate and forward exchange rate are obtained using the interest rate parity, according to the same authors.

Nevertheless, some obstacles can also diminish and detain the success of cross-border M&A, namely, the short-term factor referred above may not keep on, as the U.S dollar shift, and the barriers to trade and foreign acquisitions take by a Protectionist government. Consequently, the entry process in these markets, where assets are too cheap or margins and investment opportunities can be too high, is not easy to succeed (Bruner, 2004). Indeed, "M&A is local", so the success depends on the local/targeted country situation, and on the knowledge and prior experience about a target country (Very & Schweiger, 2001).

Notwithstanding, cross-border M&A should be viewed as a key element of shareholder value (Zenner, M. et al, 2008). Indeed, according to Zenner & Shivdasani (2004), cross-border acquiring firms tend to outperform domestic firms, mainly because of the immediate market access and lower execution risk, and as the majority of cross-border M&A use cash as the acquisition currency, markets usually prefer cash-financed

takeover rather than, stock-financed transactions. In turn, large companies purchasing emerging market companies allow them to keep growing and generate shareholder value, when the growth in its domestic market is limited (Zenner, M. et al, 2008). At the same time, emerging market companies, selling at a high price and using mainly cash, acquire access to developed markets.

Therefore, cross-border M&A always bring benefits and cost for the participating companies which dictate the success or failure of the transaction (Kiymaz & Kilic). In case things go on the wrong direction, either firms quit from the transaction, or they try to overcome such bias, collecting a more reliable data about the country/market in question and integrating the acquired firm, overstepping cultural dichotomies (Very & Schweiger, 2001). Moreover, the prior experience and expertise about the target country or emerging market is fundamental, since the more similar a new transaction is to historical and past ones, the better will be its performance and the higher will be the likelihood of well-succeed future takeovers in that country/market (Haleblian & Finkelstein, 1999).

2.2.4. Methods of Payment

According to Zenner, M. et al (2008), transactions, either domestic or cross-border can be financed with cash, stock, a mix of both, or even through a payout depending on the target assets future performance – earnout contract – which provides a greater performance incentive for the seller and a risk management device for the buyer (Bruner, 2004).

Loughran & Vijh (1997) and Martin (1996) argue that the majority of mergers are financed through stock, while tender offers are generally cash-financed, despite markets do not react to news about the method of payment. In turn, several authors, such as Bruner (2004), Savor & Lu (2009), or even, Sirower & Sahni (2006) consider that acquiring firms usually prefer cash instead of stock when possible, with some going so far as to assert that the use of cash might destroy value. On the other hand and when the target's future performance is unclear, the use of stock might be more rational (Zenner, M. et al, 2008).

Indeed, the decision of using cash, stock or even, "earnouts" depend on certain aspects. First of all, it is essential to evaluate acquirer and target stock, whether it is overvalued or undervalued. Normally, when managers believe its stock is overvalued, they will prefer to pay with stock in order to obtain assets at an effective discount, and the opposite is also true (Savor & Lu, 2009). Additionally, the consequences of the payment form on the capital structure and on the rating agencies are also relevant to highlight. According to Sirower & Sahni (2006), in cash transactions, acquiring shareholders take on the entire risk of not match the expected synergies, while in stock transactions the risk is shared with selling shareholders. At the same time, paying with cash, the acquiring company is showing confidence in the transaction and it will get the entire amount of post-merger synergy benefits, being the opposite also veracious (Bruner, 2004). Furthermore, the importance of tax implications and financing choices must be taken into account because cash is directly taxed rather than stock, which is tax-deferred. Besides that, a cash-financed project means an additional debt issuance, so according to Zenner, M. et al (2008), the issued currency should match the currency of the target's cash-flows, the new debt should be located close to the supported assets and cash-flows, and the issuance market depends on the market access that acquiring and target managers own.

2.2.5. Post-acquisition Returns

According to the theory, the sharing of synergy returns should follow the principle of who contributes more for its creation, it should consequently receive more benefits, in a word, it depends on the effort and skills disbursed by the target and acquirer for the existence of the synergy (Damodaran, 2005). Consequently, an acquiring company to be able to receive the largest part of synergy gains, it must outperform the bids of others and match the shareholders expectations and promises (Sirower & Sahni, 2006). Moreover and according to the same authors, a cash-financed transaction tends to outperform, and consequently larger share of benefits than stock-financed deals. However, in M&A transactions the evidence indicates that targets extract positive wealth gains, whereas the wealth effects for the acquirers are negligible at best (Kiymaz & Kilic, 2004). Thus, it is fair to say, supported obviously by authors such as Sirower &

Sahni (2006) that target companies and their shareholders are the greater gainers of M&A, at least in the short-term period.

Indeed, Damodaran (2005) warns that half of acquiring companies earn negative returns at the announcement of transactions, which shows the investors' skepticism about the ability of the acquirer to keep or not the initial values of each firm composing the combined company, and in turn, the ability to reach the expected synergies initially proposed as a way to warrant the premium price paid. Actually, a higher premium price without any growth expectations represents more risk for shareholders and an inferior stock price performance for the whole acquiring firm (Sirower & Sahni, 2006).

On the long-run period (more than 5 years), the wealth gain effects are shared distinctly. Loughran & Vijh (1997) state that stock mergers accepted by target shareholders, have the worst returns for themselves. In fact, there is a connection between stockholders' returns and the type of M&A and the consequently, method of payment. Mergers, normally stock-financed, in agreement with Loughran & Vijh (1997) findings, produce relative or negative abnormal returns as the size of the target compared with buyer increases. On the other hand, tender offers, usually cash-financed, have positive excess returns, despite acquirers earn little or nothing from them. Additionally, cash tender offers may also create extra value whether after the transaction, a new management board is appointed or not. Nonetheless, at the time of purchase, if the acquiring firm assets are overvalued, there is an extra incentive to use stock because of their effective price paid drop (Savor & Lu, 2009).

Therefore, in order to verify the risk for the stockholders of using cash or stock and the consequent effects on the combined firm performance, Sirower & Sahni (2006) propose a ratio allowing to know how much a company is risking in a certain takeover if synergies are not matched:

$$Shareholder\ Value\ at\ Risk\ (SVAR) = \frac{Premium\ paid\ for\ the\ acquisition}{Market\ value\ of\ acquiring\ firm\ before\ acquisition}$$

In fact, in order to meet growth and synergy expectations, managers should spend time on the company's assets evaluation process, providing detailed and completed

information about the takeover benefits to the shareholders and to the markets, and ultimately, the board of directors must be more realistic on their forecasts (Sirower & Sahni, 2006). As a consequence and given the projection and large returns generated by Leverage buyouts, a possible alignment between shareholders' compensation and company's goals, as well as a more decentralized decision-making process - the Private-Equity methodology – might be an accurate approach able to invert M&A into a "winner's game" (Shivdasani & Zak, 2007).

Moreover, Sirower & Sahni (2006) also present a graphical analysis for the purpose of showing the principal M&A gains to the markets. First of all, it includes the "Meet-the-Premium" Line (MTP), which represents the combinations of revenue and cost synergies that justify the premium paid; and the "Plausibility Box", as the name implies, the revenue and cost synergies plausible to achieve by the company, knowing that markets respond worse to revenue synergies (Bruner, 2004). At best, a company should be above the MTP Line and within the Plausibility Box. Furthermore, a company may also disclose to the markets its own capabilities simultaneously with its market access.

2.3. Conclusion

Pursuant to the theoretical M&A analysis and consequent evidences from it, many interesting findings are still unclear and hard to understand, and might deserve future research. Indeed, particular arguments throughout this section are based on statistical data, which might not be reliable since each situation is different from the previous one (Bruner, 2004). Additionally, such results usually computed, even though, through valid and in vigor approaches, are more and more old-fashioned, as the case of WACC method (Luehrman, 1997).

According to Sirower & Sahni (2006), even whether acquirer shareholders lose value, or the target shareholders earn value, which results at the end, M&A transactions generate value for the economy. In spite of valuation pitfalls and limitations, managers shall spend a great time on it considering the positive and wealthy consequences for the participating firms' shareholders (Damodaran, 2005).

3. Industry and Company Analysis

3.1. Overview of the Global Mobile Industry

The global wireless handset market has seen an exponential growth since its first commercial introduction in 1983, becoming an essential part of our daily lives. Indeed, from the first generation of devices to the launch of digital technologies (as SMS) and the way to the ultra-fast third and fourth generation networks, the mobile phones have become more powerful, have enhanced their capabilities and have attracted several entrepreneurs, operators, major corporations and media. The development of mobile handsets, software and networks has opened several market opportunities, endured by the evolution of mobile phone technologies, in terms of performance and miniaturization. Therefore, the Global Mobile Handset Market is worth USD$172.2 billion in terms of revenues and the global mobile phone vendors shipped 1,39 billion units on a cumulative worldwide basis in 2010, compared to the 1,17 billion units shipped in 2009.

At the same time, the worldwide mobile device sales totaled 1,6 billion units in 2010, which represents a 31.8% increase from 2009 (Figure 1).

Company	2010 Units	2010 Market Share (%)	2009 Units	2009 Market Share (%)
Nokia	461,318.2	28.9	440,881.6	36.4
Samsung	281,065.8	17.6	235,772.0	19.5
LG Electronics	114,154.6	7.1	121,972.1	10.1
Research In Motion	47,451.6	3.0	34,346.6	2.8
Apple	46,598.3	2.9	24,889.7	2.1
Sony Ericsson	41,819.2	2.6	54,956.6	4.5
Motorola	38,553.7	2.4	58,475.2	4.8
ZTE	28,768.7	1.8	16,026.1	1.3
HTC	24,688.4	1.5	10,811.9	0.9
Huawei	23,814.7	1.5	13,490.6	1.1
Others	488,569.3	30.6	199,617.2	16.5
Total	**1,596,802.4**	**100.0**	**1,211,239.6**	**100.0**

source: Gartner (February 2011)

Figure 1: Worldwide Mobile device sales to end-users in 2010 (Thousands of Units)

Nevertheless, the current unstable macroeconomic environment must be taken into account in future projections and forecasts. In fact, the global financial crisis affects the mobile industry through three ways: a weaker consumer confidence, credit shortage and currency volatility, mainly for global companies. As a result, operators are nowadays, turning to new services in order to increase profitability, handset makers still rely on software and content rather than equipment for product differentiation which will drive sales of new products, and the end-users role consists of leading this transition through innovation. Additionally, the impact of such unsettled environment is still reasonable and moderate given the essentiality of devices for consumers. According to International Telecommunication Union, there were 5.3 billion mobile phone subscribers by the end of 2010 (Figure 2).

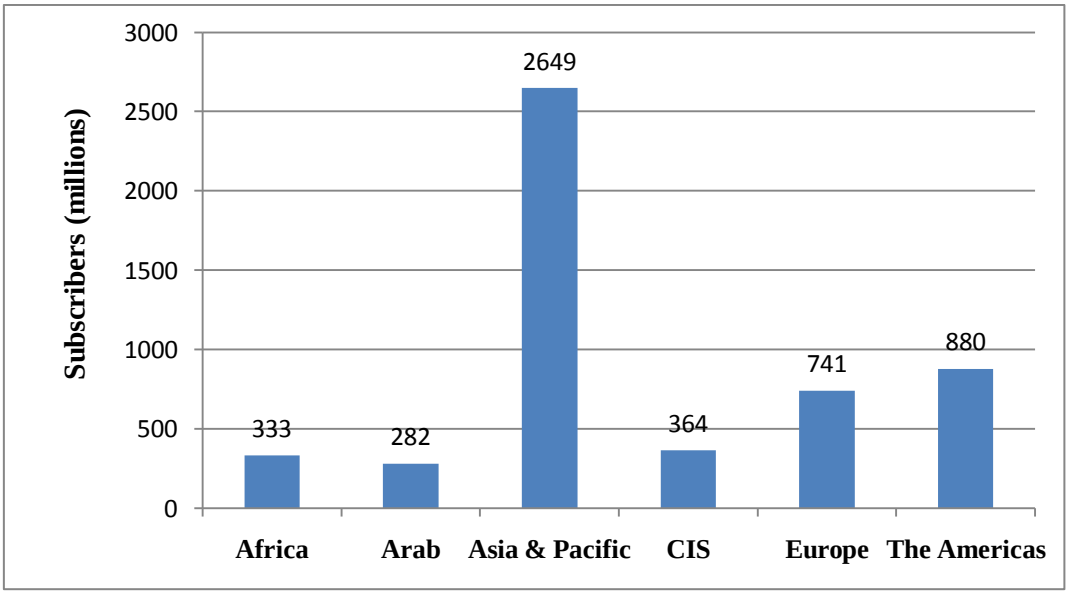


Figure 2: Mobile Subscriptions by Region in 2010

Regarding to the mobile phone main segments, the wireless handsets may be grouped into three general categories: basic phones, feature phones and smartphones. Basic phones are usually the lowest priced, and offer essentially voice and texting functionality. For instance, Nokia's 2630 model or even Motorola's RAZR phones were successful basic phones on the past. Feature phones are characterized by at least, one outstanding feature: a high-quality camera or even a mobile music player. LG's Chocolate phones are popular feature phones in the market. Lately, the smartphones

widen the range of a mobile phone's functionality beyond voice, texting, music, videos, emails, pictures and internet access.

Indeed, the latest generation of smartphones may be equipped with several gigabytes of memory (memory cards), GPS (Global Positioning System), touchscreen interfaces. An illustrative model is the Apple's iPhone and the Research in Motion Blackberry's portfolio. Furthermore, smartphones are becoming a viable alternative to the feature phones, PDA's and even laptops due to a plenty of factors: the lower product cost and improved handset design and functionalities, the global mobile email and browsing services boom, the emergence and need of 3G and 4G technologies, the increasing competition among mobile manufacturers and operators, and the standardization and constant upgrades of operating systems as well. In fact, global smartphones market accounted for USD$85.1 billion in 2010, which represents 22% of the global mobile handset sales. Hence, it was one of the few markets which remained stable during the financial recession, with an annual growth rate of 29.5% in 2009 over 2008 (USD$53.488 billion and USD$41.303 billion, respectively) and 59.3% in 2010 over 2009. Additionally, the global smartphones market may be also classified into two subgroups: consumer smartphones, which is the larger and fastest-growing market and business smartphones, which is expected to be the prevailing segment in the future, mainly due to the increasing traction of mobility between companies.

Indeed, smartphones are today, the most profitable segment of the global wireless handset market, with a wide leeway in terms of technical upgrades. For this reason, it is crucial to approach this lucrative and fastest-growing segment of the mobile market. On the past, the high cost and limited scope of smartphone services limited such devices to business users, essentially. Notwithstanding, recent developments – flat-rate charges for data plans, faster networks, improved user interfaces, 3D technology and new forms of payments – are helping to boost the adoption by consumers.

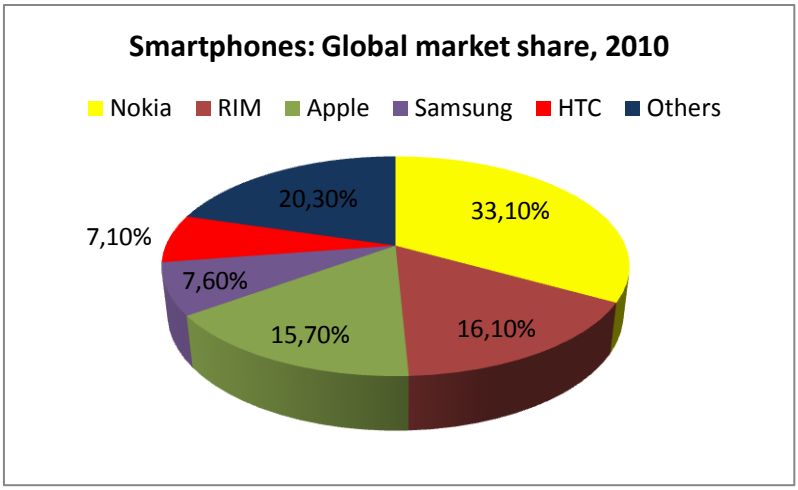


Figure 3: Top 5 Mobile smartphone manufacturers, by 2010 global sales

In Figure 3, we can easily claim that smartphones market is consolidated with the three main players – Nokia, RIM and Apple – holding more than 2/3rd of the global market.

In other hand, the operating system is one of the most essential considerations for the selection of a specific smartphone device (Figure 4). In advance, there are specific companies which are merely specialized in Operating Systems, like Microsoft (Windows Phone) and Google (Android).

Company (OS)	2010 Units	2010 Market Share (%)	2009 Units	2009 Market Share (%)
Nokia (Symbian)	111,576.7	37.6	80,878.3	46.9
Google (Android)	67,224.5	22.7	6,798.4	3.9
Research In Motion (Blackberry)	47,451.6	16.0	34,346.6	19.9
Apple (iPhone OS)	46,598.3	15.7	24,889.7	14.4
Microsoft (Windows Phone/Mobile)	12,378.2	4.2	15,031.0	8.7
Other OS	11417.4	3.8	10432.1	6.1
Total	**296,646.6**	**100.0**	**172,376.1**	**100.0**

source: Gartner (February 2011)

Figure 4: Worldwide Smartphone sales to end-users by Operating System in 2010 (Thousands of Units)

Some notes related to the future projections shall be highlighted: taking into account the the Nokia's decision to dump its principal smartphone OS in favor of Microsoft's Windows phone, the Symbian OS may decrease in the next years; Android platform should keep its growth in the following years due to the popular royalty-free business model.

After this brief introduction to the smartphones segment, conversely the fixed-line services are in declined as a result of improvements in the quality of wireless networks, and the unlimited calling plans for the mobile handset users.

Meanwhile, the Global mobile handset industry is dominated by five main players: Nokia, Samsung, LG Electronics, Apple and ZTE in the first quarter of 2011 (Figure 5). Surprisingly, RIM has been knocked out from the top-five ranking on mobile phone market share compared to previous years.

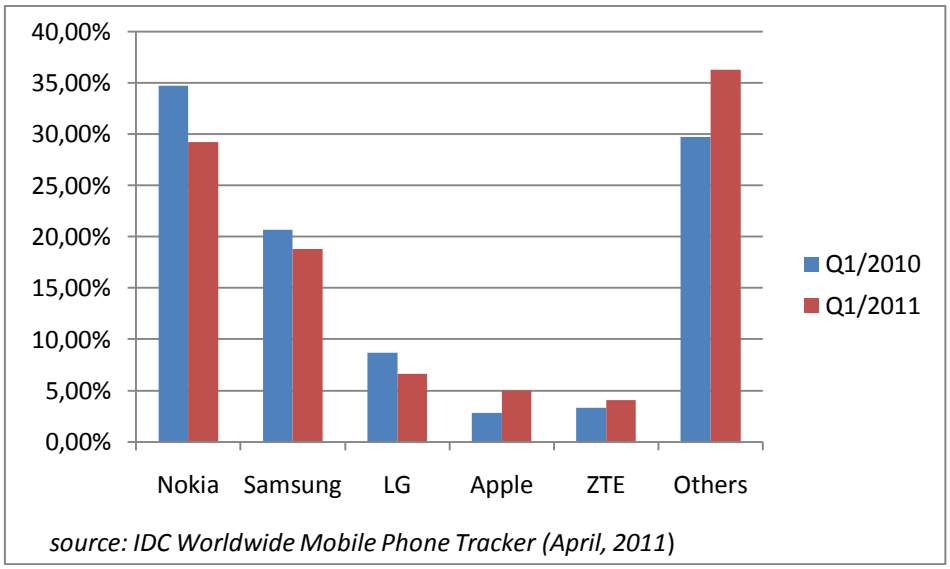


Figure 5: Top five mobile phone manufacturers market-share

Moreover, in terms of revenues, Apple has recently become the largest wireless handset seller in the same period (Q1 2011), overtaking Nokia and achieving the pole position in handset, smartphone and tablets revenues, mainly due to the higher Average Selling Price (Figure 6).

	Apple Q1/10	**Nokia Q1/10**	**Apple Q1/11**	**Nokia Q1/11**
Shipments (millions of units)	8,8	107,8	18,6	108,5
Wholesale ASP (USD$)	$606	$83	$638	$87
Revenues (USD$ billions)	$5,3	$8,9	$11,9	$9,4

source: Strategy Analytics (April, 2011)

Figure 6: Apple and Nokia annual revenues (2010-2011)

Additionally, the mobile sales have grown constantly over the last 6 years, despite a little decrease at the end of 2009 registering at 14.4% CAGR 2005-2010 (Figure 7).

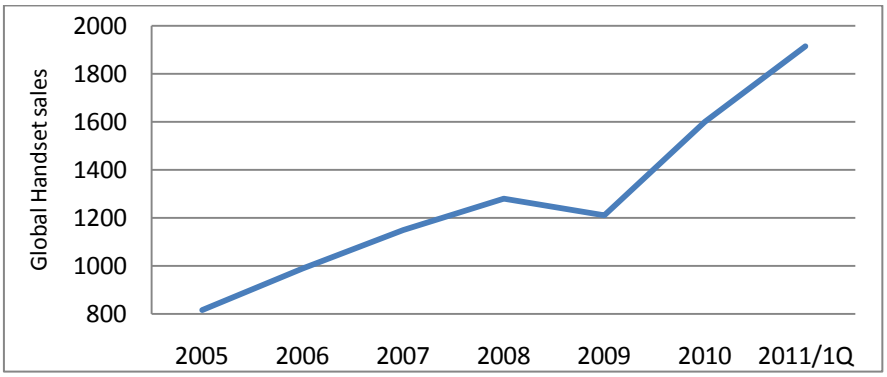


Figure 7: Worldwide mobile phone sales growth (in millions)

Indeed in 2010, the global market sales increased 31.8% from 2009, a sales growth rate not even seen in 2006, principally because of the sales growth on the smartphone segment.

Regarding to the mobile network operators, as the mobile phone manufacturers, the leading firms are predominantly American, European and Asian headquartered companies, which is positive in terms of regional competitiveness (Figure 8).

Operator Group	Revenues (USD$ Million)	Ranking
China Mobile	17,715	1
Vodafone Group	14,561	2
Verizon Wireless	14,046	3
AT & T	13,186	4
NTT DOCOMO Group	11,829	5
Deutsche Telekom Group	10,423	6
Telefonica Group	8,851	7
America Movil Group	6,95	8

source: Wireless Intelligence

Figure 8: Worldwide operator revenue ranking 2010

Concerning to the production process for mobile phones and respective supply chain, while the later is more global, the production model is essentially concentrated in Asia and Latin America, and to a smaller extent Eastern Europe. Conversely, the major regions for penetration of mobile phones (3G handsets) are those where the production model is not present (Figure 9). In addition, the outsourcing services are also increasing

due to the entrance of low-cost-focused new companies, such as the chinese Huawei into the industry, and the growing commoditization of wireless handsets.

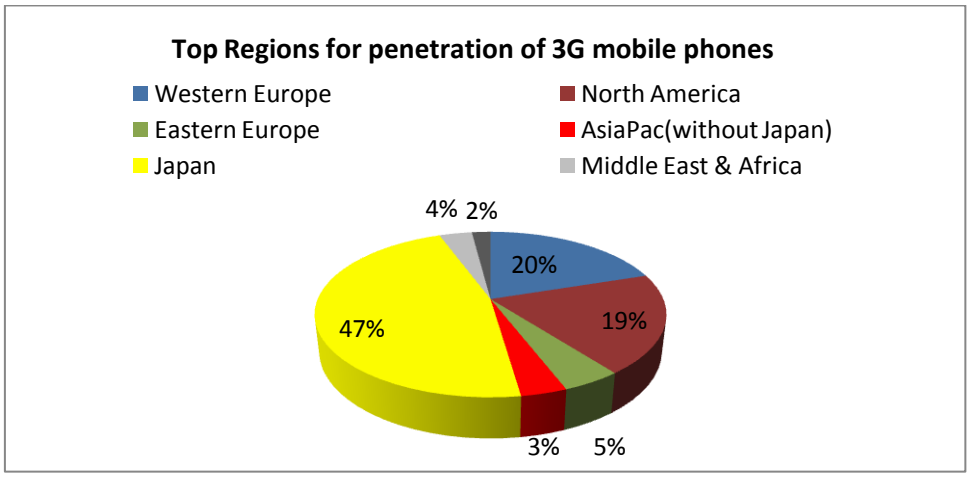


Figure 9: 3G mobile phone penetration rate by region (Morgan Stanley, 2009)

In turn, the worldwide mobile industry is regulated by specific and national bodies which control the telecommunications systems and seek for consumer rights and privacy issues protection, together with the respective national government and ministries. Referring only few entities, for instance in Japan and Finland, it is the respective Ministry of Communications (MIC and LVM, respectively) who regulates the wireless handset market in agreement with National communications Regulatory Authority (FICORA, in Finland). In USA, for instance, the Federal Communications Commission (rulemaker) together with Federal Trade Commission are the entities responsible for its regulation. Furthermore, the institution that represents the global mobile operators, its interests and competitive issues is GSM Association. In terms of marketing practices, wireless handset industry has powerful self-regulatory bodies, as Mobile Marketing Association, which provides guides on mobile marketing campaigns, and finally the CTIA, an organization that represents the wireless communications industry, striving for the protection and privacy of consumers' mobile phone billing data and history (as collection of personal data via websites and online advertisements).

3.1.1. Current Market Trend – "*The emergence of the tablets*"

The recent commotion in the global technology industry called, *tablet* has been attracting several companies during the past year of 2010. A tablet, more and less

positioned between a laptop and a smartphone, consists of a personal computer with a large touchscreen, being operated by a finger, a pen or even a stylus. Indeed, in 2001 the term "tablet" was already disclosed by Microsoft who had created the first prototype of a tablet, despite its unpopularity among consumers due to some application flaws and slow OS. However and at the beginning of last year, the Apple's launch of the iPad has boosted the tablet market. In fact, the increasing excitement and awareness for mobile internet devices combined with the portability and comfort of such gadgets and its entertainment capabilities, has helped to drive this growth. For this reason, some mobile industry players are planning to launch their own tablets in 2010. Moreover, mobile operators are also expanding into the tablet segment, as well as, the Media industry who foresees a potential for growth concerning to digital versions of newspapers, magazines and books.

Despite that, some concerns still prevent its potential success, specifically the low awareness generated among consumers, the lack of online content stores in order to get access to electronic books, music, games and other contents, and the absence of a keyboard (mainly for e-mails and spreadsheets) and a reduced battery life which may affect the tablet performance (take-off applications).

3.1.2. Technology market growth opportunities in Asian economies

Regardless of the major financial recession effects, namely in terms of credit, currency volatility and customer reliance, the mobile phone manufacturers are seeing a tremendous growth opportunity in specific Asian nations, such as China, India and Singapore, becoming a way to the future economic recovery. Further, Asian market presents today the highest number of mobile subscriptions, and several Asian mobile manufacturers and operators, such as ZTE, HTC, Samsung, China Mobile, NTT Docomo Group, are gaining ground in the wireless handset market. Indeed, the world's most populous nations have the largest mobile subscriptions, where China and India lead. Additionally, there are more mobile internet users in China than in any other country.

Therefore, Asian markets offer significant opportunities to European and American technology firms and respective investors, in the hardware, software, IT services, R&D facilities and retail outlets. Aspects like increasing available income, demographic elements, government stimulating incentives and tax breaks, and a growth in demand, are likely to represent crucial growth drivers. Nevertheless, firms shall also take into account some political instability and security concerns, as main threats.

Mobile phone manufacturers, in order to compete with local players, are producing customized handsets and services for this specific region. At the same time, they are also creating partnerships and agreements with resident firms to get easier access to the business and marketing channels, due to certain constraints imposed by government regulations. If for one part mobile phone manufacturers reduce their costs and increase the handsets' performance, on the other hand, Asian companies will be looking at ways to compete with their European and American counterparts.

3.2 Microsoft Corporation

Microsoft is an American public multinational corporation engaged in developing, manufacturing, licensing and supporting a range of software products, services and solutions for distinct types of computing devices able to deliver new opportunities, suitability and increased value to customers. It was created in 1975 in order to allow people and businesses around the world to realize their full potential by creating technology which changes the way people communicate, work and even play, as MS-DOS and the followed Microsoft Windows line of operating systems. Indeed, to suit the needs of consumers and to enhance the quality of products, Microsoft localizes their products in order to reflect local languages and customs, which implies modifying the user interface and translating text. Thus, Microsoft owns today 3 main operating centers: Ireland responsible by the European, Middle Eastern and African regions; Singapore responsible by the Japanese, Chinese and Asia-Pacific regions; finally, the American centers such as, North Dakota, Florida, Puerto Rico, Redmond (where company is headquartered), Washington, Nevada responsible by the Latin and North America regions. Furthermore, the software products, services and solutions comprise operating systems for personal computers, servers and intelligent devices; server

applications for distributed computing environments; information worker productivity applications; business solutions applications; software development tools; video games; and high performance computing applications. Moreover, Microsoft also certifies and trains computer system developers and integrators, design and commercialize hardware (as Xbox 360 console, Zune digital music device, Microsoft personal computer hardware products) and offers "*suites*" of products and services as, *eCAL suite* (enterprise client access license) which permits access to Microsoft server software products. Thereby, Microsoft' performance is the mirror of its diversified product and services portfolio (Figure 10).

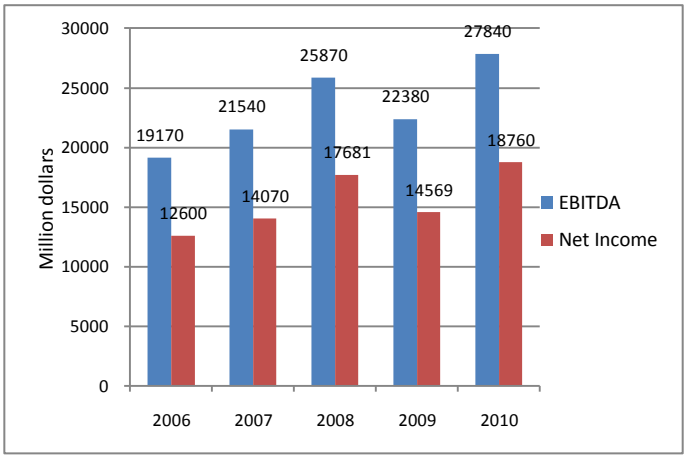


Figure 10: Microsoft Corporation Performance

In addition, Microsoft operates in five main segments: Windows & Windows Live Division (8.98% CAGR 2006-2010 of revenues), Server and Tools (11.36% CAGR 2006-2010), Online Services Division ((1.07%) CAGR 2006-2010), Microsoft Business Division (6.55% CAGR 2006-2010), and Entertainment and Devices Division (14.23% CAGR 2006-2010). According to financial data from the previous five years, the revenues have been increasing year-over-year despite from 2008 to 2009 they decreased about 6% due to economic slowdown, weaker consumer and corporate spending, constrained credit availability and currency volatility. A SWOT analysis is provided in Appendix 1, highlighting the major Microsoft's internal and external factors.

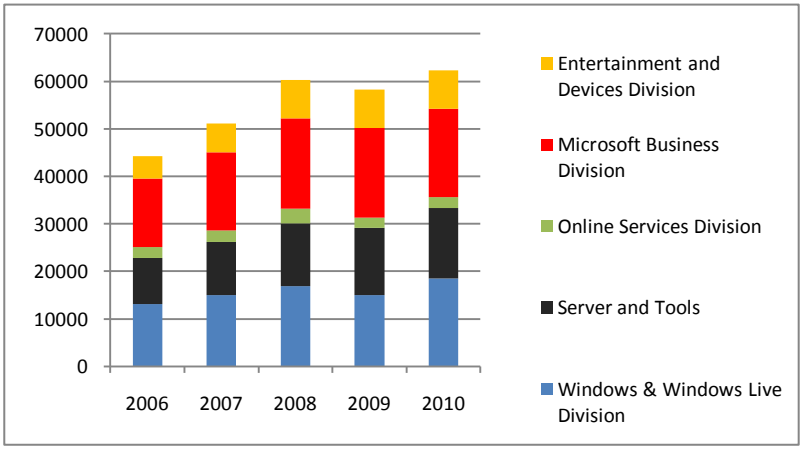


Figure 11: Microsoft segment product Revenue

Microsoft also researches and develops advanced technologies for future software products and services, representing this expense in average, 15% of revenues in each annual operating expenses (Figure 12). In fact, this ongoing innovation conducted by Microsoft, highlighting the importance of product excellence, business efficacy and delivering value to customers is the best way to meet consumers' needs and the company's future growth.

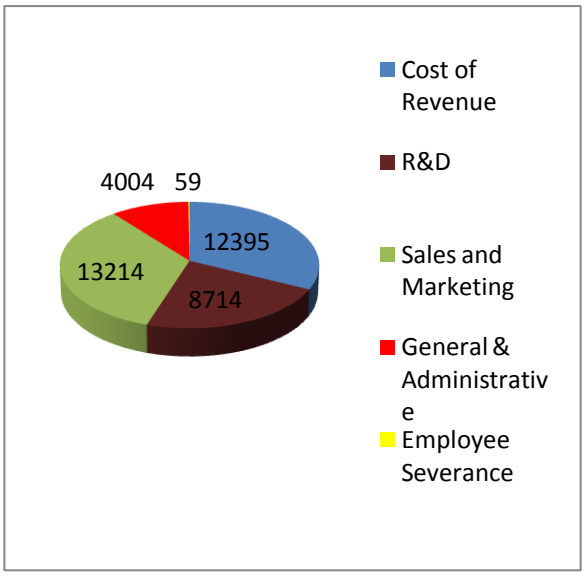


Figure 12: Microsoft Operating Expenses - 2010

For this reason and on the last years, Microsoft's ability to begin and foster technology trends has been focusing on areas such as: cloud computing, natural user interfaces and intelligent computing. For instance, cloud-based computing (such as, Microsoft Office Web Apps., Windows Azure, Windows Live Messenger) is becoming a great opportunity whose involves providing software, services and contents over the internet by way of shared computing resources located in specific centralized data centers. Therefore, consumers and companies access these resources from a wide range of devices as smartphones. Additionally, Microsoft employees nowadays almost 89000 people, 60% in the USA and 40% internationally.

Regarding the ownership policy structure, Microsoft Corp. executive officers and other executives should keep a specific material personal financial stake in order to promote a long-term perspective and to align the shareholder and executive interests. At the same time, the ownership is largely shared by 6493 owners: including 18 direct owners, namely Bill Gates (founder and current chairman), Steve Balmer (CEO) or Stephen Elop (previous head of the Microsoft Business Division and current Nokia's CEO), 2320 Institutional holders and 4155 Mutual Fund holders (see Appendix 2). Further, Microsoft Corp. market capitalization is approximately $223.15 billion dollars. Finally, as Microsoft owns a considerable amount of convertibles and stock options, the more accurate information about the firm's real earning power is the diluted EPS which was USD $2.10 at the end of 2010.

Moreover, as a way to diversify the company's portfolio and to penetrate into the tablet and smartphone segments, during the last three years, Microsoft acquired several companies, all of which paid in cash which demonstrates the firm's confidence and the ability to get the entire amount of the post-acquisition synergy benefits. Consequently, a Microsoft takeover attempt of Nokia may reflect once again, eagerness to diversify its range of products and services and refine its weaknesses on the increasing mobile handset segment where its presence is still unclear and null.

3.2.1. Windows and Windows Live Division

The Windows Division (WD) is responsible for development and marketing of the Windows operating system and related software and online services, as Windows Live and Internet Explorer. In turn, the revenue growth of this segment is mainly correlated to the growth of the PC market worldwide. Indeed, 75% of the total division revenues come from the pre-installed version of the Windows OS bought by the original equipment manufacturers (Figure 13).

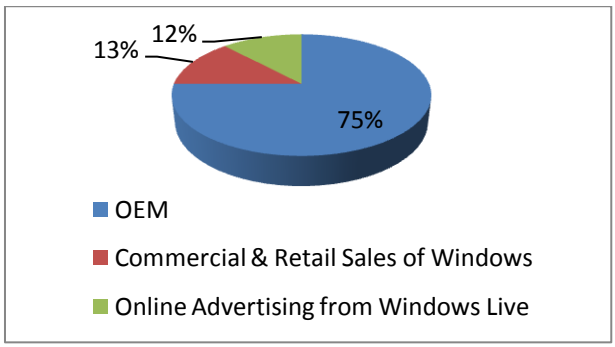


Figure 13: Windows Division's breakdown of Revenue (2010)

It is crucial to highlight that OEM revenues are impacted by: changes in the hardware market due to the impact of lower cost PC's and shifts between emerging markets and developed markets; pricing changes and special promotions; and changes in the inventory levels within the OEM channel and the attachment of Windows to PC's shipped. Further, Windows Division offers several products and services, such as:

Windows OS which includes Windows 7 (Home Basic, Home Premium, Professional, Enterprise, Starter Edition and Ultimate), Windows Vista (same versions as Windows 7), Windows XP Home and Windows Live range of applications and web services.

An important aspect regarding each segment is the competition matter. The Windows OS faces contention from Apple, Google and the Linux OS. The latter is an OS available without any payment under a General Public License.

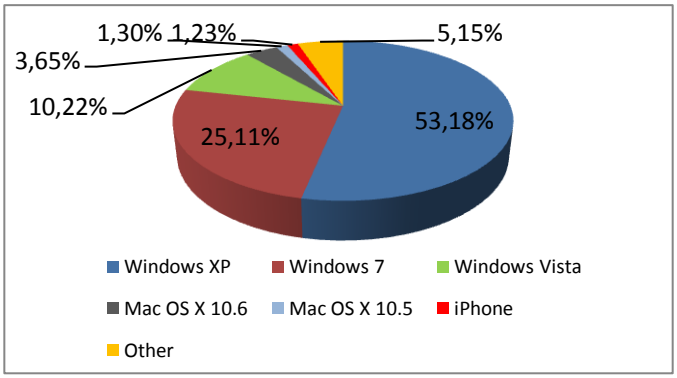


Figure 14: PC Operating System Market

At the same time, the Windows OS also faces competition from different platforms and new devices as tablets and smartphones, which may reduce the demand and growth for PC's. In fact, these competitors referred above, also offer software that competes with web browsing capabilities of Internet Explorer. Concerning to the Windows Live software which generates revenue mainly from online advertising, it competes directly with Google, Yahoo! and a set of websites and portals providing and sharing tools and services.

Despite Windows 7 is the fastest selling OS in history, indeed the PC units' growth will tend to slow in the future due to the proliferation of smartphones and the tablet cannibalization of PC's. As a result, this merger attempt with Nokia and the Windows 8 announcement in 2012 are two important steps in order to fill these gaps.

3.2.2. Server and Tools

The Server and Tools (S&T) segment is responsible for development and marketing of server software, software developer tools and related services and tools that allow IT professional and their systems to become more effective and productive. Server software is designed to support the Windows Server OS applications and includes server platform, database, storage, security and identity software, management and

operations, and service-oriented architecture platform. Moreover, these offerings can be operated on-site or in a partner-hosted and Microsoft-hosted environment. Additionally, this segment also offers an extent of enterprise consulting and product support services, called Enterprise Services; and finally, it provides training and certification to developers and IT professionals for the remainder segments. Besides in this segment, half of revenues come from annual volume licensing agreements (Figure 15).

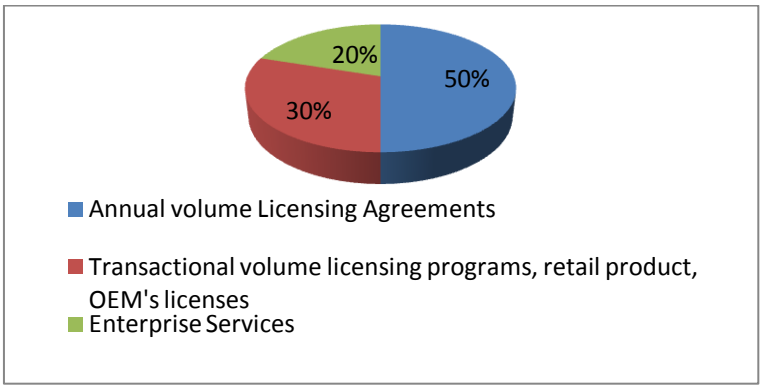
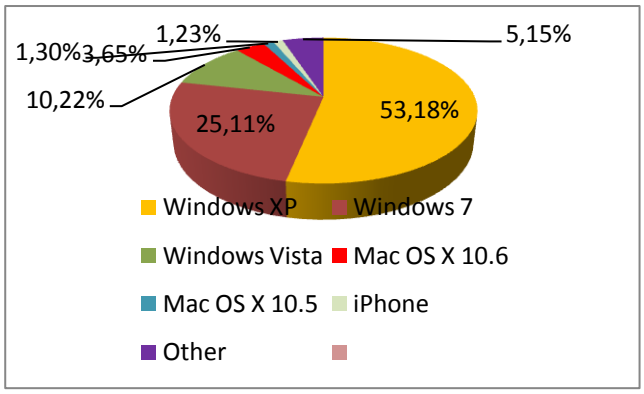


Figure 15: Server and Tools Division's breakdown of Revenues

Thereupon, Server and Tools division offers a sort of products and services: Windows Server OS, Windows Azure, Microsoft SQL Server, SQL Azure, Visual Studio, Silverlight, Biz Talk Server, Microsoft Consulting Services, System Center products and other product support services.

Once again, competition in this segment comes from a wide array of server OS and server applications offered by several firms as Hewlett-Packard, IBM or Oracle (Figure 16).These manufacturers offer their own version of the Unix OS preinstalled on the server hardware. Indeed, almost all manufacturers offer server hardware for the Linux OS and many contribute to Linux OS development, which benefited Linux's competitive position in the market. In addition, several commercial software sellers offer competing software applications for connectivity, security, hosting, database, and e-business servers. For instance, software developer products compete against Adobe, IBM, Oracle and open-source projects, while Windows Azure faces competition from Google and VMWare.



. Figure 16: Worldwide Server Market

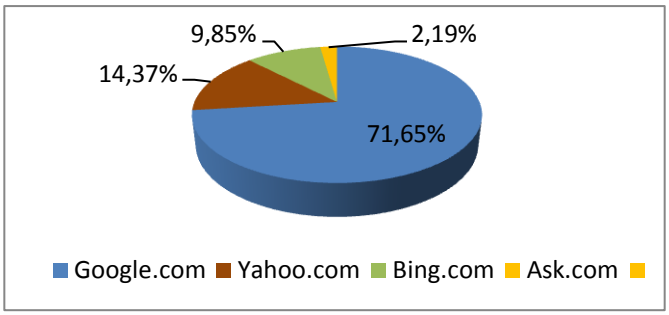
Concerning to the future growth, in fact Server and Tools grew almost 11% on the first quarter 2011 compared to the first quarter 2010 due to a strong business adoption of Windows Server OS, Microsoft SQL Server and System Center products. However, the server industry will face a threat from virtualization software which implies an increase of the physical server utilization rates whose are only running at low utilization rates. Nevertheless, Windows Azure, the Microsoft's public cloud platform is likely to become one of the more important public Cloud platforms in a near future.

3.2.3. Online Services Division

The Online Services Division (OSD) is responsible for development and marketing information and content which help people to simplify tasks, to make more informed decisions online and to provide more effective ways of connecting advertisers with audiences. In fact, online information suggestions as Bing, MSN portals and online advertising platforms benefit and attract advertisers because they provide access to targeted end-users in a huge traffic network.

On the other hand, the majority of revenues in this segment come primarily from Online Advertising which includes search, display, and advertiser and publisher tools revenues. The remainder revenues consist of Access revenues which may be affected by price competition service providers and shifts to broadband. In addition, at the end of 2009, Microsoft make a commercial agreement with Yahoo! in order to enhance the value and efficiency of Microsoft's search offering, and to amplify the competitiveness of the advertising marketplace. Therefore, Online Services Division offerings comprise Bing, MSN, Microsoft adCenter, and Atlas online tools for advertisers and publishers. Consequently, in terms of competition, Online Services Division goes up against

Google, Yahoo! and a variety of websites and portals providing content and online services to the customers (Figure 17). Figure 17: Top 5 Online Ad Selling firms



The main concern in this segment is the ability to provide advertising opportunities for the sellers toward a high linkage with end-users. For instance, Bing, the Microsoft's main search engine by providing relevant search results and a large selection of content leads to better and well-structured decisions taken by users.

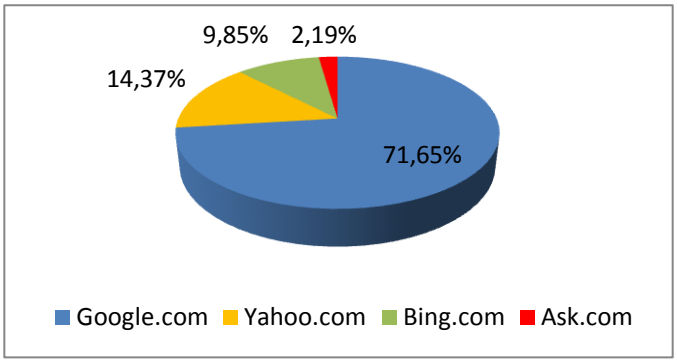


Figure 18: Top 4 Search Providers

Regarding the future growth, indeed Online Services Division increased 14% year-over-year as a result of a growth in Bing's search revenues.

3.2.4. Microsoft Business Division

The Microsoft Business Division (MBD) is responsible for development and marketing of software solutions and services through Microsoft Office System and Microsoft Dynamics business solutions towards a greater individual, team and organization productivity.

Further, Microsoft Office System accounts almost 90% of total segment revenues through the ability to extend the product offerings in other information areas as enterprise search, content management and business intelligence. The remaining percentage of revenues is generated by Microsoft Dynamics products, such as CRM (customer relationship management) solutions, Supply-Chain and financial management solutions and business solutions for small, mid-sized and large organizations.

Simultaneously in terms of the nature of the end-user, 80% of these MBD revenues come from sales to businesses (volume licensing agreements), while 20% are generated from sales to consumers (retail packaged product sales and OEM). Hence, Microsoft Business Divisions offers: Microsoft Office, Microsoft SharePoint, Microsoft Exchange, Microsoft Dynamics ERP and CRM, and Microsoft Office Web Applications. Moreover, Microsoft Office is today the highest Microsoft profit generator, which leads this segment to become the greatest revenue segment.

Respecting to competition, Microsoft Office System competes with Adobe, Apple, Corel, Google, IBM, Novell, Oracle, Zoho and few local developers in Asia and Europe primarily. For instance, Apple distributes versions of its application software products through its mobile devices. Additionally, the open-source application "OpenOffice.org" provides a free platform application which has been adapted by several software sellers, as IBM, Oracle or Novell becoming an alternative to Microsoft Office system products. About Microsoft Dynamics products competition, it is important to highlight Infor, Sage and SAP.

Concerning to the future, since the release of Microsoft Office 2010, it has become the fastest selling Office version in history so, the revenues will tend to increase despite the competition. In fact, on the first quarter of this 2011, revenues grew 21% year-over-year. Nevertheless, in order to follow a corporate strategy of flexibility, and diversified portfolio of services and software solutions, in the future Microsoft should be able to incorporate and provide such software solutions in tablet and smartphone devices.

3.2.5. Entertainment and Devices Division

The Entertainment and Devices Division (EDD) is responsible for development and marketing of products and services designed to delight and connect consumers.
These products and services include: Xbox 360 platform which comprises Xbox 360 console, games and accessories, Kinect for Xbox 360, Xbox Live services, PC software games and online games, Mediaroom (Internet Protocol Television software), Windows embedded device platforms, Windows Phone, the Zune digital music platform, applications for Apple's Macintosh PC's and Windows Automotive. Furthermore, EDD

is also responsible for retail sales and marketing for the packaged versions of the Microsoft Office systems and the Windows OS. In terms of revenues, the largest percentage comes from the Xbox 360 platform and PC games, while the remainder comes primarily from Windows Phone and Zune.

Regarding the competition, Entertainment and Devices businesses are normally highly competitive due to the rapid product life cycles, the development of new technologies and consequent release of new products, and essentially focus on price competition. Thereby, the Xbox gaming console competes mainly with Nintendo and Sony consoles (figure 19).

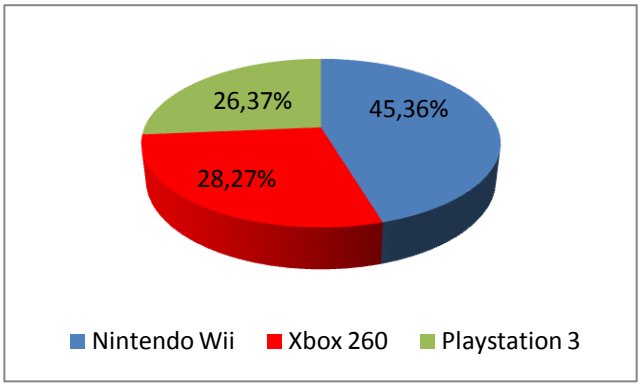


Figure 19: Game Console Market

About Windows Phone, it competes directly with Apple, Google, Palm, Research in Motion and Nokia. Figure 20 shows the Windows Phone market-share in USA which tends to decrease, so a merger with Nokia incorporating the Windows Phone on the new devices would be good strategy for the future.

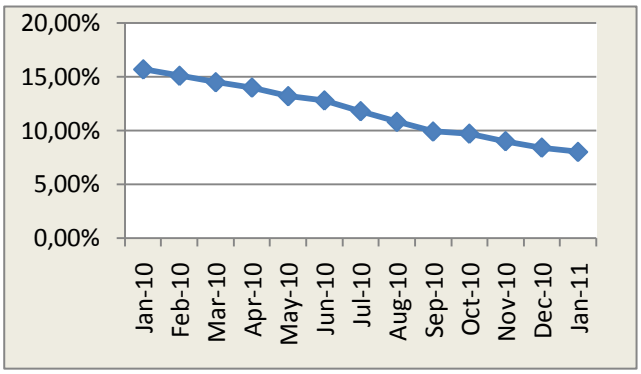


Figure 20: U.S. Windows Phone Market-Share

Zune competes generally with Apple, SanDisk and other manufacturers of digital music and entertainment devices.

With regard to the future, this is a segment with a considerable scope for growth (14.23% CAGR 2006-2010 of revenues), principally Windows Phone and Xbox 360 console. Indeed, according to the first quarter of 2011, revenues increased more than

50% which means that this division is a growing segment led by Kinect and Windows Phone 7. Even though the latter does not generate as many queries as its competitors, being preferred mainly by old people who spend less time online, it represents a solid opportunity through this acquisition attempt with Nokia able to drive this division ahead of expectations.

3.3. Nokia Corporation

Nokia is a Finnish multinational communications corporation engaged in the production of mobile devices and in converging Internet and communications industries. Indeed, since its foundation in 1865, the main purpose of the company is still "to connect people", creating innovation, differentiation and producing great and high quality mobile products at a high speed in order to reduce distance among people and to accelerate the firm's pace of execution in a fast-growing and dynamic competitive environment. In fact, Nokia is today the largest mobile phone manufacturer in the world, and its brand name and strategy is known by a great number of people around the world. Additionally, Nokia owns production centers in several countries, such as: Finland, Germany, Great Britain, Hungary, Romania, China, India, Mexico and South Korea.

Nokia's strategy has essentially been focusing on investing in new and disruptive technologies, as well as, in developing growth markets. In truth, Nokia had always a main goal which is to be ahead of the competitors on industry innovation evolution, creating consequently impact and brand image of success and pioneering. At the same time, providing compelling and localized mobile products and services, renewing its products portfolio and investing in the future, namely to the emerging markets as China and India, Nokia manages to keep its sales volume and leadership in the markets. Meanwhile, the emergence of smartphones and tablets challenged the Nokia's leadership and its structure.

For this reason, a merger with Microsoft may represent a decisive and fundamental change of strategy, bringing together complementary assets and technical skills able to provide a sustainable differentiated mobile force against the two main powerful ecosystems: Apple and Google. On the other hand, the new Executive Board led by Stephen Elop (ex President of Microsoft Business Division) and focus on results and accountability can be viewed as an essential component to this merger towards a new governance model and operational strategy (a SWOT analysis is provided in Appendix 3). In turn, Nokia products and services comprise: mobile devices for every mobile industry segment and protocol as GSM (Global System for Mobile Communications) and CDMA (Code division multiple access); internet services like games, music, maps, media, applications and messaging through the "Ovi platform" which can be accessed from a mobile device, computer or even via webpage; and finally, digital map information and navigation services. Therefore, Nokia's performance is the mirror of its range of products and services, and the constrained economic environment, besides the limited credit availability and currency volatility (Figure 21).

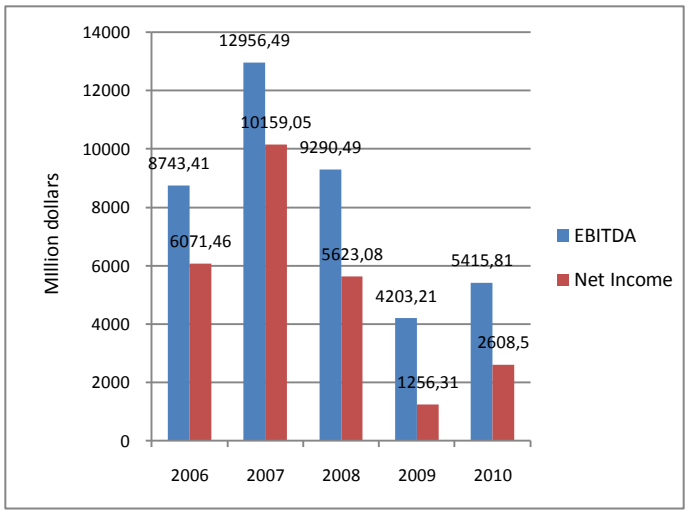


Figure 21: Nokia Corporation Performance

In addition, Nokia is organized into three operating segments: Devices & Services ((3.56% CAGR 2006-2010 of revenues), NAVTEQ, acquired in 2007 (66.6% CAGR 2008-2010) and Nokia Siemens Network (14.16% CAGR 2006-2010). According to the income statements from the previous five years, in general the total revenues have been increasing year-over-year until 2008. After that, Nokia's profitability was negatively impacted by a deteriorated economic context beyond the factors referred above.

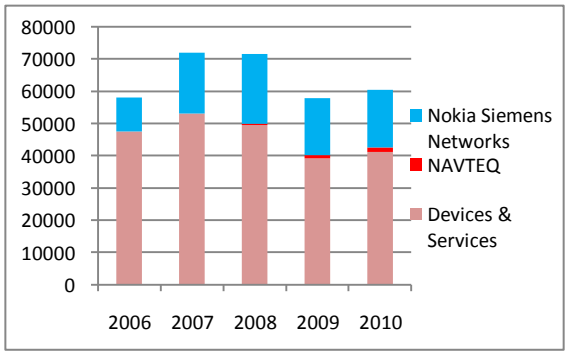


Figure 22: Nokia segment product Revenue

Regarding R&D, a fundamental component toward a successful and well-structured strategy, in the case of Nokia, this expense represents in average, 14% of revenues in each annual operating expenses (Figure 23). Indeed, this ongoing R&D approach followed by Nokia, representing three times more than its competitors, is undoubtedly the best way to meet market requirements and new consumption practices, despite R&D might suffer a reduction in terms of personnel according to the new leadership team.

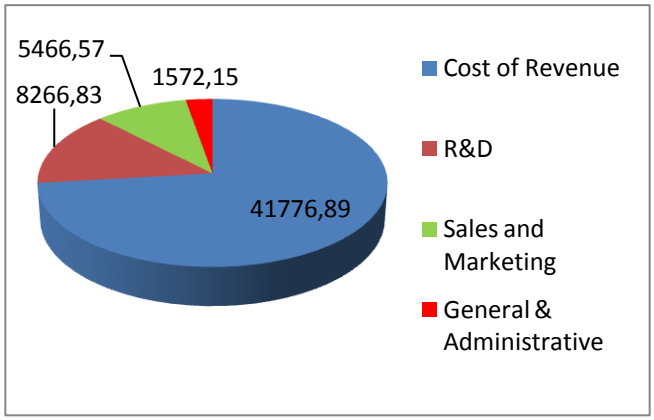


Figure 23: Nokia Operating Expenses - 2010

Meantime and since the new Executive board arrived, Nokia has been focusing on the smartphones segment, which led to a restructuring process initiated at the beginning of 2011. As it was already mentioned, smartphones are penetrating into the market at a very fast rate, capturing a high percentage of the overall market sales. In spite of Nokia is the market leader; its presence in this segment is reduced compared to competitors. Therefore, if Nokia and its competitors perform at the same rate according to its historical financial data, it will take less time for Nokia to lose its leadership position. Consequently, this is a crucial and alarming aspect to approach in the near future, where Nokia has all the components to "turn the story".

In addition, Nokia employed at the end of 2010 132427 people, 15% in Finland and 85% internationally. About the ownership structure, Nokia is composed by 721 owners, including Institutional holders, Mutual Fund holders and direct owners (members of the Board of Directors and the Group Executive Board). Further, shareholders registered in Finland represent 17.24% and the remainders are shareholders registered in the name of nominee. In turn, Nokia Corp. market capitalization is approximately $ 32.11 billion dollars. Additionally, as Nokia owns a large number of stock options and convertibles, the Nokia's earning power is symbolized by the diluted EPS, which was USD $0.70 at the end of 2010.

On the other hand, Nokia has a significant historical background in terms of past acquisitions towards an easy access to certain segments and markets. Two of its three operating segments show that acquiring strategy. For instance, NAVTEQ a leading provider of digital map information was acquired by Nokia in 2007, 50% in cash and the rest with debt. At the same time, Nokia Siemens Networks is the result of a joint-venture between Nokia and Siemens in order to provide sophisticated telecommunications hardware, software and professional services; or even the acquisition at the end of 2008 of Symbian Ltd., the company behind the Symbian OS for Nokia mobile phones. Indeed, Nokia has a trend towards acquisitions which can help in the takeover with Microsoft, rising the user numbers, attracting more developers and providing a wide range of applications and services on platforms, as Apple and Google did in the past.

3.3.1. Devices & Services

The Devices & Services segment (D&S) is responsible for producing and controlling the Nokia's portfolio of handset devices and consumer internet services (under the Ovi brand), designing and developing new services which include applications and content for the end-users. Moreover, it also manages the whole supply-chain, sales channels, brand and marketing campaigns, and lastly it seeks future growth and strategic opportunities for the company. Due to the new strategy implemented into the company and focus on the smartphone market, this division is composed by two business units: Smart Devices and Mobile Phones. The first is obviously focus on smartphones and the next-generation opportunities in devices, platforms and user experiences, while the second business unit is focus on the mass market mobile phones, making them modern and affordable for all customers. In terms of revenues, each business unit is responsible for more and less 50% of the total segment revenues, representing in general, the largest segment responsible for most of the company's net sales.

An important aspect is the software platforms and operating systems used in each business unit. In the case of mid-tier mobile phones, Series 30 and Series 40 are the most used software platforms, including several applications, generally mobile Java applications. Smartphones normally use the Symbian OS and the MeeGo. Symbian

includes a user interface component based on S60 software, being today the market leader OS for smartphones (Figure 24).

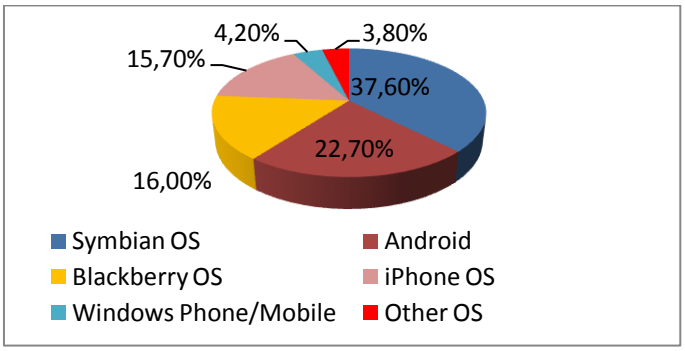


Figure 24: Smartphone OS market

In turn, MeeGo is the consequence of a partnership between Nokia and Intel resulting into a new OS for netbooks, tablet computers and mobile phones. Regarding competition, as the chart presented above shows, the major competitors in this segment are: Research in Motion, Apple, Google, LG Electronics and Samsung, beside the appearance of new organizations in the emerging markets as ZTE and Huawei.

With regard to future growth expectations, this segment grew approximately 5% on the first quarter of 2011 compared to the same period of 2010. However, the smart devices unit will tend to increase more than mobile phones due to the increasing adoption and interest showed by users. Additionally, this merger with Microsoft may represent a dilemma to Symbian and Meego OS. Despite Symbian at least is more successful, Windows Phone 7 is more modern, considering the WP7 as the main smartphone OS after the takeover. At the same time, it is essential to highlight that Nokia, unlike Apple and Research in Motion, does not just sell smart devices, so a slice of revenues will continue to come from mass-market handset devices.

3.3.2. NAVTEQ

The NAVTEQ segment was integrated into Nokia only in 2008, after an acquisition process with Navigation Technologies Corporation, being considered today a Nokia's subsidiary. NAVTEQ is a producer of digital map information and related location-based content and services for mobile navigation devices, automotive navigation

systems, Internet-based mapping applications, and enterprise and government solutions. In fact, NAVTEQ is used by Nokia with the purpose of adding context-time, place and people-to-web services optimized for mobility.

In terms of Revenues, they come mainly from map licenses to mobile device users and personal navigation devices, representing approximately 2.5% of total corporate revenues. The main service provided by this segment is the Nokia Maps embedded into the Nokia's internet service (Ovi), where any customer may download maps and use guided navigation. In terms of competition, Google, Tele Atlas (TomTom subsidiary), Facet Technology, CloudMade and Automotive Navigation Data are considered the main competitors of NAVTEQ. Regarding to the future, in the first quarter of 2011 this segment grew 23% year-over-year. However, this segment is directly correlated with the smartphone devices, since NAVTEQ applications are, most of them accessed via mobile phones. Even though a small operating segment, it might represent an interesting business in the future depending certainly on vehicle sales and automotive industry.

3.3.3. Nokia Siemens Networks

The Nokia Siemens Networks (NSN) is once again, a result of a joint-venture between Nokia and Siemens in 2006, being considered a Nokia's subsidiary as NAVTEQ. This network firm provides mobile and fixed network services and solutions either to operators or to service providers. Additionally, this segment is composed by three main business units: Business Solutions, Network Systems and Global Services. About revenues, they represent approximately 30% of the Nokia's revenues, with the main services being: mobile TV, outsourcing, inventory management, device management, customer care support, and unified charging and billing for the service providers. On the other hand, NSN also focuses in GSM (Global System for Mobile Telecommunications) and EDGE (Enhanced Data Rates for GSM Evolution) radio access networks.With regard to competition, Huawei, Ericsson and Alcatel-Lucent are considered the principal contenders to NSN (Figure 25).

Figure 25: Top Suppliers by base station shipments

Indeed, NSN continue to announce commercial LTE (3GPP Long Term Evolution) contracts with Deutsche Telekom and doing LTE world-first trials throughout the world, which lead to a sales growth in the first quarter of 2011 year-on-year.

4. Performance of both companies in the Stock Market

During the current economic crisis, Stock Markets have been affected since a while, although showing on the first quarter of the current year, a small growth in their indices. Despite the Middle-East War which leads to a rise on the oil prices and the Tsunami in Japan, 2011 is presented and forecasted as a thriving and prospering year, which directly affects the Stock Markets. Indeed, the downward trends during the last years led to an increase in the inflation rate, which consequently implied a rise in the interest rates, limiting the economic growth and as a result, creating less jobs. In turn, even though this seems to be a vicious cycle, stock markets are starting to recover from the financial downturn, with the BRIC countries (Brazil, Russia, India and China) representing interesting opportunities in the short and medium term in terms of investment solutions. Furthermore, NYSE Euronext Inc. and NASDAQ Stock Market, the two largest stock exchange markets are currently fundamental landmarks for investors and companies. Figure 26 represents the evolution of Microsoft and Nokia stock prices over the last two years. Both companies have suffered a relative decline at the end of the first quarter 2010, having dropped from a value of USD$32 and USD$16, Microsoft and Nokia respectively, to a value of approximately USD$24 and USD$8 respectively. Since August 2010, we have attended to a smaller recover due to consolidation perspectives that contributed to raise the share prices. Recently on May 13, 2011, Microsoft and Nokia's stock prices were USD$25.32 and USD$8.66 respectively.

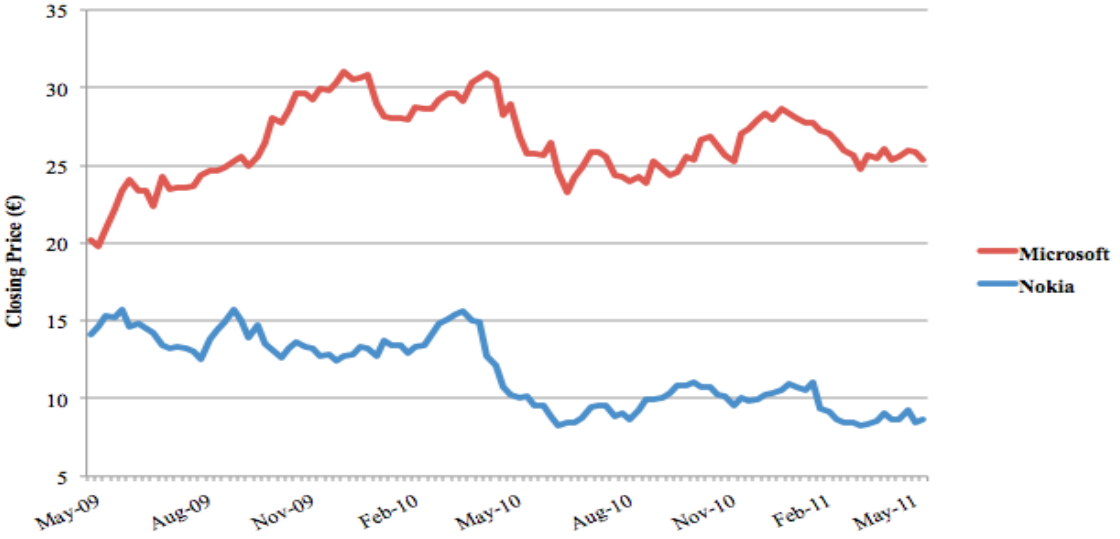
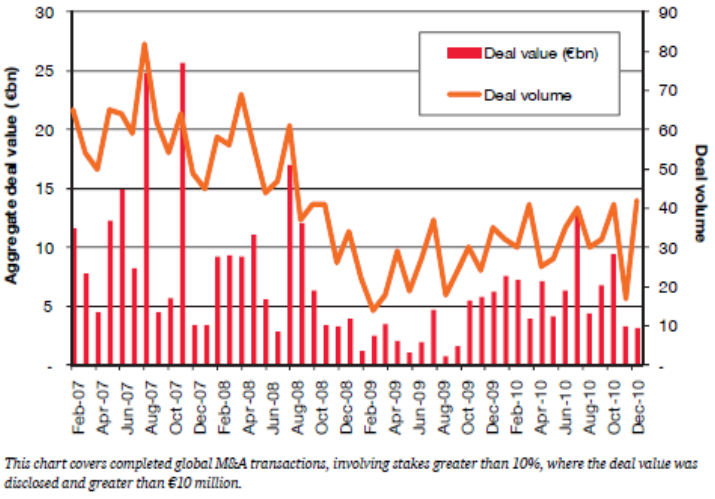


Figure 26: 2-year Historical Stock Prices: Microsoft and Nokia

5. Historical of M&A – "A route for portfolio diversification"

The unsettled macroeconomic atmosphere has affected the handset industry through a weaker consumer demand and credit scarcity. Indeed, consumers since a while became more and more risk-averse affecting directly the credit spreads and debt financing. Consequently, as the majority of M&A deals are essentially financed through debt, this has put too much pressure on M&A. After a low cycle in 2009, technological global deals in terms of volume, have recovered over the course of 2010, while deal values recovered even more strongly. Statistically, 2658 deals were completed in 2010, up 41% from 2009 (Technology M&A Insights). Nonetheless, the M&A practice still remains far from deal volumes and values achieved in 2007 and 2008 (Figure 27).



This chart covers completed global M&A transactions, involving stakes greater than 10%, where the deal value was disclosed and greater than €10 million.

Figure 27: Global Deal Value and Volume

Indeed, M&A dynamics are changing and global technology players are diversifying even more to suit consumer preferences and needs in a faster-growing technology industry. Factors such as, high quality assets are being brought into the industry, since vendors seek to exploit the presence of cash-rich companies with a high urge for mega deals; the aggressive private equity buyers are back to the action; and the improved capital markets are providing an essential and understanding influence, in terms of debt financing. An important point that should be highlighted is the fact that, cash-rich companies are looking more aggressively at deal origination (in terms of acquisition opportunities), rather than competing in auction processes. Concerning to the private equity buyers, these under pressure to deploy capital, are becoming more vigorous in the technology sector, either as acquirers or as providers of growth capital, providing at the same time, an alternative source of capital to the continued fancies of the public equity market. Statistically, the combined value of all private-equity takeovers in this sector in 2010 was USD$ 15.2 billion.

The financial downturn has led companies to address their cost bases and to increase their operational efficiency. As a result, firms are now able to deploy the accumulative cash to buy growth opportunities and are looking to complete deals focusing on strategic purposes, which more than doubled in 2010 compared to 2009 (Appendix 4).

Concerning the M&A marketplace, after the gap narrowed in 2009, cross-border takeovers increased in 2010, particularly driven by US acquirers. Indeed, US bidders acquired more 68% European targets in 2010 compared to 2009 (Appendix 5), representing 39% of global deals. Further, European companies are becoming more attractive targets for overseas firms (as it happened with the Swedish telecommunications firm – Ericsson - which has merged with Sony Corp. at the end of 2001), namely US trade and private equity companies who are looking for portfolio diversification and strategic expansion. In terms of transactions value flow by sector, software was the biggest net seller and net buyer of transaction value in 4Q10 (Figure 28).

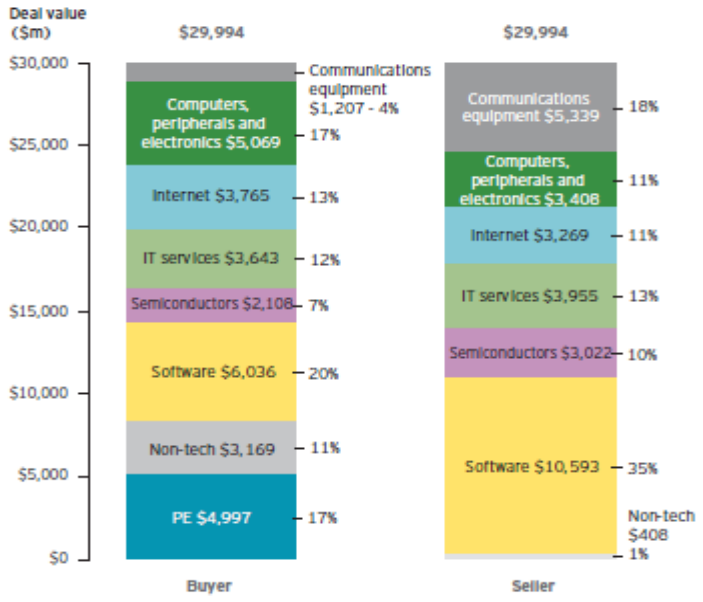


Figure 28: Technology transactions value flow, 4Q10

Certainly, today is a good time to realize value as quality businesses with a strategic position and scale will be able on the future to attract strong prices. From the buyer's perspective, they need to trust on financial headlines, firm's accounting policies and its management teams, while business sponsors must convince their own boards and respective shareholders that a specific deal is on the right terms in a risky economic environment. Furthermore, leading firms consider today M&A, as the favorite route for portfolio diversification. Due to changing demand from consumers, who are likely seeking better pricing strategies and product consolidation, thus companies need to diversify in order to gain competitive advantage over the competitors and to mitigate risks.

Afterwards, technology big player such as, IBM, Microsoft, Cisco, HP are expanding to other segments beyond their core businesses, applying a diversification strategy in order to boost sales, decrease uncertainty about revenues, attract new users and keep pace with competitors. Thereby, the M&A trend is expected to continue in the long-run, since companies need to grow the scale and scope of their affairs.

6. Performance Forecast

As it was referred previously by Damodaran (2005), in order to analyze the synergies between Microsoft and Nokia, it is essential to value each one of the companies separately. Consequently, this valuation implies certain assumptions about its future evolution, in a word, the way each firm will perform inside its industry in the following years, as well as, the evolution of the computer software and telecommunications sector.

Thereby, Microsoft and Nokia will be analyzed through two different methods (WACC, and Multiples Valuation), taking always into account that the results shall be similar as long as the same considerations are used for all of them. At the end of each Standalone Valuation, a sensitivity analysis will also be done so that one may understand the changes in the firm value in result of distinct assumptions taken. In a word, the valuation process will start with a base case situation and then a bear and bull case scenarios will be computed, representing the lower and upper bounds respectively.

An important aspect which should be highlighted is the fact that, the valuation process (projections) will be based in three components: the firm's future strategic goals, its own tendency of growth based on the historical data, and the Investment Banking projections as a reliable source able to support the assumptions. Moreover, the historical data considers the 3 previous years – from 2008 until the present – and the projections will consider the next 5 years – until 2015 – since the transition process (merger) is assumed to take 1 to 2 years, so 2015 is an enough period to forecast a more consolidated process. Hence, the FCFF (Free Cash-Flow to the Firm) will be calculated for the next 5 years and discounted at the respective discount rate. In the Relative Valuation, the firm's financial indicator must be multiplied by the average multiple value of the respective Peer Group.

6.1. Microsoft's Standalone Valuation – Base case scenario

Despite the cutback in Microsoft's market-share from 2009 to 2010 due to its main growth competitors – Apple and Google – and the economic crisis which has affected the financial results in 2009, even so Microsoft still appears as owning a strong market power, as the historical results show.

This is a consequence of its diversified portfolio of products and services, and its strong Marketing campaigns and capital structure. However, sometimes Microsoft has been a history of delayed product launches which has allowed its competitors to gain share and momentum. Even though, Microsoft's profitability and brand image allows and seems to be changing this current situation to a more precisely and fast-delivered strategy through this takeover and the consequent penetration into the tablet and smartphone segments, delivering higher cash-flows compared to the past results (Appendixes, 10, 11, 12, 13, 14). Therefore, this section will analyze the main categories/components in the Income Statement and Balance Sheet, the Financial Leverage and Cost of Capital information. Furthermore, all the categories will be analyzed in a consolidated perspective with an exception regarding to revenues (by segment). At this point, it will be computed a price target through the WACC method and then it must be compared with the Multiples valuation price target. In fact, the Cash-flows calculation will be estimated till 2015, assuming a nominal growth rate of 4.98% afterwards (appendix 13), based on IMF's expectations for the U.S. market of 2.83% real growth rate and 2.15% inflation (Appendix 6). Lastly, the multiples valuation will also be applied through specific peer group expectations.

6.1.1. Revenues

The revenues calculation represents a crucial step of any valuation process, since it will affect directly other values as the cost of revenues and operating expenses consequently. Thus, the five Microsoft's segments will be presented independently, namely because certain segments has much more weight in total revenues than others, and different growth rates (CAGR's of revenues) and operating margins.

6.1.1.1. Windows & Windows Live Division

This segment represented in 2010 almost 29.5% of total revenues and according to the tendency of growth, it has been increasing 15% in total since 2008 (4.71% CAGR of revenues 2008-2010), in spite of 2009 results due to the financial crisis. Although this segment presents an operating margin around 70%, meaning that the company makes $0.70 for each dollar of revenues, it is expected to decrease due to the Lion OS launch in July by Apple – the newest Apple's OS – despite Windows 7 and XP are the most selling OS. Furthermore, the threat of tablets and smartphones will tend to reduce the demand for PC's – friction of tablets.

In addition, revenues have decreased 4% on the first quarter of 2011 compared with the first quarter of 2010. Thus, revenues are expected to decrease 2% until the end of 2011. Nevertheless from 2012 on, with the Windows 8 launch able to address the tablet market, this segment will tend to recover it, increasing 2.5% year until 2015 (1.87% CAGR of revenues 2011-2015).

6.1.1.2. Microsoft Business Division

This segment represented in 2010, almost 30% of total revenues with a tendency of growth equals to 1% from previous years (-0.77% CAGR of revenues 2008-2010), presenting an operating margin of about 63%. Indeed, this segment is expected to increase mainly due to Office 2010, who generates over 90% of Microsoft Business Division revenues. Further, Office is today the Microsoft's highest profit generator.

Revenues have grown 21% on the first quarter of 2011, so this division is expected to grow 2% until 2012 and 3% afterwards due to the Windows 8, as well (3% CAGR of revenues 2011-2015).

6.1.1.3. Server and Tools

This segment represented in 2010, 24% of total revenues presenting as well, a tendency of growth equal to 6.24% since 2008 (6.24% CAGR of revenues 2008-2010) and an operating margin of about 37%. Server and Tools division is directly correlated with Windows and Windows Live Division in the sense that, half of its revenues come from OS licensing agreements. Meanwhile, Apple will launch in June the iCloud in order to compete with Microsoft's cloud platform. Additionally in the future, server units are expected to slow due to the server virtualization.

Thereby, despite revenues have increased 11% on the first quarter of 2011 because of the strong adoption of windows server, the year of 2011 is expected to be moderated, assuming a growth of 1%, but from 2012 on, it will tend to decline 2% year due to the virtualization referred above (-2% CAGR of revenues 2011-2015).

6.1.1.4. Online Services Division

This division represented in 2010 only 3.5% of total revenues, with a tendency of growth equals to -17.3% p.a. since 2008 (-17.3% CAGR of revenues 2008-2010) and a negative operating margin of -7%. Indeed, this is the smallest division in Microsoft,

being Bing.com only the third online advertising selling site, behind Google and Yahoo!.

Notwithstanding, the revenues have increased 14% in the first quarter of 2011 and the commercial agreement with Yahoo! shall provoke positive results in the future, increasing Microsoft position (Bing.com) on the Online Ad Selling firms ranking (Figure 17). As so, it is expected a moderate growth till 2011 of 1% and from 2012 on, an increase of 2% year-by-year (2% CAGR of revenues 2011-2015).

6.1.1.5. Entertainment and Devices Division

Despite this segment represented only 13% of total revenues in 2010, as well as, a tendency of growth equals to 3% in total since 2008 (-0.5% CAGR of Revenues 2008-2010) and operating margin equals to 8.4% in 2010, this division has a considerable scope for growth. Indeed, Windows Phone and Kinect for Xbox 360 will be the main responsible for this boost. The emergence of tablets and smartphones leads Microsoft to consider this division the main goal area in the near future. Further, the first quarter of 2011 shows a growth of 50% compared with the same period in 2010 due to Kinect for Xbox 360, the fastest selling consumer electronics device in history.

Windows Phone 7 had a considerable launch but not comparable with Apple or Google's devices. Thereby, this segment must become one of the core businesses in Microsoft, expecting a growth of 4% in 2011 due to Xbox 360 console, 10% in 2012 and from 2013 on, an increase of 20% per year, due also to the emerging markets facilities. Indeed, this segment should be along with Microsoft Business Division and Windows & Windows Live Division the main areas of business in the future. Windows Phone 7 and Kinect should be able to drive this division ahead of expectation, and for that reason, the growth will be significant (17.4% CAGR of revenues 2011-2015).

6.1.2. Operating Expenses

Looking at Microsoft's cost of revenues, one can figure that they have been decreasing on the last three years, representing more and less, 20% of total revenues – tendency. At the same time, cost of revenues seemed to be stable according to the historical results, due to the revenues consistency. Hence, as the revenues are expected to increase, the cost of revenues will consequently increase, assuming from 2011 on an average of 20% of total revenues.

Concerning to Research & Development expenses, which represents 15% of total revenues on average, are one of the Microsoft hearts. In fact, innovation is the foundation of Microsoft's success. Cloud computing, natural user interfaces and intelligent computing are some of the hot topics in the future therefore, 15% of total revenues are assumed as the R&D expenses for the next years. Moreover, R&D is not assumed to increase since in the long-term, this amount might be shared with Nokia (from 2016 on).

The Sales & Marketing expenses represented on average in the last three years a value between 21% and 22% of total revenues. Even though, they are expected to increase namely due to Windows Phone 7 and Kinect advertising campaigns in order to rise the user numbers, attract more developers and a wide range of applications and services in both products. Therefore, it is assumed a value equal to 23% of total revenues on the next years.

Regarding to General and Administrative expenses, they are expected to keep stable on the next years, representing since 2008 6.5% of total revenue, thus the same percentage is assumed in the following years until 2015.

The last operating expenses aspect are the Employee Severance which has started in 2009 as a consequence of the financial downturn and the Depreciation and Amortization. Therefore and following the new strategy plan, the Employee Severance value will tend to increase, cutting on the employee headcount and reducing the number of positions; a value of 1% of cut year-over-year, as a percentage of total revenues, will be considered in the projections. Concerning to Depreciation and Amortization of the year they represent 3.07% of total assets based on the historical trends, thus it is expected to be in line with the current trend.

Concerning to the provision for income taxes (based on Earnings before taxes), from 2011 on, the fiscal year rate will reflect a higher mix of foreign earnings taxed at lower rates, therefore it is considered a value of 35% as the tax rate.

In terms of Dividends, it is assumed the same value till 2015 in order to maintain the cash and the capital structures at a constant level, and the stock price at a stable level, as well.

6.1.3. Assets, Liabilities and Equity

Starting by Assets, Cash and short-term investments in order to facilitate liquidity and capital preservation, it is assumed the average tendency of growth from the past years; so, a growth of 25% till 2013, tending to reduce in 2014 to 15% and 7.5% in 2015, as we are assuming that in 2014 and 2015 a more stable stage is addressed.

Concerning to the accounts receivable and inventories, both follow the tendency of growth from the past years, representing 20.5% and 1.35% of total revenues respectively. The accounts payable follow the cost of revenues' tendency of growth, which is 39% from the past years.

Regarding to the Short-term debt, according to the 2010 Annual Report, on the next five years, the short-term debt will be always the same (Appendix 11). The long-term debt will increase almost to the double in 2011, representing 95% more due to the maturities of long-term debt for the next five years, as it is referred on the 2010 Annual Report.

An important aspect is the fact that non-controlling interests (minority interests) are considered 0 according to the previous annual reports, so the portion of subsidiary firm's stock that is not owned by the parent company is equal to 0.

6.1.4. Net Working Capital

Net Working Capital is an essential component to the FCFF calculation, representing the operating liquidity of the company. Indeed, it is calculated through the following formula:

NWC = Inventories + Total Accounts Receivable – Total Accounts Payable

All the components were already referred above, as well as it future expectations. In fact, NWC over the last three years has been quite unstable, being impossible to identify any historical tendency. Thereby, the expected NWC value is the pure application of the formula, taking into accounts the composed items considerations done before.

6.1.5. Capital Expenditures

Capital Expenditures are considered new investments and additions to property and equipment (new infrastructures) in the Microsoft structure. In that case, over the last three years, Microsoft has announced a cut in the capital expenditures, reducing

investments, which is reflected on the historical data (appendix 12). Indeed, this last three years have been quite unstable in terms of investments due to the economic downturn in 2008. Nevertheless in the future, the required Microsoft positioning and investment in the new "cash-cows" areas – smartphones and tablet segments – which is currently weak and obsolete, it must increase in order to invert the situation. Thereby, on the next three years, CAPEX is assumed to be equal to the average of past years' values which is currently 30%.

From 2014 on, as cash and short-term investments will grow slowly, the company should be in a more stable phase where CAPEX will be equal to Depreciation and Amortization.

6.1.6. Financial Leverage and Cost of Capital

According to the Literature review, in the WACC methodology, the cash flows are expected to be discounted at the WACC - cost of capital – in the FCFF method. First of all, it is considered the Microsoft's rating equal to the U.S's rating, thus in May 2011 and in July 2011, according to the S&P's and Moody's rating respectively, Microsoft has a rating of AAA and Aaa in both credit rating agencies (appendixes 7 and 8). Furthermore, the yield on the U.S 10-year government bond (risk free rate) is 2.10% according to the IMF's website (appendix 6), and the total risk premium is considered to be 5% according to Damodaran (2008). Regarding the unlevered beta in the Computer Software industry in U.S.A, it is assumed to be 1.12 (Appendix 9).

Based on this information, it is easy to compute the levered beta and the unlevered and levered cost of equity, through the following formulas:

$$\beta_l = \beta_u[1 + \frac{D}{E} \times (1 - T_c)]$$

$$R_e = R_f + \beta_l \times (R_m - R_f) \qquad R_u = R_f + \beta_u \times (R_m - R_f)$$

Meanwhile, in order to calculate the cost of capital (R_d), in accordance to the Literature Review, it will be equal to the risk-free rate plus the default-risk spread according to Microsoft's probability of default. In a word, the Microsoft debt cost of capital will be 2.10% plus a spread of 0.50% (Appendix 7) which adds up to 2.60%.

The corporate tax rate applied in the American market is 35% (Damodaran's website) and the Microsoft's capital structure at market values is 0.1867% (D/D+E - net debt divided by Equity value plus net debt) which is almost null due to the smaller net debt, so consequently, the WACC computation will be directly computed through the following formula:

$$WACC = R_e \times \frac{E}{E+D} + R_d \times \frac{D}{E+D} \times (1 - T_c)$$

Concerning to same data, the Market Capitalization was computed multiplying the number of shares outstanding by the stock price. The net debt is considered the value of net debt in 2010 – 434 - (appendix 11) and the equity value equals to the stock price (last year) – 25.99 - multiplied by the diluted number of shares outstanding (8,927 billions). As the minority interest is 0, therefore the enterprise value is the sum of Equity value plus Net Debt.

Thus, the unlevered cost of equity is 7.70%, while the levered cost of equity is 7.71%, because in this case instead of the unlevered beta (1.12), one uses the levered beta (1,122). Finally, the WACC is 7.69% and the differences between them are small because of the reduced net debt value, meaning that the company owns a considerable amount of equity. All things considered, the Microsoft's Enterprise value through the WACC method is $232.447 Billion USD. In turn, the price target for Microsoft using this methodology is $26.33 USD (equity value divided by the number of shares outstanding).

Computing the FCFF through the assumptions already mentioned and using the WACC as the discount factor (horizon date, n=4), the Enterprise Value is directly calculated through the following formula already describe it on the literature review:

FCFF = EBIT (1-T) – Capital Expenditures + Depreciation – ΔNWC ± other Non cash items

$$Firm\ Value = \sum_{i=1}^{n} \frac{FCFF_i}{(1+WACC)^i} + \frac{FCFF_{n+1}/(WACC-TGR)}{(1+WACC)^n}$$

6.1.7. Sensitivity Analysis

Despite the computation of the base-case scenario, sometimes the assumptions taken may not happen in the future and the projections might be difficult to approach, since the Computer Software Industry is characterized by its strong competitiveness and the steady appearance of new services and products as well as, technological developments as tablets. As a consequence, it might be useful to analyze changes in the firm value in result of distinct assumptions taken – sensitivity analysis. First of all, it will be considered changes in revenues, operating expenses and terminal growth rate. The bear-case situation considers an increase of 1% in the Operating Expenses and a decrease of 1% either in Revenues or in the terminal growth rate (appendix 15), in a word, there is a lack of confidence in the market; while the bull-case situation assumes an increase of 1% in Revenues and in the terminal growth rate, and a decrease of 1% in the Operating Expenses where the market is showing confidence (appendix 16). Thereupon, for the bear-case scenario the price target would be $25.03 and for the bull-case scenario it would be $27.63.

Thus, the main inference that might be extracted from this sensitivity analysis is the fact that Microsoft is a bit overvalued, since the price target under the bear-case scenario is still lower than the current price (May, 13).

6.1.8. Multiples Valuation

The Relative Valuation will compare Microsoft with similar companies operating in the computer software industry. These companies were selected on the basis of growth and risk similarities with Microsoft. Most of the companies are also U.S headquartered companies operating in the same geography of Microsoft, thus it will represent a good final result in terms of reliability. The Microsoft's Peer Group was based on Reuter's expectations in 2011 while Microsoft's indicators were based on the current valuation. (Figure 29). Looking at the ratios, in some of them Microsoft is more and less in line with industry average.

Company	*Country*	*Stock Price*	*Target Price*	*Market Capitalization (in million)*	*P/E*	*P/Book*	*P/Sales*	*EV/Sales*	*EV/EBITDA*	*EV/EBIT*
Adobe Systems	USA	35,33		12,120	13,09	2,25	2,99	2,51	6,26	7,00
Apple	USA	340,50		355,613	15,18	5,13	3,54	3,29	8,00	8,86
Dell	USA	16,37		26,801	7,87	3,23	0,43	0,27	2,97	3,50
eBay	USA	33,57		37,967	22,27	2,34	3,78	2,77	8,49	10,50
Google	USA	529,55		170,117	19,00	3,27	5,10	4,87	8,95	10,10
Hewlett Packard	USA	40,41		51,481	5,83	1,33	0,40	0,52	3,58	4,67
IBM	USA	169,92		202,000	13,78	8,73	1,93	1,99	8,16	10,20
Oracle	USA	35,19		134,996	16,02	3,40	3,79	2,93	6,03	6,43
Philips	NED	28,93		19,925		1,03	0,57	0,54	4,70	7,43
Sony	JAP	27,58		20,648		0,63	0,23	0,14	1,90	4,70
Yahoo!	USA	16,55		16,086	14,47	1,28	2,89	2,82	8,52	15,60
Average				***95,250***	***14,17***	***2,97***	***2,33***	***2,06***	***6,14***	***8,09***
Microsoft	**USA**	**25,32**	**26,33**	**223,145**	**12,35**	**4,45**	**3,55**	**3,70**	**9,41**	**10,74**

Figure 29:Microsoft Peer Group

In fact, enterprise-value multiples normally perform better than equity-value multiples. In this case, it is important to take into account the Microsoft's dimension compared to its peer firms, which is much bigger which explains the higher values compared to the industry average. This relative valuation only confirms that Microsoft stock price is overvalued, since its P/Sales ratio is bigger than one.

6.2. Nokia's Standalone Valuation – Base Case Scenario

Over the last years, Nokia has been losing market-share due to its old-fashioned business model characterized as Microsoft by a track of delayed product launches – slow market response - and the competitors' growth in the mobile segment, namely Google and Apple, beside the financial crisis. Nonetheless, its brand awareness among customers and its global distribution network still places the company on the top of the ranking. In turn, the tablets and smartphones trend has jeopardized its own business plan, due to its weak presence when compared to its main competitors and its respective devices and services. Therefore, a new restructuring plan based mainly on the reduction of R&D costs, as well as the new leadership headed by Stephen Elop will allow the company to a more fast-delivering strategy in the future (Appendix 17, 18, 19, 20, 21). As a result, Nokia's standalone valuation will follow the same structure as Microsoft's,

through WACC and Multiples valuation and a sensitivity analysis at the end. The Cash-flows will be estimated until 2015 considering a currency exchange rate of $1.41 (1€), assuming a nominal growth rate of 4.82% afterwards (appendix 20), based on IMF's expectations for the Finnish Market of 3.12% real growth rate and 1.7% inflation (appendix 6)

6.2.1. Revenues

The Nokia's revenues will tend to decrease on the next two years, since that is considered the transition period to the merger with Microsoft. Despite in 2011, the decrease is more accented, from 2012 on, one shall already assist to a recovery phase. Additionally, the inexistence of products which might compete against Apple and Google's devices, it will worsen the situation in 2011. Thus, the three Nokia's segments will be presented independently taking into account its different CAGR's, operating margins and its weight in total revenues.

6.2.1.1. Devices and Services

This segment represented in 2010 around 68% of total revenues, being composed by smart devices and mobile phones, each one representing around 50% of total sector revenues (-8.89% CAGR of revenues 2008-2010). Indeed, smart devices are expected to increase more than mass-market handset devices due to the factors already mentioned.

However, this segment presents an operating margin around 11.32% meaning that is profitable sector with small financial risk. In the smart devices market, the Symbian OS represented 37.60% of the total market (figure 24). Nonetheless, if the takeover approach takes place, the Windows Phone 7 should be the new smartphone OS; while the Symbian OS will be retained for use in the mid-to-low-end devices (mobile phones). In turn, the absence of a reliable and strong device able to contender against Google's Android and Apple's iOS will lead to a decrease in revenues in 2011.

In addition, revenues have grown 5% on the first quarter of 2011 compared with the 2010 first quarter, but comparing with the fourth quarter of 2010, they have decreased almost 17%, thereby, one can expect a decrease of 3% in 2011 and 2% in 2012, due to the reasons mentioned before and the changes in the smartphones platform/OS as a consequence of the merger. From 2013 on, it is expected to grow 4% a year after the

transition process had been achieved - post transition – (2.47% CAGR of revenues 2011-2015).

6.2.1.2. NAVTEQ

This division represented in 2010 only 2.3% of total revenues, a tendency of growth equals to 67% since 2008 (66.6% CAGR of revenues 2008-2010) and a negative operating margin of 22.46%. However, one shall bear in mind that this segment was only integrated into Nokia in 2008 after an acquisition process. NAVTEQ is directly correlated with the Smartphones devices since its main services – Nokia Maps – and applications are only accessed through smartphones. Therefore, despite revenues have increased 23% on the first quarter of 2011, in the year of 2011 it is expected to decrease 2% (correlated with the smartphones revenues decrease) and after that, a growth of 4% year. In fact, Nokia digital maps will be considered the heart of Bing an AdCenter – search engines for all Nokia phones whether the merger takes place (4% CAGR of revenues 2011-2015)

6.2.1.3. Nokia Siemens Networks

This segment is a result of a joint-venture in 2006 with Siemens providing solutions to the operators and service providers representing in 2010, 29.7% of total revenues (-9.06% CAGR of revenues 2008-2010).

In spite of its growth of 17% on the first quarter of 2011 compared with the first quarter of 2010, this segment is expected to follow the other Nokia's segments, decreasing in about 2% in 2011 and 2012 due to the transition process; nevertheless, from 2013 on it will tend to increase in about 2% year. However, with the merger this segment might be challenged, due to the new strategy focus and partnership with Microsoft, which is somehow a Microsoft's competitor (Siemens), in terms of equipment and peripherals (1% CAGR of revenues 2011-2015).

6.2.2. Operating Expenses

Looking at Nokia's cost of revenues, one can figure that they have been representing more and less 63.5% of total revenues since 2008. In turn, cost of revenues seems to be flat according to the historical trend, thereby as revenues are expected to decrease until 2012, the cost of revenues will also decrease, assuming its weight as a percentage of revenues – 63.5% - will be kept in the following years.

Regarding to Research & Development expenses, as it was referred before, this item will tend to decrease as a part of the new restructuring plan headed by the new leadership team (Stephen Elop). Indeed, R&D represents 13.3% of total revenues on average. As innovation is one of the main secrets for the Microsoft success, in the future, Nokia's R&D expenses will follow the historical trend average and in the medium and long term – from 2016 on – this item might be shared with Microsoft.

Concerning to Sales & Marketing item, which represented on average in the last three years a tendency of 9% of revenues, it is expected to decrease from 2011 on due to the Nokia's market-share loss as a consequence of Google and Apple success. Therefore, it is assumed a value equals to 9% on the next years. Furthermore and with the merger in place, Nokia may take advantage of the strong Microsoft's Marketing support to achieve the network effects – increase the user numbers, attract more customers.

With regard to General and Administrative expenses, its weight as a percentage of total revenues has been kept at 2.6% of revenues, and the same trend is assumed until 2015. Concerning to Employee Severance item, it has been null over the past three years. Nonetheless, from 2011 on Nokia is expected to start cutting off on jobs and its respective personnel expenses in about 1% of total revenues year-over-year, being considered another major strategy shift taken by the new leadership.

Depreciation and Amortization, as it represented 4.5% of total assets based on the historical trends, thus in the following years it is assumed to be in line with the current tendency. The provision for income taxes from 2011 on, it is expected to follow the corporate tax rate of 26%.

In terms of Dividends as it was done with Microsoft, it is expected the same value until 2015 as a way to keep capital structures and cash at constant levels, as well as to build a strong balance sheets. In fact, Nokia should follow its restructuring plan initiated in 2010 by the new Board of Directors as well as, the telecommunications market trend towards a reduction of costs, focus in turn on, the new tablets and smartphone segment as Apple and Google did.

6.2.3. Assets, Liabilities and Equity

Starting by Assets, cash and short-term investments are expected to decrease 10% in 2011 due to the pre-merger agreement and from 2012 on, the total cash and short-term

investments are expected to increase 5% a year. Concerning to the accounts receivable and inventories, both will follow the historical tendency of growth, representing 29.6% and 5.25% of total revenues respectively. In turn, the accounts payable will follow the cost of revenues' average tendency of growth – 19.6%. Regarding to the Short-term debt, on the next five years the short-term debt will be considered the same value as 2010 (appendix 18), while the Long-term debt will decrease will decrease 4% until 2012, as the historical trend from 2009 to 2010, and from 2013 to 2015, with the post-transition phase, it is expected to start increasing in about 4%, according to the Goldman Sachs projections. As opposite to Microsoft, Nokia considered minority interests according to the previous annual reports; hence, non-controlling interests for the next 5 years will be 14.5% of total Retained earnings and common stock per year, following the historical tendency (2008-2010).

6.2.4. Net Working Capital

Net Working Capital represents the amount of money that a firm has in order to operate day-by-day. According to the formula already mentioned as well as, the composed items and its respective projections, the Nokia's NWC over the last three years has been relatively stable, directly correlated with the total revenues. Thereupon, the expected NWC value is expected to be the direct application of the formula.

6.2.5. Capital Expenditures

Nokia's CAPEX over the last three years has been very unstable, being impossible to come up with a historical trend. Further, Nokia has been cutting in capital expenditures since the beginning of the economic downturn (appendix 19). However and in a near future, more precisely, from 2011 on, Nokia must start investing more and more in the new tablet and smartphones infrastructures due to the two other powerful ecosystems – Google and Apple. Moreover, Nokia's restructuring plan contains in itself and by nature, an increase in the capital expenses in order to accomplish with its goals and market-leader' duties. Thereby, on the next three years, CAPEX is assumed to be equal to the average of past year's values, which is equal to 37.4% and from 2014 on, assuming a more stable stage, CAPEX will be equal to Depreciation and Amortization. In fact, this new investments and corresponding growth in CAPEX should be viewed by Nokia as a way to come up with a sustainable differentiation business model and products in order to compete against Google and Apple.

6.2.6. Financial Leverage and Cost of Capital

After the calculation of the FCFF, it is now necessary to compute the respective discount rate – WACC - bearing in mind that in order to compute the firm value, it is going to be used the WACC methodology. Additionally, the assumptions taken to calculate the discount rate of Nokia cash-flows will be quite similar to those used in Microsoft's valuation, as well as the formulas. Firstly, Nokia's rating – AAA and Aaa - is considered the same as the Finland's rating according to S&P's and Moody's credit rating agencies (appendixes 7 and 8). In turn, the Finnish risk free rate is 2.52% according to the IMF's website, and the total risk premium in January 2011 is considered 5% according to Damodaran (2008). Concerning to the unlevered beta in the Telecommunications Equipment industry in Europe, it is assumed to be 0.86 (appendix 9).

The cost of capital (R_d) will be the sum of the risk-free rate with the default risk according to the Nokia's probability of default, which is 0.50%, in a word, cost of debt capital will be equal to 3.02%. Concerning to the corporate tax rate applied in the Finnish market, it is 26% (Damodaran's website) and the Nokia's capital structure at market values is 11.57%, so the debt's weight is almost 1/8 of equity. Regarding the diluted number of shares outstanding in 2010, this item was around 3,713 Billion of shares. At the same time, the minority interest was $2.604 Billion USD, thus the enterprise value is the sum of Equity value plus Net Debt and the non-controlling interests. As result, the unlevered cost of equity is expected to be 6.82%, while the levered cost of equity is 7.22%, since instead of using the unlevered beta (0.86), one uses the levered beta (0.94); lastly, the WACC is 6.64%. All this considered, the Nokia's Enterprise value through the WACC method is $48.620 Billion USD and the price target for Nokia using the same method is $10.98 USD.

6.2.7. Sensitivity Analysis

After the base-case scenario valuation, now it is going to be taken different assumptions in order to analyze the changes in the firm value. Indeed, Telecommunications industry is labeled as competitive, innovative, with constant developments, thus the considerations made before may not concretize in the future. Firstly, it is considered changes in revenues, operating expenses and terminal growth rate. The bear-case

scenarios assumes revenues and terminal growth rate 1% lower for each of the following years and operating expenses 1% higher (appendix 22); while the bull-case scenario assumes revenues and terminal growth rate 1% higher and operating expenses 1% lower (appendix 23). Thus, for the bear-case situation the price target would be $6.86 and for the bull-case scenario it would be $14.78. In conclusion, this sensitivity analysis allows us to claim that Nokia is overvalued, since the price target under the bear-case scenario is still smaller than the stock price at May, 13.

6.2.8. Multiples Valuation

In this case, the Relative valuation method will compare Nokia with similar companies operating in the Telecommunications Equipment Industry based on similar growth and risk levels. This is an industry that shows a bit more internationalization with several Europeans and Asiatic companies, though 40% of the Peer Group is composed by U.S. headquartered companies. The same source (Reuters) and method was applied in the computation of the financial indicators for 2011 (Figure 30). Looking at the ratios, Nokia is more and less in line with the industry.

Company	*Country*	*Stock Price*	*Target Price*	*Market Capitalization (in million)*	*P/E*	*P/Book*	*P/Sales*	*EV/Sales*	*EV/EBITDA*	*EV/EBIT*
Alcatel-Lucent	FRA	6,10		7,924	17,07	1,62	0,33	0,32	3,36	7,00
Apple	USA	340,50		355,613	15,18	5,13	3,54	3,29	8,00	8,86
Cisco Systems	USA	16,88		84,263	13,17	1,78	1,95	1,23	4,20	4,77
Google	USA	529,55		170,117	19,00	3,27	5,10	4,87	8,95	10,10
LG Electronics	KOR	18,46		8,698		0,66	0,16	0,23	6,32	13,14
Motorola	USA	46,65		13,873	21,81	2,06	0,96	1,23	6,73	8,05
Qualcomm	USA	57,12		82,206	18,65	3,12	5,96	4,89	11,30	12,70
RIM	CAN	43,24		15,306	4,63	1,60	0,74	0,57	2,55	3,30
Samsung	KOR	852,89		110,584	7,53	1,08	0,76	0,52	3,14	5,39
Sony	JAP	27,58		20,648		0,63	0,23	0,14	1,90	4,70
TomTom NV	NED	8,53		656		1,00	0,45	0,66	3,86	6,45
ZTE	CHN	3,38		9,933	17,72	2,43	0,90	0,84	10,30	15,70
Average		***162,57***		***127,93***	***14,97***	***2,03***	***1,76***	***1,57***	***5,88***	***8,35***
Nokia	**FIN**	**8,66**		**32,11**	**12,03**	**1,50**	**0,55**	**0,83**	**7,73**	**12,46**

Figure 30: Nokia Peer Group

Indeed, this multiple valuation only confirms that Nokia stock price is somehow undervalued since the P/Sales ratio in lower than 1. This is also a complement which underlies the WACC methodology results.

7. Valuation of the Merged Entity

Following the Damodaran's approach (2005), the next step in order to compute the synergies created by combining Microsoft and Nokia is to estimate the enterprise value of the combined firm without synergies in place. Hence, Microsoft and Nokia projections will be combined, bearing in mind the same considerations as each standalone valuation, in order to isolate the value of synergies. Additionally, the obtained enterprise value must equal to the sum of the standalone enterprise values of each firm independently valued. After that, the last valuation phase consists of computing the value of synergies, as the difference between the value of the combined corporation with synergies (called Microsokia) and the value of the combined firm without synergies. This merger between Microsoft and Nokia will lead to a stronger position for the new entity in the market.

7.1. Valuation of the Merged Entity without Synergies

The valuation of the combined firm without synergies will follow the same assumptions considered before using only the WACC methodology; therefore the results obtained must be equal to the sum of the standalone firm values of each independent firm - the new Income Statement, Balance Sheet and CAPEX are presented in the respective appendixes – (Appendixes 24, 25 and 26). Nonetheless, this is considered a cross-border valuation since the performers – acquirer and target – are headquartered an operated in different countries, thus certain implications must be explained with respect to financial leverage and cost of capital items.

7.1.1. Revenues

Concerning to the revenues and taking into account that Nokia mainly operates in the wireless handset market as Microsoft - Entertainment & Devices Division – despite it has a larger portfolio of products and services, the new merged entity will focus essentially on the smartphones and tablets sector as well as the computer equipment and peripherals, in a word, D&S, EDD, W&WLD and MBD segments. Regarding to the other segments, they will all continue in the new entity.

7.1.2. Financial Leverage and Cost of Capital

The valuation of Microsoft and Nokia as it was mentioned before, it is considered a cross-border valuation and thereby certain considerations must be taken, despite in some items both face the same trends. Starting with the currency rate, the Nokia financial data is already in $USD, assuming: 1€ is equal to $1.41 USD as the exchange rate. According to Froot and Kester (1995), the corporate tax rate used in such situations should be the higher tax rate, thus the U.S Corporate tax rate is the one adopted (35%). As Microsoft and Nokia belongs to different industry sectors, the unlevered beta will be the average of unlevered betas weighted by the firm value of each company – 1.08. The risk premium is equal in both cases, thus 5% will considered in the valuation process, while the risk-free rate will be assumed the foreign risk free rate, which is in this case, the U.S risk-free rate – 2.10%. As a consequence the cost of debt will be the U.S cost of debt – 2.60%. As a result, the levered beta is expected to be 1.095; the unlevered and levered cost of equity will be 7.48% and 7.58% respectively; finally the terminal growth rate is assumed as the average of US and Finnish terminal growth rates – 4.90%. With all the gathered information, the discount rate – WACC – is expected to be 7.46%.

Thereupon and using the WACC method (Appendix 27), an enterprise value of $281.067 Billion USD corresponding to the merged entity without synergies was obtained, being equal to the sum of both firm values (Microsoft - $232.447 Billion USD; Nokia - $48.620 Billion USD). Moreover, the WACC's method terminal value is more than double of explicit value because the majority of cash-flows are expected to be realized late in the business development. Additionally, the number of outstanding shares was not yet computed because it will depend on the type of acquisition (Loughran & Vijh, 1997).

7.2. Synergies

After the calculation of the merged entity value without synergies, from now on the focus of analysis will be the new opportunities resulting from combining both firms – synergies. Indeed, the handset market is characterized by its intense competition and technological improvements, with the appearance of new devices and updates day-by-day. In turn, once we are in a post-financial downturn period, the cost reduction is still fundamental. In this consolidation process of Microsoft with Nokia, only operating synergies will be created and thus approached: cost synergies and revenue synergies. In

fact, the combined enterprise shall become more cost-efficient and profitable; moreover, combining its different strengths, Microsoft's strong capital structure and marketing campaign with Nokia's product line and hardware expertise, the combined entity may achieve new markets and higher growth in existing ones.

7.2.1 Cost Synergies

First of all, costs are the most reliable source of synergy, once with the combination of efforts, a reduction on the operating expenses is possible to achieve. Moreover, cost synergies are characterized by its fast implementation and perpetual results. Thereby, in the Microsoft and Nokia case, cost synergies will be computed by saving in the operating expenses and they are expected to take effect from 2011 onwards.

7.2.1.1. Cost of Revenues

This consolidation process between Microsoft and Nokia shall lead to a considerable cost reduction of in the Entertainment & Devices Division and in the Devices & Services segment (a more profitable segment than EDD segment). In fact, they will be focus on the same target – smartphones and tablets – therefore it does not make sense to continue operating independently and a cost reduction is possible. At the same time, as NAVTEQ and Online Services Division are directly correlated with the smartphone segment through maps and Bing, as the new search engine for the devices, combining the strengths of each segment, an additional value might be created. Regarding the Windows & Windows Live Division as well as the Microsoft Business Division, they are expected to continue performing according to the historical trend, as well as, the Server & Tools division which is correlated with the W&WLD. The Nokia Siemens Networks, as business solutions provider in a medium-term might be considered a combination with Microsoft Business Division, since it also provides enterprise solutions and it is a more developed and profitable segment. However, this is disregarded in the cost synergies. In conclusion, the combined reduction in the cost of revenues of the merged entity should 1.5% due to the synergies between EDD and D&S segments. Indeed, EDD represents 25% of Microsoft operating expenses and Microsoft represents 40% of total operating expenses of the new entity, thus a reduction of 15% of Microsoft's cost of revenues represents 1.5% cut in the global cost of revenues. In fact, 15% is the value contemplated for the cost synergies in consolidated processes among telecommunication industry, according to the historical trends (Damodaran's website).

7.2.1.2. Sales & Marketing, General & Administrative and R&D

In fact, both companies have a strong brand image and brand awareness with respect to the customers. As a consequence, a combination of EDD and D&S, in a word, the Windows Phone 7 with Nokia devices, it will even create a stronger brand. Concerning to the Windows brand – W&WLD – it should keep in a segment with direct correlation with MBD and NSN segments. Indeed, Nokia expertise in hardware design, language support and operating billing agreements, the EDD product – Windows Phone 7 – will be brought to a larger range of price points, market segments and geographies. At the same time, Microsoft adCenter will provide search advertising services on Nokia's line of devices and services. Nokia Maps will be the "core" part of Microsoft's mapping services and in turn, those maps will be integrated with Bing search engine and adCenter advertising platform to form a new local search and advertising platform. All these strengths might be combined because in fact, they can be transferable across businesses. Additionally, as a way to integrate both corporate cultures, the new entity will be called Microsokia. As so, Nokia may reduce its sales and marketing expenses due to the strong Microsoft Marketing support and Yahoo! agreement as a convergence of efforts. Regarding the general and administrative expenses, cost savings are insignificant in this case. Concerning to the R&D, due to the Microsoft's long-term approach to R&D and one of the main keys to success, the convergence of strengths by Microsoft and Nokia may lead to a cost saving. All this considered, sales and marketing shall decrease 1.5% mainly because of the EDD and D&S convergence of efforts as well as, R&D in the same amount, and it was obtained from the same cost of revenues equation.

7.2.1.3. Employee Severance

Firstly, the impact of such cost reduction is considered quite small. However, this new policy is already put in practice in both companies. In the case of Nokia, it makes part of the new restructuring plan, thereby no cost reductions will considered in this item.

7.2.1.4. CAPEX

CAPEX is also considered a way to obtain cost synergies. Nonetheless, the combined entity do not contemplate cost reductions because both companies already consider more investments in the segments in order to increase their positions and market-share, as well as, face the tough competition. Thereupon, the purpose should be once again,

the combination of both investments in order to deliver a new entity with unrivaled global reach and scale, so new investments will be required as a way to own higher growth potential in existing and emerging markets.

7.2.2. Revenue Synergies

Revenue synergies depend on competitors and customer reaction, and they are harder to get. In fact, they tend to be deferred until the business is stabilized – medium and long-term. Once again, these synergies can be achieved through a combination of different functional strengths. In this case, revenues synergies will assume gains in the Windows and Windows Live Division as well as, Nokia Siemens Networks.

7.2.2.1 Windows and Windows Live Division and Nokia Siemens Networks

With a possible combination of these two segments, and the respective combination of efforts, such assumption may create new benefits to the merged entity. WWLD is the second largest Microsoft segment by revenues, hence, in spite of high competition and the threat of tablets, with the launch in 2012 of the Windows 8, this segment will be perpetually higher in 1% from 2012 onwards. It is considered a reduced approach because it is already by itself a profitable segment due to business solutions – Nokia Siemens Networks - and Windows OS. In the NSN segment, the synergies expectations are considered only 1% from 2013 on, since the forecasted growth in this segment on the Nokia's standalone valuation already included at Microsoft's operating expenses. In turn, this joint-venture with Siemens shall be kept; despite it is somehow considered a Microsoft competitor in terms of computer peripherals.

7.2.3. Integration Costs

The new opportunities generated by combining Microsoft and Nokia come at a specific cost – integration costs. Indeed, the total net synergies value will be only obtained after taking out such costs from the value of all synergies. However, their estimation requires internal information about Microsoft and Nokia, which is not the case; thereby certain assumptions will be considered towards the integration cost calculations. These integration costs include legal costs with law firms who defend the interest of both parts, workforce reduction costs which is considered a gain in the future but in fact, it is a cost today – compensation for the job cut -, consulting project costs regarding repositioning of the new company (combined entity) and finally, costs related to the

need of building a new brand entity for the new company – *Microsokia*. All in all, integration costs will be considered to be 5% of Nokia sales which is considered the average amount in this industry (Damodaran's website). Nokia sales represent basically 50% of new entity sales, so the cut will be approximately 2.5% of sales in the new entity with synergies. These costs will be higher initially in order to create impact in the market, therefore 1.5% in 2011, 0.5% in 2012, 0.4% in 2013 and 0.35% in 2014.

7.3. Valuation of the Merged Entity with Synergies

The valuation of the combined firm with synergies will follow the same assumption considered before using the WACC methodology. Therefore, the value of synergies will correspond to the difference between the value obtained here with all the synergies and the enterprise merged entity value without synergies (Appendixes 28, 29, 30 and 31). As a result, it is essential to compute the value of each synergy in order to calculate the firm value with synergies.

7.3.1. Value of Synergies

The total value of synergies estimated for the consolidation of Microsoft and Nokia is $8.396 Billion USD. However due to the integration costs which are $3.095 Billion USD, the value of net synergy is $5.301 Billion USD (Figure 31).

(in Millions)	Value of Synergy	% of Total Synergies
Revenue Synergies		
Windows & Windows Live Division	952	11%
Nokia Siemens Networks	882	10,50%
Total	1,884	22,50%
Cost Synergies		
Cost of Revenues	3,578	42,50%
Sales and Marketing	1,572	19,00%
Research & Development	1,362	16%
Total	6,512	77,50%
Total Value of Synergies	8,396	100%
Integration Costs	3,095	
Total Net Synergies	**5,301**	

Figure 31: Value of Synergies

As it was mentioned before, in fact cost synergies are the most reliable source of synergy which in this case represents 77.5% of total net synergies, while the 22.5%

belongs to the revenue synergies. Concerning to the Integration costs, they represent around 58% reflecting high need to invest in the internal market in order avoid the damage of employees motivation when they misunderstand their function within the new merged enterprise taking into account, we are dealing with different corporate cultures.

8. The Acquisition Process

This acquisition and consolidated process considers that Microsoft will acquire Nokia. In fact, Microsoft has a bigger dimension than Nokia, as well as, equity availability. Moreover, Nokia ownership structure is more concentrated than Microsoft ones, with 721 owners, 17.4% registered in Finland, thus it is easier to get control in an acquisition of Microsoft. Microsoft ownership structure contemplates 6493 owners. In turn, the new leadership team headed by Stephen Elop (ex President of Microsoft Business Division) may already have a certain availability to listen the Microsoft proposal, since it has already worked in Microsoft. The third reason that justifies this acquisition proposal by Microsoft is the fact that the computer software leading company has a weak presence in the smartphone and handset market, so it may take advantage of a more consistent and mature position in such segments as Nokia. Additionally, the growth potential for Microsoft is high which allows building a more competitive and stronger company, represented in the all segments. Nevertheless, one shall bear in mind that both companies were and still are market leaders in their respective segments, thus a new and unprecedented ecosystem may burst threatening the Apple's and Google's current market-power.

8.1.Type of Acquisition

In the case of Microsoft acquiring Nokia, a tender offer will be considered the mode of acquisition. As a result, Microsoft should make an offer to Nokia's shareholders (at least, 51% of them must accept the tender) in order to buy Nokia's outstanding stocks at a specific price. This proposal should contemplate a high price in order to be perceived by target shareholders as a friendly proposal and to accelerate the culture assimilation process.

8.2. Synergy Benefits

The sharing of synergy returns should depend on the effort and skills disbursed by Microsoft and Nokia for the existence of such additional value. In this case, the cost synergies arise mainly from the Microsoft's side, in the case of cost of revenues due to the Nokia's higher skills in the Devices & Services segment, while the revenue synergies are created more and less by both sides. In fact, Microsoft will benefit more from the synergies created than Nokia, since Nokia has recently lost its pole-position in the handset market to Apple; despite Microsoft has also lost market-share in some

segments as the smartphones OS, it still has a more stable position than Nokia. All in all, the post-acquisition returns will be based on the enterprise values of each company. Microsoft's enterprise value represents 82.7% of the firm value of the merged entity without synergies, thus it should receive 82.7% of the net synergies, which means $4.384 Billion USD, while Nokia will only receive 17.3% of net synergies representing $0.917 Billion USD. Thereby, Microsoft's proposal to Nokia should also reflect the Nokia's percentage of total net synergies.

8.3. Premium Offered

Nokia's average market capitalization during the last year (2010) was $40.639 Billion USD, but its standalone valuation considers an equity value equals to $40.694 Billion USD (0.14% upside potential). Additionally, the new Nokia's equity value with synergies is $41.611 Billion USD (2.25% upside potential compared to standalone equity value). All this considered, the total premium offered to last year's market capitalization is 19.4% (Figure 32).

Microsoft's Acquisition of Nokia	
(in millions)	
Value of Synergies	5,301
% of Nokia's average market cap.	13.04%
% synergies paid to Nokia	17.3%
Value of Synergies paid to Nokia	917
Nokia's Market cap. (average last year)	40.639
Nokia's Equity value	40.694
Nokia's Equity value with synergies	41.611
Total Premium Offered	19.4%

Figure 32: Premium Offered

8.4. Method of Payment

According to Martin (1996), tender offers are usually financed with cash. However several considerations should be made before. If Microsoft is going to pay with cash which means and additional debt issuance, it is showing a high confidence in the acquisition process and thus, it will get the majority of post-merger synergy benefits, as it is the case. Nonetheless, the rating agencies' considerations shall also bear in mind, since it is essential to keep the investment grade rating. In general, markets consider a BBB rating (in the S&P's rating) as the lowest investment grade rating, which corresponds to a Net Debt/EBITDA ratio not exceeding 3.75 times (Damodaran's website). The Figure 33 summarizes the Debt capacity of Microsokia, on which the maximum additional debt that the merged can sustain is $107.093 Billion USD.

2011 Forecasts (in millions)	Microsoft	Nokia	Microsokia	BBB rating requisite	Microsokia with extra Leverage
Cash	5,505	2,476	7,981		7,981
Net Debt	3,784	5,358	9,142		116,235
EBITDA	24,704	6,292	30,996		30,996
EBIT	21,648	3,903	25,551		25,551
Net Debt/EBITDA	0,153	0,85	0,295	<3,75	3,75

Figure 33: Microsokia's Debt Capacity

8.5. The Proposal

Being considered a tender offer and paid essentially in cash showing its confidence, Microsoft is expecting to guarantee a good reaction from the market. Due to its small D/E ratio representing only 0.187%, Microsoft has considerable cash to finance this acquisition. According to the Figure 34, an acquisition price of $41,611 Billion USD corresponds to an offer of $11.22 per Nokia's share which is relatively close to the its price target calculated in the standalone valuation. Taking into account the debt restrictions considered above (Figure 33), the acquisition price can be totally paid with debt, since the maximum additional debt that the merged entity can sustain is $107.093 Billion USD.

Proposal (USD, in millions)	
Acquisition Price	41,611
Additional Debt	41,611
Addtional Stock	0
Nokia's Stock Price (May,13)	$8,66
PPP offered	$11,22

Figure 34: The Proposal

9. Conclusion

The constant technological improvements and competition in the Global Mobile Industry, as well as, the appearance of new devices – tablets and smartphones – which are today almost a "must" among newer and older customers has been challenging the main players' leadership and business model. Thereby, a consolidation between these two complementary firms as Microsoft and Nokia must be a good way to achieve success in these new trendy segments and to achieve the network effects that would not be possible whether these companies operated independently. In turn, this new entity called Microsokia will be in a better position to compete against the two main competitors –Google and Apple.

Regarding the new opportunities resulting from the merger between Microsoft and Nokia, they will come mainly from the combination of efforts and skills which will result in higher growth potential and cost savings. Considering the Nokia's hardware expertise and global distribution network with Microsoft's software wisdom and profitability, a new ecosystem will emerge into the market. Essentially focus on the tablet segment, the Nokia's respective segment –Devices and Services – which has already a sophisticated background and track on the segment will merge with the Entertainment and Devices Division from Microsoft which is characterized by its modern and appellative products and services. In sum, this consolidation process shall create synergies in costs and revenues, with the bigger section belonging to the cost synergies – 77.50% of total net synergies; the rest is considered revenue synergies.

Concerning to the acquisition which will be totally financed with cash, Microsoft shall acquire Nokia through a tender offer targeting directly the Nokia's shareholders. Thereupon, the price offered for Nokia will consists of its value as a standalone firm plus its synergy benefits percentage – 17.3% of total net synergies.

10. Appendixes

Appendix 1: Microsoft's SWOT analysis

Strengths	Weaknesses
Worldwide leader in software, services and solutions	Insignificant presence in the wireless market
Strong and stable capital structure	Falling to anticipate the Internet and acting flexibly in the early days
Long-term approach to R&D	Employee turnover
Brand Image and Brand Awareness	Antitrust Track Record
Opportunities	**Threats**
Increased friction/traction of tablets and smartphones segment	Economic Environment
Leading the Cloud transformation	Competitive Industry (Apple's Threatening)
Range & Quality of the product advances delivered	Government litigation & regulation
Consolidation with Nokia	Threat of Piracy

Appendix 2: Microsoft Corp. Institutional Ownership

Top 10 Mutual Fund Holders: MSFT

Name	Shares	Estimated Value of Shares *	Holdings	Shares Outstanding	Turnover Rating
American Funds Growth Fund of America	127.84 M	3.57 B	2.50%	1.52%	Low
American Funds Investment Company of America	92.37 M	2.35 B	4.10%	1.10%	Low
PowerShares QQQ Trust - Series 1	86.11 M	2.23 B	8.20%	1.02%	Low
Vanguard Total Stock Market Index Fund	84.01 M	2.13 B	1.30%	1.00%	Low
American Funds Capital World Growth & Income Fund	68.16 M	1.73 B	2.36%	0.81%	Medium
Vanguard 500 Index Fund	66.92 M	1.70 B	1.55%	0.79%	Low
Vanguard Institutional Index Fund	58.54 M	1.49 B	1.55%	0.69%	Low
SPDR S&P 500 ETF	56.61 M	1.47 B	1.54%	0.67%	Low
CREF Stock Account	43.84 M	1.22 B	1.14%	0.52%	Low
Vanguard Windsor II Fund	34.9 M	886.08 M	2.44%	0.41%	Low

Total % of Shares Owned by: Top 10 Holders 8.53% Top 25 Holders 12.59% Top 50 Holders 15.61%

*** Value of shares is estimated based on the closing price of the month in which the shares were purchased.**

Top 10 Institutional Holders: MSFT

Name	Shares	Estimated Value of Shares *	Holdings	Shares Outstanding	Turnover Rating
Capital Research Global Investors	300.13 M	7.62 B	2.01%	3.56%	Low
Vanguard Group, Inc.	290.37 M	7.37 B	0.93%	3.44%	Low
State Street Global Advisors (US)	288.9 M	7.34 B	1.16%	3.43%	Low
BlackRock Institutional Trust Company, N.A.	257.35 M	6.53 B	0.77%	3.05%	Low
Capital World Investors	122.22 M	3.10 B	0.75%	1.45%	Low
JP Morgan Asset Management	106.72 M	2.71 B	1.67%	1.27%	Medium
T. Rowe Price Associates, Inc.	84.1 M	2.14 B	0.65%	1.00%	Low
Fidelity Management & Research Company	80.01 M	2.03 B	0.31%	0.95%	Low
Wellington Management Company, LLP	73.3 M	1.86 B	0.61%	0.87%	Low
TIAA-CREF	71.26 M	1.81 B	0.96%	0.84%	Low

Total % of Shares Owned by: Top 10 Holders 19.86% Top 25 Holders 28.63% Top 50 Holders 36.60%

Top 10 Other Holders: MSFT

Name	Shares	Estimated Value of Shares *	Holdings	Shares Outstanding	Turnover Rating
Gates III (William H)	560.98 M	13.86 B	—	6.65%	Low
Ballmer (Steven A)	333.25 M	8.42 B	—	3.95%	Low
Marquardt (David F)	1.18 M	29.24 M	—	0.01%	Low
Bach (Robert J)	520,273	12.74 M	—	0.01%	Low
Daiwa Securities Group Inc	482,800	12.26 M	—	0.01%	High
Turner (Brian Kevin)	413,630	10.45 M	—	0.00%	Medium
Hastings (Reed)	177,000	4.33 M	—	0.00%	Low
Elop (Stephen A)	130,026	3.18 M	—	0.00%	Medium
Liddell (Christopher P)	96,434	2.94 M	—	0.00%	Low
Klein (Peter S)	118,988	2.91 M	—	0.00%	—

Total % of Shares Owned by: Top 10 Holders 10.64% Top 25 Holders 10.64% Top 50 Holders 10.64%

Appendix 3: Nokia's SWOT analysis

Strengths	Weaknesses
Worldwide largest manufacturer of Mobile Phones	Few promotions regarding low price phones
Expertise in Imaging, Maps and operator billing agreements	Slow responsiveness (delayed product launches)
Brand Name and Brand Awareness	Reduced market share in U.S.
Global Distribution network	Ngage failure (first smartphone launched by Nokia)
Opportunities	**Threats**
Nokia's new Executive Board	Competitive and dynamic Industry
Consolidation with Microsoft	Economic Environment
Growing and emerging market presence	Strong price pressure from competitors
Fashion and stylish handset design	Threat of entry from new players
Use of NSN to reduce the mobile operators bargaining power	

Appendix 4: Top 10 M&A deals by technology companies in 2010

Date	Deal Value (US$ billion)	Target	Target country	Acquirer	Acquirer country
January 2010	USD$8.29 billion	Sun Microsystems Inc.	USA	Oracle Corp.	USA
July 2010	USD$7.94 billion	Sybase Inc.	USA	SAP AG	Germany
February 2010	USD$7.86 billion	Affiliated Computer Services Inc.	USA	Xerox Corp.	USA
April 2010	USD$3.97 billion	Renesas Technology Corp.	Japan	NEC Electronics Corp.	Japan
October 2010	USD$3.49 billion	Dimension Data Holdings plc.	South Africa	Nippon Telegraph & Telephone Corp.	Japan
April 2010	USD$3.02 billion	3Com Corp.	USA	Hewlett-Packard	USA
September 2010	USD$2.61 billion	3PAR Inc.	USA	Hewlett-Packard	USA
October 2010	USD$2.40 billion	Intergraph Corp.	USA	Hexagon AB	Sweden
May 2010	USD$2.15 billion	SkillSoft plc.	Ireland	Berkshire Partners; Bain Capital Partners; AIC	USA
November 2010	USD$2.08 billion	Netezza Corp.	USA	IBM	USA

Appendix 5: International and Domestic Takeovers Map in 2010

source: Dealogic, M&A Global, MergerMarket

Appendix 6: Valuation Data in the American and Finnish markets

Risk free (10 year government bond - USA)	2,10%
Risk free (10 year government bond - Finland)	2,52%
Total Risk Premium (USA)	5%
Total Risk Premium (Finland)	5%
IMF's expected Real Growth Rate (USA)	2,83%
IMF's expected Inflation (USA)	2,15%
Expected Future Growth Rate (USA)	4,98%
IMF's expected Real Growth Rate (Finland)	3,12%
IMF's expected Inflation (Finland)	1,70%
Expected Future Growth Rate (Finland)	4,82%

Source: Damodaran's and IMF's website

Appendix 7: Standard & Poor's rating: Default Spread by credit rating (USA and Finland)

Country	Rating	Spread	Prob.Default
USA	AAA	0,50%	0,02%
Finland	AAA	0,50%	0,02%

Source: Damodaran's website (May, 2011)

Appendix 8: Moody's rating: Default Spread by credit rating (USA and Finland)

Rating	Default Spread
Aaa	***0***
Aa1	25
Aa2	50
Aa3	70
A1	85
A2	100
A3	115
Baa1	150
Baa2	175
Baa3	200
Ba1	240
Ba2	275
Ba3	325
B1	400
B2	500
B3	600
Caa1	700
Caa2	850
Caa3	1000

Source: Damodaran's website (July, 2011)

Appendix 9: Unlevered beta by industry in U.S. and Europe

US

Industry	NºFirms	Average Beta	Market D/E Ratio	Tax Rate	Unlevered Beta	Cash/Firm Value	Unlevered beta corrected for cash
Computer Software	*247*	*1,06*	*4,68%*	*13,88%*	*1,02*	*9,48%*	*1,12*

Europe

Telecom. Equipment	*56*	*0,88*	*22,47%*	*11,26%*	*0,74*	*13,90%*	*0,86*

Source: Damodaran's website

Appendix 10: Historical and Expected Microsoft's Income Statement

	Historical results			Expected Values				
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual Income Statement (USD, in millions)								
Revenues	60,323	58,573	62,256	62,750	64,357	67,004	70,055	73,585
WD	16,865	14,712	18,491	18,121	18,575	19,038	19,515	20,002
S&T	13,171	14,126	14,866	15,014	14,714	14,420	14,131	13,849
OSD	3,214	3,088	2,199	2,221	2,265	2,311	2,357	2,404
MBD	18,932	18,894	18,642	19,014	19,585	20,173	20,778	21,401
EDD	8,141	7,753	8,058	8,380	9,218	11,062	13,274	15,929
Total Revenues	60,323	58,573	62,256	62,750	64,357	67,004	70,055	73,585
Cost of Revenues (without D&A)	9,542	9,593	9,722	9,494	9,333	9,262	9,457	9,631
Gross Profit	50,781	48,980	52,534	53,256	55,024	57,742	60,598	63,954
Research & Development	8,164	9,010	8,714	9,413	9,654	10,051	10,508	11,038
Sales and Marketing	13,039	12,879	13,214	14,433	14,802	15,411	16,113	16,925
General and Administrative	5,127	3,700	4,004	4,079	4,183	4,355	4,554	4,783
Depreciation and Amortization	2,056	2,562	2,673	3,056	3,538	4,139	4,663	5,086
Employee Severance	0	330	59	627	644	670	701	736
Total Operating Expenses	37,928	38,074	38,386	41,102	42,154	43,888	45,886	48,198
OPERATING INCOME (EBIT)	22,395	20,499	23,870	21,648	22,203	23,116	24,169	25,387
EBITDA	24,451	23,061	26,543	24,704	25,741	27,255	28,832	30,473
Investment Income and other	1,548	-542	915	961	1,009	1,059	1,112	1,168
Total Investment Income and other	1,548	-542	915	961	1,009	1,059	1,112	1,168
INCOME BEFORE INCOME TAXES (EBT)	23,943	19,957	24,785	22,609	23,212	24,175	25,281	26,555
Provision for income taxes (or Income Taxes)	6,133	5,252	6,253	4,522	4,642	4,835	5,056	5,311
Total Provision for income taxes	6,133	5,252	6,253	4,522	4,642	4,835	5,056	5,311
NET INCOME	17,810	14,705	18,532	18,087	18,570	19,340	20,225	21,244
Basic Weighted Average shares of common stock	9,328	8,945	8,813	8,813	8,813	8,813	8,813	8,813
Basic EPS	1,90	1,63	2,13	2,05	2,11	2,19	2,29	2,41
Cash Dividends per common share	0,44	0,52	0,52	0,52	0,52	0,52	0,52	0,52

Appendix 11: Historical and Expected Microsoft's Balance Sheet

	Historical Results			Expected Values				
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual Balance Sheet (USD, in millions)								
Cash and Cash Equivalents	10,339	6,076	5,505	6,881	8,602	10,752	12,365	13,292
Short-term investments	13,323	25,371	31,283	39,104	48,880	61,100	70,265	75,534
Total cash, cash Equivalents and short-term investments	23,662	31,447	36,788	45,985	57,481	71,852	82,629	88,826
Accounts receivable (total receivables, net)	13,589	11,192	13,014	12,864	13,193	13,736	14,361	15,085
Inventories	985	717	740	847	869	905	946	994
Other current assets	5,006	5,924	5,134	5,134	5,134	5,134	5,134	5,134
Total current assets	43,242	49,280	55,676	64,830	76,677	91,627	103,071	110,039
Tangible Assets								
Property and Equipment	12,544	15,082	16,259	18,535	21,130	24,088	27,461	31,305
Accumulated depreciation	-6,302	-7,547	-8,629	-9,453	-10,776	-12,285	-14,005	-15,966
Total tangible assets	6,242	7,535	7,630	9,082	10,354	11,803	13,456	15,340
Equity and other Investments	6,588	4,933	7,754	9,693	12,116	15,145	18,931	23,663
Goodwill	12,108	12,503	12,394	12,394	12,394	12,394	12,394	12,394
Intangible Assets								
Gross Intangibles	3,630	4,040	3,887	4,179	4,492	4,829	5,191	5,580
Accumulated amortization	-1,657	-2,281	-2,729	-2,131	-2,291	-2,463	-2,647	-2,846
Total intangible assets	1,973	1,759	1,158	2,047	2,201	2,366	2,544	2,734
Other long-term assets	1,691	1,599	1,501	1,501	1,501	1,501	1,501	1,501
Total non-current assets	29,551	28,608	30,437	34,717	38,565	43,209	48,825	55,632
TOTAL ASSETS	72,793	77,888	86,113	99,547	115,242	134,836	151,896	165,671
Accounts Payable	4,034	3,324	4,025	3,703	3,640	3,612	3,688	3,756
Short-term debt	0	2,000	1,000	1,000	1,000	1,000	1,000	1,000
Other Current Liabilities	3,659	21,710	21,122	23,912	29,480	35,489	43,257	49,506
Total current liabilities	29,886	27,034	26,147	28,615	34,120	40,101	47,945	54,262
Long-term debt	0	3,746	4,939	9,665	11,598	15,077	14,323	13,607
Long-term unearned revenue	1,900	1,281	1,178	0,000	0,000	0,000	0,000	0,000
Long-term deferred income tax liabilities	0	0	229	229	229	229	229	229
Other Long-Term Liabilities	6,621	7,550	8,852	11,201	16,265	23,758	31,528	37,851
Total non-current liabilities	6,621	11,296	13,791	20,866	27,863	38,835	45,851	51,458
TOTAL LIABILITIES	36,507	38,330	39,938	49,481	61,983	78,937	93,796	105,720
Common stock and paid-in capital	62,849	62,382	62,856	63,327	63,802	64,281	64,763	65,249
Retained deficit	-26,563	-22,824	-16,681	-13,261	-10,543	-8,382	-6,663	-5,297
Total Stockholders' Equity	36,286	39,558	46,175	50,066	53,260	55,899	58,100	59,951
TOTAL LIABILITIES AND SHAREHOLDER EQUITY	72,793	77,888	86,113	99,547	115,242	134,836	151,896	165,671
Debt								
Long-term Debt	0	3,746	4,939	9,665	11,598	15,077	14,323	13,607
Short-term Debt	0	2,000	1,000	1,000	1,000	1,000	1,000	1,000
Total Debt	0	5,746	5,939	10,665	12,598	16,077	15,323	14,607
Cash and cash equivalents	10,339	6,076	5,505	6,881	8,602	10,752	12,365	13,292

Net Debt	-10,339	-330	434	3,784	3,996	5,325	2,958	1,315
Working Capital								
Inventories	985	717	740	847	869	905	946	994
Total Receivables	13,589	11,192	13,014	12,864	13,193	13,736	14,361	15,085
Accounts payable	4,034	3,324	4,025	3,703	3,640	3,612	3,688	3,756
Other payables	0	0	0	0	0	0	0	0

Appendix 12: Microsoft's CAPEX

	Historical Results				Expected Values			
Period End Date	2008	2009	2010	2011	2012	2013	2014	2015
				-	-	-	-	-
Capex	-3,182	-3,119	-1,977	2,570	3,341	4,343	4,663	5,086

Appendix 13: Microsoft's Valuation Data

Nº of shares outstanding (billions)	8,813
Stock price (May,13)	25,32
Average stock price (last year)	25,99
Market Capitalization (billions of dollars)	223,145
Average Market Capitalization	229,049
Equity Value	232,013
Net Debt (millions)	434
Enterprise Value	232,447
Price Target	26,33
Upside Potential	4%

Damodaran Data (Computer Software)	
	USA
Unlevered Beta	1,12
Corporate Tax Rate	35%

Rf (10 years bond)	2,10%
Risk Premium (Rm - Rf)	5%
D/E Ratio	0,1870%
Levered Beta	1,122
D/(D+E)	0,0000%
Re	7,71%
Rd (10 years bond + Spread)	2,60%
WACC	7,69%
Ru	7,70%
Terminal Growth rate (inflation + IMF prospects)	4,98%

Appendix 14: Microsoft Base-Case Valuation

Microsoft Corp.								
Historical Results				Expected Values				
USD, in million	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenues	60,323	58,573	62,256	62,750	64,357	67,004	70,055	73,585
Total Operating Expenses	37,928	38,074	38,386	41,102	42,154	43,888	45,886	48,198
Operating Income (EBIT)	22,395	20,499	23,870	21,648	22,203	23,116	24,169	25,387
Income taxes	6,133	5,252	6,253	4,522	4,642	4,835	5,056	5,311
Depreciation & Amortization	2,056	2,562	2,673	3,056	3,538	4,139	4,663	5,086
Change in NWC	1,449	-1,025	2,646	279	414	607	590	704
CAPEX + Replacement Investments	-3,182	-3,119	-1,977	-2,570	-3,341	-4,343	-4,663	-5,086
Free Cash Flow to the Firm (FCFF)	13,687	15,715	15,667	17,333	17,344	17,470	18,523	19,372

DCF								
FCFF	13,687	15,715	15,667	17,333	17,344	17,470	18,523	19,372
Discount factor				1,00	0,93	0,86	0,80	0,74
Discounted Cash Flow				17,333	16,106	15,064	14,832	14,404

DCF Calculation	
Explicit Value	77,739
Terminal Value	154,708
Firm Value	232,447
Net Debt	434
Minority interest	0
Equity Value	232,013
Price Target	26,33

Appendix 15: Microsoft Bear Case Valuation

Microsoft Corp.								
Historical Results				Expected Values				
USD, in million	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenues	60,323	58,573	62,256	62,123	63,713	66,334	69,354	72,849
Total Operating Expenses	37,928	38,074	38,386	41,513	42,576	44,327	46,345	48,680
Operating Income (EBIT)	22,395	20,499	23,870	20,609	21,138	22,007	23,010	24,169
Income taxes	6,133	5,252	6,253	4,314	4,429	4,613	4,824	5,067
Depreciation & Amortization	2,056	2,562	2,673	3,056	3,538	4,139	4,663	5,086
Change in NWC	1,449	-1,025	2,646	276	410	601	584	697
CAPEX + Replacement Investments	-3,182	-3,119	-1,977	-2,570	-3,341	-4,343	-4,663	-5,086
Free Cash Flow to the Firm (FCFF)	13,687	15,715	15,667	16,505	16,496	16,589	17,602	18,405

DCF								
FCFF	13,687	15,715	15,667	16,505	16,496	16,589	17,602	18,405
Discount factor				1,00	0,93	0,86	0,80	0,74
Discounted Cash Flow				16,505	15,318	14,304	14,094	13,685

DCF Calculation	
Explicit Value	73,906
Terminal Value	147,080
Firm Value	220,986
Net Debt	434
Minority interest	0
Equity Value	220,986
Price Target	25,03

Appendix 16: Microsoft Bull Case Valuation

Microsoft Corp.								
Historical Results				Expected Values				
USD, in million	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenues	60,323	58,573	62,256	63,378	65,001	67,674	70,756	74,32
Total Operating Expenses	37,928	38,074	38,386	40,691	41,732	43,449	45,427	47,72
Operating Income (EBIT)	22,395	20,499	23,870	22,687	23,268	24,225	25,328	26,605
Income taxes	6,133	5,252	6,253	4,730	4,855	5,057	5,288	5,555
Depreciation & Amortization	2,056	2,562	2,673	3,056	3,538	4,139	4,663	5,086
Change in NWC	1,449	-1,025	2,646	282	418	613	596	711
CAPEX + Replacement Investments	-3,182	-3,119	-1,977	-2,570	-3,341	-4,343	-4,663	-5,086
Free Cash Flow to the Firm (FCFF)	13,687	15,715	15,667	18,161	18,192	18,351	19,444	20,339

DCF								
FCFF	13,687	15,715	15,667	18,161	18,192	18,351	19,444	20,339
Discount factor				1,00	0,93	0,86	0,80	0,74
Discounted Cash Flow				18,161	16,893	15,824	15,569	15,123

DCF Calculation	
Explicit Value	81,570
Terminal Value	162,332
Firm Value	243,902
Net Debt	434
Minority interest	0
Equity Value	243,468
Price Target	27,63

Appendix 17: Historical and Expected Nokia's Income Statement

	Historical results			Expected Values				
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual Income Statement (USD, in millions)								
Revenues	71,585	57,945	60,344	58,726	57,635	59,597	61,632	63,740
D&S	49,490	39,272	41,079	39,847	39,050	40,612	42,236	43,926
NAVTEQ	509	944	1,413	1,385	1,440	1,498	1,558	1,620
NSN	21,586	17,729	17,852	17,495	17,145	17,488	17,838	18,194
Total Revenues	71,585	57,945	60,344	58,726	57,635	59,597	61,632	63,740
Cost of Revenues (without D&A)	44,725	36,570	39,280	37,291	36,598	37,844	39,136	40,475
Gross Profit	26,860	21,375	21,064	21,435	21,037	21,753	22,496	23,265
Research & Development	8,415	8,331	8,267	7,811	7,665	7,926	8,197	8,477
Sales and Marketing	6,176	5,545	5,466	5,285	5,187	5,364	5,547	5,737
General and Administrative	1,810	1,614	1,572	1,527	1,499	1,550	1,602	1,657
Depreciation and Amortization	2,280	2,515	2,497	2,388	2,397	2,461	2,529	2,600
Employee Severance	0	0	0	521	576	596	616	637
Total Operating Expenses	63,406	54,575	57,082	54,823	53,922	55,741	57,627	59,583
OPERATING INCOME (EBIT)	8,179	3,370	3,262	3,903	3,713	3,856	4,005	4,157
EBITDA	10,459	5,885	5,759	6,292	6,110	6,318	6,533	6,757
Investment Income (Expense) and other	-3	-374	-402	-362	-326	-293	-264	-238
Total Investment Income (Expense) and other	-3	-374	-402	-362	-326	-293	-264	-238
INCOME BEFORE INCOME TAXES (EBT)	8,176	2,996	2,860	3,541	3,387	3,563	3,741	3,919
Provision for income taxes	1,524	990	624	868	830	873	917	960
Total Provision for income taxes	1,524	990	624	868	830	873	917	960
NET INCOME	6,652	2,006	2,236	2,673	2,557	2,690	2,824	2,959
Basic Weighted Average shares of common stock	3,743	3,705	3,708	3,708	3,708	3,708	3,708	3,708
Basic EPS	1,51	0,34	0,71	0,72	0,69	0,73	0,76	0,80
Cash Dividends per common share	0,56	0,56	0,56	0,56	0,56	0,56	0,56	0,56

Appendix 18: Historical and Expected Nokia's Balance Sheet

	Historical Results			Expected Values				
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual Balance Sheet (USD, in millions)								
Cash and Cash Equivalents	2,405	1,610	2,751	2,476	2,600	2,730	2,866	3,009
Short-term investments	7,211	10,901	14,557	13,101	13,756	14,444	15,166	15,925
Total cash, cash Equivalents and short-term investments	9,616	12,511	17,308	15,577	16,356	17,174	18,033	18,934
Accounts receivable (total receivables, net)	21,315	18,154	17,409	17,383	17,060	17,641	18,243	18,867
Inventories	3,571	2,629	3,557	3,083	3,026	3,129	3,236	3,346
Total current assets	34,502	33,294	38,274	36,043	36,442	37,944	39,511	41,148
Tangible Assets								
Property and Equipment	7,969	7,680	7,937	7,659	7,391	7,465	7,540	7,615
Accumulated Depreciation	5,022	5,048	5,182	4,956	4,782	4,830	4,878	4,927
Total Tangible Assets	2,947	2,632	2,755	2,704	2,609	2,635	2,662	2,688
Equity and other Investments	857	878	943	849	891	936	982	1,032
Goodwill	8,822	7,291	8,069	8,069	8,069	8,069	8,069	8,069
Intangible Assets								
Gross Intangibles	10,306	10,035	9,125	8,669	8,235	7,824	7,432	7,061
Accumulated Amortization	4,444	5,939	6,351	5,609	5,328	5,062	4,809	4,568
Total Intangible Assets	5,862	4,096	2,774	3,060	2,907	2,762	2,624	2,492
Other long-term assets	52	73	96	96	96	96	96	96
Deferred income taxes	2,768	2,125	2,250	2,250	2,250	2,250	2,250	2,250
Total non-current assets	21,308	17,095	16,887	17,028	16,822	16,748	16,682	16,628
TOTAL ASSETS	55,810	50,389	55,161	53,071	53,264	54,692	56,193	57,776
Accounts Payable	7,367	6,979	8,602	7,309	7,173	7,417	7,671	7,933
Short-term debt	6,366	1,433	2,092	2,092	2,092	2,092	2,092	2,092
Other Current Liabilities	14,967	13,002	14,036	14,474	15,513	15,72	15,95	16,19
Total current liabilities	28,700	21,414	24,730	23,875	24,778	25,230	25,709	26,216
Long-term debt	1,214	6,249	5,981	5,742	5,512	5,733	5,962	6,200
Other long-term liabilities	2,617	1,930	1,565	2,003	3,043	3,251	3,475	3,720
Total non-current liabilities	3,831	8,179	7,546	7,745	8,555	8,984	9,437	9,920
TOTAL LIABILITIES	32,531	29,593	32,276	31,620	33,333	34,214	35,146	36,136
Common stock and paid-in capital	3,547	4,168	5,476	5,476	5,476	5,476	5,476	5,476
Retained Earnings	16,486	14,286	14,805	13,325	11,992	12,472	12,971	13,489
Minority interest	3,246	2,342	2,604	2,651	2,463	2,531	2,601	2,674
Total Stockholders' equity	23,279	20,796	22,885	21,451	19,931	20,478	21,048	21,640
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	55,810	50,389	55,161	53,071	53,264	54,692	56,193	57,776
Debt								
Long-term Debt	1,214	6,249	5,981	5,742	5,512	5,733	5,962	6,200
Short-term Debt	6,366	1,433	2,092	2,092	2,092	2,092	2,092	2,092
Total Debt	7,580	7,682	8,073	7,834	7,604	7,825	8,054	8,292
Cash and cash equivalents	2,405	1,610	2,751	2,476	2,600	2,730	2,866	3,009
Net Debt	5,175	6,072	5,322	5,358	5,004	5,095	5,188	5,283

Working Capital

Inventories	3,571	2,629	3,557	3,0831	3,0258	3,129	3,236	3,346
Total Receivables	21,315	18,154	17,409	17,383	17,06	17,64	18,24	18,87
Accounts payable	7,367	6,979	8,602	7,309	7,173	7,417	7,671	7,933
Other payables	0	0	0	0	0	0	0	0
Net Working Capital	17,519	13,804	12,364	13,157	12,913	13,352	13,808	14,280
Change in NWC	2,760	-3,715	-1,440	793	-245	440	456	472

Appendix 19: Nokia's CAPEX

	Historical Results				Expected Values			
Period End Date	2008	2009	2010	2011	2012	2013	2014	2015
Capex	-1,254	-749	-957	-1,315	-1,807	-2,482	-2,529	-2,600

Appendix 20: Nokia's Valuation Data

Nº of shares outstanding (billions)	3,708
Stock price (May,13)	8,66
Average stock price (last year)	10,96
Market Capitalization (billions of dollars)	32,111
Average Market Capitalization	40,639
Equity Value	40,694
Net Debt (millions)	5,322
Firm Value	48,620
Price Target	10,98
Upside Potential	27%

Damodaran Data (Telecom. Equipment)	
	Finland
Unlevered Beta	0,86
Tax Rate (Federal tax + Provincial tax)	26%

Rf (10 years bond)	2,52%
Risk Premium (Rm - Rf)	5%
D/E ratio	13,08%
Levered Beta	0,94
D/(D+E)	11,57%
Re	7,22%
Rd (10 years bond + Spread)	3,02%
WACC	6,64%
Ru	6,82%
Terminal Growth rate (inflation + IMF prospects)	4,82%

Appendix 21: Nokia Base-Case Valuation

Historical Results					Expected Values			
USD, in million	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenues	71,585	57,945	60,344	58,726	57,635	59,597	61,632	63,740
Total Operating Expenses	63,406	54,575	57,082	54,823	53,922	55,741	57,627	59,583
Operating Income (EBIT)	8,179	3,370	3,262	3,903	3,713	3,856	4,005	4,157
Income taxes	1,524	990	624	868	830	873	917	960
Depreciation & Amortization	2,280	2,515	2,497	2,388	2,397	2,461	2,529	2,600
Change in NWC	2,760	-3,715	-1,440	793	-245	440	456	472
CAPEX + Replacement Investments	-1,254	-749	-957	-1,315	-1,807	-2,482	-2,529	-2,600
Free Cash Flow to the Firm (FCFF)	4,921	7,861	5,618	3,315	3,718	2,522	2,632	2,725

DCF								
FCFF	4,921	7,861	5,618	3,315	3,718	2,522	2,632	2,725
Discount factor				1,00	0,94	0,88	0,82	0,77
Discounted Cash Flow				3,315	3,485	2,218	2,170	2,107

DCF Calculation	
Explicit Value	13,295
Terminal Value	35,325
Firm Value	48,620
Net Debt	5,322
Minority interest	2,604
Equity Value	40,694
Price Target	10,98

Appendix 22: Nokia Bear Case Valuation

Historical Results					Expected Values			
USD, in million	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenues	71,585	57,945	60,344	58,139	57,059	59,001	61,015	63,10
Total Operating Expenses	63,406	54,575	57,082	55,371	54,461	56,298	58,203	60,18
Operating Income (EBIT)	8,179	3,370	3,262	2,768	2,597	2,703	2,812	2,92
Income taxes	1,524	990	624	590	556	591	624	658,00
Depreciation & Amortization	2,280	2,515	2,497	2,388	2,397	2,461	2,529	2,60
Change in NWC	2,760	-3,715	-1,440	785	-243	436	451	467,28
CAPEX + Replacement Investments	-1,254	-749	-957	-1,315	-1,807	-2,482	-2,529	-2,60
Free Cash Flow to the Firm (FCFF)	4,921	7,861	5,618	2,466	2,874	1,295	1,737	1,799

DCF								
FCFF	4,921	7,861	5,618	2,466	2,874	1,295	1,737	1,799
Discount factor				1,00	0,94	0,88	0,82	0,77
Discounted Cash Flow				2,466	2,695	1,139	1,432	1,391

DCF Calculation	
Explicit Value	9,123
Terminal Value	24,240
Firm Value	33,363
Net Debt	5,322
Minority interest	2,604
Equity Value	25,437
Price Target	6,86

Appendix 23: Nokia Bull Case Valuation

Historical Results				Expected Values				
USD, in million	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenues	71,585	57,945	60,344	59,314	58,211	60,193	62,248	64,377
Total Operating Expenses	63,406	54,575	57,082	54,275	53,383	55,184	57,051	58,987
Operating Income (EBIT)	8,179	3,37	3,262	5,039	4,828	5,010	5,197	5,390
Income taxes	1,524	990	624	1,146	1,103	1,156	1,209	1,262
Depreciation & Amortization	2,280	2,515	2,497	2,388	2,397	2,461	2,529	2,600
Change in NWC	2,760	-3,715	-1,440	801	-247	444	461	477
CAPEX + Replacement Investments	-1,254	-749	-957	-1,315	-1,807	-2,482	-2,529	-2,600
Free Cash Flow to the Firm (FCFF)	4,921	7,861	5,618	4,165	4,562	3,389	3,527	3,651

DCF								
FCFF	4,921	7,861	5,618	4,165	4,562	3,389	3,527	3,651
Discount factor				1,00	0,94	0,88	0,82	0,77
Discounted Cash Flow				4,165	4,278	2,980	2,908	2,823

DCF Calculation	
Explicit Value	17,154
Terminal Value	45,578
Firm Value	62,732
Net Debt	5,322
Minority interest	2,604
Equity Value	54,806
Price Target	14,78

Appendix 24: Historical and Expected Income Statement of the Merged Entity without synergies

	Historical results			Expected Values				
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual Income Statement (USD, in millions)								
Revenues	131,908	116,518	122,600	121,476	121,992	126,601	131,687	137,325
Windows & Windows Live Division	16,865	14,712	18,491	18,121	18,575	19,038	19,515	20,002
Microsoft Business Division	18,932	18,894	18,642	19,014	19,585	20,173	20,778	21,401
Entertainment & Devices Division	8,141	7,753	8,058	8,380	9,218	11,062	13,274	15,929
Devices & Services	49,490	39,272	41,079	39,847	39,050	40,612	42,236	43,926
Online Services Division	3,214	3,088	2,199	2,221	2,265	2,311	2,357	2,404
Server & Tools	13,171	14,126	14,866	15,014	14,714	14,420	14,131	13,849
NAVTEQ	509	944	1,413	1,385	1,440	1,498	1,558	1,620
Nokia Siemens Networks	21,586	17,729	17,852	17,495	17,145	17,488	17,838	18,194
Total Revenues	131,908	116,518	122,600	121,476	121,992	126,601	131,687	137,325
Cost of Revenues (without D&A)	54,267	46,163	49,002	46,785	45,931	47,106	48,593	50,106
Gross Profit	77,641	70,355	73,598	74,691	76,061	79,495	83,094	87,219
Research & Development	16,579	17,341	16,981	17,223	17,319	17,977	18,705	19,515
Sales and Marketing	19,215	18,424	18,680	19,718	19,989	20,775	21,659	22,661
General and Administrative	6,937	5,314	5,576	5,606	5,682	5,905	6,156	6,440
Depreciation and Amortization	4,336	5,077	5,170	5,444	5,935	6,600	7,192	7,686
Employee Severance	0	330	59	1,148	1,220	1,266	1,317	1,373
Total Operating Expenses	101,334	92,649	95,468	95,924	96,076	99,629	103,622	107,781
OPERATING INCOME (EBIT)	30,574	23,869	27,132	25,552	25,916	26,972	28,064	29,544
EBITDA	34,910	28,946	32,302	30,997	31,851	33,573	35,256	37,230
Investment Income (expense) and other	1,545	-916	513	599	683	766	848	930
Total Investment Income (expense) and other	1,545	-916	513	599	683	766	848	930
INCOME BEFORE INCOME TAXES (EBT)	32,119	22,953	27,645	26,151	26,599	27,738	28,912	30,474
Provision for income taxes (or Income Taxes)	7,657	6,242	6,877	5,390	5,472	5,708	5,973	6,271
Total Provision for income taxes	7,657	6,242	6,877	5,390	5,472	5,708	5,973	6,271
NET INCOME	24,462	16,711	20,768	20,761	21,127	22,030	22,939	24,203

Appendix 26: Historical and Expected Balance Sheet of the Merged entity without synergies

	Historical Results			Expected Values				
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual Balance Sheet (USD, in millions)								
Cash and Cash Equivalents	12,744	7,686	8,256	9,357	11,201	13,482	15,231	16,302
Short-term investments	20,534	36,272	45,840	52,205	62,636	75,544	85,431	91,459
Total cash, cash Equivalents and short-term investments	33,278	43,958	54,096	61,562	73,837	89,025	100,662	107,761
Accounts receivable (total receivables, net)	34,904	29,346	30,423	30,247	30,253	31,377	32,604	33,952
Inventories	4,556	3,346	4,297	3,930	3,895	4,034	4,182	4,340
Other current assets	5,006	5,924	5,134	5,134	5,134	5,134	5,134	5,134
Total current assets	77,744	82,574	93,950	100,873	113,119	129,570	142,582	151,187
Tangible Assets								
Property and Equipment	20,513	22,762	24,196	26,194	28,521	31,553	35,000	38,920
Accumulated depreciation	-10,746	-13,486	-14,98	-15,062	-16,105	-17,347	-18,814	-20,534
Total tangible assets	9,767	9,276	9,216	11,133	12,417	14,207	16,187	18,386
Equity and other Investments	7,445	5,811	8,697	10,542	13,007	16,081	19,913	24,695
Goodwill	20,930	19,794	20,463	20,463	20,463	20,463	20,463	20,463
Intangible Assets								
Gross Intangibles	13,936	14,075	13,012	12,847	12,727	12,652	12,623	12,641
Accumulated amortization	-6,101	-8,220	-9,080	-7,740	-7,619	-7,525	-7,456	-7,414
Total intangible assets	7,835	5,855	3,932	5,108	5,108	5,128	5,167	5,227
Deferred income taxes	2,768	2,125	2,250	2,250	2,250	2,250	2,250	2,250
Other long-term assets	1,743	1,672	1,597	1,597	1,597	1,597	1,597	1,597
Total non-current assets	50,488	44,533	46,155	51,092	54,842	59,725	65,577	72,618
TOTAL ASSETS	106,410	128,277	141,274	152,618	168,507	189,528	208,089	223,447
Accounts Payable	11,401	10,303	12,627	11,012	10,813	11,030	11,359	11,689
Short-term debt	6,366	3,433	3,092	3,092	3,092	3,092	3,092	3,092
Other Current Liabilities	18,626	34,712	35,158	38,386	44,993	51,21	59,203	65,697
Total current liabilities	36,393	48,448	50,877	52,490	58,898	65,332	73,654	80,478
Long-term debt	1,214	9,995	10,920	15,407	17,110	20,810	20,285	19,807
Other Long-Term Liabilities	9,238	9,480	10,417	13,204	19,308	27,009	35,003	41,571
Total non-current liabilities	10,452	19,475	21,337	28,611	36,418	47,819	55,288	61,378
TOTAL LIABILITIES	46,845	67,923	72,214	81,100	95,316	113,151	128,942	141,857
Common stock and paid-in capital	66,396	66,55	68,332	68,803	69,278	69,757	70,239	70,725
Retained Earnings	16,486	14,286	14,805	13,325	11,992	12,472	12,971	13,489
Retained deficit	-26,563	-22,824	-16,681	-13,261	-10,543	-8,382	-6,663	-5,297
Minority Interest	3,246	2,342	2,604	2,651	2,463	2,531	2,601	2,674
Total Stockholders' Equity	59,565	60,354	69,06	71,517	73,191	76,378	79,147	81,591
TOTAL LIABILITIES AND SHAREHOLDER EQUITY	106,410	128,277	141,274	152,618	168,507	189,528	208,089	223,447

Debt								
Long-term Debt	1,214	9,995	10,920	15,407	17,110	20,810	20,285	19,807
Short-term Debt	6,366	3,433	3,092	3,092	3,092	3,092	3,092	3,092
Total Debt	7,580	13,428	14,012	18,499	20,202	23,902	23,377	22,899
Cash and cash equivalents	12,744	7,686	8,256	9,357	11,201	13,482	15,231	16,302
Net Debt	-5,164	5,742	5,756	9,142	9,001	10,420	8,146	6,598
Working Capital								
Inventories	4,556	3,346	4,297	3,930	3,895	4,034	4,182	4,340
Total Receivables	34,904	29,346	30,423	30,247	30,253	31,377	32,604	33,952
Accounts payable	11,401	10,303	12,627	11,012	10,813	11,030	11,359	11,689
Other payables	0	0	0	0	0	0	0	0
Net Working Capital	28,059	22,389	21,911	22,983	23,153	24,199	25,245	26,421
Change in NWC	4,209	-4,740	1,206	1,072	170	1,046	1,046	1,176

Appendix 27: Merged Entity CAPEX without synergies

	Historical Results				Expected Values			
Period End Date	2008	2009	2010	2011	2012	2013	2014	2015
				-	-	-	-	-
Capex	-4,436	-3,868	-2,934	3,885	5,148	6,825	7,192	7,686

Appendix 28: Valuation of the Merged entity without synergies

Market Capitalization (billions of dollars)	255,256
Equity Value	272,707
Net Debt (millions)	5,756
Minority interest	2,604
Enterprise Value	281,067
Upside Potential	7%

Rf (10 years bond)	2,10%
Risk Premium (Rm - Rf)	5%
D/E Ratio	2,1107%
Levered Beta	1,0950
D/(D+E)	2,067%
Re	7,58%
Rd (10 years bond + Spread)	2,60%
WACC	7,46%
Ru	7,48%
Terminal Growth Rate	4,90%

Damodaran Data	
	USA
Weighted Unlev. Beta	1,08
Corporate Tax Rate	35%

DCF:	
Sum of Standalone Firm Value	281,067
New Firm Value without synergies	281,067

Historical Results				Expected Values				
USD, in million	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenues	131,908	116,518	122,600	121,476	121,992	126,601	131,687	137,325
Total Operating Expenses	101,334	92,649	95,468	95,924	96,076	99,629	103,622	107,781
Operating Income (EBIT)	30,574	23,869	27,132	25,552	25,916	26,972	28,064	29,544
Income taxes	7,657	6,242	6,877	5,390	5,472	5,708	5,973	6,271
Depreciation & Amortization	4,336	5,077	5,170	5,444	5,935	6,600	7,192	7,686
Change in NWC	4,209	-4,740	1,206	1,072	170	1,046	1,046	1,176
CAPEX + Replacement Investments	-4,436	-3,868	-2,934	-3,885	-5,148	-6,825	-7,192	-7,686
Free Cash Flow to the Firm (FCFF)	18,608	23,576	21,285	20,649	21,061	19,993	21,045	22,097

DCF								
FCFF	18,608	23,576	21,285	20,649	21,061	19,993	21,045	22,097
Discount factor				1,00	0,93	0,87	0,81	0,75
Discounted Cash Flow				20,649	19,599	17,314	16,959	16,571

DCF Calculation	
Explicit Value	91,092
Terminal Value	189,975
Firm Value	281,067
Net Debt	5,756
Minority interest	2,604
Equity Value	272,707

Appendix 29: Historical and Expected Income Statement of the Merged Entity with synergies

	Historical results			Expected Values				
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual Income Statement (USD, in millions)								
Revenues	131,908	116,518	122,600	121,832	122,349	126,967	132,060	137,707
Windows & Windows Live Division	16,865	14,712	18,491	18,302	18,761	19,228	19,710	20,202
Microsoft Business Division	18,932	18,894	18,642	19,014	19,585	20,173	20,778	21,401
Entertainment & Devices Division	8,141	7,753	8,058	8,380	9,218	11,062	13,274	15,929
Devices & Services	49,490	39,272	41,079	39,847	39,050	40,612	42,236	43,926
Online Services Division	3,214	3,088	2,199	2,221	2,265	2,311	2,357	2,404
Server & Tools	13,171	14,126	14,866	15,014	14,714	14,42	14,131	13,849
NAVTEQ	509	944	1,413	1,385	1,440	1,498	1,558	1,620
Nokia Siemens Networks	21,586	17,729	17,852	17,670	17,317	17,663	18,016	18,376
Total Revenues	131,908	116,518	122,600	121,832	122,349	126,967	132,060	137,707
Cost of Revenues (without D&A)	54,267	46,163	49,002	46,083	45,242	46,400	47,864	49,354
Gross Profit	77,641	70,355	73,598	75,749	77,107	80,567	84,196	88,353
Research & Development	16,579	17,341	16,981	16,965	17,059	17,707	18,425	19,222
Sales and Marketing	19,215	18,424	18,680	19,422	19,689	20,463	21,335	22,321
General and Administrative	6,937	5,314	5,576	5,606	5,682	5,905	6,156	6,440
Depreciation and Amortization	4,336	5,077	5,170	5,444	5,935	6,600	7,192	7,686
Employee Severance	0	330	59	1,148	1,220	1,266	1,317	1,373
Total Operating Expenses	101,334	92,649	95,468	94,668	94,827	98,341	102,288	106,397
OPERATING INCOME (EBIT)	30,574	23,869	27,132	27,164	27,522	28,626	29,772	31,310
EBITDA	34,910	28,946	32,302	32,609	33,457	35,226	36,964	38,996
Investment Income (expense) and other	1,545	-916	513	599	683	766	848	930
Total Investment Income (expense) and other	1,545	-916	513	599	683	766	848	930
INCOME BEFORE INCOME TAXES (EBT)	32,119	22,953	27,645	27,763	28,205	29,392	30,570	32,240
Provision for income taxes (or Income Taxes)	7,657	6,242	6,877	5,691	5,782	6,025	6,267	6,609
Total Provision for income taxes	7,657	6,242	6,877	5,691	5,782	6,025	6,267	6,609
NET INCOME	24,462	16,711	20,768	22,072	22,423	23,367	24,303	25,631

Appendix 30: Historical and Expected Balance Sheet of the Merged entity with synergies

	Historical Results			Expected Values				
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual Balance Sheet (USD, in millions)								
Cash and Cash Equivalents	12,744	7,686	8,256	9,384	11,234	13,521	15,274	16,347
Short-term investments	20,534	36,272	45,840	52,358	62,819	75,762	85,673	91,713
Total cash, cash Equivalents and short-term investments	33,278	43,958	54,096	61,742	74,053	89,283	100,947	108,060
Accounts receivable (total receivables, net)	34,904	29,346	30,423	30,336	30,342	31,468	32,696	34,047
Inventories	4,556	3,346	4,297	3,942	3,906	4,046	4,193	4,352
Other current assets	5,006	5,924	5,134	5,134	5,134	5,134	5,134	5,134
Total current assets	77,744	82,574	93,950	101,154	113,435	129,931	142,970	151,593
Tangible Assets								
Property and Equipment	20,513	22,762	24,196	26,194	28,521	31,553	35,000	38,920
Accumulated depreciation	-10,746	-13,486	-14,980	-15,062	-16,105	-17,347	-18,814	-20,534
Total tangible assets	9,767	9,276	9,216	11,133	12,417	14,207	16,187	18,386
Equity and other Investments	7,445	5,811	8,697	10,542	13,007	16,081	19,913	24,695
Goodwill	20,930	19,794	20,463	20,463	20,463	20,463	20,463	20,463
Intangible Assets								
Gross Intangibles	13,936	14,075	13,012	12,847	12,727	12,652	12,623	12,641
Accumulated amortization	-6,101	-8,220	-9,080	-7,740	-7,619	-7,525	-7,456	-7,414
Total intangible assets	7,835	5,855	3,932	5,108	5,108	5,128	5,167	5,227
Deferred Income Taxes	2,768	2,125	2,250	2,250	2,250	2,250	2,250	2,250
Other long-term assets	1,743	1,672	1,597	1,597	1,597	1,597	1,597	1,597
Total non-current assets	50,488	44,533	46,155	51,092	54,842	59,725	65,577	72,618
TOTAL ASSETS	106,410	128,277	141,274	152,246	168,277	189,656	208,547	224,211
Accounts Payable	11,401	10,303	12,627	10,847	10,651	10,865	11,189	11,514
Short-term debt	6,366	3,433	3,092	3,092	3,092	3,092	3,092	3,092
Other Current Liabilities	18,626	34,712	35,158	38,386	44,993	51,210	59,203	65,697
Total current liabilities	36,393	48,448	50,877	52,325	58,736	65,167	73,484	80,303
Long-term debt	1,214	9,995	10,920	15,907	18,110	21,102	20,599	20,275
Other Long-Term Liabilities	9,238	9,480	10,417	12,497	18,240	27,009	35,317	42,042
Total non-current liabilities	10,452	19,475	21,337	28,404	36,350	48,111	55,916	62,317
TOTAL LIABILITIES	46,845	67,923	72,214	80,729	95,086	113,278	129,400	142,620
Common stock and paid-in capital	66,396	66,55	68,332	68,803	69,278	69,757	70,239	70,725
Retained Earnings	16,486	14,286	14,805	13,325	11,992	12,472	12,971	13,489
Retained deficit	-26,563	-22,824	-16,681	-13,261	-10,543	-8,382	-6,663	-5,297
Minority Interest	3,246	2,342	2,604	2,651	2,463	2,531	2,601	2,674
Total Stockholders' Equity	59,565	60,354	69,060	71,517	73,191	76,378	79,147	81,591
TOTAL LIABILITIES AND SHAREHOLDER EQUITY	106,410	128,277	141,274	152,246	168,277	189,656	208,547	224,211

Debt								
Long-term Debt	1,214	9,995	10,920	15,907	18,110	21,102	20,599	20,275
Short-term Debt	6,366	3,433	3,092	3,092	3,092	3,092	3,092	3,092
Total Debt	7,580	13,428	14,012	18,999	21,202	24,194	23,691	23,367
Cash and cash equivalents	12,744	7,686	8,256	9,384	11,234	13,521	15,274	16,347
Net Debt	-5,164	5,742	5,756	9,615	9,968	10,673	8,417	7,020
Working Capital								
Inventories	4,556	3,346	4,297	3,942	3,906	4,046	4,193	4,352
Total Receivables	34,904	29,346	30,423	30,336	30,342	31,468	32,696	34,047
Accounts payable	11,401	10,303	12,627	10,847	10,651	10,865	11,189	11,514
Other payables	0	0	0	0	0	0	0	0
Net Working Capital	28,059	22,389	21,911	23,249	23,415	24,467	25,518	26,703
Change in NWC	4,209	-4,740	1,206	1,338	166	1,052	1,051	1,185

Appendix 31: Merged Entity CAPEX with synergies

	Historical Results				Expected Values			
Period End Date	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
				-	-	-	-	-
Capex	-4,436	-3,868	-2,934	3,885	5,148	6,825	7,192	7,686

Appendix 32: Valuation of the Merged Entity with synergies

Market Capitalization (billions of dollars)	255,256
Equity Value	278,008
Net Debt (millions)	5,756
Minority interest	2,604
Enterprise Value	286,368
Upside Potential	9%

Rf (10 years bond)	2,10%
Risk Premium (Rm - Rf)	5%
D/E Ratio	2,07%
Levered Beta	1,0945
D/(D+E)	2,0280%
Re	7,57%
Rd (10 years bond + Spread)	2,60%
WACC	7,45%
Ru	7,48%
Terminal Growth rate (inflation + IMF prospects)	4,90%

Damodaran Data	
	USA
Weighted Unlev. Beta	1,08
Corporate Tax Rate	35%

DCF:	
New Firm Value without synergies	281,067
New Firm Value with synergies	286,368
Value of Synergies	5,301

Historical Results				Expected Values				
USD, in million	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenues	131,908	116,518	122,600	121,832	122,349	126,967	132,060	137,707
Total Operating Expenses	101,334	92,649	95,468	94,668	94,827	98,341	102,288	106,397
Operating Income (EBIT)	30,574	23,869	27,132	27,164	27,522	28,626	29,772	31,310
Income taxes	7,657	6,242	6,877	5,691	5,782	6,025	6,267	6,609
Depreciation & Amortization	4,336	5,077	5,170	5,444	5,935	6,600	7,192	7,686
Change in NWC	4,209	-4,740	1,206	1,338	166	1,052	1,051	1,185
CAPEX + Replacement Investments	-4,436	-3,868	-2,934	-3,885	-5,148	-6,825	-7,192	-7,686
Free Cash Flow to the Firm (FCFF)	18,608	23,576	21,285	21,694	22,324	21,323	22,454	23,516

DCF								
FCFF	18,608	23,576	21,285	21,694	22,324	21,323	22,454	23,516
Discount factor				1,00	0,93	0,87	0,81	0,75
Discounted Cash Flow				21,694	20,776	18,469	18,100	17,642

DCF Calculation	
Explicit Value	96,681
Terminal Value	189,687
Firm Value	286,368
Net Debt	5,756
Minority interest	2,604
Equity Value	278,008

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