Brand Equity-A Study on the relationship between brand equity and Stock Performance

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Abstract

In today's competitive market companies aim at increasing revenue to acquire a higher market share. Previous research indicates that this can be achieved with intangible assets. These assets are described as a firm's dynamic capabilities, which can be attained through knowledge resources, organizational structure, employee skills, customer size, Research and Development (R&D), innovative capability, market share or a recognizable brand. Previous studies have associated intangible assets to be very significant for a company's success and even associated them with creating GDP growth, specifically in Nordic countries. Studies indicate an increasing gap between a company's market value and book value, which is related to the constant omission of intangible assets from the balance sheet. As a result, this gap, according to previous research, attests that markets are not fully efficient and stock prices do not reflect all available information. Internally generated brand equity is among the assets omitted from the balance sheet. Brand equity is one of the most powerful intangibles within a company. Therefore, it has been alleged of generating higher returns. Due to current accounting standards, IAS 38, internally generated brands are not disclosed on the balance sheet. Instead, the standard solely permits externally generated brand equity, which arises during business combinations, to be recognized. Consequently, researchers are questioning the value relevance of accounting because the omission of internally generated brands does not provide accurate information about a company's true value. As a result, this may create information asymmetry between management and investors. Since investors are interested in a company's value, the omission of intangibles may lead to poor economic decisions. Numerous studies have addressed the relationship between intangibles and stock returns. However, there is little research that explains brand equity's relationship to stock performance. Only one study on Turkish brands, by Basgoze et al (2014), managed to address this relationship. However, the authors only concentrated on abnormal returns and not on significant performance ratios like MTBV, ROA, EPS, P/E and ROE.

Considering that the study was based on Turkish brands, a research gap was found in addressing the relationship between brand equity and stock performance in Nordic countries. Seeing that these countries highly invest in intangible assets more than any other European country, it further increased curiosity on the relationship between brand equity and stock performance. To address the gap, a quantitative study in the form of Spearman correlations and a linear regression analysis was conducted. The research design of the study placed brands as an independent variable and stock performance variables as dependent variables. As studies have stated that the MTBV-gap disproves claims of markets being fully efficient, theories like EMH and AHM have been used to analyze the relationship between brand equity and stock performance. Other theories used in the analysis was about brand equity and its different sets, a self-constructed definition of stock performance which included MTBV, ROE, ROA, EPS, P/E and stock returns. The results of the study showed that brand equity had a positive relationship with three out of the six included variables in the study, meaning that there was a positive relation. Furthermore, the study also showed that the market is not fully efficient since the results indicated that, due to brand equity not being included on the balance sheet, not all available information is included in stock prices. Therefore, investors will adapt to the current conditions of the market, which is in accordance to the Adaptive Market Hypothesis.

Keywords: Brand equity, Stock performance, information asymmetry, financial disclosure, Nordic, relationship

Glossary

International Accounting Standards / International Reporting Standards (IAS/IFRS): Is a set of common guidelines meant to be used globally among accountants.

Intangible assets: Are non-monetary, identifiable assets without any physical substance. As identifiable, these assets can be controlled; meaning sold or transferred by the entity, and creates future economic benefits for an entity. Moreover, the assets can either be internally generated or externally generated.

Identifiable: An asset is identifiable if it can be sold or recognized individually. Identifiable assets can often arise during contractual or legal rights and eventually be sold or transferred from an entity regardless if a business combination has occurred. Externally generated intangibles are an example of identifiable assets (IFRS 3, 2014, p. 379).

Externally generated intangibles: Are those assets which can be sold or transferred individually from an entity.

Internally generated intangibles: Are those intangibles which cannot be sold or transferred individually from an entity.

Goodwill: Is a mix of intangible assets that cannot be sold independently unless the entity it's sold. Goodwill arises during the combination of two entities, which entails that items that are excluded from IAS 38's definition of intangible assets become goodwill. Another way to define goodwill is by considering it as an asset that represents the future economic benefits of items which cannot be separated or recognized individually.

Business Combinations: Is a transaction in which two entities merge their assets. In other words, it is the combination of two businesses

Price per earnings ratio (P/E): Represents the stock price's relation to a company's earnings (see section 3.2.3).

Market-to-book value (MTBV): The market-to-book-value represents the relation with a company's market value, that is stock price, and its book value, which is sometimes referred to as shareholder equity (see section 3.2.4).

Earnings per Share (EPS): The EPS is a ratio of a company's earnings divided by its outstanding shares (see section 3.2.2).

Return on assets (ROA): This ratio measures a company's annual net income divided by its total assets in book value (see section 3.2.5)

Return on Equity (ROE): Measures a company's total net income by its total equity, which means that net income, is divided by a company's total assets minus its liabilities (see section 3.2.5).

Efficient Market Hypothesis (EMH): A hypothesis which assumes that all markets are effective, meaning that an assets market price reflects all available information (see section 3.3).

Adaptive Market hypothesis (AMH): A hypothesis which intertwines the Efficient Market Hypothesis with behavioral finance. This hypothesis sees the market as an ecology in which investors are considered species that adapt to the market depending on its current state. If market participants compete for scarce resources in a specific market, then that market is

efficient. However, if less market participants compete for more abundant resources then that market will be considered less efficient (see section 3.3).

Information Asymmetry: Information asymmetry arises when management does not disclose information on the company to investors for its own personal gain (see section 3.6).

Abbreviations

EMH- The Efficient Market Hypothesis

AMH-Adaptive Market Hypothesis

ROA-Return on Assets

ROE-Return on Equity

P/E-Price to Earnings ratio

EPS-Earnings per share

MTBV-Market-to-book value

IAS-International Accounting Standards

IFRS-International Reporting Standards

ISO-International Organization for Standardization

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Introduction

In this chapter, readers are introduced to intangible assets and brand equity. The first part of the chapter has been sectioned into headlines to make it easier for readers in understanding the problem background. The section includes headlines like intangible assets, brand equity and stock performance. The chapter continues by discussing the research problem, gap, purpose and finally research question. Lastly, the chapter concludes with a disposition, summarizing the study's eight chapters.

1.1. Subject Choice

As an accounting student at Umeå University, brand equity was rarely discussed at lectures. However, I came across the subject during the course Advanced Financial accounting. The course briefly discussed brands in relation to the IAS 38 standard for intangible assets. It came to my knowledge that brands, among other intangibles, are often excluded from the balance sheet (see section 1.2.2). As a matter of fact, IAS 38 affirms that brands can't be recognized intangible assets when generated internally (see section 1.2.2). Considering that brand equity is a concept that is both debated in the accounting field as well marketing field, it further increased my interest in the subject. Furthermore, since the concept of brand equity was first introduced in the 1980's, it indicates that it is a relatively new research area. It has even been claimed a top research priority in the marketing field and as a significant asset related to financial growth (Aaker & Biel, 1992, p.1).

There is not much evidence on brand equity's relationship to stock performance, specifically in the Nordic Market. I only managed to find one study with a similar subject, Basgoze et al (2016), but it only covers Turkish brands. Therefore, it was of interest to research about Nordic brands in countries like: Finland, Denmark, Sweden and Norway. These countries are known for constantly investing in intangible assets, which gave me more reasons to research about brand equity and stock performance.

1.2. Background

1.2.1. Intangible assets

In today's competitive market, companies aim at increasing revenue to obtain market share. Companies have realized that this is attainable not only with tangible assets but also with intangible assets. Intangible assets, or intellectual capital (Stewart, 1998, p.1), have become increasingly important for the success of a business. These assets are described as a firm's dynamic capabilities, which can be attained through knowledge resources, organizational structure, employee skills, customer size, Research and Development (R&D), innovative capability, market share or a recognizable brand (Tsai et al., 2012, p.67).

During the industrial revolution, company value was only based on physical assets like property and equipment. However, in the 21st century there was a shift which made intangible assets more important when creating business wealth in comparison to tangible assets (Madhani 2005, p.9). According to the OECD, intangible asset investments have rapidly increased in comparison to that of tangible assets (Nolan, 2011, p.1). A previous study also made similar claims, explaining that intangible assets have become highly important and are preferred over tangible assets when companies want to attain competitive advantages (Steenkamp & Kashyap, 2010). One example is the increasing importance intangibles have gained in Nordic countries. These countries have positioned themselves in the Regional

European Growth index as one of Europe's fastest growing economic regions, which has attracted the attention of foreign investors (Mokrane et al, 2016, p.22). Moreover, the area is well known for investing in intangible assets more than any other European nation. This was made clear in a 1998 study by the OECD that indicated a rapid growth in knowledge based assets like R&D in the region. According to the article R&D investments increased in relation to GDP ratio, which meant that Nordic countries experienced a promising economic growth in comparison to European countries that invested less in intangibles (OECD, 1998, p. 36; 38).

The benefits intangible assets create for companies have caught investors' attention, which can be linked to previous findings regarding the stock markets relationship to these assets. There have been prior indications that companies that manage their intangibles properly acquire excess returns. A study by Hurwitz et al (2002, p. 58; 60) conclude this by analyzing how management of human and organizational capital is related to stock returns. The study specified that human and organizational capital are significant drivers of stock returns. It also concluded that if companies put more effort in managing intangible assets, they will attain excess returns from tangible assets (Hurwitz et al, 2002, p. 60). Another study by Tan et al (2007, p.91) came to a similar conclusion in which intangibles positively correlated with company performance. The results confirmed that companies who constantly manage and increase their intellectual capital, like human and organizational capital, experience a much superior performance. Despite these indications, the accounting field consists of standards that do not recognize most intangibles on the balance sheet. Intangibles like R&D are for example not recognized on the balance sheet but are nevertheless incurred in the income statement. When IAS/IFRS standards were first introduced by the EU, it became mandatory for all listed companies on the stock market to disclose financial information based on these standards. The newly adopted standards not only consisted of new accounting guidelines, but former standards, like IAS 38, were revised and updated in the process (IFRS, 2006, p.1).

Before the adoption, intangible assets formed part of goodwill, which is a mixed category of intangibles that are difficult to separate and identify. In comparison to intangible assets, goodwill arises during the combination of two entities and is therefore recognized under the standard IFRS 3 for business combinations (IFRS 3:32, 2014, p.373). According to the standard, goodwill is an excess paid above or below the net value of an intangible asset (IFRS 3:32, 2014, p.373). After the adoption, it was decided that goodwill should be recognized separately from intangible assets. Since goodwill is an item that arises during the combination of two entities, standard setters felt that other intangibles should be accounted differently as these are assets can be bought and sold independently. According to the new standard intangible assets cannot be recognized under goodwill because they are identifiable and divisible (IAS 38:11, 2014, p.257). When an asset is identifiable it means that it needs to be divisible or arise from contractual or legal rights. If the intangible asset does not meet this requirement it will not be recorded on the balance sheet (IAS 38:12, 2014, p.257). Intangibles that do not meet these criteria are considered internally generated intangibles; meanwhile those fitting the criteria are considered externally generated intangibles.

One main issue with the IAS 38 standards are the dissimilarities between internally and externally generated intangibles. According to IAS 38 (2014, p.10), only externally generated intangibles can be recognized on the balance sheet. The difference between internally and externally generated intangible assets is that external intangibles arise through a business acquisition (IAS 38, p.10). This means that when an entity acquires another entity, intangibles from the acquired one will be recognized on the balance sheet. On the other hand, the

intangibles of the acquirer cannot be presented on the balance sheet as these are internally generated. Previously, it has been discussed that the causes for why internally generated intangibles are not recognized are the difficulties in linking these assets with an original cost or revenues (Austin 2007, p. 64). This is why externally generated intangibles are easily recognized, since these assets are purchased outside of the firm making it easier to identify its costs as well revenues. Moreover, Austin (2007, p. 64) claims that although it's more complex to link costs and revenues to intangible assets, some tangible assets may also have similar complexities. According to the authors, difficulties in linking a specific cost or revenue can also arise when recognizing tangible assets like property and equipment because these are tangibles whose value is more difficult to obtain (2007, p. 64).

1.2.2. Internally generated brands

Among the internal intangibles not included on the balance sheet are: costumers list, mastheads, publishing lists and brand equity (Tan, 2007, p.77). Since both the accounting and marketing field have different views on brand equity and its role, it has lead both professions to face much scrutiny regarding how these assets should be managed. According to Jahdi and Ackdilj (2010, p.276), accountants are principally concerned on a brand's purpose and what benefits it may bring as an asset on the financial statement. It is highly important that it contributes relevant and reliable information for users of financial statement. On the other hand, the marketing field is more concerned on a brand's off-balance sheet purpose, including its market position and value. Within this field, brand equity is considered beneficial throughout managerial decisions, which is something the accounting field fails to comprehend. According to Jadhi and Ackdilj (2010, p.276), the accounting field is more focused on external items rather than internal. As previously stated, internally generated intangibles are excluded from the balance sheet because there are no identifiable costs that can be used as references during valuation procedures (Austin, 2004, p. 64). Since the accounting of intangible assets is subjective and complex than that of tangible assets, it's more optional to exclude them from the balance sheet (afia, 2016, p. 18).

Before intangibles are recognized on the balance sheet, IAS 38 (2008, p.18) recommends practitioners to value these items at their original cost or fair value. For that reason, both the cost and revaluation models are recommended. The first model is based on the intangible's initial cost, which means that if the asset meets the recognition criteria it will be recognize at its cost less accumulated amortization and accumulated impairment losses. When it comes to the revaluation model, an intangible will be regularly measured at its fair value less any subsequent accumulated amortization and impairment loss (IAS 38, 2008, p.74). The model also requires that the intangible's fair value, which is the market price, is measured by using an active market as main reference (IAS 38.74, 2008, p. 18). An active market is usually characterized by high levels of liquidity, which is based on frequent and large levels of transactions. According to IAS 38 (2008, p.77), there are no active markets for intangible assets. While there might be an active market for a transferable taxi license or fishing license, there is none for brands, mastheads, patents, publishing rights or trademarks due to the uniqueness of each asset.

Seeing that the revaluation model aims at measuring intangibles at fair value, it indicates that there a high level of subjectivity exists when assessing the true value of a brand. The level of subjectivity is based on estimations made throughout fair value measurements. Considering that these calculations are based on current market information, that is interest rates stock prices and inflation, it makes it extra difficult to obtain a brand's market value. According to

Penman (2007, p.41) fair value is valid when information regarding these measurements is readily available, which is why an accurate estimation regarding brand equity requires each measurement to be obtained from an active market. But, as stated, there is no active market for intangibles like brand equity (IAS 38, 2008, p. 77).

Though the measuring of a brand's value is quite complex, several alternatives are available which can provide companies with valuable information on how much their brand is currently valued. Top valuation consultancies like Brand Finance, Millward-Brown and Interbrand are specialized in offering brand valuation services to companies all over the world. Based on these valuations, consultancy firms aim at objectively and independently give advice on how to manage brand equity effectively. Their brand equity estimations, though not similar, are considered to be highly reliable and are recognized by the International Organization for Standardization (ISO). The ISO is a non-governmental organization, active in more than 160 countries that provides, with the help of experts knowledgeable in the field, global accounting standards (ISO, 2017). It should be mentioned that companies do not include this valuation results on the balance sheet; instead they are used as reference to evaluate how much the brand is worth (Brand Finance 2017; Interbrand 2017; Millward-Brown 2017).

As stated, each consultancy has its own approach of evaluating brand equity. For example: Brand Finance practices a Royalty Relief approach when measuring brand equity. The approach is based on estimating future sales, applying a royalty rate and discounting estimated future tax royalties at its net present value. The results will eventually represent brand equity (Brand Finance, 2017). Moreover, Millward-Brown assumes an approach that is done in three steps. In the first step, Millward-Brown estimates the financial value. This means that financial statements are analyzed to get an insight on the company's current financial stability. After the analysis, Millward-Brown calculates an attribution rate which is later multiplied with corporate earnings. The multiplication will equal branded earnings, which are earnings linked to the brand itself. After obtaining branded earnings, a calculation on brand contribution is conducted. According to the company brand contribution is the percentage of financial value (Millward-Brown, 2017). To obtain it Millward-Brown makes an in-depth quantitative consumer research, either online or face to face and by creating a global picture of the brand on a country and categorical basis. This means that Millner calculates brand contribution by researching on customers' loyalty towards the brand and whether the brand is memorable enough to generate loyalty (Millner-Brown, 2017). The final and third step of Millward-Brown's approach is obtaining brand equity. In this step, financial value and brand contribution are multiplied, which later results in brand equity (Millner-Brown, 2017).

Like Millward-Brown, Interbrand practices a step by step approach to calculate brand equity. The first step includes a financial analysis of the company, which entails that Interbrand analyses economic profits that are somehow linked to the brand. Secondly, Interbrand also highlights on what role the brand has on a specific industry, which means that it measures purchasing decisions by researching historical roles for brands in a specific industry. Meanwhile, the third step towards valuing brand equity and its current strength is by analyzing aspects like brand loyalty, sustainable demand and future economic profits. Lastly, Interbrand gathers information from external sources like Thomson Reuters and financial reports to attain further information (Interbrand, 2017).

Regardless of these approaches, the complexities behind brand equity valuation may lead investors to believe that company value reflected on the financial statement is unreliable and not reflective of them (afia, 2016, p. 16). Since intangibles are omitted an increasing gap has

occurred between the book value of equity represented on the balance sheet and the market value. This has resulted in MTBVs´ higher than one. This is problematic because it gives the impression that a company's stock is more valuable than it appears and as a result it may contribute investors to make poor economic decisions. Previous studies state that the close relationship between intangibles and MTBV may explain this gap (Edvisson & Malone, 1998, p. 22; Hulten and Hao (2008, p.1). According to Marzo (2013, p.565), intangibles and MTBV are one of the same. The author claims that one reason behind this belief is that intangible assets have been perceived, and defined, as the difference between market value and book value. Even though this claim is considered quite controversial, the current MTBV gap has been proclaimed as a theory within research for intangible assets (Ghosh & Wu 2007, p.221; Marzo, 2013, p. 565).

1.2.3. The MTBV gap

As stated above, the MTBV gap is a debated topic. A research by Hulten and Hao (2008, p.1) indicated that companies on the S&P 500 displayed a 2.0 and 3.5 MTBV from 1990 to 1995, which later increased to 3.5 as well 7.5 during the 1996-2000 technological boom. Another study by Edvisson and Malone (1998, p.22) indicated an MTBV increase from 0.82 to 1.692 among companies in the US between 1973 and 1993. The study concluded that this considerable increase through both periods demonstrated that 40 % of the market value of listed companies was missing from the balance sheet. High MTBVs are, according to Malkiel (2003, p. 69) considered to be growth stocks, which often do not generate much returns for investors. Consequently, investors face the risk of buying stocks with higher MTBV ratios believing that they will gain higher returns.

According to Marzo (2013, p.565), these gaps are the main reason for why the accounting field is currently being scrutinize since it does not recognize the value of intangible assets. Some positive outcomes this value may bring are excess returns (Hurwitz et al 2002, p. 58; 60; Tan et al 2007, p.91). Hurwitz et al (2002, p. 58; 60) and Tan et al (2007, p.91) are not the only ones to research the relationship between stock returns and intangible assets. Others have also found that a positive relationship between intangible assets and stock prices exists. Oliveira et al (2010, p. 241) evaluated this relationship by including net earnings and goodwill disclosed on the financial statement, which are proclaimed as the value relevance of identifiable intangible assets. When the research was conducted, most information was collected from non-financial companies listed on the Portuguese stock exchange from 1998-2008. With this information, Oliveira et al (2010, p. 241) found a positive relationship between intangibles and stock prices and thus concluding that intangibles are value relevant.

Another study by Fornell et al (2006, p. 3) found that stock prices increased when companies experienced higher rates of customer satisfaction. The study further indicated that companies with higher customer satisfaction gain higher returns at lower risks. Moreover, the study specified that within efficient markets, information on consumer satisfaction would be reflected on the prices making it possible to acquire economic profits. Even though the conclusion made by Fornell et al (2006) does not suggest a rejection of the efficient market hypothesis (see section 3.3), it still managed to explain that information on customer satisfaction does provide profit opportunities for investors (Fornell, 2006, 11). In terms of investors, Oliveira et al (2010, p. 242) state that the positive relationships between stock performance and intangible assets proves that available information on these assets are value relevant for investors. The authors further state that the positive relationship between intangibles and stock performance are used as reference to judge the relevance of financial statements for investors (Oliveira et al, 2010, p. 243).

Considering that financial statements are supposed to provide relevant information for investors, the omission of intangible assets give the impression that the statements are uninformative and lack relevance (Cañibano, 2000). According to Marzo (2013), the gap gives the impression that there is a fallacy within accounting. Oliveira et al (2010, p.243) also made similar statements, pointing that the value relevance of accounting information, in this case earnings and book values, has decreased because of intangibles being omitted from financial statements. This indicates that if intangibles were to be included on financial statements more often, the increasing MTBV gap would eventually decrease.

1.2.4. Stock performance

It is important that financial statements are complete so that investors can make sound economic decisions (Marzo, 2013, p 566). If information about intangibles is disclosed more often it will meet the needs of investors and reduce information asymmetry in the capital market (Ghosh & Wu, 2007, p.231). According to Ghost and Wu (2007, p. 231), investors are interested in the stock performance because they are confident all necessary information is reflected in stock prices and eventually it will therefore help them base sound economic decisions. This is however not always true, since increasing MTBV ratios disprove that markets are fully efficient and that all information is available in stock prices (Clarke et al, 2001, p. 19-20; Malkiel, 2003, p.68). Nevertheless, research indicates that when investors need information it all depends on whether they are intellectual investors or individual investors. Since intellectual investors have all the tools necessary to obtain financial information, individual investors are however more vulnerable in being misinformed because they do not have access to the tools which will provide information on how much an intangible is valued (Edvisson & Malone, 1998, p. 25). Nevertheless, brands are still the image of a company and are regarded as assets that contribute to company success. A brand and what it represents is one of the most important intangibles within a company as it contributes to competitive advantage and an increase in earnings which are above those created by tangible assets (Aaker 1991, p.14; Lane & Jacobson, 1995, p.1).

Brand equity has been receiving special attention since the 80's. The term, which can be referred to as brand value, describes the assets and liabilities that are connected to the name or symbol of a brand (Aaker, 1991, p.26). Any changes in either may lead to a negative effect on this assets and liabilities, partially because the assets and liabilities comprise of categories that generally add or detract costumer value (Aaker, 1991, p.26). Thus, companies should be careful when managing brands because good brand management may result in higher profits, intensification of brand loyalty, attract new customers or recuperate old ones, strengthens the company's position in the distribution channel and lastly it may also strengthen its competitive advantage (Aaker 1991, p. 27). A strong brand value is therefore positive and beneficial for investors and shareholders. Firstly, brand equity is a significant component of shareholder value. Management is responsible of administrating shareholder value by strategically increasing company value. If company value is high, shareholders will receive higher investment returns. This implies that shareholders will judge management based on company value and how much they will get in return (Jahdi & Ackidilj, 2010, p.275). Secondly, Jahdi and Ackidilj (2010, p.268) also claim that brand equity, is a determining factor of initial investment decisions and stock choices. It provides investors, specifically individual investors, with necessary information which will only benefit the company in the future. The study further explains that because IAS 38 restricts this value from being reflected on the balance sheet, financial statements may give the impression of being more adaptable for institutional investors. Thus, brand equity is not being handled properly because management continues to concentrate on strategies that fail to benefit the brand in the long

run. Among these strategies is the usage of cash flows and short-term profits as performance parameters (Jahdi & Ackidilj, 2010, p.268). Because these strategies, companies miss the opportunity to evaluate and capture the benefits marketing activities might create. By failing to capture these benefits investors will not be able to get a correct insight on the company's true value (Kothari, 2001, p. 108).

Previous studies indicate that brand equity that positive stock returns are one of the many benefits this asset can contribute to a company. Studies by Simon & Sullivan (1993, p.2) Basgoze et al (2016, p.1266) show that companies with a strong brand equity generate positive stock returns because marketing activities are reflected on stock prices. In a study by Basgoze et al (2016, 1254), the authors tested the relationship between abnormal earnings and brand equity announcements. Based on the results, the authors concluded that companies included in Brand Finance's list of Top 100 Turkish Brands gained positive abnormal returns 7 months after each brand announcement. Other studies have come to similar conclusions about companies obtaining positive returns because of brand equity (Johansson et al, 2012, p. 235).

1.3. Research problem

1.3.1. IAS 38 accounting standards and Intangible assets

As mentioned, current accounting standards prohibit brand equity from being disclosed as an intangible asset on the balance sheet. Brand equity is not recognized on the balance sheet unless it fulfills the recognitions criteria. Items that are usually disclosed on the financial statement are required to meet the following criteria: reliability, relevance, measurability and definition. In accounting, only tangible assets are considered to meet these criteria which may also explain why brand equity is often excluded from as an item on the balance sheet (Yongkui, 2013, p.2505).

Intangible assets are defined by IAS 38 as identifiable non-monetary assets without any physical substance (IAS 38, 2008, p. 8). Identifiable is a term which refers to intangibles that are controllable or generate future economic benefits. Additionally, intangibles are only recognized when they are readily available, which means they can be easily identified and generate future profits. Meanwhile, the term controllable explains that an entity can control its assets it means that it will be able to acquire future economic benefits generated by the intangible. Moreover, for an intangible to be considered identifiable it needs to be separable, which entails that entities can separate it, sell it, transfer it or rent it. The term further describes that an asset is identifiable when it arises from contractual or legal agreements even if those agreements are transferable and separable from the entity (IAS 38, 12-13, 2008, p. 10). Current IFRS/IAS standards advice companies to apply either the revaluation or cost model to evaluate brand equity. As stated in chapter 1.2.2 the revaluation model measures brand equity at its fair value while the cost model measures it at its initial cost minus accumulated amortization and impairment losses (IAS 38 (2008, p. 18, 74). Because brand equity does not have an active market, these models make it more complicated to evaluate it properly. As stated in chapter 1.2.2 it is very uncommon for brands to exist in an active market (IAS 38, 2008, p.77).

As mentioned above only intangibles with a readily accessible value and which can provide future economic benefits for the company are recognized on the balance sheet. Hence, why external intangibles are recognized, and internally generated intangibles are not. This exclusion is a problematic because companies are omitting enormous amounts of value that

can be helpful for investors when making economic decisions. The omission of intangible assets from financial statements leads to information asymmetry between investors and managers of the firm. Since the market for intangible assets is inactive, meaning there are few markets for them, investors must rely on expensive valuation techniques that require collection and analysis of unstructured data (Barth et al, 1997, p.2, 6). A financial statement is supposed to be transparent and accurately reflect this value. Since investors are the primary users of financial statements the problem becomes more substantial as this is where they gather information which will help them base economic decisions (Kothari, 2001, p. 108). Studies claim that the omission of intangible assets has affected the relevance of financial statements (Cañibano et al 2000, p.103). A clear sign of this is the expanding gap between the market value and the book value of equity on the balance sheet.

As mentioned, previous studies (Edvisson & Malone 1998, p.22) stated that 40 % of the market value of companies in the US is not reflected on the balance sheet. According to Cañibano et al (2000, p.103) this gap is revolutionary and a clear indication that traditional accounting methods must be modified. A modification would result in accounting standards including intangible assets on the balance sheet and eventually increase the relevance in accounting information. By modifying financial statements, not only will investors gain from it, but shareholders will also benefit from it. Within accounting, the most common and simple way to evaluate the assets of a company is by calculating assets minus liabilities, which is equal to the book value of equity. Since intangible assets like brands are missing from these calculations, companies fail to provide all relevant information that creates shareholder value (Francis & Shipper 1999, p. 323). Considering that previous studies indicate a positive relationship between intangible assets and stock returns, it is therefore important that brand equity is recognized like any other asset.

According to Gelb and Gregory (2011, p. 13) recognizing brand equity on financial statements will highlight significant financial results for investors and improve their evaluation of a company. It will furthermore serve as an incentive for managers to make better decisions by tracking the value of the brand. The authors imply that brand equity will help managers determine an appropriate marketing budget. Moreover, Gelb and Gregory (2011) state that because brand equity is not recognized management will decide the marketing budget on previous year's spending or instinctively (Bely & Gregory, 2000, p. 15-16). A study by Denicolai et al (2015, p.221) also made similar claims, maintaining that companies that spend more on intangibles and marketing activities develop superior core values. This was also previously stated by Edvisson & Malone (1998, p. 52) in which the authors indicated that intangibles are the drivers of core value in a company and are therefore a significant part of its performance.

1.3.2. Stock performance and Brand Equity

It is through company performance that investors will make their financial decisions. Therefore, maximizing investors future returns and increasing the company's market value is one of the most important things within enterprise management (Basgoze et al, 2016, p. 1253). There are numerous ways in which investors can evaluate a company. As studies show, stock returns are one of them as it informs investors on how much profit they will obtain from an investment. The fact that brand equity has been proven to generate positive returns, demonstrates that investors will gain even more if companies disclose this information on the balance sheet. Basgoze et al (2016, p. 1254) state that companies who consistently invest in their brands experience an average return of 30 %, while companies who have a decreasing

brand value experience a 10 % loss. This, according to the authors is an indication that brand equity can create tangible results for a company as it has a positive effect on stock prices.

The positive relationship brand equity and stock returns have increased interest among researchers. As mentioned in chapter 1.1, intangible assets can also serve as a reference for research to judge the relevance of accounting information (Oliveira et al, 2010, 243). In this case the stock market is of importance because of the positive effects brand equity is thought to have on stock returns. Stocks, according to efficient market models, are supposed to reflect all available information and lead investors to act rationally (Lawrence, 2007, p.161). This means that investors will not seek any arbitrage opportunities because they have all the information they need. However, studies on intangible assets and its relation to brand equity is proving the opposite behind this assumption and one may wonder how much information is available (Clarke et al, 2001, p. 19-20; Malkiel, 2003, p.68). Considering that brand equity and other intangible assets are not included, this omission may lead to a certain degree of information asymmetry in which investors are not well informed on how well the firm is performing. As stated by (Ghosh & Wu, 2007, p.231), if information regarding intangibles is disclosed more often it will meet investors needs and reduce information asymmetry on the capital market. Seeing that brand equity is perceived as one of the most powerful intangibles a company possesses its exclusion from financial statements and the constant increase of the MTBV ratio might be an issue. As mentioned in chapter 1.1, MTBV ratios have been excessively high, which may lead investors to undertake poor economic decisions by not knowing a stock's true value. Therefore, it is of interest to study brand equity's relationship with stock performance

1.3.3. Research gap

As Nordic countries are constantly investing in intangible assets (OECD, 1998, p. 36; 38), it is of interest to conduct a study that scrutinizes brand equity and its relationship to the stock performance of listed Nordic brands. Firstly, because most research on brand equity has been conducted outside of Europe. Unlike, Basgoze et al (2016) these studies have used different items from the financial statement and proclaimed them as brand equity. However, recent studies based brand equity on information from brand valuation consulting firms. One of them was conducted by Basgoze et al (2016, p. 1266), where the authors scrutinized the relationship between the brand equity announcements of Turkey's top 50 brands and abnormal stock returns. In the study, the authors made an event study methodology which is specifically applied for research on market reactions to specific events. The methodology by Basgoze et al (2016, p. 1257) was based on examining cumulative abnormal returns 7 months after the announcement occurred. The main conclusion of the study was, as previously mentioned, that the market has a positive reaction to brand value announcements 7 months after the announcement and confirmed that investors earn higher stock returns (Basgoze et al, 2016, p. 1266). The fact that brands are considered to have such a powerful influence is motivation enough to study its relationship by including other financial metrics beside stock returns. The stock performance in this study therefore consists on stock returns and other financial metrics that investors consider useful when evaluating a firm.

Secondly, this type of study will cover a research gap in the sense that it has never been conducted other European countries. It is therefore of interest to study the stock performance by including ratios like the MTBV. A reason is because stocks can be a direct reflection of how the market is currently valuing the firm. Thus, Stock performance is connected to the performance of a company and reflects market value not only in stock returns but also through specific ratios like ROA, ROE, MTBV, P/E ratio and EPS (Aora & Huselid, 1995, p. 652;

Arora & Chaudhary, 2016, p. 94). These ratios are important for both investors and shareholder's when evaluating a company. According to Isberg and Pitta (2013, p.65) ratios like ROE and ROA can provide meaningful information regarding brand equity, which means that financial managers can find simple ways of quantifying brand equity with these ratios. The same can be said about the EPS and P/E ratio, which have been claimed to have a positive relationship with brand equity and other intangible assets (Abudy & Lev, 1998, p. 188; Malkiel 2003, p.68; Chaudhary 2016, p. 94). By studying the stock performance of the company, it will also give an insight if brands are important enough to be recognized on the financial statement. As stated above, the stock performance of a company is directly linked to its profitability, which strengthens my reasons to study this relationship. Studies have already demonstrated that brands have a positive impact on future earnings, shareholder value and stock returns (Aaker 1991, p.14; Francis & Shipper 1999, p. 323; Lane & Jacobson, 1995, p.1; Basgoze et al, 2016, p. 1266). Furthermore, it is important to study the relationship to stock performance because investors may believe that high MTBV ratios generate higher returns. However, the misleading ratio might indicate the opposite. Seeing that brands are credited to generate future earnings; investors need accurate information that gives them an insight on both historical and future stock performance to compare previous investments with current ones. From what has been mentioned above and in section 1.2, the relationship between brand equity and stock performance in Nordic markets is a research gap that needs to be scrutinized.

1.4. Research purpose and Research question

The purpose of this thesis is to study if Nordic brand equity affects stock performance. By studying this relationship, the thesis also aims at scrutinizing whether this relationship generates positive returns for investors assuming brand equity was recognized on the balance sheet. As mentioned in section 1.2, brands are believed to reflect company value through stock performance and therefore it is important to study this relationship. Furthermore, since investors may lack information on how much a brand is valued, this study will examine if it is possible for investors to evaluate a company's stock performance based on brand equity. It should be mentioned that this relationship will be scrutinize whether it is positive or negative. Furthermore, since several studies have concentrated on stock returns then other significant performance ratios like P/E, MTBV, EPS, ROA and ROE have also been included.

Furthermore, this type of gap has not been addressed for a Nordic market. Seeing that this market is claimed to constantly invest in intangibles, which has led to economic growth for the area (OECD, 1998, p. 36; 38), it is therefore of importance to further examine brand equity. Moreover, Basgoze et al (2016) only addressed this issue by studying Turkish companies; which clearly indicates that there is a gap regarding Nordic companies. Since their study was based on information from the brand consultancy firm Brand Finance, it was only natural to base this study from a similar source and use brand equity from Nordic companies listed on the firms' website. Based on the background, research problem and research gap, a research question was therefore outlined as follow:

How is brand equity affecting the stock performance of Nordic companies listed on Brand finance in the period 2012-2016?

1.5. Delimitations

As stated in section 1.1, this study focuses on Nordic markets only. Therefore, only brand equity from companies listed in Finland, Denmark, Sweden and Norway has been included. Other countries within the Nordic region were excluded because this thesis solely focused on

those listed on Brand Finance. As stated in section 1.2.1, Nordic countries have positioned themselves in the Regional European Growth index as one of Europe's fastest growing economic regions, which has resulted in a growing interest in the area among foreign investors (Mokrane et al, 2016, p.22). According to Bergström et al (2016) reasons behind the rapid growth are constant investments in R&D, increased export demands, increased manufacturing business and high wealth levels. The European Regional Index also states that Nordic countries, in comparison to other European countries, have the highest rate of human capital investments. This demonstrates that the region perceives intangibles assets as a significant and valuable investment. However, the report from the European regional index indicated that most investments' goes solely to human capital. Therefore, I became interested on brand equity and stock performance in this region because as it will contribute further insight on brand equity and stock performance.

Furthermore, the study concentrates on a specific period. Since Brand Finance only contained information from 2013-2016, it became an obvious and appropriate time frame. Moreover, the study was limited to 10 companies only. Even though the original list consisted of 50 companies, this study was based on 10 companies because Brand Finance only publishes information on the top 10 companies for free. To get a complete list one must pay a fee. I believe that 10 companies for the period of 2013-2016 was enough to conduct the research. According to Saunders et al. (2000, p.155) a research that consist of a small data sample can be compensated by including more variables that will add more data. Since this research analyzes the stock performance, dependent variables like MTBV, ROE, ROA, ROE, P/E, stock return and EPS were tested against brand equity for the period 2013-2016. This required statistical tests made on a total of 160 observations. It's also worth mentioning that the definition of Stock performance for this study consists was based on the above mentioned dependent variables.

As previously mentioned, a company's market value is not only reflected in stock returns but also in ratios like MTBV, P/E, EPS ROA and ROE, (Aora & Huselid, 1995, p. 652; Arora & Chaudhary, 2016, p. 94). For example, ratios like ROE and ROA can provide information on brand equity, which means that financial managers would be able to quantify brand equity in a much simple way (Isberg & Pitta (2013, p.65). Since brand management is important for operating strategies within a company, Isberg and Pitta (2013, p. 66) claimed that brand management strategies are key drivers of ROE and ROA. The authors explained that these variables are important when measuring brand equity because they are driven by a company's financial strategies and operational performance. Furthermore, Basgoze et al. (2016, p.1266) mentioned that it would be interesting to study brand equity by including other variables like ROE and ROA, which further motivated my inclusion of other variables.

1.6. Disposition

This study consists of eight chapters. It has been divided in eight so that readers are able to understand the empirical results and analysis in separate sections. This will make it easier for them to comprehend how brand equity and stock performance are related to each other.

Chapter 1. Introduction

In this chapter, readers will be introduced to intangible assets and brand equity. To better understand the current situation with brand equity, a background on intangible assets is provided. Furthermore, the chapter gives further insight on brand equity and stock performance in the research problem. This specific section will discuss previous research and

then outline the research problem which will conclude with the research gap. After this section, readers will be introduced to the main research purpose and question.

Chapter 2. Theoretical Methodology: This chapter is a methodological continuation of chapter 1. Seeing that no methodological discussions were done in chapter 1, the second chapter starts by explaining perspective and preconceptions. It also includes the main research philosophies, epistemology and ontology. Readers are also introduced to the chosen research approach, research methodology, and research design and research strategy of the study. Lastly, the chapter concludes with a literature discussion and the social, legal and ethical implications of the study.

Chapter 3. Theoretical Framework: This chapter includes the study's main theories, which will give readers a better insight on brand equity and stock performance. The section on brand equity will first introduce the reader to the term and how previous research defines it. Later, the term is divided in to four elements which are from Aaker's infamous brand equity definition. Since stock performance has a broader definition, the section has been divided accordingly by first discussing the stock returns, EPS, P/E, MTBV, ROA and ROE. Moreover, each section of stock performance is summarized into the hypotheses which are later tested in chapter 4. Seeing that stock performance is a significant subject, financial related theories like the EMH and AMH were included. Moreover, terms like information asymmetry and financial disclosure also form part of chapter 3.

Chapter 4. Practical Methodology: Chapter 4 is a practical version of chapter 2. In this chapter the research philosophy, approach, methodology, design and strategy have been put into practice. The chapter firstly introduces readers to each company and motivates the exclusion of other companies. The chapter further includes an operationalization in the form of hypothesis, which were linearly regressed and at some point correlated with Spearman's rank. Each variable is presented in descriptive statistics and tested with a two-tailed hypothesis. The tested hypotheses are summarized in tables covering results from the regression analysis and correlation.

Chapter 5. Empirical Findings: In this chapter readers are introduced to the empirical findings. The chapter is divided into three sections in which the first gives a descriptive description on each variable. Thereafter each variable's hypothesis is introduced in section 5.2.4 and 5.2.5.

Chapter 6. Analysis: In this chapter, the hypotheses are at their last stage of deduction, which implies that the theoretical framework and empirical findings are linked to make an analysis. The chapter provides an insight on whether there is a relationship between brand equity and stock performance in the Nordic region during 2012-2015.

Chapter 7. Conclusion: Chapter 7 finally concludes what has been analyzed in chapter 5. Here, the readers will find out whether the research purpose was achieved based on the empirical findings. The chapter is divided into four sections: conclusion, methodological limitations, research contribution and suggestion on further research.

Chapter 8. Truth Criteria: Includes the study's truth criteria. Here readers will find out about the reliability, validity and transferability of the study. The first discusses the repeatability of the study, while validity discusses its generalizability. The chapter later concludes with ethical considerations.

2. Research Methodology

This chapter introduces readers to the main perspective and preconceptions of the study. Moreover, readers are introduced to the research philosophy, research approach, research methodology, research strategy and research design of the study. Lastly, the chapter concludes with a literature review and the social, ethical and legal precautions that were undertaken throughout the study.

2.1. Perspective and Preconceptions

The main perspective of this study was that of investors. Seeing that brand equity and stock performance is a well debated topic, it was therefore an optional perspective to undertake. Even though the issue of brand equity is debated within accounting and marketing, I believe that an investor's perspective represents both fields. One reason is that brand equity is not just a marketing related topic but also an accounting and financial topic. As mentioned in chapter 1, both the marketing field and accounting field perceive brand equity differently. While marketers are more interested in what value brand equity can provide shareholders, accountants are more interested in whether brand equity fulfills its purpose on through the financial statement. This means that accountants have a standard setter's perspective on the topic, which is that of brand equity not being considered as an asset under IAS 38. Nevertheless, studies claim that disclosing the intangible on financial statements might be advantageous for companies as it might lead them to reach a superior performance (Tan et al, 2007, p.91).

Both the accounting and marketing field are linked to investors and stock performance because of financial statements and its usefulness for investors when doing financial decisions. This has been made clear in section 1.2, where it was stated that the omission of intangibles has affected the relevance of financial statements and since these assets are not being recognized the increasing MTBV ratios have led to debates claiming that the omissions might have something to do with it (Cañibano et al 2000, p.103; Edvisson & Malone, 1998, p.22). This further strengthened my motives in undertaking an investor's perspective because it will answer not only an accounting and marketing related issue but also one related to the financial market. It can also be mentioned that since shareholders are also important the investor's perspective will manage to address them as well. As mentioned increasing MTBV ratios are not just a concern for investors but also for shareholders. Seeing that the calculation of MTBV consists of shareholder's equity, it's only natural that the investors' perspective will illustrate them as well.

When it comes to the study's preconceptions, Saunders et al. (2009, p.116) state that the term clarifies how researchers are affected by values, knowledge and practical experiences. The preconceptions of this study may be affected at some degree but not entirely. As an accounting student, I did extensive reading regarding brand equity, intangible assets and stock performance to get a better understanding on the subject. Seeing that I am not a marketing student, knowledge on brand equity was acquired through research articles and books related to the subject itself. The same can be said about stock performance and intangible assets in which some of the knowledge was acquired through previous articles and books. However, since I am an accounting student I also managed to attain knowledge from previous accounting lectures.

Saunders et al (2016, p.116) mention that practical experiences can also affect the outcome of a study. Considering that I do not carry previous experience of working in brand management related fields as well financial fields, I can attest that no practical experiences have affected

the outcome of the study. Instead, my knowledge on brand equity as well stock performance was based on previous research and lectures. Therefore, I have managed to be objective throughout the study. Hence, why the analysis and conclusions are solely based on information gathered from previous research and other information obtained from DataStream and Brand Finance.

2.2. Research Philosophy

2.2.1. Ontology and Epistemology

Before a study is conducted, researchers must take into consideration their philosophical perspective. Two philosophical perspectives researchers ought to be aware of are: Ontology and Epistemology. These are, according to Bryman and Bell (2015, p.6), ingredients that influence a research process.

The first philosophy, ontology, is the starting point of research (Grix, 2002, p.177). Ontology describes the nature of social reality whether the assumptions are objective, subjective or continuously constructed by social actors (Long et al., 2000, p.190). Ontology can be divided into two main perspectives; constructionism and objectivism. The first perspective implies that social reality is subjective, which means that one can get a better understanding of social actors when interacting with them (Bryman & Bell,2015, p.32-33; Long et al., 2000, p.190). However, this perspective was not chosen for this study. Firstly, this study was conducted with quantitative data (see section 2.4), therefore constructionism was not an optional perspective. Quantitative data is mostly based on secondary information that enables researchers to study social subjects from a distance, which is why that no social interaction occurred while conducting this study. As stated in section 2.1, the perspective undertaken was that of investors; however, there were no interactions with them. Instead, the perspective was sustained by studying brand equity and stock performance through secondary data.

Therefore, objectivism was a more suitable ontological perspective. Its definition is the opposite of constructionism. While constructionism is based on subjective interactions with social actors, objectivism aims at studying them from a distance (Grix, 2002, p.177). It implies that researchers are independent of social reality when putting the term into practice (Bryman & Bell, 2015, p.32; Long et al., 2000, p.190). As mentioned, this study was based on examining the relationship between brand equity and stock performance through an investor's perspective. It entails that through secondary data, which was later tested with hypotheses, an understanding of brand equity and stock performance relationship was acquired through empirical results. Additionally, since secondary data was used, it was not influenced by me. The secondary data used in the study was obtained from DataStream, a financial database that provides financial information of companies from all over the world. Seeing that companies freely disclosed this type of information and that it was already available on DataStream, is an indication of my independent stance as a researcher towards social reality. In summary, I had no influence on the data disclosed by the companies used in this study. Furthermore, since a heteroscedasticity test was conducted (see section 4.6) and data was left in its original condition, which is recommended by Saunders et al (2009, p. 469), further indicates my objective perspective.

When it comes to epistemology, it is a term derived from the Greek words *episteme* (knowledge) and *logos* (reason). In other words, the term is a philosophical perspective that focuses on the process of gaining knowledge (Grix, 2002, p.177; Saunders et al, 2007, p.102). Epistemology can be divided into two perspectives, interpretivism and positivism.

Interpretivism is a perspective in which the researcher gains knowledge through social actors' point of view. According to Saunders et al (2009, p. 116) interpretivists are always trying to gain more knowledge by entering social reality to understand the differences between humans and their role as social actors. As stated, the main ontological perspective of the study was that of objectivism. Seeing that objectivism requires researchers to study social actors independently, an interpretivist point of view was therefore not undertaken. This study does not aim at understanding brand equity and stock performance through personal interactions with investors. Instead knowledge of brand equity and stock performance was expanded through previous research and secondary data. Therefore, a positivist approach was undertaken.

Positivism aims at gaining knowledge through the natural sciences and is, according to Long (et al,2000, p.190), theoretically accessible. Like objectivism, a researcher with a positivist perspective acquires knowledge through an objective point of view and does this by conducting quantifiable observations (Bryman & Bell, 2015, p.27Saunders et al, 2000, p.85). Seeing that this study was based on the relationship between brand equity and stock performance, knowledge was obtained through data, as well articles that were later quantified in correlation analysis as well regression analysis. Since positivism is a theoretical accessible perspective, the quantifiable data in the study was therefore analyzed with a theoretical framework based on previous research on the subject.

Undertaking a positivist and objectivist stance was necessary for this study. Before conducting a linear regression and Spearman correlations, heteroscedasticity tests and normality tests were applied to get an understanding on the variables current linearity and distributions. Through these tests, I was informed on which outliers might affect the empirical results. To get a more objective stance on this matter, I consulted an experienced academic within statistics which provided valuable information on how to effectively address the problem. Even though Saunders et al (2009, p.469) claim that researchers can remove outliers from the original data, I decided to leave the data in its original state. Firstly, because the level of heteroscedasticity was not an extreme one. Secondly, by keeping the original data, readers are informed that no level of manipulation existed throughout the study. Since an objective perspective was assumed, keeping the data in its original state was considered valuable.

Furthermore, the consulted academic indicated that by including an indicator variable results may not be as robust. This was also stated by Kiraci (2013, p. 44) that the standard in literature is to include indicator variables when outliers exist. Still, the author (Kiraci, 2013, p. 44) mentions that inclusion of indicator variables can affect the outcome of the study. However, in accordance to the academic's recommendations I decided to include the outlier, which is further discussed in section 4.6.

2.3. Research approach

There are three types of approaches that can be undertaken throughout a research: induction, deduction and abduction. Induction is assumed by researchers when studying a phenomena or human social behavior through physical observations (Saunders et al, 2000, p.88). As mentioned above, this study takes two philosophical approaches: a positivist and an objectivist approach. Since both approaches require that the subject or phenomenon being studied has no direct contact with the researcher (Saunders et al, 2000, p. 87), an inductive approach was not suitable for this study. Instead a deductive approach has been considered because brand equity and stock performance were studied indirectly, meaning data has been gathered to answer the research questions. According to Saunders et al (2000, p.88), this

approach is selected by researchers when the aim is not to create a new theory but to base results on an existing theory and empirical data (See figure 1). Since this study consists of a theoretical framework and the data has been obtained from Brand Finance as well DataStream, a deductive approach was chosen to answer the research question more effectively. Had an inductive approach been undertaken, the acquired data would not be linked to an existing theory; on the contrary, it would create a new one (Saunders et al, 2000, p. 88). A deductive approach, however, starts with a theory and concludes with empirical observations (Bryman & Bell, 2015, p.23-25). Moreover, Bryman and Bell (2015, p.23) as well Saunders et al (2000, p. 91) claim that when researchers assume a deductive approach they will use a theoretical framework that is based on the subject being studied and this will lead them to outline a hypothesis from it. Since this study contains a theoretical framework, hypothesis have therefore been outlined and tested with the help of statistical measurements.

Furthermore, Saunders et al (2009, p.91) considers deductive approaches to be more suitable when the study is based on explaining causal relationships between variables and to generalize results. As mentioned, this study aims at investigating the possible relationship of brand equity and stock performance. Therefore, a deductive approach enabled the possibility of choosing quantitative test were variables could be correlated and linearly regressed. Both tests are significant for this specific type of research questions. Lastly, a deductive approach was beneficial because it gives researchers the opportunity to generalize the results (Saunders et al, 2009, p. 89. As mentioned in section 2.2 objectivists as well positivist use numerical data to gain knowledge on social reality and its actors. With deduction researchers are not just being objective, but it allows them to focus on causalities and law like generalizations (Saunders et al, 2009, p. 119). Seeing that this study is quantitative (see section 2.4), generalization is one of its main elements. Therefore, by deducting the hypothesis, with the help of a theoretical framework, the relationship between brand equity and stock performance can be generalized. Even though the sample of the study is not large, the results can be generalized for the Nordic market.

Finally, an abductive approach was not thought out because it is a mixture of both induction and deduction (Saunder et al, p. 2009, p.129). The approach is used when not enough research on the subject exists. According to Bryman and Bell (2015, p.27), this entails that when researchers encounter a weakness behind induction and deduction, an abductive approach will fill arising limitations by considering both the social world for empirical ideas and existing literature. For this study, an abductive approach was therefore not undertaken because the empirical data is quantitative and as mentioned above, it is not aiming at creating new theories. Furthermore, since induction requires personal involvement with social actors, it was then excluded as a potential approach.

Figure 1: Summary of a deductive approach.

2.4. Research Methodology

When studying a social phenomenon, researchers choose between either a quantitative or qualitative methodology (Saunders et al, 2007, p.145). The first methodology can be linked to objective perspectives and natural sciences (Long et al, 2000, p.191). While qualitative research, can be linked to subjective descriptions of social actors. This means that researchers will be able to observe how individuals understand their social reality (Long et al., 2000, p19). Because this study undertakes a positivist, objectivist and deductive approach, a quantitative study was more appropriate than a qualitative one. Firstly, since the study was based on measuring brand equity and stock performance with two-tailed hypothesis a quantitative research was considered more suitable. Seeing that empirical results from the hypothesis can be generalized, this methodology was in accordance to the research approach, deduction, of the study. Secondly, the studies time frame was longitudinal which, according to Saunders et al (2009, p.155), is appropriate to use when researchers want to test specific variables over time. Seeing that this study was based on variables from 2012-2015, a quantitative methodology was chosen to measure the relationship between variables.

Furthermore, since I was independent from social reality, secondary data was collected from databases offered by the university library. Considering that I only had two months to conduct the study, the use of quantitative data allowed me to do it during this short time frame. Furthermore, the data was easy to obtain, which is an indication of my independence as a researcher. As mentioned in section 2.3, researchers with a positivist and objectivist perspective are mainly independent from the subject being studied and rely on knowledge from the social sciences. In this case, knowledge was attained from secondary sources like scientific articles, Brand finance reports and the financial database DataStream. Furthermore, as there was no physical interaction with investors the research purpose did not allowed me to implement qualitative techniques into the study. Even though an investor's perspective was undertaken, a quantitative analysis was better to measure the relationship between brand equity and stock performance. Seeing that this relationship is of interest for investors, the results obtained from each variable can still be linked to investors. One doesn't have to be near its studied subject to acquire knowledge regarding their social reality. Therefore, a qualitative study was not considered because it would have prevented me to scrutinize this relationship. Interviewing investors would not have given the answers needed because those answers would not statically prove this relationship.

2.5. Research design and Research strategy

Before conducting a study, researchers must establish a research strategy and research design. The term research strategy is defined by Saunders et al (2009, p. 140) as a technique one can assume when before initiating a study. Possible strategies one can assume are: surveys interviews and descriptive or exploratory studies. As mentioned in section 2.5, this study is purely quantitative, which lead me to use descriptive and explanatory statistics to answer the main research question. According to Saunders et al (2009, p.140), descriptive studies aim at depicting events or situations with secondary data. Seeing that this study is based on information from Brand Finance reports issued during 2012-2016, a descriptive study with a longitudinal approach was chosen as a research design. According to Saunders et al (2009, p.155), a longitudinal study is based on studying time frames and is mainly used by researchers when they want to study an event over time. Hence, this strategy has enabled me to describe stock performance and brand equity in the form of graphs and tables. It should be mentioned that to give the reader a descriptive view of the secondary data, variables like brand equity were summarized in tables and diagrams. For example, table 1 in section 4.1

summarizes the brand equity of Nordic companies during 2012-2016. The table will give readers a much better insight into how each company's brand has performed throughout the years. Furthermore, Saunders et al (2009, p.155) also explained that longitudinal studies consist of data waiting to be analyze, which makes it even more suitable for this study.

Considering that the relationship between stock performance and brand equity is of interest, an explanatory approach was also undertaken. Explanatory research is usually conducted when there is an interest in the relationship between variables (Saunders et al 2009, p. 140). This study was based on analyzing the relationship between a dependent variable, stock performance, and independent variable, brand equity. Furthermore, explanatory studies are conducted with statistical tests like correlation or regression (Saunders et al, 1997, p.78). Since, brand equity and stock performance are of importance correlation tests have been made to assess this relationship. It should be mentioned that correlation tests have been undertaken on performance ratios like EPS, P/E, MTBV ROA and ROE. One reason was the data's state of normality, which means that a non-parametric statistical test was used to measure each variable. According to Saunders et al (2009, p. 449) non-parametric statistical tests can be used when the data is not normally distributed. In this case a non-parametric statistical test will measure the variables similarly to parametric tests but assuming no normality. Furthermore, the limit theorem implies that normality can be assumed even when n=30 or <30. In this study, the data consisted of 10 Nordic brands which were observed for the period 2012-2016. This means that a total of 50 observations with the help of 6 dependent variables and one independent variable were made. However, the normality of the above-mentioned variables was still low, which entailed that a p-value under 0.05 required a rejection of the alternative hypothesis, that normality exists, and accepting the null hypothesis.

Seeing that some variables. EPS, P/E, MTBV ROA and ROE, were not normally distributed, so a non-parametric correlation was used to test brand equity's relationship to stock performance. As SPSS does not include much non-parametric correlation tests, the most recommended, Spearman's, was used to measure this relationship. Spearman's test is like Pearson's correlation except that it ranks the data, which means that data needs to be categorical. However, a study by Clarke et al (2011, p. 518), which measured the relationship between intangible assets and firm performance, from Australia used Spearman's correlation test to obtain the causality between variables like ROA and ROE against an independent variable for intellectual capital called VAIC. Since Clarke et al used Spearman's test for their study it was therefore considered reliable enough to answer this particular study's main research question as well.

As mentioned, Basgoze et al's (2016) study only measured stock returns based on abnormal returns through an event study methodology. In this study however a much different approach was undertaken because of limitations that arose while obtaining the data. One main limitation was obtaining enough information on brand equity issued on Brand Finance's top 50 Nordic brands. Since the valuation firm requires a fee to access a complete report, I decided to assume a rank of Top 10 Nordic brands, which entails that only brands that appeared on the reports were included. In this case 10 brands. The study of Basgoze et al (2016) aimed at investigating the relationship by doing an event study methodology to study the market's reaction to brand value announcements on Brand Finance. The authors designed this by selecting stock returns as dependent variables and brand value announcements as independent variables. My study was, however, strategized differently than Basgoze et al. While the study is partially based on theirs, it has excluded certain parts that were used by the authors. Firstly, this research is not based on measuring brand equity and stock returns through an event study methodology. Instead, a linear regression model was created which

will test the relationship by using the time frame 2012-2016 as an indicator variable. Since this study measures brand equity and stock performance relationships among companies listed in the Nordic stock exchange it was therefore considered an appropriate approach. Firstly, because the data was not large enough to examine each brand separately. As stated, only ten companies were included and because of these limitations, there were fewer observations. Therefore, by analyzing the time frame 2012-2016 more observations were obtained.

As mentioned above, Basgoze et al (2016) carried out an event study methodology which means that stock returns from this study were tested against brand equity issued on Brand Finance. Since access to complete Brand Finance reports was not possible an event methodology was therefore not conducted. Instead, correlations were a solution that could provide information on the relationship between brand equity and stock performance by extending the data with even more variables. As stated in chapter 1, Basgoze et al (2016) had based their study on abnormal stock returns and suggested that future research could expand their findings by including other variables like ROA and ROE.

Moreover, this study used linear regression to test stock returns against brand equity. Considering that Spearman's correlation was used to assess the relationship between EPS, ROE, ROA, P/E and MTBV a different strategy was designed for stock returns. Firstly, the normality test for stock returns provided a value of $p>\alpha=0.05$ (see section 4.5) which meant that the data was normally distributed. Seeing these results, a linear regression was conducted instead. Secondly, a linear regression was also chosen to test stock returns because it provides more information on the linearity between both variables. This means that it gives a better representation on whether changes in the dependent variable are related to the independent variable. As mentioned, Spearman's correlation was specifically chosen because the data was non-parametric, had it been parametric a regression analysis would also have been used since this is one of the most popular statistical tests when it comes to studying the relationship of an intangible asset and stock performance.

Moreover, when conducting the regression analysis, a heteroscedasticity test was done to find out the variance among the dependent variable and independent variable. As stated in chapter 4, since the stock return data had somewhat heteroscedastic inclinations, unnecessary outliers were removed to not disturb statistical outcomes. Therefore I decided to design the regression of stock returns by having an indicator variable. Seeing that there was still some minor heteroscedasticity in the data, indicator variables can be used to mitigate the influence some outliers may have on the results. Since stock performance is being studied during 2012-2016, this time frame was considered as an indicator variable instead. See section 4.6 for more information on heteroscedasticity.

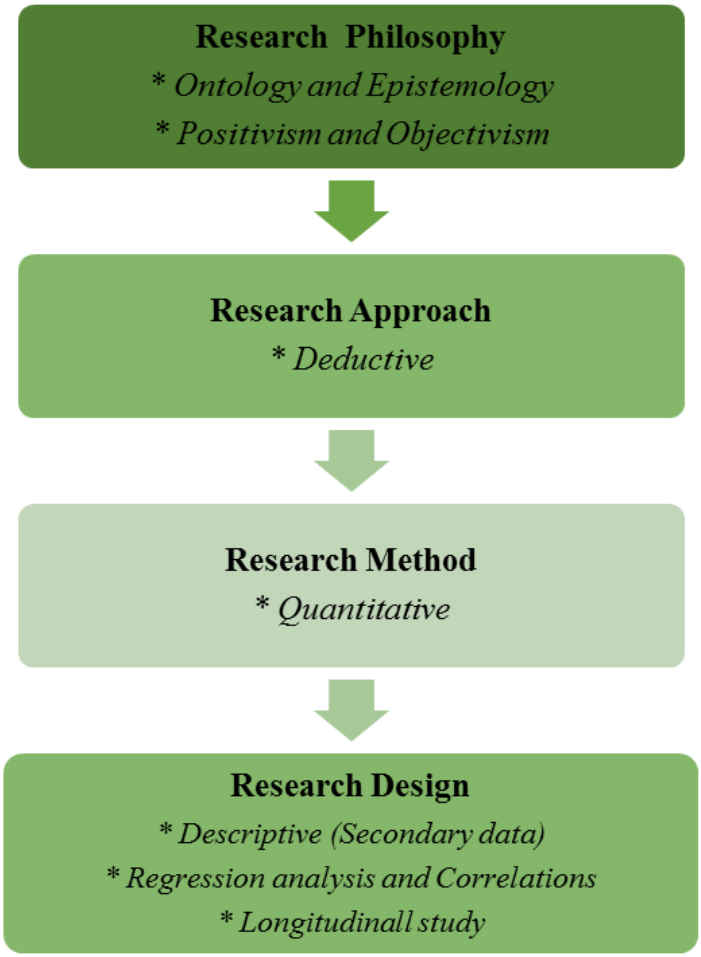

Figure 2: Summary of Theoretical Methodology.

2.6. Literature discussion

Considering that this study was based on quantitative data, majority of the sources were therefore secondary. This means that majority of the study consist of quantitative data and literature that has been available on different databases. The articles used in this study have for example been obtained through recommended databases from Umeå University's library. Among the databases used to find reliable secondary sources were: Business sources Premier (EBSCO), Science direct, Emerald Science and the university library's search engine. It can also be added that books regarding brand equity were partly used in this study. Even though some of the books are not easily found on scientific databases I still considered them reliable enough. Firstly, books by Aaker, along with previous scientifically reviewed articles, were used to get an understanding on brand equity. The term brand equity was first popularized by Aaker in the 1980's with the book *Managing brand equity*. Seeing that this book was a catalyst for researchers to further study brand equity and its connection to company performance, it was therefore considered as a significant and reliable source. Another source used was Jeremy Siegel's *Stocks for the Long Run*. Since the book is about the financial market, some of the information was included in the theoretical framework. Since this study has treated stock performance in a broader definition, some information regarding variables like EPS, P/E, MTBV ROA and ROE was used to get better acquaintance with the subject.

When it comes to scientifically reviewed papers, I made sure that each source had a considerably objective perspective in terms of brand equity and stock performance.

Considering that this study assumes an objective approach, in which data has been gathered through sources that have not been tampered nor manipulated by the authors, it was important that previous research also had similar considerations. As mentioned, this study is partly based on Basgoze et al (2016) research on brand equity's relationship to stock returns. Considering that the authors mainly used stock returns, my study assumed a different approach by using stock returns and performance ratios to measure the relationship. My considerations are that Basgoze et al (2016) managed to be objective through gathering and quantifying the data.

Another source considered reliable was the valuation consultancy Brand Finance. As mentioned in section 1.2.2, Brand Finance is a certified ISO brand valuation consultancy firm, which implies that their brand equity was reliable enough to include in this study. Furthermore, the firm is responsible of issuing transparent brand valuation reports that are available for everyone. The information included in their reports has been estimated by individuals with vast experience in finance, marketing, management and accounting (Brand finance, 2017). Moreover, since the companies whose brands are being estimated are not directly involved in measuring brand equity, it makes the reports less biased. This means that Brand finance does not collaborate with any company when making these estimations. Furthermore, the firm is also considered reliable because it was used in Basgoze et al (2016) study on brand equity announcements for Turkey's Top 100 brands and its relationship to abnormal stock returns.

2.7. Social, ethical and legal implications

When doing a study, researchers must take social, legal and ethical implications into consideration. Saunders et al (2009, p. 160) explain that these considerations clarify unto what extent a research design can affect a population that is unaware that it's being analyzed. A good researcher is therefore responsible of taking ethical, social and legal aspects into consideration and be aware of the possible implications the study may cause on others. As an author, I can assure that no ethical, social or legal aspects were violated. The study has not been of any threat to either the companies or the brand valuation consultancy firm Brand Finance. Firstly, seeing that financial data was available on DataStream indicates that companies willingly shared this information. According to Saunders et al (2009, p. 190), researchers ought to make sure companies or organizations being studied grant access to specific information. Since DataStream uses information that most public companies already published, access to data was therefore automatically granted. This means that I used information which was already available and not confidential information which the companies otherwise did not disclose. The same can be said about IAS/IFRS standards which are already published for the accounting field to use.

Company whose information was not available on DataStream and which appeared as private, like IKEA, were excluded and no further financial information on them was used. This means that throughout the course of the study, unreliable information was not used to include more data. Therefore, the study will not pose any threats to either included or excluded companies. Secondly, considering that Brand Finance has published valuation reports on Nordic companies on their website also strengthens the argument that this study will not create any threats for the companies involved. Only 10 companies were included and their brand value in the study was from Brand Finance. Seeing that previous studies (Basgoze et al, p. 1254, 2016) used Brand Finance reports to assess the relationship between brand value announcements

and abnormal stock returns further proves that my study does not carry implications because previous research also used similar information as a reference. Thirdly, I am aware that company names have been provided; however, the results of the study will not affect any confidentiality. As mentioned majority of the companies are publicly listed on the Nordic Stock exchange and have, as public organization, disclosed financial information in terms of EPS, P/E, MTBV ROA and ROE. Even though the information was gathered from DataStream this performance ratios are also included in financial reports by the companies themselves.

Other aspect researchers must take into consideration is that of secondary sources used in the study. As previously mentioned this study was based not only on quantitative data but it also included secondary sources in the form of peer reviewed articles. Seeing that these articles were already published on scientific databases like EBSCO and Scientific direct it also indicates that the authors are consenting access to the articles. Furthermore, no copyright infringement occurred when using the articles as well books. To mitigate possible copyright violation, the Harvard system was used. The system is widely recommended at Umeå University and prevents researchers from including misleading statements. This means that statements regarding brand equity and stock performance are referred to academic sources which help mitigate misleading annotations and copyright infringement.

Lastly, researchers must discuss whether the study is financially supported or not (Millnert, 2011, p.76). Seeing that the study is not written on commission, it can be attested that the results will not be generating profits for any organization. The results will instead serve as a possible reference for masters' students or academics who further want to research the relationship between brand equity and stock performance.

3. Theoretical Framework

In this chapter readers, will get better acquittanced with the term brand equity and the study's own interpretation of brand equity. Moreover, readers will also be informed on the study's definition of stock performance in which stock returns, EPS, P/E, MTBV, ROA and ROE are presented. Furthermore, financial theories like the efficient market and adaptive market hypothesis are included and lastly the chapter will conclude with an explanation on information asymmetry and financial disclosure.

3.1. Brand Equity

As stated in section 1.2.2, brand value has sparked interest because of the positive returns and competitive advantages it brings to a company (Steenkamp & Kashyap, 2010). The term, brand equity, first emerged in the 1980's, (Wahlgren et al, 1995, p. 25) and was popularized by David Aaker in the book *Managing brand equity*. According to Walhgren et al (1995, p. 26), brand equity can be discussed from either a consumer or an investor perspective. Thus, the term is relatable and significant for different groups. For example, the authors discuss that from an investor's perspective brand equity is of importance because of financial motivations This means that investors are mainly interested in the financial value brand equity can provide them (Walhgren et al, 1995, p. 26). However, it is worth mentioning that investors are only able to obtain this value if the brand is meaningful for consumers. If consumers have no interest in a specific brand, then investors and other groups will lose interest as well (Walhgren et al, 1995, p. 26).

Brand equity is usually defined as assets and liabilities linked to a name or a symbol (Aaker, 1991, p.26). Since these assets and liabilities are highly important, changes in a brands name or symbol may negatively affect brand equity (Aaker, 1991, p.26). Aaker divided these assets and liabilities into five elements: brand awareness, brand loyalty, perceived quality, brand association and other proprietary brand assets like patents, trademark, channel relationships among others (Elangeswaraan & Ragel, 2014, p.39). While the first four lean more towards a product-centric concept, the last element is concentrated on the service side of brand equity. According to Brody et al (2006, p.366), Aaker pays little attention to the fifth element and focuses more on the first four. Therefore, the last element has been excluded from this theoretical framework as well (see figure 3 below).

3.1.1. Brand Awareness

Brand awareness relates in recognizing or recalling the brand of a certain product (Aaker, 1991; Kotler et al, 2004, p.217). Two different aspects play significant roles in the development of brand awareness: Brand recognition and Brand recalling (Percy & Rossister, 1992, p.264). Brand recognition is about identifying a brand among other brands, while brand recalling entails remembering a specific brands name because of a specific product (Chi et al, 2009, p.135-136). Kotler et al (2004, p. 217-218), claim that if a brand gains this type of awareness among investors it will not only enhance brand equity but also increase the stock price.

According to Chi (2009, p.136) brand awareness can be distinguished from a deep or wide perspective. The term deep aims at making consumers recall a brand more easily, while wide refers situations in which some consumers purchase a product and will link it to a specific brand. Furthermore, if a brand is both deep and wide at the same time, consumers recall a specific brand when deciding to buy a particular product. This means that awareness supports a brand in increasing consumer preferences, which means that high brand awareness reflects high market share and quality estimation. Thus, brand awareness significantly affects

consumers purchasing decisions by influencing what brand meets their needs the most (Macdonald & Sharp, 2009, p.5). Eventually, when consumers are aware it creates positive results for the brand. As stated by Kotler et al (2004, p. 217-218), both brand equity and the stock price can be positively affected by brand awareness. Huang and Sarigöllü (2009, p. 92) also made similar statements, claiming that this type of awareness increases a brand's market performance.

3.1.2. Brand Loyalty

The second element within brand equity is brand loyalty. Aaker (1991, p.28) has previously mentioned that brand loyalty is significant when brand equity is enhanced because of its relation to returns on profit. According to (Yi & Jaean, 2003, p.231), consumers with a strong brand loyalty are known for repeatedly purchasing a specific brand. Thus, consumers may persuade family or friends to purchase products from the same brand as well. Therefore, it is considered an accomplishment when a brand manages to get loyal customers (Lau & Lee, 1999, p.341). Bloemer & Kasper (1995, p. 133) described this as a sign of true commitment. The authors explain that this type of commitment is internal and therefore individuals insist on purchasing from the same brand on multiple occasions. It is worth mentioning that consumers are not individual to these types of commitment.

A previous study (Schoenbachler et al, 2004, p. 489), on brand loyalty through individual ownership implies that investors are like consumers when it comes to loyalty. As stated above, brand equity is relatable to both investors and consumers. The mentioned study claims that investors are also brand loyal, but only to brands of companies in which they are stock owners. Schoenbachler et al (2004, p. 489), explain that this is typical among individual investors, which the authors define as shareholders. The brand loyalty among these investors is based on the potential growth, management and products of a company. Thus, investors who consistently use certain products tend to have a stronger brand loyalty towards companies in which they are stock owners (Schoenbachler et al, 2004, p. 489).

As mentioned brand loyalty has a positive effect on a consumer's purchasing decision. Studies indicate that purchasing habits of loyal consumers' increase when their preferred brand is advertised extensively (Hoeffler & Keller, 2003, p.434). The advertisements could be through coupons or price reductions. However, the study by Schoenbachler et al (2004, p. 489) states that this type of advertising does not signify brand loyalty; instead the authors consider it to be a reward. If companies want to keep consumers as well investors, it is important that psychological commitments are secured. This means that brand loyalty should be established by not providing any rewards but instead by strengthening the relationship between companies and investors (Schoenbachler et al 2004, p. 489).

To continue strengthening this relationship, companies must implement strategies that lead to high switching costs that can prevent investors from switching to other brands. This means that to retain a strong brand loyalty among consumers and investors, companies must implement either a psychological or financial risk that can prevent them from switching brands. In terms of financial risks, companies must make it more expensive for consumers or investors to abandon the brand even if they are not satisfied with it (Wen-Ha et al, 2011, p. 140). According to Aaker (1991, p. 44). Switching costs can serve as barriers that prevent consumers or investors from permanently abandoning the brand. The author further explains that as long that there are no obstacles or specific problems with the brand, consumers and investors will feel that other brands are worse than the current one.

3.1.3. Brand Association

The term brand association is linked to consumers' perception on a specific brand's attribute. This also means that brands with certain attributes can be easily remembered and consequently form a positive brand image (Elangeswaran & Ragel, 2017, p.40). However, Aaker and Jacobson claim that brand image perceptions may vary among investors if they depending on investment experiences. Nevertheless, brand association is an important element of brand equity which companies must develop by constantly implementing advanced brand identity programs that will help investors easily identify the brand. According to Kotler et al (2004, p. 220), in terms of investors this can be achieved when companies have a stable stock performance or high earnings returns. The authors maintain that it has been proven that investors associate brands from a financial perspective. Furthermore, the authors' claim that a positive stock performance and earnings returns provides emotional benefit to investors that a company is stable. It is worth mentioning that this depends on how consumers' associate and perceive the brand as well. If consumers change their opinion regarding a brand, investors will eventually do the same. According to Lane and Robertson (1995, p. 66), the stock market's reaction is linked to consumers' familiarity of a brand and managements capability to address market responses.

3.1.4. Perceived Quality

The fourth and last element is perceived quality. Perceived quality relates to consumers' overall perception on a product's quality (Aaker, 1996, p.103). The overall perception may be based on a product's specific characteristics and also on brand experiences through close acquaintances. The term was considered by Chi et al (2009, p. 136) as a consumer's subjective judgement of a brand.

According to Ophius and Trijp, (1995, p. 177), marketing departments are unable to sell products if they fail to meet consumers perceived quality. When it comes to investors, the authors specify that a positive perceived quality increases brand preference and purchasing decisions (Ophius & Triip, 1995, p.177). However, the study implies that there might be factors, like occupation and monthly income that prove otherwise. As a result this can lead investors to have a varied perception of quality (Ophius & Triip, 1995, p.177). Thus, companies should implement different marketing strategies that can be applied to this specific element. Moreover, a higher perceived brand quality also motivates companies to improve a product or create market barriers.

Chi et al (2009, p. 136) state that perceived quality may impact how consumers and investors judge a brand. A brand's previous reputation can affect their perceptions on a product's quality in the future. Even if the quality has been improved, there might be a chance that they will perceive the brand negatively. This indicates that it is important for companies to correctly manage their brand. As mentioned in section 1.2, companies should be careful when managing their brand since good brand management often leads to higher profit margins, increase in brand loyalty and to a strong competitive advantage (Aaker 1991, p. 27). A strong brand equity is consequently beneficial for investors and shareholder because of its linkage to both shareholder value and investment decisions (Jahdi and Ackidilj, 2010, p.268). In summary, brand equity consists of four elements that are not only important for consumers but also for investors. These elements are significant in terms of competitive advantage and for obtaining higher returns. It has been proven that companies with strong brand equities manage to generate positive returns (Steenkamp & Kashyap, 2010). Therefore, companies are obligated to take these elements into consideration to create shareholder value and higher returns for investors (Madden et al, 2006, p.233).

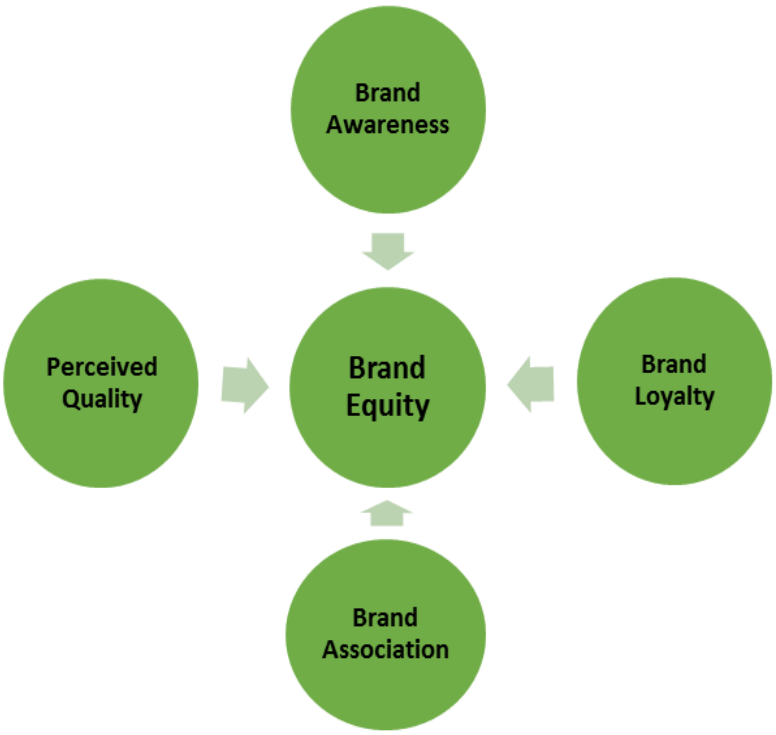

Figure 3: The Four elements of Brand Equity

3.2. Stock Performance

3.2.1. Stock returns

A company's financial performance has always been of interest for both investors and shareholders. Even management uses these ratios for strategic decisions (Britzelmaier & Schlegel, 2011, p. 211). According to Cochran and Wood (1984, p. 45), a firms' financial performance is divided into two categories: Investor returns and accounting returns. Investor returns implies that financial performance is measured with stock prices, which the authors believe is from a shareholder's perspective. The second category relates to earnings obtained because of managerial policies, like for example through EPS and P/E ratio (Cochran & Wood 1984, p. 45). These ratios, however, are not the only ones available for measuring stock performance. In fact, stock performance, or financial performance, can be measure with the help of profitability, cashflow, financial growth and leverage ratios. These ratios provide the market with valuable information about a company's current performance. There are other measurements which investors can use to evaluate a company's performance. One of them is through stock returns.

Stock returns represent the profits investors receive in a specific period, which are usually annually. According to Siegel (2008, p.5) the term can be defined as the total return, which entails that all types of returns can be reinvested and accumulated over a specific period. To obtain the stock return, investors must calculate the holding period return. The holding period return is according to Cornell (1999, p.184) the most popular approach in evaluating a stock. To evaluate the performance of a stock, investors need to estimate the closing price minus the stock price at the beginning of the period divided by the stock price at the beginning of the period. The formula below simplifies the calculation of stock returns, in which P_1 represents

the closing stock price and P_0 represents the stock price at the beginning of the period. Moreover, the formula also takes dividends paid at the time into consideration (see figure 4).

$$HPR = \frac{(P1 - P0 + Div)}{P0}$$

Figure 4: Holding period formula

According to Cornell (1999, p.9) the holding period return can be calculated at any time interval; however, the annual calculation is more common, which was also used in this study. The author further explains that stock returns are important for investors because it helps them evaluate how much profit they will gain by holding the stock under a specific period (Cornell, 1999, p. 99). In other words, the holding period of the stock represents the percentage change of investors' wealth over a specific period. This means that if the holding period return is positive then the percentage change of investors' wealth will be positive. Alternatively, if investors have negative returns then the percentage change of investor wealth might be negative. However, Siegel (2008, p. 25) explains that it depends on how long the investor decides to hold the stock. The author claims that investors should not hold a negative stock for 17 years or more because it will increase the risk. The author further explains that to mitigate the problem, investors should not underestimate the holding period. Instead of only concentrating on a single stock's holding period, it might be advantageous for them to regard the holding period as a stock portfolio (Siegel, 2008, p. 25).

Nevertheless, Siegel (2008, p. 20) states that a valuable stock return is usually connected to skillful management, a stable political environment and the ability to meet consumers needs in a competitive market. As stated, previous research has found that stock returns have a positive relationship with intangible assets. The studies have for now established that when companies invest more in intangibles positive stock returns arise. A previous study by Hurwitz et al (2002, p.58, 60) showed a positive and significant relationship between stock returns and management of intangible assets. According to Tan et al (2007, p.91), companies experience a much superior performance when investing and managing intangibles. The companies included in the authors study indicated that constant management of intellectual capital, human and organizational, was positively correlated with company performance. This means that if brand equity is included on the balance sheet, investors will experience higher returns. The study by Basgoze et al. (2016) gives similar indications. When the authors studied the relationship between brand value announcements and abnormal stock returns, it was not only concluded that companies experience positive abnormal returns seven months after the announcements but also that investors will be able to beat the market when investing in companies whose brand is on the Top 100. This shows that investors become more confident when particular information about a company is disclosed. According to Healy and Palepu (2001, p. 429), investors become more confident when companies disclose more information and as a result believe that the stock price reflected on the market is unbiased. Therefore, this level of information will not only reduce information asymmetry but also increased stock liquidity. Seeing that stock returns have been previously measured against other intangible assets, a need to understand its relationship to brand equity will, together with other variables, help address the current gap. Therefore, the following hypothesis has been outlined:

H_0 *= There is no significant relationship between stock returns and brand equity of listed Nordic companies from 2012-2016.*

H_1 *= There is a significant relationship between stock returns and brand equity of listed Nordic companies from 2012-2016.*

3.2.2. Earnings per Share

The EPS is a ratio based on company profit and outstanding shares (see figure 5). The ratio is commonly used by investors when they want to evaluate the stock market based on company performance. The ratio indicates the profitability that includes the results in operating, investing and financing decisions (Stickney and Weil, 1997, p. 288). Previous studies have managed to discover a significant relationship between EPS and intangible assets (Abudy & Lev, 1998, p. 188). A recent study by Arora and Chaudhary's (2016, p. 94) found a significant positive relationship between brand equity and EPS. According to the authors this result indicates an increase of brand image and therefore investors will feel more encouraged to buy more stocks.

$$\frac{Net\ earnings}{outstanding\ shares}$$

Figure 5: EPS Formula

From what is understood, EPS may be significant in terms of brand equity. In that case the following hypothesis, which will help answer the research question, has been outlined:

H_0 *= There is no significant relationship between EPS and brand equity of listed Nordic companies from 2012-2016.*

H_1 *= There is a significant relationship between EPS and brand equity of listed Nordic companies from 2012-2016.*

3.2.3. Price Earnings Ratio

When it comes to the P/E ratio, it represents the stock price's relation to net earnings (Siegel, 2008, p.149; Figure 6 below).

$$\frac{Stock\ Price}{Net\ earnings}$$

Figure 6: P/E ratio Formula

Torsten et al (2008, p.42) claim that not only is this ratio useful for investors but it also represents shareholders growth expectations. According to Anderson (2012, p.4), the P/E ratio became popular in the mid 1920's when the US was experiencing an economic boom. Before then, the Dividend yield had a steady hold as a main valuation ratio on the stock market. However, during the mid-20's, people became more interested in earnings growth then dividends. Firms realized that they could generate shareholder value by concentrating on its earnings (Siegel, 2008, p.98). The P/E ratio is therefore considered one of the most important valuation ratios. In the 1960's, Nicholson (1960, p. 43-50) popularized the ratio when he studied the P/E of 100 stocks on the New York stock exchange over a five-year period. In his study, the author concluded that lower P/E ratios delivered a return that was 14.7 times higher

than the investor's initial investment. Other studies had similar findings, in which stocks with lower P/E ratios provided higher returns than higher P/E ratios (Siegel, 2008, p. 98). According to Whalen et al (2014, p. 1030) P/E ratios may vary for several reasons but accounting differences plays a significant role. Both authors (Whalen et al, 2014, p. 1030) explain that when intangible assets like R&D or human capital are expensed completely, reported earnings increase and thus lead to lower P/E ratios. Another study by Malkiel (2003, p.68) showed a similar pattern in which stocks with lower P/E ratios appeared to generate higher returns than stocks with higher P/E ratios. The author explained that this creates doubts on the accuracy of market efficiency because investors seemed to gravitate more towards stocks with higher P/E ratios as they believed it would offer higher returns. When it comes to intangible assets, earnings in general are an important measure of value. A study by Penman (2009, p. 360) states that even though intangibles are missing from the balance sheet, for example brand equity, earnings from these assets will be displayed on the income statement. Earning inflows through the income statement provide an insight on the current value of intangible assets. The author further exemplified this statement by claiming that if a brand like Coca-Cola had an MTBV ratio of 6, investors would still be able to assess its true value from the income statement (Penman, 2009, p. 361).

As seen from this section, there is not much research on how the P/E ratio relates to brand equity. As stated above, earnings are a significant measurement of value, making the P/E ratio a significant ratio for investors. Therefore, the following hypothesis was outlined to answer the research question:

H_0 = *There is no significant relationship between the P/E-ratio and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between the P/E ratio and brand equity of listed Nordic companies from 2012-2016.*

3.2.4. Market-to-book-value

This is one valuation ratio which is widely used. The market-to-book-value (MTBV), or the price to book ratio, is widely used as a valuation ratio among investors (see section 1.2.3). The MTBV ratio represents the relationship of a company's market value, that is stock price, and its book value, which is sometimes called shareholder equity (see Figure 7).

$$\mathbf{MTBV} = \frac{Market\,Value}{Book\,Value}$$

Figure 7: MTBV Formula

The ratio has been popular since the late 1980's and early 1990's because it gave investors the ability to predict future stock returns. Furthermore, the ratio is significant for investors when wanting to analyze how much money can be gained through tangible resources (Anderson, 2012, p.4). The fact that this clarification of the MTBV ratio is only refereeing to investors returns in terms of tangible assets indicates the current dilemma on the increasing gap between market value and book value. As mentioned in chapter 1.2.3, MTBV ratios have been increasing dramatically (Hulten & Hao, 2008, p.2). This ratio has, according to Malkiel (2003, p.69) always been suitable when predicting future returns. Stock prices with MTBV ratios lower than one are considered valuable, but many investors fail to gravitate towards these types of securities. Instead, they overpay for "growth" stocks, that is stocks with higher

MTBV ratios, that eventually fail to deliver higher returns (Clarke et al, 2001, p.19-20). This is also an indication that may lead to question the accuracy of efficient markets. Considering that the EMH proclaims that markets are fully efficient when all information is available, the increasing MTBV ratios prove that markets are not efficient and therefore investors will constantly overestimate future stock returns with higher MTBV's in comparison to those with lower ratios.

Constant omission of intangible assets has therefore motivated researchers on further studying the topic. According to Siegel (2008, p. 152), part of a company's worth may be captured by intangible property but since this is not always included in MTBV calculations it gives the impression that it is an imperfect indicator of company value. However, Penman (2002, p. 8) claims that there are other ways to calculate it. According to the author, it is possible to anchor value on the book value. This means that adding extra value to book value will permit the value of intangible assets to appear on the balance sheet. The extra added value will therefore capture omitted intangible assets (Penman, 2002, p.8). The author further explains that this extra added value consists of discounted future residual earnings. Penman's calculation is based on two principles: The first principle is that if value is missing from the balance sheet then it will show up in earnings and the second principle is that even though book value may not always capture intangible assets, for intangibles to be of value they must create earnings. Essentially, the value of intangibles will be reflected on company earnings (Penman, 2002, p. 7-8). Therefore, the following hypothesis will form part of the study to answer the main research question:

H_0 = *There is no significant relationship between MTBV and brand equity of listed Nordic companies from 2012-2016*.

H_1 = *There is a significant relationship between MTBV and brand equity of listed Nordic companies from 2012-2016*.

3.2.5. Return on assets & Return on Equity

There are other types of performance ratios which can be used to address the relationship between brand equity and stock performance. Among those ratios are: return on assets (ROA) and return on equity (ROE). ROA measures a company's annual net income divided by its total assets in book value, while ROE measures its annual income by its total equity. These profitability ratios are significant during managerial strategic decisions (Britzelmaier & Schlegel, 2011, p. 211). Studies have for example found that ratios like ROA and ROE were positive correlated with company performance (Mehri et al 2013, p.141). When it comes to the ratios relationship with intangible assets, previous research has stated that investing in a company's intangibles may have a positive effect in not only its market value but also its profitability (Tan et al, 2007, p. 90-91). The authors of the study concluded that the ROE for 150 public companies in Singapore had a significant relationship to intangible assets in the form of R&D. Since the authors were measuring intangibles with a value added intellectual coefficient, ROA was not included in the study because the assets of a company were used to derive the coefficient. Therefore, ROA was excluded to avoid multicollinearity, ROE was selected instead. However, one study by Arora and Chaudhary (2016, p.88) found different results than Tan et al (2007, p. 90-91). In the study, the authors found a negative, but significant, relationship between the brand equity of Indian banks and ROE. The authors interpreted this negative relationship by stating that an increase on a banks brand investment does not lead to an increase on its returns.

$$\text{Roa} = \frac{Net\ Income}{Total\ Assets} \qquad ROE = \frac{Net\ Income}{Total\ Equity}$$

Figure 8 : ROA and ROE Formula

In another study on the relationship between intangible assets, R&D, and the financial performance of public companies from Hong Kong, Li and Wang (2011, p. 98) concluded that there was a positive relationship between intangible assets and ROA. A study by Li and Wang (2011, p.108) came with a similar conclusion in which the ratio had a positive relationship with intangible assets like R&D and sales training. According to the authors, ROA was selected before any other ratio, like ROE, because it is more suitable in explaining company performance and is also more valuable when explaining the utilization of assets (Li & Wang 2011, p. 102). However, in the study by Arora and Chaudhary (2016, p.89), brand equity was found to have a negative correlation with ROA. The study indicated that brand equity had a significant negative relationship with ROA. This was interpreted as a relationship in which bank investments in brands may result in a reduction of ROA. Furthermore, the study claims that even if a brand is an important asset it doesn't generate returns because Indian banks are not utilizing brand investments in an optimal manner (Arora & Chaudhary, 2016, p. 92).

Seeing that the above-mentioned ratios, stock returns, P/E, EPS, ROA, ROE and MTBV, have been claimed to have a substantial relation to intangible assets as well with company performance, which in this study is defined as stock performance, they are then considered appropriate to measure alongside brand equity. As mentioned in chapter 1, previous research fails to indicate any connections between brand equity and stock performance and Basgoze et al (2016) also mentioned that their study could be extended by using some of the above-mentioned ratios, ROE and ROA. Therefore, the following hypothesis will be used to link the theoretical framework with the empirical findings:

H_0 *= There is no significant relationship between ROA and brand equity of listed Nordic companies from 2012-2016*.

H_1 *= There is a significant relationship between ROA and the brand equity of listed Nordic brands from 2012-2016*.

H_0 *= There is no significant relationship between ROE and brand equity of listed Nordic companies from 2012-2016*.

H_1 *= There is a significant relationship between ROE and brand equity of listed Nordic companies from 2012-2016*.

3.3. Efficient Market Hypothesis

In 1925, economist Frederick McCauley commented that stock prices on the market follow a random walk. McCauley's statement increased interest among researchers into further studying this pattern. One of the most well-known follow ups is Eugene Fama's, article *Efficient Capital Markets: A Review of Theory and Empirical Work"*, published in the 1970's (Fama, 1973, p.383). In the article, Fama describes that markets in which prices reflect all available information should be considered efficient (Fama, 1973, p.383). It was from this article that the efficient market hypothesis was derived. As mentioned in Fama's article, a market is efficient when stock prices fully reflect all available information, which means that prices will react collectively in a systematic and unbiased manner. Therefore, it is believed

that stock prices resemble those of a random walk. This implies that stocks are unpredictable and therefore it is difficult to predict their future movements. Consequently, a technical analysis, that is the analysis of historical stock prices, or a fundamental analysis, the study of earnings, will grant investors higher returns than before (Malkiel, 2003, p. 1). In other words, under the EMH investors are rational and value stock prices rationally. Therefore, the EMH consists of three arguments:

1). investors are rational and value securities rationally; **2)** The rational valuations can be to the extent that investors are no longer rational, they do random trades and thus prices are no longer affected; **3)** In conclusion, this implies that if investors are irrational they will compete in the market with arbitrageurs who eventually will reduce the influences investors may have on the market (Lawrence, 2007, p.161).

The EMH has a degree of efficiency that is divided into three forms: *Weak form*, *Semi-strong form* and *Strong form* (Fama, 1973, p. 383). The *weak* form of EMH implies that markets may or may not have access to all available information. In Fama's article (1970, p.388), the author explained that this category is based on the analogy that the only type of available information are historical prices, which entails investors must base their decisions on historical information. It also suggests that prices resemble a random walk because investors are unable to earn profits in this type of markets (Titan, 2015, p.443). Therefore, they need more information than historical stock prices because by only relying on past prices they won't be able to predict future ones.

When it comes to the *semi-strong* form, it argues that even though there might exist information based on past stock prices investors are still able to obtain valuable corporate information that is already reflected on a stock. Fama (1970, p. 383), explained that prices efficiently adjust to information that has been previously published. For example: announcements of annual earnings or stock splits. If the information is not valuable enough, the *strong form* of EMH argues that in addition to information from the weak and semi-strong hypothesis, investors will be able to access information that is not public. This entails that both public and non-public information are included on the stock price. Consequently, neither a technical nor a fundamental analysis will help investors to outperform the market and gain higher returns.

Though, EMH has been considered as the modern foundation of traditional financial theory there are still uncertainties about its credibility. When the theory was first introduced, researchers were convinced that the market was efficient and that there was not enough evidence to contradict it (Lawrence et al, 2007, p.162). However, after the stock market crashed in 1987, the EMH became an interesting topic of discussion. According to Lawrence et al (2007, p.162) it was claimed back then that if the market was fully efficient then it would not have crashed. Other studies have found that security prices overreact to stock prices in periods of three to five years (Fama & French 1988; Cutler et al, 1991).

Furthermore, behavioral finance and economics also criticizes the EMH by stating that there is no such thing as an efficient market and that investors are driven by fear and greed instead. (Lo, 2004, p. 1). One example that argues against the EMH are stock performance situations, like the increasing MTBV ratio. According to Clarke et al (2001, p.20) investors tend to gravitate towards stocks with higher MTBV ratios believing that these stocks will generate them higher returns. However, this could not be further from the truth. Investors overestimate their expectations and end up disappointed with the results. Clarke et al (2001, p. 20) explain that investors fail to see that stocks with lower MTBV's can offer better future returns than those with a higher value. Malkiel (2003, p. 68) has also made similar statements, implying

that investors tend to be overconfident in predicting future returns when acquiring stocks with either high MTBV's or high P/E ratios. Moreover, Healy and Palepu (2001, p.420) claim that even in an efficient market, managers still have more information on the company's future performance than outside investors. This means that if accounting standards perfectly function, then managers will be motivated to disclose information or provide information regarding a specific change within the company to outside investors. The opposite can however ensue if the standards are imperfect, which Healy and Palepu (2001, p. 420) claim is an expected possibility.

There have been, however, some exceptions in which studies found that investors might be fully rational, and all information is available. On the other hand, research about this topic predicts the opposite. There is a lack of research on this theory being linked to brand equity. A study by Simon and Sullivan (1993, p. 31) however, briefly mentions the connection of brand equity and EMH. In the study, the authors claim that when investors receive all available information it is because there is new information with arbitrage opportunities provided to them. The study explains that a successful operation increases the demand for the company's stocks, which means that investors will buy more of that stock today. Eventually, the increased demand will lead stock prices to increase even more until it fully reflects future returns and since all information is reflected on future returns then it means that brand equity is included (Simon & Sullivan, 1993, p.31).

3.4. Adaptive Market Hypothesis (AMH)

As mentioned above, the EMH has been a leading financial theory for decades and research does not seem to support its accuracy. Therefore, researchers have tried to connect EMH with that of behavioral finance to find an explanation on market behavior that works for the supporters of EMH and its negators. One of those theories is the Adaptive Market Hypothesis (AMH). The, theory, which was presented by Andrew Lo (2004. p. 21), is a mixture of both the EMH and behavioral finance.

While Lo agrees that markets are not fully efficient, there are exceptions in which they can be. In his study, Lo (2004, p. 21) explains that one needs to address this from an evolutionary point of view. By evolutionary, Lo explains that market participants are species and the market itself is an ecology. According to Lo (2004, p 22), stock prices reflect information based on environmental conditions and the nature of "species", that is market participants, in the economy. Thus, market efficiency is related to environmental factors like number of competitors on the market, the degree of profit opportunities and the adaptability of market participants. In other words, Lo (2004, p. 22) sees this from a survival of the fittest perspective. Thus, those market participants that can adapt to changes in the market will survive. The author claims that if market participants compete for scarce resources on a specific market, then that market is efficient. However, if less market participants compete for more abundant resources then that market will be considered less efficient.

The author considers this to be one of the five implications the AMH offers market participants. He also discusses that another implication with the AMH is that the relationship between risk and return shifts over time (Lo, 2004, p. 24). The reason for this is that risk and returns are determined by the shift between various "species" on the market and the regulatory environment which may affect the relationship. The second implication is that in comparison to the EMH dismissed of arbitrage opportunities, the AMH offers arbitrage possibilities for market participants. The third implication is that sometimes investment strategies will be successful in one market but less successful in another. Shifts in the

economic environment may affect the strategies but after a while when it regains its composure the strategies may be profitable in that specific market again. Lastly, the fourth implication explains that for "species" to survive in their environment there needs to be innovation. The more innovation there is in each specific environment, the higher chance for investors to survive on the market (Lo, 2004, p. 27).

3.5. Financial disclosure

The purpose of a financial statement is to provide information to users, like investors, about a company's financial position or performance. Paragraph 15 in IAS 1 (IAS 1, 2014, p.4) states that a financial statement must give a fair and accurate presentation on a company's financial position and performance. This means providing a fair and accurate information is important because it will enable investors and other users of financial statements to easily make economic decision. As primary users, investors need this information not only to assess a company's future performance but also how effectively and efficiently management has been controlling its resources. However, as mentioned in section 1.2 the lack of intangible assets on the financial statements has led the value relevance of accounting information to decrease (Oliveria, 2010, p. 242). Studies claim that managers are not satisfied with current accounting standards because it prevents them from effectively communicate with investors (Healy et al (1993, p.1). Current standards are restrictive in the sense that managers cannot show the advantages of investing in intangibles like, for example, human resource, R&D and costumers service on the balance sheet. According to Healy et al (1993, p.1) the omission of these assets prevents managers from inducting long-term strategies. Previous research indicates that the disclosure of financial information improves stock market liquidity by reducing information asymmetry, which also increases investors' confidence (Ajina et al. ,2015, p.1224). Investors appreciate corporate transparency because it lets them reduce investment costs (Ajina et al., 2015, p.1225). This means that the more transparent a financial statement is the easier it is for investors to make economic decisions. In terms of intangible assets, if information on them is included more often it will reduce information asymmetry and meet the needs of investors. A study by Lang and Lundholm (1996, p.468) claims that financial disclosure is important when attracting investors, because they tend to follow companies that have high informative disclosures. The study further states the more informative the disclosure, the less volatility, uncertainty and information asymmetry on the market (Lang & Lundholm, 1996, p.469).

3.6. Information Asymmetry

In a study by Akerloof (1970, p.489) information asymmetry was defined in the market for lemons theorem. In this theorem, Akerloof describes a scenario in which buyers of used cars can't make a difference between a high-quality car, also described as a peach, and a low-quality car which is considered a lemon. In this scenario, only sellers are aware of which cars are peaches and which ones are lemons. Buyers are therefore unaware of which vehicle meets their standards. This unawareness causes buyers to put an average price on the vehicle. Since buyers are only interested on paying an average price for the vehicle. Sellers of the "peach" quality vehicles, however, are not interested on selling the car for a price lower than the original. Thus, seller of the "peaches" will leave the market, which means that the only cars left on the market will be "lemons". In summary, "lemons" will be selling at a higher price than originally intended due to the information asymmetry created between buyers and sellers (Akerloof 1970, p.489-490).

This type of situation can therefore be applied to brand equity. As mentioned in section 1.2, the omission of intangible assets from financial statements has caused researchers to believe that investors, as well shareholders, are not being provided with the actual company value. The belief is that the omission of these assets has caused a wide gap between market value and book value of equity, leading to high MTBV ratios on the market. As stated by Ghosh & Wu, 2007, p.231), if information about intangibles is disclosed more often it will meet the needs of investors and reduce information asymmetry on the capital market. This may also entail that MTBV ratios may be reduce if intangibles are included on the balance sheet. As mentioned, companies could voluntarily disclose the value of intangibles but due to complex valuation approaches, internally generated intangibles like brand equity are excluded from the balance sheet (afia, 2016, p. 18). Thus, the complete value of a company is not actually disclosed. According to Healy and Papelu (2001, p. 408), there is a solution to this situation; one is to either implement regulations that requires management to provide further information on company related activities and the other is to employ information intermediaries with appropriate tools that uncover undisclosed information.

4. Practical Methodology

In this chapter, readers will be introduced to the chosen companies as well excluded companies. Furthermore, readers will be introduced to a section that includes a short description on each company included in the study. The chapter also consists of an operationalization, a normality test, heteroscedasticity, chosen correlation test, regression analysis and concludes with the processing of data.

4.2. Choice of companies and exclusion

The aim of the study was to investigate the relationship between brand equity and stock performance. To assess this relationship 10 Nordic brands were selected as part of the study. As mentioned in section 1.2, a study by the OECD (1998, p.38) revealed that Nordic countries have through the increase of knowledge based intangibles positively affected their GDP's. The increase further proves how significant intangible assets are, specifically brand equity. Since economic growth prospects in the Nordic region has been linked to intangible assets, it further motivated me to do a study based on how brand equity relates to stock performance in this specific area. As stated, the study by Basgoze et al (2016, p. 1254) only focused on Turkish brands and examined this relationship from an emerging markets perspective. However, it is important to study other areas, specifically areas in which intangibles are claimed to have positive economic effects. Even though I am from Sweden, the country was not analyzed independently because of scarce information from Brand Finance. Therefore, other Nordic countries like Finland, Norway and Denmark were included.

Basgoze et al (2016, 1254) gathered brand equity information from brand valuation reports disclosed by Brand Finance. Therefore, the brand equity that has been included in this study was also retrieved from Brand finance. It is worth mentioning that while selecting the companies on Brand Finance's Top 50 Nordic Brands, some difficulties arose. Firstly, the reports only showed the first top 10 companies in the period 2012-2015. Therefore, accessing all 50 companies was not possible. Instead 10 companies were chosen to create a sample. Secondly, certain companies were considered top brands only once on each list. Among these companies was Nokia. Nokia only appeared on the list from 2013. Regardless the brand equity of Nokia was included and since the list contained the same companies every year, brand equity from Nokia was gathered from the top 10 companies in Finland.

There is a reason for why Nokia was included in this manner. One reason was the status of the companies on the market. Seeing that the study is based on public data, one criteria was that companies needed to be listed on the Nordic Stock exchange to be included. These special criteria enabled me to easily obtain data from DataStream. However, some companies needed to be excluded because of these specific criteria. IKEA, which is according to all reports for the period 2012-2015, the most valuable Nordic brand was among the excluded. Though its brand has been ranked as most valuable on all periods, IKEA is unfortunately not a public company. Its private status prevented me from acquiring relevant data, specifically stock performance variables. Other excluded companies were; Arla and Lego, which are also private and not listed on the Nordic stock exchange.

Below is a table containing the brand equity of Nordic companies from the period 2012-2016. As seen below H&M is a top brand on each period and Nokia is less valued throughout the time frame. The table below is a summary for readers on the brands included and to give them an insight on their current values.

	2012	2013	2014	2015	2016
Brands	**Brand Equity**	**Brand Equity**	**Brand Equity**	**Brand Equity**	**Brand Equity**
H&M	8596	9294	11678	14715	1551
Ericsson	6135	7133	7406	9157	9445
Nordea	5253	6538	7376	6692	5572
Telia	2648	2118	5879	5151	5469
Statoil	4693	6567	5983	7331	6559
Volvo	2364	3058	3525	4154	3997
Telenor	4533	7009	6511	7047	6238
A.P Moeller	2725	3044	3685	3696	3782
DNB	2395	2937	3274	3284	3386
NOKIA	5128	3178	2032	2212	3039

Table 1 : **Brand Equity of Nordic Companies from 2012-2016**

Even though the names of the companies are mentioned it can be confirmed that no company will be affected. As stated in section 2.7, majority of the companies included in this study are public and therefore financial information as well brand equity was already available. The reason for why the companies are presented in this section is because it will give readers an insight on the companies included.

4.3. Presentation of Companies

In this section, a short description of each company is presented, giving readers a much better understanding on each one of them. The companies have been presented in accordance to table 1 so that readers may be able to identify the position of each brand. Therefore, no information on brand equity is presented here, only facts on each company and in what industry they operate.

Volvo: Is one of Sweden's top brands. Since 1927, the company has strived to deliver pioneering innovation by first taking costumers into consideration. The company has also garnered a reputation in producing vehicles of high quality which are environmentally friendly and safe (Volvo, 2017).

Statoil: This Norwegian energy based company operates in more than 30 countries. Statoil was established in 1972 and has managed to enter not only the European market but the African, North American and Brazilian market (Statoil, 2017).

Telenor: Like Statoil, Telenor is a Norwegian brand. It is considered one of the largest mobile operators in the world. It currently operates in Nordic countries, Central Europe, Eastern Europe and Asia (Telenor, 2017).

Nokia: Is one of the most valuable brands in Finland (Brand Finance, 2016). As a brand based in the mobile operating industry, Nokia has managed to globally expand itself to more than 100 countries.

Ericsson: For 140 years, Ericsson has sustained its reputation as a leading brand in telecommunications. Ericsson is responsible for 40 % of the world's mobile traffic. It

provides industry solutions in the form of network designs, optimization, cloud services and broadband (Ericsson, 2017)

A.P Moeller: Is a Danish transport and logistics company. Moeller is a global leader in the container shipping industry. Therefore, the aim of Moeller is to provide an effective global supply to all its customers (Maersk, 2017)

H&M: Is a leading fashion retail company originally from Sweden. The brand is one of the largest clothing retailers and operates in 62 countries. H&M delivers a unique identity, passion for fashion and high-quality product to customers (hm, 2017).

DnB: Is the largest financial service institution in Norway. DnB offers all types of financial services including insurance, savings, pension and advisory services. The bank is also considered to be the world's largest shipping banks and to have much influence in the energy sector.

Telia: Telia is a Swedish brand based in the telecommunication industry. Its purpose is changing the IT and telecommunication industry and creating a closer relationship to its customers. The services offered by Telia include faster broadband, a broad variation of services to customers and high quality mobile networking systems (Telia, 2017).

Nordea: Is the oldest Nordic bank with over 200 years of financial experience. A specific characteristic with Nordea is that it became one of the most important banks in the region when it merged four banks in which one was from Sweden, Norway, Denmark and Finland. The four banks then became what is known today as Nordea and its aim was to connect all banking ideas into a single bank (Nordea,2017).

4.4. Operationalization of quantitative data

Seeing that deduction was the main approach of the study, it was important to operationalize the variables and give them a measurable definition. In this case, each variable in the study has been defined in a manner which enabled me to study the relationship between stock performance and brand equity. Seeing that previous research has used stock performance as a dependent variable, it was only natural to use it in the same manner. Therefore, brand equity was measured as the independent variable in the study which Basgoze et al. (2016, p. 1258) did as well. As stated in the theoretical framework, stock performance has a much broader definition in this study than that of Basgoze et al. Instead other performance variables have been included and considered as stock performance variables. Firstly, because according to Basgoze et al. (2016, p. 1257) research suggestions analyzing other variables against brand equity should be of interest as well. Secondly, other studies have also used majority of the variables included in my definition of stock performance as dependent variable (Arora & Chaudhary, 2016, p.88). A dependent variable is described as the variable that changes with another variable, in this case the independent variable (Saunder et al, 2009, p. 368). Therefore, it was assumed that the latter variable affects the other. As stated in section 1.4, the aim of this study was to assess the relationship between brand equity and stock performance. Since the brand equity used in the study is retrieved directly from Brand Finance reports it was therefore more suitable to use brand equity as an independent variable because it was treated in the same manner by Basgoze et al. (2016, p. 1257).

While operationalizing the variables, some of them were given a short description in the study. Market-to-book-value has therefore been assigned the variable named MTBV; Stock returns was assigned the name return in the statistical tests, and brand equity was given its original name. The rest of the variables were named P/E, ROE, ROA and EPS. After all variables were defined, a hypothesis was used in the study. The hypothesis chosen for the study was a two-tailed hypothesis which means that one is either a null hypothesis or an alternative hypothesis. There is a simple rule, which is the main foundation in hypothesis testing: if the p-value is lower than α=0.05 then the null hypothesis can be rejected and the alternative accepted. In other words, the null hypothesis can only be accepted when the p-value is higher than α=0.05. It is worth mentioning that under a two-tailed hypothesis the null assumes to be zero. This means that the hypothesis assumes that there is no significant relationship between two variables.

To get a better insight on brand equity and its relationship to stock performance, the hypothesis has been divided accordingly. This means that each variable has been tested against brand equity from the period 2012-2016. As stated in chapter 3, these variables form a broader definition of stock performance and therefore it was considered appropriate to test each one of them with brand equity. Their results will however answer the same research question. As stated in the theoretical framework, the main hypothesis of the study was outlined in the following manner:

H_0 = *There is no significant relationship between stock returns and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between stock returns and brand equity of listed Nordic companies from 2012-2016.*

H_0 = *There is no significant relationship between EPS and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between EPS and brand equity of listed Nordic companies from 2012-2016.*

H_0 = *There is no significant relationship between the P/E-ratio and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between the P/E ratio and brand equity of listed Nordic companies from 2012-2016.*

H_0 = *There is no significant relationship between MTBV and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between MTBV and brand equity of listed Nordic companies from 2012-2016.*

H_0 = *There is no significant relationship between ROA and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between ROA and the brand equity of listed Nordic brands from 2012-2016.*

H_0 = *There is no significant relationship between ROE and brand equity of listed Nordic companies from 2012-2016.*

***H_1** = There is a significant relationship between ROE and brand equity of listed Nordic companies from 2012-2016.*

4.5. Normality test

Before researchers conduct a statistical test, it is required that the data is tested for normality. The statistical software SPSS includes two options one may apply test for normality: the Shapiro Wilks test and the Kolmogorov-Smirnov tests (Ghasemi & Zahediasl, 2012, p. 487). The tests are widely used; however, the Shapiro Wilks tests was chosen as the main normality test. Firstly, it has been proven that Shapiro Wilks works better on smaller samples (Razali et al,2011, p. 9). Secondly, Shapiro Wilks demonstrates better results as it is considered to have a stronger impact than the Kolmogorov-Smirnov test (Razali et al,2011, p. 9). Hence, why the Kolmogorov-Smirnov test was disregarded.

Normality assumptions aim at giving researchers an insight on how accurate the data is. If the data turns out to be insignificant, a parametric test must be disregarded, and a non-parametric option must be applied (Saunder et al, 2009, p. 436). This means that the non-parametric equivalent of a parametric test should be used to test the hypothesis and answer the research question. As seen on table 2, majority of the dependent variables are non-parametric because the p-value is $< \alpha=0.05$. It is not unusual to receive this type of result, seeing that it is common when researchers have smaller samples (Ghasemi & Zahediasl, 2012, p. 487). However, according to the central limit theorem, data can be parametric if it is 30 or above 30 (Ghasemi & Zahediasl, 2012, p. 486; Saunder et al, 2009, p.218). Seeing that this study consists of data of 10 Nordic companies from 2012-2016, each variable has therefore a total of 50 observations making it possible to assume normality in accordance to the limit theorem. Nevertheless, this study has not assumed the limit theorem, seeing that the Shapiro Wilks test indicates a p-value lower than 0.05 for ROA, MTBV, ROE, EPS and P/E. In other words, normality was not assumed for these variables, which is why the Spearman's correlation rank was used. This test is widely used when the data is considered not normal and researchers want to study the relationship between two variables (Saunder et al, 2000, p.364). When it comes to stock returns and brand equity, the table below displays the opposite of the mentioned variables. Even though the p-value is 0.087 and 0.084 respectively, one can still assume normality since the Shapiro Wilks test accepts the null hypothesis when $p> \alpha=0.05$. Therefore, a parametric test in the form of regression analysis was assumed for this variable.

	Tests of Normality		
	Shapiro-Wilk		
	Statistic	df	Sig.
ROA	,697	50	,000
MTBV	,627	50	,000
ROE	,860	50	,000
EPS	,354	50	,000
P/E	,864	50	,000
Returns	,116	50	0.087
Brand Equity	,117	50	0.084

Table 2: Normality test of tested variables.

4.6. Heteroscedasticity

Before researchers conduct a linear regression, they should not only test for normality but also do a heteroscedasticity test. According to Hayes (2007, p. 710), heteroscedasticity implies that the variance of errors is unrelated to the independent variable or any related linear combination with this variable (Saunder et al, 2009, p. 461). There are three recommended methods that one may use to measure heteroscedasticity. The first one is the White test which aims at measuring heteroscedasticity by studying the square residuals and the expected residuals from the regression (White, 1980, p.817). Another test that is widely use is the Breusch-Pagan test which measures the square residuals and the expected residuals from the regression (Breusch-Pagan, 1979, p.1287). There is not much of a difference between both tests as their hypothesis assumptions are more of the same. Both test assume that the null hypothesis is homoscedastic, which is the opposite of heteroscedasticity. This mean that if the null hypothesis is below $p>0.05$ then there is no heteroscedasticity. If one fails to reject the null hypothesis, then a p-value higher than 0.05 indicates that there is heteroscedasticity (Breusch-Pagan, 1979, p.1291; Cribari-Neto et al, 2007, p. 1883).

Considering that neither SPSS or Minitab include a specific function in which one can conduct the above-mentioned tests, a much simpler version was selected. One of these options was the Glejser test. The aim of the test is to measure the variance between variables by estimating a regression in which the absolute value of residuals of the main equation represent the dependent variable (Machado & Santos-Silvio, 2000, p.191-192; Furno, 2005, p. 335). Furthermore, this test assumes the two-tailed hypothesis in which it rejects the null hypothesis of homoscedasticity, meaning that if the p-value is lower or equal to 0.05 there is no heteroscedasticity. Moreover, if the p-value is significantly higher than 0.05 then there is heteroscedasticity (Machado & Santos-Silvio, 2000, p.190).

While conducting the test on SPSS, the absolute value of stock returns was obtained and named AbsRES_1. However, brand equity was left in the same state as before. As mentioned the Glejser test uses the absolute value of the dependent variables residuals to predict heteroscedasticity (Machado & Santos-Silvio, 2000, p.191-192; Furno, 2005, p. 335). As seen on diagram 3, there is little heteroscedasticity in the data. Since heteroscedasticity existed in the study there were two options to undertake: to leave the data in its original state or to remove outliers that may disturb the empirical results. Therefore, it was decided to test both and get an insight on how much the data would change if heteroscedasticity was removed.

Before conducting the test, a scatterplot of stock returns and brand equity was created to get a visual indication of heteroscedasticity. The scatterplot below represents the variance between the stock return and brand equity values. As seen on the scatterplot, majority of the data is skewed towards the left, however there are three outliers that stand out. The two outliers to the far right and the outlier to the top left are not following the same directions as majority of the data. Moreover, these outliers are situated in a zone where there is little data available. Thus, the three outliers are disturbing the data and may lead to misleading results (Kiraci, 2013, p. 43). However, the scatterplot still indicates that the heteroscedasticity is not that extreme. Since majority of the variance is to the left, one can assume that there is no heteroscedasticity.

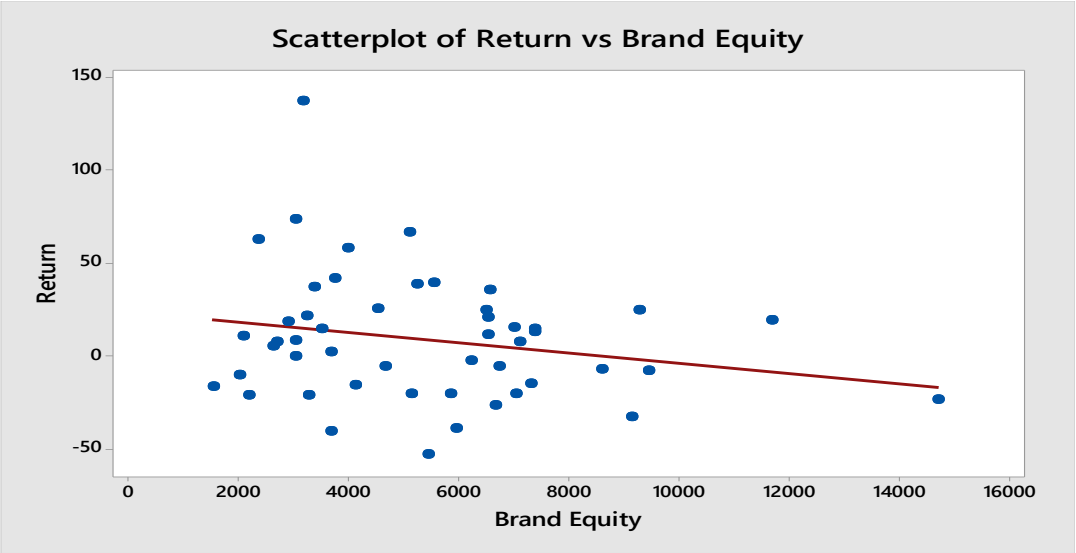

Diagram 1: Scatterplot before heteroscedasticity

As mentioned the Glejser test was used to see the level of heteroscedasticity from a statistical perspective. In diagram 1, the heteroscedasticity is clear because the variables are not spread in the same direction. Seeing the scatterplot above provides a visual indication that there is little heteroscedasticity in the data. However, the table below indicates a different result. Because of these outliers the significance level is 0.149, which means that it exceeds the p-value of 0.05. This entails that the alternative hypothesis is accepted, and heteroscedasticity exists (see table 3). Previous studies have indicated that this type of situation is common when it comes to stock returns because the data is directly obtained from the stock market (Schwert & Seguin, 1990, p. 1129). Therefore, if heteroscedasticity exists it might lead to misleading and absurd parameters in the regression analysis (Karaci, 2013, p. 43).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1						
	Brand Equity	-, 002	,001	-, 207	-1,468	,149
a. Dependent Variable: AbsRes_2						

Table 3: Heteroscedasticity in accordance to the Glejser test.

Seeing that there was heteroscedasticity, the identified outliers were removed to get a better insight on how much the data would change. As stated by Saunders et al (2009, p. 469), a researcher can remove outliers from the data if it will lead to better and unbiased empirical results. However, as seen on table 4, and diagram 2, which were created after removing outliers, the level of heteroscedasticity seems to be more of the same. In fact, the scatterplot line is still negative and the data, though spread in the same direction, is not spread linearly. This indicates that a regression equation between brand equity and stock returns would still be valid because there is no significant change before and after the removal of the outliers. As seen on diagram 4 below, the variables are almost spread into the same direction. Yet, there are still outliers spread towards the right and situated in an area where there is a lack of data. This implies that there is a level of heteroscedasticity even after the outliers were removed.

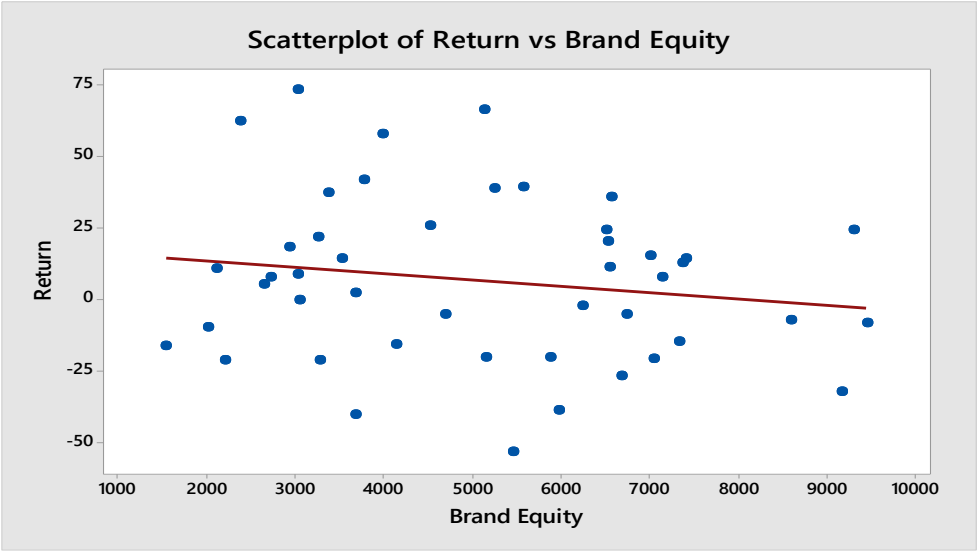

Diagram 2: Scatterplot after removal of outliers.

Even though table 4 displays a p-value of 0.372, the data of this study was still tested in its original form. The spread in diagram 1 and 2 proves that there was not much change, meaning that the regression results might be similar no matter which option is selected. Since, this study tries to be objective and not influence the data, the original data was kept because it has a lower level of heteroscedasticity then when the outliers were removed. When outliers were removed, the p-value was 0.372 in comparison to before in which the p-value was 0.149. To mitigate the level of heteroscedasticity, indicator variables were included (Kiraci, 2013, p.43). This implies that instead of testing stock returns all at once the time frame 2012-2016 has been chosen as an indicator variable This will make it possible to examine how the results relate to each period. Additionally, it will help mitigate the level of heteroscedasticity in the sample.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1						
	Brand equity	-,001	,001	-,135	-,903	**,372**
a. **Dependent Variable:** AbsRES_1						

Table 4: Heteroscedasticity after outlier removal

4.7. Spearman's Correlation test

Seeing that EPS, P/E, MTBV ROA and ROE were not normally distributed, Spearman's correlation coefficient was used to acquire the causal relationship between brand equity and stock performance. Spearman's correlation test is widely used on non-parametric data and assumes that the variables are normally distributed (Saunder et al, 2000, p.364). Like any other parametric test, Spearman measures the strength of the association between the

dependent variable and the independent variable. The correlation has a coefficient, that has a range between -1< *r* <1 (Saunder et al, 2000, p.364). If the correlation results display a coefficient of 0, then it entails there is no causality between the variables. Moreover, if it indicates a value of -1 then there is a strong negative relationship between the variables. Additionally, if *rho*, is 1 there is a positive relationship. There are other range of values that need to be taken into consideration, for example if the coefficients result is 0.3 then the relationship is a weak positive. Alternatively, if the coefficient is -0.3 then there is a weak negative relationship (Pallant 2010, p.134). Sometimes correlation relationships could range from 0.10 to 0.29, which entails a small relationship, and other relationships could be classified as medium because the correlation ranges from 0.30 to 0.49 (Pallant (2010, p.134; Saunder et al, 2000, p.364).

Seeing that Clarke et al (2011, p. 518) implemented the Spearman's test it was therefore considered appropriate for this study as well. Firstly, because Clarke et al (2011) studied the relationship between variables like ROA and ROE against intangible assets. Secondly, like in this study the authors operationalized ROA and ROE as dependent variables and intangible assets as independent variables. This further strengthens my choice in conducting the Spearman's correlation test. As stated in section 4.5, since the level of normality for 5 out of the six dependent variables was not significant, Spearman's became an obvious choice. It is also worth mentioning that the statistical software SPSS also has the Kendall's tau-b correlation, however this type of correlation is recommended when the variables are ordinal (Bryman & Cramer, 2005, p.222). This means that the variables need to be categorical. Since this study is not based on categorical data, Kendall's tau-b was therefore disregarded.

4.8. Regression analysis

As mentioned in section 4.6, regressions analysis is widely used to study the cause-effect-relationship between two variables. This cause-and-effect-relationship entails that one variable can predict another. This means that regressions coefficients, that is r^2, can predict the character of a specific relationship (Bryman & Carter, 2005, p. 237). In this case, the independent variable, brand equity, is supposed to indicate its relationship with stock returns.

Moreover, since r^2 is predicting the relationship, its coefficient is then an indication of how predictive the regression equation is. For example, if r^2 has a coefficient of 0.5 then it means that the equation has managed to predict 50 % of the variation (Saunder et al, 2009, p. 463). There are different types of regression techniques, however this study has chosen to test stock returns and brand equity with a linear regression. This type of regression is the simplest of all regressions (Saunder et al, 2009, p. 463). It is mainly used by researchers when only one dependent and independent variable will be tested, which is one of the reasons for why it was chosen to test the relationship between brand equity and stock returns (Saunder et al, 2009, p. 463). To have a better understanding of the relationship, it is important to outline a regression equation. Seeing that this study was based on the relationship between brand equity and stock performance, and only stock returns are included, the main equation of the study was outlined as follows:

$$Returns_i = \alpha + \beta BE_i$$

As seen on the above-mentioned equation *Returns* is the dependent variable of the study and BE_i is the independent variable. When it comes to α and β, the first mentioned represents the *y* intercept or constant of the regression and the second mentioned represents the slope of the line. One problem encountered with this regression equation was that of outliers disturbing the model, which indicated that a level of heteroscedasticity existed was till present. As previously stated in section 4.6, this study encountered a degree of heteroscedasticity.

Saunder et al (2009, p. 462) claim that if the variables are extremely harmful for the regression, one should remove them to avoid inaccurate results. However, the authors state that this is only possible if deemed necessary. Considering that there was not a level of difference before and after the heteroscedasticity in this study the outliers were therefore not removed. This was considered because there were no significant changes when the variables were removed. Furthermore, one must remember that this study is based on a smaller sample. Seeing that three outliers were disturbing the model; the amount of observations would have decreased, which meant that less data would be used. If outliers would have been removed, the periods 2012, 2014 and 2015 needed to be discarded as well, which is not in line with the research question.

Since outliers were present, indicator variables were included According to Kiraci (2013, p. 43), the inclusion of indicator variables smooths out the results. Indicator variables help smooth out the effects of outliers by predicting each variable on its own. Since this research is based on the relationship between brand equity and stock performance, the indicator variables chosen for this study was the time frame 2012-2016. As stated an academic was consulted to obtain a better understanding from someone with extensive knowledge in statistics. Therefore, it can be confirmed that the indicator variables included in the model were valuable for the continuation of the study. Because indicator variables were used to mitigate the presence of outliers (see section 4.6), they were not considered for the Spearman correlation. The only issue found among the correlation variables was that of non-normality.

4.9. Processing data

Before conducting the correlation and regression analysis, data downloaded from DataStream was first transferred to excel. In excel calculations of stock returns were made. The stocks were calculated in accordance to the Holding Period return formula (see section 3.2.1). Seeing that this research aims at studying the relationship between brand equity and stock performance in the period 2012-2016, a calculation on the annual returns was made. This means that stock prices at the end of the period were subtracted and then divided with the stock prices at the beginning of the period.

Other variables like EPS, P/E, MTBV, ROA and ROE were not calculated as their annual rate was downloaded from DataStream. The reason for why only annual rates are included is because the brand equity issued by Brand Finance was obtained from annual reports. After all data was downloaded and organized, it was statistically tested on SPSS and Minitabs.

5. Empirical Findings

This chapter includes the empirical findings from the regression analysis and correlation test. Each variable will be presented in the descriptive statistics and later the chapter will conclude with the outcome of each hypothesis.

5.1. Descriptive statistics

5.1.1. Brand Equity

As stated in section 1.2, there have been statements from previous studies that show a positive relationship between intangible assets and the stock market. Seeing that there is scarce research on this subject, in terms of brand equity, it was therefore of interest to study the relationship of the top 10 Nordic brands with stock performance in the period 2012-2016. As seen on table 5 the highest average value of brand equity among occurred in 2015, in which brand equity averaged to a total of 7061 billion USD and had a median of 7028 USD.

Variable	Year	Mean	StDev	Minimum	Median	Maximum
BrandEquity	2012	3403	580	2364	3605	4154
	2013	6111	4588	1551	3335	14715
	2014	6256	873	4693	6549	7376
	2015	7061	1431	4533	7028	9445
	2016	3685	1540	2032	3109	5879

Table 5: Descriptive statistics of brand equity for Nordic brands between 2012-2016.

5.1.2. EPS and P/E-ratio

When it comes to variables like EPS and P/E, table 6 indicates higher values in the year of 2014. In table 7, the EPS has an average of 135 and a median of 6 in 2014. This however does not change the fact that Nordic brands displayed a high EPS during three consecutive years, that is 2012, 2013, and 2014. This indicates that the companies brand equity is reflected in the EPS, which is in accordance to Penman's claim that a brand's value may be visible through its earnings. As seen in the period of 2016, the EPS had a negative average of -59.6 and a positive median of 1.2. These values may indicate that brand equity was relatively low during that period. As seen on table 5, the average brand equity was 3685 USD and with a median of 3109.

When it comes to the P/E-ratio, table 7 displays higher and positive values throughout the studied time frame. This is more predominant during 2014 were the P/E ratio averaged to 25.66 and had a median of 23.04. This high P/E value is therefore an indication on brand equity's current value, which is also in accordance to Penman's previous statement on intangible assets being visible through company earnings (Penman, 2009, p. 360). These positive results can be seen throughout the whole studied period.

Variable	Year	Mean	StDev	Minimum	Median	Maximum
EPS	2012	10,65	13,53	-0,84	6,60	44,88
	2013	94,3	278,8	-0,2	6,2	887,6
	2014	135	409	0	6	1298
	2015	29,3	78,0	-11,8	5,8	250,2
	2016	-59,6	200,3	-629,4	1,2	11,5

Variable	Year	Mean	StDev	Minimum	Median	Maximum
P/E	2012	15,64	12,79	-3,48	12,75	36,17
	2013	15,48	20,94	-35,13	17,18	47,80
	2014	25,66	20,97	8,74	23,04	81,85
	2015	19,45	20,24	-10,49	15,37	65,22
	2016	26,2	48,9	-34,3	14,0	101,7

Table 6: Descriptive Statistics of EPS and P/E between 2012-2016.

5.1.4. MTBV and Stock Returns

However, the same cannot be said about other variables. In table 5 the MTBV has an average of 2.52, which also indicates an MTBV larger than one. As stated in section 1.2, the increasing MTBV has led researchers to believe that the omission of intangible assets, in this case brand equity, is causing the increase. Previous MTBV ratios in the S&P 500 have, according to Hulten and Hao (2008, p.1), been between 2.0 to 3.5. While, the MTBV ratios in the Nordic stock exchange do not display MTBV values of 3.5, the table below still indicates higher rates with the highest average and median being 2.76 and 2.12 in 2014.

Stock returns also provided positive values, however in 2015 the returns were negative. This means that majority of the Nordic brands did not produce positive results for their companies. Considering that investors associate a strong brand from a financial perspective, this might therefore be a problem. As stated by Kotler et al (2004, p. 220) it has been proven that investors associate strong brands based on their stock performance, if a company has high earnings or positive stock returns investors will then consider the company as stable.

Variable	Year	Mean	StDev	Minimum	Median	Maximum
MTBV	2012	2,120	2,171	0,890	1,455	8,150
	2013	2,745	2,713	1,190	1,810	10,170
	2014	2,761	2,756	1,040	2,120	10,250
	2015	2,524	2,512	0,790	1,830	9,220
	2016	2,219	1,953	1,010	1,315	7,240

Variable	Year	Mean	StDev	Minimum	Median	Maximum
Returns	2012	20,87	27,40	-7,84	15,80	66,14
	2013	33,9	41,4	-0,6	19,0	136,6
	2014	3,61	20,72	-39,08	13,07	24,08
	2015	-24,03	7,76	-40,78	-21,58	-15,18
	2016	11,2	33,4	-53,6	9,5	57,2

Table 7: Descriptive Statistics of MTBV and Stock returns.

5.1.3. ROA and ROE

However, ROA and ROE showed positive results throughout 2012-2016. ROA for example had, like all the other stock performance variables, a higher average in 2012 than in other years. Nevertheless, this positive value may indicate that Nordic companies are managing brand equity properly. As stated by Li and Wang (2011, p. 102) the ROA is the best at measuring the utilization of assets. When it comes to ROE, the variable clearly indicates the positive outcomes the ten brands might bring to investors. Seeing that this variable is used by investor to measure company performance, the highest values indicated on table 8 are 15.49 in 2012 and 13.47 in 2014.

Variable	Year	Mean	StDev	Minimum	Median	Maximum
ROA	2012	7,55	7,82	0,91	6,60	28,03
	2013	6,59	7,74	0,95	5,10	27,73
	2014	6,42	8,30	0,85	5,11	29,04
	2015	4,64	8,09	-3,08	2,35	26,66
	2016	2,83	6,62	-2,72	1,29	20,81
Variable						
ROE	2012	15,49	9,39	4,13	12,73	38,36
	2013	13,46	9,19	4,72	11,88	38,51
	2014	13,47	10,44	2,72	12,60	41,27
	2015	10,34	12,45	-10,20	8,75	38,13
	2016	6,94	11,08	-7,75	5,18	31,25

Table 8: Descriptive Statistics of ROA and ROE between 2012-2014.

5.2. Tested hypothesis for Linear Regression

As stated in chapter 2, a two-tailed hypothesis was tested to answer the research question. Among all the stock performance variables on this study, the variable stock returns were the only one with a normal distribution. Due to this results a parametric test was conducted. Considering that stock returns were tested for heteroscedasticity and according to the indicator variables were included to mitigate the influence of outliers. One reason is because the study is based on Brand Finance reports that were available during for this specific period, making it possible to apply a regression analysis. This means that the original data has been used to measure the relationship between stock returns and brand equity.

The following hypothesis was outlined to test this stock performance variable against brand equity:

H_0 = *There is no significant relationship between stock return and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between stock return and brand equity of listed Nordic companies from 2012-2016.*

As seen on table 9 the linear regression between the stock performance variable and brand equity is not significant in four out of the five years being studied.

Coefficients

Term	Coef	SE Coef	T-Value	P-Value
Constant	0.273	12,3	2,22	0,032
BrandEquity	-0,00143	0,00161	-0,89	0,379
Year_2013	0.139	13,3	1,04	0,302
Year_2014	-0.155	13,4	-1,15	0,255
Year_2015	-0.422	13,5	-3,12	0,003
Year_2016	-0.091	13,3	-0,68	0,500

Regression Equation

Returns = 27,3 - 0,00143 Brand Equity + 13,9 Year_2013 - 15,5 Year_2014 - 42,2 Year_2015 –9,1 Year_2016

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
28,9259	34,90%	27,33%	16,83%

Table 9: Regression analysis of Stock returns and Brand Equity.

The only period indicating a level of significance is 2015 in which the variables has a negative but significant relationship. The stock returns variable indicates then a p-value of 0.003 in 2015 and a correlation of -0.422. This negative relationship indicates that if brand equity were to increase, stock returns would not increase either. This entails that the effect would be in the opposite direction. The listed Nordic brands would then only show a positive stock returns when the companies included in the study have lower brand investments. Nevertheless, the other years indicate there is no relationship between both variables which entails that at certain points in a specific period brand equity may be associated with stock returns. In summary, the null hypothesis is only rejected in one occasion and accepted in other years throughout the studied time frame. Moreover, the R-sq of the regression equation indicates that only 34.90 % of the equation explains the relationship between the variables. This may also be because there are outliers present in the data (see diagram 2, p. 43).

5.3. Tested Hypothesis for Correlated variables

As seen in section 5.2, this study aims at studying the relationship between brand equity and stock performance with the help of a two-tailed hypothesis. This hypothesis was, as seen in section 5.2, divided for each variable so that readers would get a better understanding on how each variable relates to brand equity. Every null hypothesis, for each variable, assumes that there is no relationship between stock performance and the brand equity of listed Nordic companies during the period 2012-2016. However, each alternative hypothesis assumes that there is a significant relationship between stock performance and brand equity of listed Nordic companies in the period 2012-2016. In this section, readers will be introduced to the hypothesis for EPS, P/E, MTBV, ROA and ROE. The following hypothesis for each variable was implemented as followed:

H_0 = *There is no significant relationship between EPS and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between EPS and brand equity of listed Nordic companies from 2012-2016.*

As seen on the table below this study found a negative relationship with brand equity and EPS. In table 10, it is indicated that EPS had a p-value of 0.43which is lower than 0.05. This is a strong indication that there is no relationship between brand equity and the stock performance variable EPS. Therefore, the alternative hypothesis can be rejected, and the null accepted. Moreover, as seen on the table, both variables had a weak negative correlation coefficient which was -0.113. This entails that the variables are negatively correlated, however with no significant relationship.

Correlations

			BrandEquity	EPS
Spearman's rho	BrandEquity	Correlation Coefficient	1,000	-, 113
		Sig. (2-tailed)	.	,43
		N	50	50
	EPS	Correlation Coefficient	-, 113	1,000
		Sig. (2-tailed)	,43	.
		N	50	50

Table 10: Correlation between brand equity and EP

Another hypothesis was that of the P/E ratio. The variable, which also forms part of the definition of stock performance had the following hypothesis:

H_0 = *There is no significant relationship between the P/E-ratio and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between the P/E ratio and brand equity of listed Nordic companies from 2012-2016.*

When testing the hypothesis, the table below indicates a positive relationship with brand equity. As seen on table 11 the correlation between brand equity and the P/E ratio is 0.379, meaning that there is a positive relationship between the two variables. Considering that the p-value is below 0.0007<alpha, I can therefore reject the null hypothesis and accept that there is a relationship between brand equity and the stock performance variable P/E ratio. Considering that the correlation coefficient is 0.379, this result indicates that both variables have a medium strong relationship.

			P/E	BrandEquity
Spearman's rho	P/E	Correlation Coefficient	1,000	,379**
		Sig. (2-tailed)	.	,007
		N	50	50
	Brand Equity	Correlation Coefficient	,379**	1,000
		Sig. (2-tailed)	,007	.
		N	50	50

Table 11: Correlation between brand equity and P/E ratio.

Moreover, MTBV also shows a positive and significant relationship with brand equity. As seen on table 12 below, the p-value is 0.014 which indicates that the null hypothesis is rejected, and the alternative can be accepted. As seen in section 3.2.4, MTBV had a similar

hypothesis as the rest of the stock performance variables. This hypothesis assumed the following:

H_0 = *There is no significant relationship between MTBV and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between MTBV and brand equity of listed Nordic companies from 2012-2016.*

This means that there is a positive relationship between brand equity and the stock performance variable MTBV. Additionally, the relationship between both variables is medium strong due to the coefficient being 0.346 in a range which is higher than the coefficient range of 0.29. This relationship may therefore indicate that brand equity has an influence on the stock performance variable MTBV. This indicates that the null hypothesis below has been rejected and the alternative accepted.

Correlations

			BrandEquity	MBTV
Spearman's rho	BrandEquity	Correlation Coefficient	1,000	,346*
		Sig. (2-tailed)	.	,014
		N	50	50
	MTBV	Correlation Coefficient	,346*	1,000
		Sig. (2-tailed)	,014	.
		N	50	50

Table 12: Correlation between brand equity and MTBV.

Lastly, ROA and ROE were also tested against brand equity. Let's first start with ROA, in which according to table 14 the variable appears to have a significant positive relationship with brand equity. The variable had the hypothesis that:

H_0 = *There is no significant relationship between ROA and brand equity of listed Nordic companies from 2012-2016.*

H_1 = *There is a significant relationship between ROA and the brand equity of listed Nordic brands from 2012-2016.*

As seen on table 13, the p-value was 0.043, which means that its lower than α=0.05. In this case, we can reject the null hypothesis and accept that there is a significant relationship between brand equity and stock performance in the case of ROA. Additionally, the relationship between both variables resulted in a positive coefficient of 0.287. As stated in chapter 4.6, sometimes correlations can range between 0.10 to 0.29 if they have a weak relationship (Pallant (2010, p.134; Saunder et al, 2000, p.364). In this case, though both variables are positively correlated, there is a small relationship due to the coefficient being 0.287.

Spearman's rho	BrandEquity	Correlation Coefficient	1,000	,287*
		Sig. (2-tailed)	.	,043
		N	50	50
	ROA	Correlation Coefficient	,287*	1,000
		Sig. (2-tailed)	,043	.
		N	50	50

Table 13: Correlation of brand equity and ROA

In comparison to ROA, there was no correlation between ROE and brand equity. The hypothesis for this variable was outlined as follows:

H_0 = *There is no significant relationship between ROE and brand equity of listed Nordic companies from 2012-2016*.

H_1 = *There is a significant relationship between ROE and brand equity of listed Nordic companies from 2012-2016*.

As seen on table 14, there is no significant relationship between brand equity and this part of stock performance. As seen on table 10, the correlation between both variables resulted in a p-value that was higher than α=0.05, meaning the alternative hypothesis is rejected and the null hypothesis accepted. As the null is accepted, it entails that this stock performance variable has no relationship with brand equity. Moreover, this non-relationship is negative, -0.087, which means that if the relationship was significant both variables would have a weak negative correlation.

			BrandEquity	ROE
Spearman's rho	BrandEquity	Correlation Coefficient	1,000	-, 087
		Sig. (2-tailed)	.	,549
		N	50	50
	ROE	Correlation Coefficient	-, 087	1,000
		Sig. (2-tailed)	,549	.
		N	50	50

Table 14 : Correlation of brand equity and ROE.

6. Analysis

In this chapter, the connection between the theoretical framework and empirical findings are made. The analysis will consist of information based on descriptive statistics, correlations test and regression analysis.

6.1. Overview

As stated in section 4.4 to answer the research, question a two-tailed hypothesis was implemented for each variable. The hypothesis for each stock performance variable entailed that if $p > \alpha = 0.05$, then the alternative hypothesis was rejected, and the null hypothesis was accepted. This means that there is no level of significance between the variables if the p-value is larger than $\alpha = 0.05$. In this study, three out of six stock performance variables were found to have no significant relationship between brand equity. The variables with no as well a certain degree of relationship to brand equity were; EPS and ROE. Stock returns lacked a relationship in almost every period except 2015 in which the relationship was negative, which will be discuss below. In comparison to other variables included in the study, a linear regression was used to acquire the relationship between brand equity and stock returns. Because of heteroscedasticity, indicator variables were included to mitigate the presence of outliers. Below is the analysis of each variable linked to the theoretical framework.

6.2. Stock returns and Brand Equity

As seen on table 9, stock returns had no significant relationship with brand equity throughout all periods except 2015. However, this relationship was negative, as the coefficient was -0.332, therefore is not consistent to previous findings. In the study by Basgoze et al (2016, p 1262) the authors found that firms with a high brand equity generate positive abnormal returns after a brand equity announcement. Other studies indicated similar outcomes as Basgoze et al (2016, p. 1262) in which brand equity and stock returns had a positive relationship (Aaker 1991, p.14; Francis & Shipper 1999, p. 323; Lane & Jacobson, 1995, p.1). This study however provides different results. On table 5, the brand equity for Nordic companies in 2015 was 7061 billion USD. At the same time the stock return, which is shown on table 6, was -24.03. Moreover, the p-value of this regression is 0.015 which means that in this specific period, the null hypothesis can be rejected and there is a relationship between brand equity and the stock performance variable stock return. Considering that the regression coefficient is -0.332, it then indicates that a higher brand equity does not necessarily lead to a higher stock return. Seeing that the brand equity was 7061 billion USD is also an indication of this development. The Nordic brands therefore did not generate stock returns during that period. This could mean that higher brand equity does not necessarily lead to a higher stock return.

Though other studies found a positive relationship with brand equity and stock returns this study also managed to conclude that there is no efficient market. The empirical results are an indication that investors are not fully rational and that all available information is obviously not included on the prices. In contrast to the above-mentioned studies this study indicates that the market is quite adaptive. This means that since not all available information is included in the prices, investors will adapt themselves in accordance to current market circumstances. This means that Lo's (2004, p. 24) adaptive market hypothesis is more suitable in this situation. Seeing that brand equity and stock returns had a negative relationship in 2015 is an indication of Lo's (2004, p. 26) second implication that risk, and returns will shift over time. According to the author risk and returns are determined by the shift between market

participants and the regulatory environment, which can affect the relationship. Considering that IAS standards (IAS 38:12, 2014, p.257) do not permit brand equity to be on the balance sheet, it is therefore an indication of the negative results presented in this study.

6.3. EPS and Brand Equity

As mentioned, EPS was also negatively correlated and had no significant relationship with brand equity. Previous studies have, however, provided opposite results. Unlike this study, other studies found a positive and significant relationship between intangible assets and EPS. More recently Arora and Chaudhary's (2016, p. 94) found a significant positive relationship between brand equity and EPS. According to the authors this result indicate that brand image has increased and thus lead investors to buy more shares. However, this predicament is not connected to the outcome of EPS in this study because the variable itself lacks any relationship with brand equity.

6.4. P/E-ratio and Brand Equity

Furthermore, the P/E ratio also provided a positive outcome. According to the table above, the correlation of brand equity and the P/E ratio had a coefficient of 0.379 and a p-value of 0.007, which is a different outcome than EPS that had no relationship with brand equity. This means that the null hypothesis can be rejected and the alternative accepted. It therefore concludes that there is a significant positive relationship between brand equity and the P/E ratio. Therefore, it is in accordance to what previous authors have stated. In the study by Whalen et al. (p. 1030,), the authors found that when intangible assets like R&D and human capital are completely expensed it would lead to a low P/E ratio. Even though these assets do not constitute as brand equity it still indicates that the P/E is in accordance to what previous authors have said.

Even though correlations do not necessarily explain the cause-and-effect relationship on how variables have affected each other, this positive correlation can also be interpreted that whenever brand equity increases, the P/E ratio will also increase. This also indicates that investors may receive higher returns in the future. This can be seen on table 7, in which the average and median P/E ratio is positive. This type of outcome may attract investors, because they consider that higher P/E ratios generate higher returns. However, Malkiel (2003, p.68) states that there has been research which shows that lower P/E ratios generate higher returns. The author further claims that this is an indication that the efficient market hypothesis does not work. In this case if an efficient market exited, investors would not gravitate to higher P/E ratios because all information on brand equity is available on the prices and they would therefore use rationality and have no arbitrage opportunities. However, Malkiel's statement is an indication that if investors gravitate to higher P/E ratios in hope of acquiring higher returns, then they are not thinking rationally. It is an indication of the adaptive market hypothesis, meaning investors will gain higher returns if they adjust to current market conditions (see section 3.4). Penman has previously stated that the value of intangible assets, in this case brand equity, is often reflected on company earnings. Due to these results, it might mean that the brand equity among the Nordic companies might generate higher returns. Furthermore, this also indicates that if Nordic companies manage their brand equity properly it will lead to an increase in earnings and customer loyalty (Aaker. 1990, p. 27). In this case investors, will be more loyal to the brand due to positive earnings in the future. This was also stated by Kotler et al (2004, 220), in which the author stated that investors will associate the image of the brand as positive based on a company's high earning returns.

6.5. MTBV and Brand Equity

When it comes to the MTBV, its correlation to brand equity is not only positive but also significant. Table 12 above indicates that brand equity and the MTBV have a positive correlation of 0.346 and a p-value of 0.014. This relationship is in accordance to previous findings in which there has been a positive relationship between intangible assets and the MTBV. Previous studies have focused mostly on the MTBV's relationship as an independent variable in which it has been used as an indicator of Brand Equity; however, this study has managed to find the possibility of brand equity affecting MTBV values. Even though this relationship is considered a medium strong relationship, it's still consistent with previous research findings. Moreover, as seen in section 4.9.1, the MTBV values are increasingly high, meaning it shows a value that is over 1. This is an indication that, in this case, brand equity is not included on the balance sheet. Considering that studies by Marzo (2013, p. 565) stated that increasing gaps between the market value and the market to book value prove that intangibles are being from the balance sheet. This can also be concluded from this study's empirical findings. Seeing that the relationship is positive, it shows that if brand equity were to be included on the balance sheet the average MTBV in table 6 would be lower and lead to the increasing gap between the market value and the book value to decrease.

6.6. ROE/ROA and Brand Equity

When it comes to ROE, the outcome was different than that of ROA. As seen in table 9, ROE was negatively correlated with brand equity. The table shows a correlation of -0.087 and a p-value of 0.549. This means that in the case of ROE the null hypothesis must be rejected as the variable did not have a significant relationship with brand equity, meaning it was neither positive or negative. This is different from what previous studies have found, in which there have been positive outcomes between ROE and intangible assets in general. In the study by Tan et al (2007, p.90-91) it was concluded that ROE and the intangibles of 150 companies in Singapore had a positive relationship. However, the study by Arora and Chaudhary (2016, p. 88) found that there was a significant negative relationship between brand equity and ROE. The authors argued that this significance was because bank expenditures on brand investment do not lead to an increase in equity returns. In this study however, though the relationship does not exist as the p-value indicates a relationship that is not significant, one cannot assume that brand equity and ROE are significantly related.

Even though the above-mentioned variables provided negative results, the stock performance variable ROA provided positive ones. Though the correlation coefficient is not at value of 1 it still shows a positive relationship between these variables. As seen on the correlation table for ROA, the correlation with both variables is significant due to the p-value being 0.043 at a coefficient of 0.287. This indicates that the null hypothesis can be rejected, and the alternative can be accepted. In other words, there is a relationship between brand Equity and ROA. This is also in accordance to what Li and Wang (2011, p. 108) found on their study in which the authors concluded a positive relationship with ROA and intangible assets. Furthermore, this might also be an indication on how well brand equity is managed. Nevertheless, since the level of relationship between both variables is weak it might be an indication that there are assets missing from the balance sheet. As stated in section 3.2, ROA is a valuable measurement when it comes to explaining the utilization of assets. Considering that the correlation between brand equity and ROA displays a weak relationship it clearly indicates that the utilization of assets is weak. According to Li and Wang (2011, p 98), the ROA is a suitable measurement for the utilization of assets, in this case this correlation might be an indication that brand equity is not utilize due to the current IAS 38 standards which forbid

internally generated brands to be recognize on the balance sheet. This shows that an improvement on brand equity will lead to a significant increase on the ROA. In the study by Arora and Chaudhary (2016, p. 92) the authors had a different outcome on the relationship between brand equity and ROA. Their study found that brand equity had a significant negative relationship with ROA. According to the study this is an indication that bank investments on a brand will lead ROA to decrease. This also shows that even though brand equity is an important asset it will not generate returns because Indian banks are not optimally utilizing brand investments. As seen on the table above, however, Nordic companies are somehow utilizing brand investment to generate returns from it. Furthermore, this study cannot fully detect if ROA would increase at the same time as brand equity increases, considering that correlations do not explain how variables affect each other.

7. Conclusions

In this chapter, the research question will be answered, and it will also confirm if the purpose was achieved. Moreover, this chapter discusses general conclusions, theoretical and practical contributions, methodological limitations and future research.

7.1. General Conclusions

The purpose of this study was to examine if the brand equity for Nordic companies affects the stock performance. By studying this relationship, the research also aimed at answering on whether this relationship may generate positive returns for investors if brand equity was to be recognized on the financial statement. This is currently an issue in which IAS standards do not permit companies to issue intangible assets like brand equity on the financial statement because these assets do not have an active market. However, previous studies confirm that brand equity might have a positive relationship with stock returns. Considering that no previous study on brand equity and stock performance has focused on Nordic countries it therefore became part of the research gap. Furthermore, since majority of the studies have concentrated on stock returns, other significant performance ratios were included as well. The research problem therefore leads to the following research question:

How is brand equity affecting the stock performance of Nordic companies listed on Brand finance in the period 2012-2016?

To answer the research question, a two-tailed hypothesis was outline variable in which rejection of the null hypothesis would imply a significant relationship between brand equity and stock performance. In this study, it has been found that three out of the six stock performance variables, MTBV, P/E and ROA, had a positive relationship with brand equity. This means that the alternative hypothesis was accepted, and it can be concluded that brand equity has a positive relationship with these specific stock performance variables. Furthermore, the study also found that this relationship is an indication on how efficient the market is. Since, stock returns had a negative but significant relationship with brand equity in 2015, it indicates that the market is not fully efficient but adaptive. This means that investors will gain returns if they adapt to current market conditions. Moreover, the study also shows that even if high brand equity is high the stock return will not increase, which is a different result than what previous research has found. In previous studies stock returns had a positive relationship with brand equity and other intangible assets. However, the stock returns from 2015 showed that brand equity, which was higher than any other period, did not necessarily generate higher returns instead it generated negative returns. This entails that even if brand equity increases the returns will be negative and if it decreases they will be positive.

7.2. Theoretical Contributions

This study was first inspired by Basgoze et al.'s (2016) research on brand equity announcements related to abnormal stock returns for the top 50 Turkish brands listed on Brand Finance. The study showed that there was a positive relationship between brand equity announcements and abnormal stock returns, however other variables were not included. The authors did not include other significant financial ratios which may also have an impact on brand equity and investors financial decisions. Moreover, the issue of brand equity is not only related to the accounting field but also to the marketing field. As stated in section 1.2, both the marketing field and accounting field have a different understanding on how brand equity

should be addressed. Therefore, I have managed to conduct a research that is relatable to both fields and the financial field because financial ratios have been included. This study has contributed to theory by showing that three out six stock performance variables had a significant relationship with brand equity. This study has also theoretically contributed by showing both positive and negative relationships between brand equity and stock performance, which is to a certain degree in line with what previous research has concluded regarding intangible assets (Hurwitz et al, 2002, p. 60; Tan et al 2007, p.91). As seen in chapter 5, the variables who had a relationship with brand equity were the MTBV ratio, the P/E ratio, ROA and Stock returns from 2015. As the three first mentioned variables showed positive relationships, the last mentioned only showed a relationship in 2015. This means that, this study has managed to theoretically contribute that the negative relationship from 2015 and the lack of relationship throughout other periods attest that the market is not always efficient. It entails that the market is an ecology in which investments are based on the current environment (Lo, 2015, p. 24). It also shows that the MTBV gap can be reduce if intangible assets are included on the balance sheet (Clarke et al, 2001, p. 19-20; Malkiel, 2003, p.68). Brand equity will necessarily not reduce it by itself, but considering the results it indicates that intangibles in general should be taken more seriously. Moreover, since there is a lack of research on the subject in Nordic countries, it has also theoretically contributed in this geographical region. Seeing that the countries are well known for their extensive investments in intangible assets (see section 1.2), this study has provided further information into how brand equity is managed in this area as well.

7.3. Practical Contributions

Furthermore, this study has also created practical contributions because it has showed that brand equity should be included in the balance sheet. This can for example be seen from the positive MTBV and brand equity results. Previous research states that MTBV can be reduced if intangible assets are included in the balance sheet (Clarke et al, 2001, p. 19-20; Malkiel, 2003, p.68). Therefore, I believe that this positive relationship showed that companies should manage their brands better and that accounting practitioners should consider including it in the balance sheet. As stated, brand equity is one of the most powerful intangibles and can contribute in increasing a company's competitive advantage (Aaker 1991, p.14; Lane & Jacobson, 1995, p.1). Therefore, by including brand equity and other intangibles in the balance sheet the MTBV gap might be reduced.

7.4. Methodological Limitations

One of the main limitations encountered in this study was the lack of data. This has therefore lead me to use less data than anticipated. Firstly, because, Brand Finance does not publish the reports in its entirety. To assess the reports, one must pay a fee. Therefore, the companies included were not the top 50. Instead 10 companies. Moreover, some companies were excluded because they are privately held. Like IKEA that, which appeared as the top brand during 2012-2016, was excluded because it was a private company. Since it is not listed on the market, there was no public information available that could be used to include IKEA in the study. Furthermore, the outliers that appeared in the data for stock performance in relation to brand equity were also an issue. Even though indicator variables were used, there were still some signs that the outliers could be disturbing the data.

7.5. Future research

Considering that this study had its methodological delimitations, one suggestion for further research would be to include more data by analyzing more companies. As stated, this study included a total of 10 companies because Brand Finance requires you to pay a fee to obtain further information. This was a methodological implication as the whole sample cannot be generalized unto other markets except for Nordic market during the used time frame. Therefore, it would be good if other researchers would expand the study with more companies and probably include other markets. As stated, one cannot generalize the results of this study unto other markets except the Nordic market. Legislations, stock returns and financial ratios may vary among markets therefore, it would be interesting if future research made a comparison across markets. This is because it would provide more information on how brand equity relates to stock performance in other countries. Moreover, as the study did not analyze each company individually, future research should expand it by analyzing the industries in which each company operates. As the companies in this study operate in different industries, it would be of interest to see if the relationship between brand equity and stock performance is linked to a specific industry as well. This entails that instead of using the time frame as an indicator variable, future research could use industries as an indicator variable.

Furthermore, it would also be interesting to study the subject by examining how brand equity is related to stock performance by using other consulting firm's information. As stated in section 1.2, Brand finance is not the only brand valuation firm in the world. There is also Interbrand and Millward-Brown and considering that this companies use different models to calculate brand equity it would be interesting to see if the results differ.

8. Truth Criteria

This chapter introduces readers to the truth criteria of the study. The criteria consist of reliability, validity and transferability. The chapter will later conclude with the ethical considerations made throughout the study.

8.1. Reliability

The term reliability is defined as the likelihood that similar results can be achieved by other researchers (Saunder et al (2009, p. 600). For a study to be completely reliable, one must take into consideration to three significant factors: stability, internal reliability and inter observer consistency. The first factor describes the study's repeatability over time. Therefore, if the measurements are stable one might be able to obtain similar conclusions in a different period. To achieve this one can do a test-rest test in which the studied variables are measured once more to see if the results are less robust than the previous study (Bryman & Bell, 2011, p. 157- 158). Seeing that this study was conducted under a short time frame, testing its stability with similar measurements was not possible. However, I do believe that this study is stable because it has managed to provide a structured methodological explanation on how each variable has been tested. If researchers use the same variables and conduct similar measurements by using the same data and sources used in the study, they might obtain similar results.

Internal reliability refers to the consistency and the pattern of the variables. According to Bryman and Bell, (2011, p. 158) if measurements vary in a similar way then they can be considered reliable. Even though the study consists of a small sample and some of the data contained outliers, three out of six variables as well stock returns under the period 2015 had a relationship with brand equity. This indicates that every measurement made was consistent among all variables. Furthermore, even if variables had their own hypothesis they still measured the same research question and aimed at obtaining the same result. When it comes to the inter-observer consistency, it is considered when doing open ended questions or when structured observations are conducted (Bryman & Bell, 2011, p. 157-158). As this study was not based on questionnaires or observed investors by coding their behavior, the inter-observer consistency was therefore not taken into consideration.

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8.2. Validity

Validity is a term that describes on whether the findings are what they appear to be. The term validity is divided into two categories: internal and external validity. The first term refers unto how well a research has been conducted and whether there was a cause and effect relationship between these variables (Horan, 2010, p. 50). To enhance the internal validity of this study, a normality tests and heteroscedasticity test was conducted to obtain information on whether the chosen quantitative techniques were appropriate. Since the variables EPS, P/E, MTBV, ROA, and ROE were not normally distributed a non-parametric test was therefore applied. Even though the Spearman's correlation test is non-parametric it still provides the same results as any other parametric test out there. For example, the Spearman's test was specifically chosen because Clarke et al (2011, p. 518) also used this specific test on their study regarding intangible assets relationship and dependent variables like ROA and ROE.

Considering that previous studies already indicated that these variables have turned out to have a specific type of relationship with brand equity, it can be stated that the variables used in this study are suitable to answer the research question. Furthermore, since heteroscedasticity was tested it is also an indication of the enhancement of the internal validity of this study. As seen in section 4.6, it is thoroughly explained to the reader how the outliers were handled. The section includes both the data's condition before and after the outliers were removed. Moreover, the section motivates why the data was kept in its original state as previous studies indicate that heteroscedasticity is common when data is obtained directly from the stock market (Schwert & Seguin, 1990, p. 1129)

When it comes to the external validity of the study, it refers to whether the research is valid enough to generalize. Even though the sample consisted of only 10 companies, three out of the six variables studied indicated a relationship with brand equity. However, the generalizability of the study can only be extended to this specific sample. As the stock market is not similar across countries it is therefore important to address that for a Nordic market with the time frame 2012-2016, it would be possible to generalize. Moreover, since the study is new and only one more study, Basgoze et al (2016), has addressed a similar relationship, it is too early to say if the results are generalizable outside Nordic markets. However, in other markets one may assume a similar study but not generalize based on just 10 Nordic companies.

8.3. Transferability

As stated above, the study is possible to generalize in the context of Nordic companies within the time frame 2012-2016. As the studied sample was to small and the topic is fairly new, it cannot be said that generalizability exists for companies outside this time frame and this specific market. Moreover, the study can be transferable to other markets even though similar results will not be obtained. Future researchers can use other markets in their study and include similar variables to assess the relationship of brand equity and stock performance.

8.4. Ethical considerations

As stated in section 2.7, this study will not be harmful for any company included. This because according to me the listed companies willingly published this information and Brand Finance made evaluation on their brands available to the public as well. Companies whose data was not public were not included in this study, which also incites that I took these companies privacy into consideration. In summary, this study has taken into account what was previously discussed in section 2.7 throughout the whole process.

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Appendix

Company name	Year	EPS	P/E	MBTV	ROA	ROE	BrandEquity	Stock Return
Volvo	2012	5,44	16,32	2,1	3,85	12,97	2364	24,32
Volvo	2013	1,77	47,8	2,25	1,79	4,72	3058	-0,61
Volvo	2014	1,04	81,85	2,19	0,85	2,72	3525	13,77
Volvo	2015	7,42	10,66	1,92	4,62	18,57	4154	-16,12
Volvo	2016	6,47	16,44	2,25	3,87	14,62	3997	57,24
H&M	2012	10,19	21,19	8,15	28,03	38,36	8596	-7,84
H&M	2013	10,36	26,83	10,17	27,73	38,51	9294	24,04
H&M	2014	12,07	26,46	10,25	29,04	41,27	11678	18,81
H&M	2015	12,63	25,62	9,22	26,66	38,13	14715	-23,81
H&M	2016	11,26	23,79	7,24	20,81	31,25	1551	-16,72
Nordea	2012	6,768	9,18	1,03	0,91	11,41	6735	-5,84
Nordea	2013	6,719	12,9	1,35	0,95	10,84	7133	7,23
Nordea	2014	7,539	12,06	1,3	0,97	11,24	7406	14,13
Nordea	2015	8,483	11	1,32	0,98	12,08	9157	-32,81
Nordea	2016	8,836	11,46	1,32	1,05	12	9445	-8,63
Ericsson	2012	1,8	36,17	1,53	2,7	4,13	2648	4,84
Ericsson	2013	3,721	21,09	1,81	4,98	8,67	2118	10,46
Ericsson	2014	3,574	26,4	2,12	4,64	8,13	5879	-20,77
Ericsson	2015	4,17	19,74	1,83	5,27	9,32	5151	-20,58
Ericsson	2016	0,526	101,73	1,25	0,87	1,2	5469	-53,58
Telia	2012	1,8	36,17	1,53	9,4	17,67	5253	38,38
Telia	2013	3,721	21,09	1,81	7,2	14,03	6538	20,07
Telia	2014	3,574	26,4	2,12	6,66	13,2	7376	12,36
Telia	2015	4,17	19,74	1,83	4,27	8,17	6692	-27,01
Telia	2016	0,526	101,73	1,25	1,47	3,98	5572	39,1
A.P Moller	2012	44,88	8,58	0,89	5,9	10,76	2395	61,92
A.P Moller	2013	887,6	13,26	1,19	5,21	9,13	2937	17,97
A.P Moller	2014	1298,334	9,53	1,04	7,12	12	3274	21,23
A.P Moller	2015	250,237	35,87	0,79	1,62	2,15	3284	-21,39
A.P Moller	2016	-629,38	-17,91	1,06	-2,29	-5,67	3386	37
DNB	2012	8,39	8,39	0,9	1,11	11,11	4533	25,18
DNB	2013	10,763	10,08	1,24	1,16	13	7009	14,7
DNB	2014	12,667	8,74	1,14	1,21	13,71	6511	24,08
DNB	2015	14,983	7,33	0,94	1,33	13,98	7047	-20,89
DNB	2016	11,461	11,2	1,01	1,12	9,4	6238	-2,8
Statoil	2012	21,66	6,42	1,38	9,01	23,04	4693	-5,69
Statoil	2013	12,544	11,72	1,31	4,97	11,83	6567	35,43
Statoil	2014	6,887	19,05	1,1	2,53	5,95	5983	-39,08
Statoil	2015	-11,795	-10,49	1,11	-3,08	-10,2	7331	-15,18
Statoil	2016	-7,661	-20,67	1,69	-2,72	-7,75	6559	10,74
Telenor	2012	6,43	17,45	2,34	7,29	12,73	2725	7,28
Telenor	2013	5,743	25,18	2,98	5,97	11,92	3044	72,89
Telenor	2014	6,033	25,11	3,57	5,58	13,24	3685	1,96
Telenor	2015	2,274	65,22	3,81	2,35	5,59	3696	-40,78
Telenor	2016	1,886	68,39	3,81	2,04	5,18	3782	41,46
NOKIA	2012	-0,84	-3,48	1,35	7,29	12,73	5128	66,14
NOKIA	2013	-0,166	-35,13	3,34	5,97	11,92	3178	136,62
NOKIA	2014	0,313	20,97	2,78	5,58	13,24	2032	-10,36
NOKIA	2015	0,672	9,82	2,47	2,35	5,59	2212	-21,77
NOKIA	2016	-0,134	-34,33	1,31	2,04	5,18	3039	8,25