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**EFFECTS OF MERGER AND ACQUISITION ANNOUCEMENT ON**  
**SHAREHOLDER VALUE**  
**Evidence from the Finnish market**

Master`s Thesis in  
Accounting and Finance  
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**ABSTRACT**

The purpose of this thesis is to examine the effect of merger and acquisition announcements on shareholder value. This thesis analyzes the previous literature and execute an empirical study to find results to developed hypotheses that are related to shareholder value and deal performance. The sample of this thesis is gathered from January 2007 to August 2017 and includes mergers and acquisitions completed by Finnish listed companies during a determined time period.

The empirical results of this thesis find that during a short-term the merger and acquisition announcement creates statistically significant abnormal returns of 1,61% and 2,67% during the event windows (-1, +1) and (-1, +30), respectively. In addition, the empirical study find that size of the acquirer, sector of the target and the nationality of the target has effect on the deal performance. However, only the sector of the target effects significantly on the shareholder value. In a long-term, the abnormal returns of the merger and acquisition announcement turned to negative, except for the combination portfolio, which includes transactions of domestic and different sector targets. However, the long-term combination portfolio's result is statistically insignificant.

According the empirical results, this thesis suggest that the management should select the target of the merger and acquisition in terms of their strategic goal. If management wants to maximize the shareholder value, they should find domestic target from a different sector of business.

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**KEYWORDS:** Merger and acquisition, shareholder value, abnormal return



## 1. INTRODUCTION

The importance of mergers and acquisitions has increased significantly during the last decades. Mergers and acquisitions are one of the largest investment decisions that companies' managements execute, since the effects of the transactions are long-term and affect significantly companies' current operations. Due to this, the mergers and acquisitions affect significantly companies' future profitability. During last years, the uncertainty has increased among companies and even among nations. This increase of uncertainty has forced the managements to ensure the continuum of the business by increasing the growth of the company's revenue rapidly. Thus, the importance of mergers and acquisitions as a strategic tool for company management has highlighted its role. (Fuller, Netter and Stegemoller 2002: 1762-1764.)

As the uncertainty in the market has forced companies to grow their businesses, it is important to make decisions in terms of the company's strategy. The companies are able to grow their business through two different ways, internally or externally. Internal development is time consuming and complex. External growth is executed through mergers and acquisitions and this is usually rapid. Company management has stated that mergers and acquisitions are the most important strategic tool to grow business nowadays. The most common reasons for mergers and acquisitions are the growth and synergy advantages. The increase of profitability and the decrease of costs are usually a sufficient bait for the management to make the decision. Motivation behind mergers and acquisitions is also to ensure a larger share of the market and ensure the continuum of the business. (Andrade, Mitchell and Stafford 2001: 118; Gaughan 2015: 126-137; Hanna 2015: 130.)

The quantity and value of merger and acquisition transactions has increased significantly during the last decade. Historically the merger and acquisition activity has appeared in waves, and these waves have adapted in terms of the historical development of the economy. The most recent peak of the merger and acquisition wave was seen before the financial crisis of 2008. Right after the financial crisis the wave turned downwards again. During the last couple of years, the merger and acquisition activity has increased and according to many researcher and financial institutions, the market is creating the seventh global merger and acquisition wave. (Gaughan 2015: 2-8; IIMA 2017.)

In the previous literature, most of the studies have focused on the performance of the merger and acquisition deals. The focus has been on shareholder value and whether the deals create abnormal returns for the shareholders. Studies, such as Asquith (1982) and Jensen and Ruback (1985), have found significant abnormal returns for the target company shareholders. The abnormal returns of the acquirer have not been as common as a study subject as the target's abnormal returns. Also, the studies that have examined the acquirer company's abnormal returns have not been able to result as significant findings as studies that have examined the target company's abnormal returns. (Asquith 1982: 53; Jensen and Ruback 1985: 5-8.)

Most of the studies related to the effects of the merger and acquisition announcements are examined by using data samples from the US or the UK market. However, during the last few decades the studies with European and Asian data have become more common (see e.g. Bhabra and Huang (2012)). The merger and acquisition activity of Finnish companies has been relatively high compared to the other countries in the Europe. Despite the high activity of

Finnish companies, the studies on Finnish mergers and acquisitions have been very low in number compared to other countries.

The effects of the merger and acquisition announcements on the acquirer shareholder value is an interesting topic, since the empirical results have not been as consistent as the studies among the target's shareholder value creation. The empirical results have provided different results worldwide and the differences between study methods are attempted to determine. Significantly fewer studies with the Finnish stock market data have been completed than studies with the US or the UK data. However, Finnish companies have been very active in the merger and acquisition market, which makes this thesis a current subject. The results of this study make it possible to compare the empirical results with the effects of merger and acquisition value creation between Finland and other countries in the world.

The purpose of the study is to study the effects of merger and acquisition announcements on the acquirer's shareholder value. The study is divided into two different study approaches. The first approach studies the effects of merger and acquisition announcements on the short-term and the long-term shareholder value. The second approach examines whether there are some deal characteristics that have effect on the deal performance. Both approaches use the data of merger and acquisition announcements made by Finnish listed companies during the time period between January 2007 and August 2017.

The empirical study of this thesis tests developed hypotheses with statistical methods. The hypotheses are based on the previous literature such as Jensen and Ruback (1983), Aw and Chatterjee (2004), Moeller, Schlingemann and Stulz (2004) and Berg (1997). The effects of the merger and acquisition

announcements are tested by calculating abnormal returns. The deal performance is divided into three different groups that include different characteristics. The groups include characteristics such as the geographical scope of the deal, business sector and the size of the target company. The empirical results on the deal performance are concluded through comparing the abnormal returns inside the group.

The data sample of the empirical study include mergers and acquisitions completed by listed Finnish companies between January 2007 and August 2017. The sample includes only transactions that are completed by the Finnish listed companies, since gathering the share price data of private companies would be too time consuming. Also, if the same company has made several transactions during the event windows the transactions are excluded from the data sample. In addition, if the acquirer has acquired less than 100% of the target company, the transaction is removed from the sample. This is because this thesis assumes that acquisitions of only a part of the target company do not have as significant effect as the acquisition of a whole target company.

The empirical methods used in the study are based on the related previous literature as are the development of the hypotheses. The previous literature has used statistical methods in attempt to find statistically significant difference between the actual returns and the expected returns (see e.g. Tech and O'Sullivan (2007)). The empirical methods may be divided into two different groups: qualitative and quantitative. This thesis uses the quantitative methods. The quantitative method that is used in this thesis is the event study method. Event study generally examines the effect of an event, such as earnings announcement or profit warnings. The researchers test whether the event creates abnormal returns for the shareholders. In this thesis, the event study

examines the effect of the merger and acquisition announcement and tests whether this announcement creates any significant abnormal return for the shareholders.

The thesis consists of two different parts. The first part includes the theoretical part of the thesis. The second part includes the empirical study and the results of the thesis. The purpose of the theoretical section is to introduce the topic of mergers and acquisitions. Chapter two shows how the merger and acquisition announcements have affected the shareholder value in the past. The chapter illustrates the effects by introducing the previous literature related to merger and acquisition announcements. In the last section of the chapter two, I develop the hypotheses for the empirical study. Chapter three introduces the mergers and acquisitions more generally and illustrates different deal types and motivations behind mergers and acquisitions.

After the theoretical part of the study starts the empirical part, which contains the chapters four and five. In chapter four, I introduce the data and the methods that are used to carry out the empirical study. In the first section of chapter four, the data sample is introduced together with the restrictions that apply in the study. The purpose of the section is to illustrate why the limitations that have been made are necessary. The second section of chapter four introduces the methods that are used to derive the empirical results of the study. Chapter five illustrates the empirical results. The first section of chapter five shows the results for the short-term study and the second section shows the results of the long-term study.

Finally, after empirical results, chapter six summarizes the results of the empirical study and shows the conclusions that have been made in respect of

the empirical results. The concluding chapter also discusses how the empirical results of this study can be interpreted with respect to the previous literature. The chapter also proposes possible additional studies related to the topic of this thesis.

## 2. LITERATURE REVIEW AND HYPOTHESES

There has been a broad selection of different studies that examine the effects of mergers and acquisitions on shareholders' value during the most recent decades (see e.g. Asquith 1983; Gregory and McCriston 2005; Tuch and O'Sullivan 2007; Bhabra and Huang 2013). One reason for the popularity of these kinds of studies, is the investors' interest to predict future abnormal returns. Conclusions made by previous studies have been mainly consistent with each other regardless of different methods and data samples. This chapter summarizes the conclusions made by relevant studies on the effects of mergers and acquisitions on the company value in short- and long-term. The first section of this chapter introduces previous literature starting from the effects of mergers and acquisitions, and continues to describe characteristics of the deal and their effects on performance of the deal. The second part of this chapter introduces the research questions of this thesis and describes why those questions are chosen as the hypotheses.

### 2.1 Literature review

At the beginning of the 1980's, investors started to increase their interest towards the value creation in mergers and acquisitions. Inspired by this, Asquith (1982) studies successful and unsuccessful mergers, where the target companies were listed on the NYSE. In the study he defines a merger as a successful merger if the target disappears as a separate company, and as an unsuccessful merger if the target continues operations as a separate company. The data in the study is gathered from the years 1962–1976. In the results

Asquith (1982) concludes that a successful merger generates abnormal returns from announcement date to outcome date for both the target and the acquirer. However, the acquirer's abnormal returns are not statistically significant. In unsuccessful merger bids, the targets gain abnormal return initially at the time of the announcement date but eventually at the outcome date the abnormal return is negative. This is also true for the acquirer, even though the announcement date's abnormal return is not significant in this case either. (Asquith 1982: 51–83.)

A year after Asquith (1982), Jensen and Ruback (1983) examine the returns of the shareholders of the target company and the acquirer company during a takeover and a merger. They conclude that the target company's shareholders receive positive abnormal return from the takeover and the acquirer does not lose. Jensen and Ruback's (1983) findings show that abnormal stock price movements in a successful takeover for the target is approximately 30% and for the acquirer approximately 4%. The study also illustrates how shareholders receive abnormal returns in a merger. The average significant abnormal stock price change in a merger for the target is around 20% and 0% for the acquirer. Even when the acquirer does not gain any abnormal return in the merger, the shareholders of the combined company gain value. (Jensen & Ruback 1983: 5-8).

As Jensen and Ruback (1983) concluded earlier, the targets of an acquisition gain impressive abnormal returns, Andrade, Mitchell and Stafford (2001) report a similar finding in their study. They find that shareholders of a target company gain an impressive 16% abnormal return during the event window (-1, +1). The study also shows that when the event window is longer, the return is even greater, rising to 24%. What makes this study even more interesting is that the results by Andrade et al. (2001) are significant and relatively consistent during

three different time periods. Their results for the target shareholders' abnormal return in the event window of (-1, +1) are 16.0% during 1973-1979, 16.0% during 1980-1989 and 15.9% during 1990-1998. When the event window is wider the results are 24.8%, 23.9% and 23.3% respectively. This illustrates that even when the number of mergers and acquisitions tend to increase during a boom, the returns for the targets are still stable. (Andrade 2001: 110-111.)

Franks, Harris & Mayer (1988) examine the acquirers' abnormal returns in the UK. They conclude that there are no significant abnormal returns for the acquirers. To support the conclusions of the Franks et. al (1988), Walker (2000) studies the share price performance of the acquiring company in the U.S. market between years 1980-1996. The data he uses in his study is relatively restricted and the final sample includes 278 acquisitions in total, all of them being over 50 million dollars in value. The results of the study suggest that the acquiring company's cumulative market-adjusted return is -0.84% and statistically significantly negative at the 10% level. After Walker (2000) similar findings have been resulted by Gupta and Misra (2004) who use data of 285 mergers and acquisitions in the US market and Campa and Hernando (2004) who use data of 262 European mergers and acquisitions. (Campa and Hernando 2004: 51; Franks, Harris and Mayer 1988: 3-4; Gupta and Misra 2004; Walker 2000: 54-66.)

One great summarizing study related to effects of mergers and acquisitions is by Burner (2002) where he examines the returns of the mergers and acquisitions through the results of 130 different studies. The sample, which in this case includes only other studies, is collected between 1971-2001. The majority of the studies conclude that the shareholders of the target company gain significant abnormal returns while the gains of the acquirers' shareholders are close to

zero. This conclusion supports the findings of Asquith (1982). However, Burner (2002) also concludes that when the abnormal returns of the target and the abnormal returns of the acquirer are combined the gains are positive and thus the mergers and acquisitions are profitable for the shareholders of the new combined company. The finding supports the conclusion of Jensen and Ruback (1983). (Burner 2002: 4-14.)

As most of the studies related to this field, Tuch and O'Sullivan (2007) study short-term and long-term performance of acquisitions. Their conclusions suggest that the long-term performance of an acquisition is negative. In addition, their results suggest that at best, short-term performance is insignificant. Kiymaz and Baker (2008) also examine the short-term abnormal returns, as well as Tuch and O'Sullivan (2007). Kiymaz and Baker's (2008) sample data includes only listed U.S. companies' mergers and acquisitions that occurred during 1989–2003. The data includes the 100 largest reported M&A deals for each year, which equals to 1400 acquisition announcements. The study shows that the acquirer's significant abnormal return during the deal announcement is -0.49%, while the target's abnormal return is 5.10%. The finding that the target gains significantly greater return compared to the acquirer supports the earlier studies such as Jensen and Ruback (1983) and Burner (2002), but the returns are relatively lower compared to earlier studies that were introduced. (Kiymaz and Baker 2008: 30-40; Tuch and O'Sullivan 2007: 142.)

In their study, Capron and Shen (2007) examine two different questions. First, what factors are there when choosing between the acquisition of a private and a public company. Second, is the share price reaction greater for the acquirer of a private company or a listed company. Their data sample includes 92 targets in

total, in which 52 are public and 40 are private. The results of the study show that acquirers prefer private targets if it works in the same industry as the acquirer. When the industry is not mutual and the acquirer's goal is to enter a new business area, acquirers prefer listed companies with a significant amount of intangible assets. The results of the second research question illustrate that the acquirer of a private company experiences better share price reaction compared to the acquirer of a listed company. (Copron and Shen 2007: 891-897.)

As the majority of the studies related to the effects of mergers and acquisitions examine the data of listed US or UK companies, Craninckx and Huyhebaert (2011) compare abnormal returns of mergers and acquisitions between private companies and listed companies in Europe. Their data sample includes 603 deal announcements in total, which are divided into 267 listed target deals and 336 private target deals. The result shows that an acquisition of a private company is more likely to gain greater abnormal returns compared to an acquisition of a listed company. These findings match previous literature and the findings of Capron and Shen (2007). (Craninckx and Huyhebaert 2011: 14-40.)

Like Craninckx and Huyhebaert (2011), Bhabra and Huang (2013) use alternative data in their study to examine the effects of acquisition on acquirer's share price. They use data of listed companies in China that acquire complete control of the target companies. In the study, they illustrate how Chinese merger and acquisition market is dominated by domestic activity. The results show that the acquirer gains significant and positive abnormal return at the announcement date and even after a three-year observation period, abnormal returns are positive and statistically significant. Cross-sectional test shows that ownership is strongly related to the returns. The positive abnormal acquirer

returns in Chinese market are mostly driven by state-owned companies. (Bhabra and Huang 2013: 186-189.)

Many studies have ended up with similar conclusions that the target company gains significantly greater abnormal returns compared to the acquirer. Also, researchers have agreed that an acquisition of a private company is more profitable compared to an acquisition of a listed company. However, the studies such as Chang (1998), Moeller, Schlingemann and Stulz (2004), Conn, Cosh, Guest and Hughes (2005), and Buckley, Elia and Kafouros (2014) have also examined whether the deal characteristics have any effects on the abnormal returns of a takeover.

Chang (1998) studies the effect of payment options on private target takeovers. Chang (1998) concludes that the payment method of the takeover has significant effect on the abnormal returns. The study illustrates that the acquirer of a private company gains significant abnormal return if the payment method is a stock offer, while there is not a significant abnormal return when the offer is cash offer. Remarkably these findings turn completely around when the target of the deal is a listed company, making stock offers produce negative returns. A few years later the findings from Chang (1998) received support from Fuller, Netter and Stegemoller (2002) in a research where they study the shareholder abnormal return of the companies that acquired five or more targets in a short period of time. Their results show that acquirer shareholders gain positive abnormal return when the target company is private and negative abnormal return while the target is a listed company. In addition, the results suggest that the abnormal return for the acquirer's shareholders is greater, the larger the target is, and if the acquirer's bid is a stock offer rather than a cash offer. As a summary, the acquirer of a listed company records abnormal returns near to

zero when the payment method is cash, and negative returns when the payment method is stocks. (Chang 1998: 773; Fuller et al 2002: 1863-1766; Koherns 2004: 450-488.)

Chang (1998) makes three different conclusions in his study. First, he notes that when the public market is highly competitive, investments tend to be zero net present value investments, while in a private market the competition is limited, which makes underpayments possible. Second, he finds that because targets are privately held the ownership is very concentrated and after the deal is closed the management monitoring is more effective and affects positively on the value of the company. Third, Chang (1998) illustrates findings that Myers and Majluf (1984) resulted earlier. The results show that information asymmetry affects the returns. When the acquirer offers their own shares as a payment and managers have superior information the market may assume that the shares are overvalued and may affect negatively on the share price. However, when the target accepts a large block of shares of the acquirer this send signals that the shares are undervalued and this effect positively on the share price. (Chang 1998: 774. Myers and Majluf 1984: 36-40.)

Moeller, Schlingemann and Stulz (2004) examine a sample of 12 023 acquisitions of over one million dollars during 1980–2001. Most of these acquisitions were announced during the years 1996-1999. The paper examines deal characteristics, more specifically whether the size of the company causes any abnormal returns. The main conclusion of the study is that small companies gain significantly greater abnormal returns compared to larger companies and the difference between a small and a large acquirer is 2.24 percentage points. In addition, they find that small companies gain significantly when they announce an acquisition of a listed company. Shareholders of a large company faced significant losses

when the company announced an acquisition of a listed company. The payment method did not have any effect on these losses of the shareholders of large companies. They discussed that the evidence compliments the assumption that the larger companies offer larger acquisition premiums and thus experience lower return compared to the returns of a small company during the acquisition announcement. (Moeller et al. 2004: 207-226.)

The study by Aw and Chatterjee (2004) examines data of UK companies from 1991 to 1996. The data includes domestic and cross-border acquisitions. The results show that domestic acquisitions are more successful compared to the cross-border acquisitions, when measured with abnormal returns. An interesting finding in the study is that when observing the cross-border and domestic acquisitions, all of these abnormal returns are negative. Moeller and Schlingemann (2005) support the findings of Aw and Chatterjee (2004) and conclude that the results are due to cultural differences. Gregory and McCorriston (2005) study Foreign Direct Investments (FDI) as cross-border acquisitions. They use a sample of 343 abroad acquisitions by UK companies. What makes the study interesting, is the fact that Gregory and McCorriston (2005) measure the performance of the acquirer from the announcement date to the end of 5-year period. This is a relatively long event window compared to literature introduced earlier. Using data of UK acquirers, Gregory and McCorriston (2005) conclude that when the UK company acquire a company from the US, the abnormal return is negative and significant. Even when the target is from Europe, the acquirer does not generate positive abnormal returns, but returns close to zero. When they examine the acquisitions from the rest of the world, the abnormal returns are positive and statistically significant. However, the data of the takeovers from the rest of the world were limited and

includes only a few acquisitions. (Aw and Chatterjee 2004: 337–349; Moeller and Schlingemann 2005: 555; Gregory and McCorriston 2005: 122.)

Conn, Cosh, Guest and Hughes (2005) study the announcement date returns and long-term abnormal returns of UK acquirers. In the study, long-term abnormal returns are determined as a three-year post-acquisition abnormal return. Their sample includes 4000 acquisitions completed by listed UK companies during 1984–1998. This study differs from the previous studies related to mergers and acquisitions by its geographical scope. The study takes into account whether the acquisition is a domestic or a cross-border acquisition. The results show that acquisitions of listed domestic companies generated significantly negative abnormal returns on announcement days, while the acquisitions of listed cross-border companies reported announcement day abnormal returns of zero. As a comparison, acquisitions of private companies generated significantly positive abnormal returns on announcement days in both domestic and cross-border acquisitions. The long-term abnormal returns for domestic and cross-border acquisitions are significantly negative for listed companies and insignificantly negative for private companies. In addition, they conclude that the long-term abnormal returns are higher in domestic acquisitions compared to the cross-border acquisitions. (Conn et al. 2005: 863–866.)

Nicholson and Salebar (2013) add into earlier examinations of cross-border and domestic acquisitions by studying the effects of acquisitions on developed and emerging markets. They conclude that the acquisitions from developed markets generate greater return to the shareholders, compared to the acquisitions from emerging markets. Later Buckley et al. (2014) supported the results announced by Nicholson and Salebar (2013) by examining a sample of 79 deals that

occurred during 2000-2007. (Nicholson and Salebar 2013: 970-980; Buckley et al. 2014: 612-625.)

Finally, the last characteristic of merger and acquisition studies examines whether the market of the target has any significant effect on the performance of the deal. Studies such as those by Roberts and Berry (1985), and Bhabran and Huaning (2013) study these effects and report consistent conclusions. First, Roberts and Berry (1985) find that familiarity of the relevant market and technological experience have a significant effect on the performance of the deal. Since the integration of the personnel and the operations as a part of business demands active management, the knowledge of the industry has significant meaning in the performance of the deals. Bhabran and Huaning (2013) find if the target and the acquirer operate in different markets, synergy advantages are more effectively realized. Similar findings with Bhabran and Huaning (2013) are made also by Fraunhoffen (2013). (Bhabran and Huaning 2013: 190-194; Fraunhoffen 2013: 34-35.)

As a summary of the previous literature, it is easy to conclude that during merger and acquisition announcements the target company gains significantly greater abnormal return compared to the acquirer. Previous studies have agreed with this finding regardless of the method or data used (see e.g. Jensen and Ruback (1983)). The studies have found that it matters whether the target of an acquisition is a private company or a publicly listed company. Earlier studies such as Capron and Shen (2007) find that acquisitions of private companies create more shareholder wealth and abnormal return for shareholders compared to the acquisitions of listed companies. Other significant deal characteristics proved to affect deal performance are the payment method, the geographical scope, the size of the acquirer, and the

business sector differences between the target and the acquirer. When the target company is a private company, stock offers generate higher abnormal returns for it compared to cash offers. Geographical factors also affect the performance of the deal. If the target of an acquisition is domestic (versus cross-border), shareholders of the acquirer gain higher abnormal returns. A small acquirer tends to generate greater abnormal returns than a large acquirer. Finally, due to synergy advantages, the deal is more profitable if the target and the acquirer operate in different sectors of business.

## 2.2 Hypotheses

The purpose of the study is to examine whether merger and acquisition announcements create shareholder value for the acquirer's shareholders. The approach of this study is to examine results from the acquirer's point of view. Another option could be to examine the target's point of view but the acquirer's point of view is selected due to motives, which are later introduced in the third chapter.

The first hypothesis of this study is developed based on the previous literature of the section 2.1. The first hypothesis, H1, is related to shareholder value creation for the acquirer's shareholders. According to the null hypothesis merger and acquisition announcements do not have effect on the shareholder value. However, the previous literature by Jensen and Ruback (1983) suggests merger and acquisition announcements create abnormal returns for the shareholders. This study assumes that those abnormal returns are positive since the management should not execute any negative net present value

investments. H1 supports this assumption and thus the first hypothesis of this study is:

H1: Mergers and acquisitions create abnormal returns for the acquirer's shareholders.

*H<sub>0</sub> = Merger and acquisition do not create abnormal return for the acquirer's shareholders*

*H<sub>1</sub> = Mergers and acquisitions create abnormal returns for the acquirer's shareholders*

The second hypothesis of this study is related to the geographical scope of mergers and acquisitions and the deal performance. As the previous literature has concluded, the domestic acquisitions are more successful compared to cross-border acquisitions. Studies such as Conn et al. (2005) and Aw and Chatterjee (2004) have illustrated these findings and concluded consistently that domestic acquisitions create abnormal returns for the acquirer's shareholders. H2 supports this assumption and assumes that the geographical scope of the deal matters in terms of the abnormal returns. The created null hypothesis supports that the geographical scope of the deal does not effect on the deal performance. Based on the Conn et al. (2005) and Aw and Chatterjee (2004), the second hypothesis is:

H2: Merger and acquisition transactions with a domestic target creates greater abnormal return for the shareholders

*H<sub>0</sub> = Merger and acquisition transaction with a domestic target do not create abnormal return for the shareholders*

*H<sub>1</sub> = Merger and acquisition transaction with a domestic target creates greater abnormal return for the shareholders*

The third hypothesis focuses on the effect of the size of the acquirer. The hypothesis H3 is based on Moeller et al. (2004) where they conclude that smaller companies gain significantly greater abnormal returns than larger companies. Also, if a small company acquires a listed company the abnormal return was even greater. They support the results by conclusion that the larger companies pay larger acquisition premiums. Null hypothesis for this is that the large size of the acquirer does affect negatively on the deal performance. Thus, the third hypothesis is:

H3: Smaller acquirer creates greater abnormal returns for the shareholders during a merger and acquisition announcement.

*H<sub>0</sub> = Smaller acquirer do not create greater abnormal return for the shareholders during a merger and acquisition announcement*

*H<sub>1</sub> = Smaller acquirer creates greater abnormal return for the shareholders during a merger and acquisition announcement.*

The final hypothesis is related to the sector that the acquirer and the target operate in. Roberts and Berry (1985) find that in merger and acquisition deals, prior knowledge of the market is vital. Bhabran and Huaning (2013) suggest that synergy advantages are more significant if the target of the merger or acquisition is from a different industry which is already familiar for the acquirer. However, Berg (1997) suggests that mergers and acquisitions inside the same market reduce the financial risk of the deal significantly. The hypothesis H4 is constructed based on the previous literature such as Roberts

and Berry (1985) and assumes that the acquirer is able to create greater abnormal returns for the shareholders if the target is from a same sector of business. Thus, the fourth and the final hypothesis of this thesis is:

H4: A deal between companies from same sectors of business creates greater abnormal returns for the shareholders

*H<sub>0</sub> = Deal between companies from the difference sector creates greater abnormal return for the shareholders*

*H<sub>1</sub> = Deal between companies from same sectors creates greater abnormal return for the shareholders*

One of the most studied deal characteristic factor is the effect of the payment method of the deal. Due to the limitations of the data sample, this study is not able to test this matter. The sample of the deals does not include any information about the payment method and so the payment method needs to be left out of the scope of this thesis.

### 3. MERGERS AND ACQUISITIONS

Since the recent economic growth has not been as great as the historical growth, companies have tried to find different inorganic ways to grow their businesses. Mergers and acquisitions have become more common during the last decades and business management has started to use it as a tool for a growth. Many of the companies have stated that mergers and acquisitions are currently their main growth strategy. (Andrade et al. 2001, 118). In the first section of this chapter there is a brief introduction to an asset deal and a share deal and the difference between them. The second section shows what are the different types of mergers and acquisitions. The third section describes historical merger and acquisition activity and the final section describes the motives behind the merger and acquisition activity.

#### 3.1 Asset deals and share deals

Merger and acquisition deals are commonly divided into two categories, asset deals and share deals. The asset deals are acquisitions where the acquirer buys the target's business and assets that are relevant for the target's business operations. Relevant assets may be assets such as machinery, equipment and inventory. The acquirer and the target usually negotiate about the relevant assets, so the acquirer can continue the operations of the target after the integration is completed. Even though the deal is called an asset deal, the deal price is generally higher than the value of the target's assets since the business is expected to generate income in the future. The price over the value of the assets is called as a goodwill. (Immonen 2008: 17-19.)

In a share deal the acquirer purchases a majority or a minority of the target's shares. If the acquirer buys a majority of the target's shares it becomes the majority shareholder, who is authorized to control the company's actions. When the majority of the company shares are acquired it is generally called a takeover. Reverse takeover is also a general concept in acquisitions and means a takeover where the target is larger compared to the acquirer. The control of the target is generally earned as a voluntary share deal. A voluntary share deal means a deal where the current majority shareholder or shareholders are willing to sell their shares. However, the acquirer may gain the control of the company through a hostile takeover, where the acquirer buys the majority of the shares while the current shareholders and the management are against the deal. (Immonen 2008: 19-22.)

### 3.2 M&A types

Most students and employees have heard the words merger and acquisition but it is unclear for many what they really mean and what are their definitions. Generally, a merger is defined as a situation where at least two different companies merge to one separate and larger company. On the other hand, an acquisition occurs when a company purchases a part, or the complete business of another company. One example of a recent acquisition is the Microsoft's acquisition of LinkedIn which gathered lots of media attention.

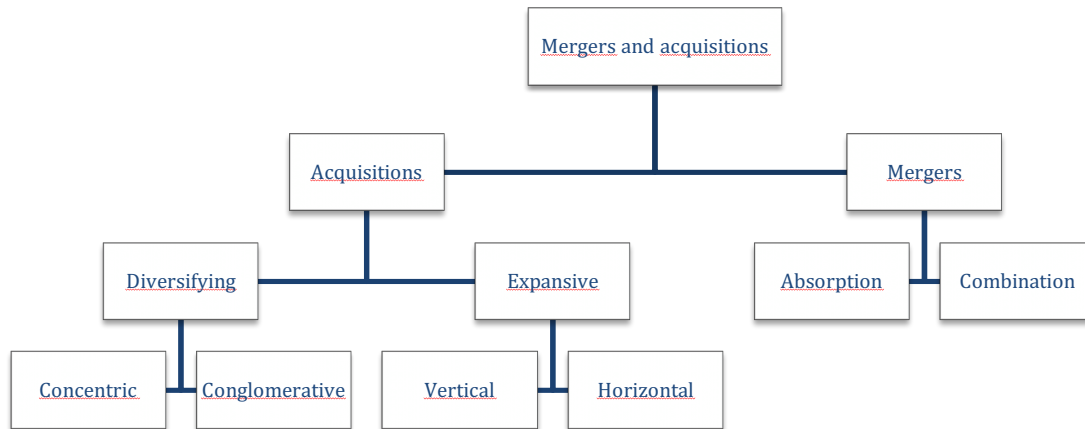
Generally, mergers and acquisitions are divided into four different categories: horizontal, vertical, conglomerative and concentric. Tenhunen and Werner (2000) divide acquisitions into expansive and diversifying acquisitions. Expansive acquisitions include both, horizontal and vertical acquisitions, while

diversifying acquisitions include conglomerative and concentric acquisitions. It is important to divide acquisitions into different categories since the different types of acquisitions have their own specific strategic purposes. The strategic goal of expansive acquisitions (horizontal and vertical) is to gain a greater share in the market where the acquirer operates. In a horizontal acquisition the acquirer and the target are at the same level in the supply chain, while in a vertical acquisition the acquirer and the target are at the different level in the supply chain. In the vertical acquisition the strategic purpose is usually to secure the distribution. In the diversifying acquisitions the acquirer and the target operate in a different sector. Concentric acquisitions are usually acquisitions of a target that operates in a different sector but has similar market and distribution channels as the acquirer. Conglomerative acquisitions may be characterized by the fact that both, the market and the products, of the target are completely new for the acquirer. (Tenhunen and Werner 2000: 12-14.)

Since acquisitions have many different subcategories, mergers are relatively easier to understand. Merger is a combination of two or more different companies into a single new company. Mergers happen without an actual acquisition of another company. In literature, it is possible to recognize two different merger types. The first merger type is the absorption merger, where assets and liabilities merge to a receiving company. Subsidiary merger is a special form of a traditional absorption merger. Another merger type is the combination merger, where assets and liabilities move to a new company. As absorption merger, also combination merger has its own special form, which is called tripartite merger. (Gaughan 2015: 12; Immonen 2008: 138.)

The figure 1 below is from Tenhunen and Werner (2000) where they illustrate clearly every subcategory of mergers and acquisitions with the tree chart. The

figure 1 shows how mergers are divided into absorption and combination mergers and acquisitions on the other hand into diversifying and expansive acquisitions.

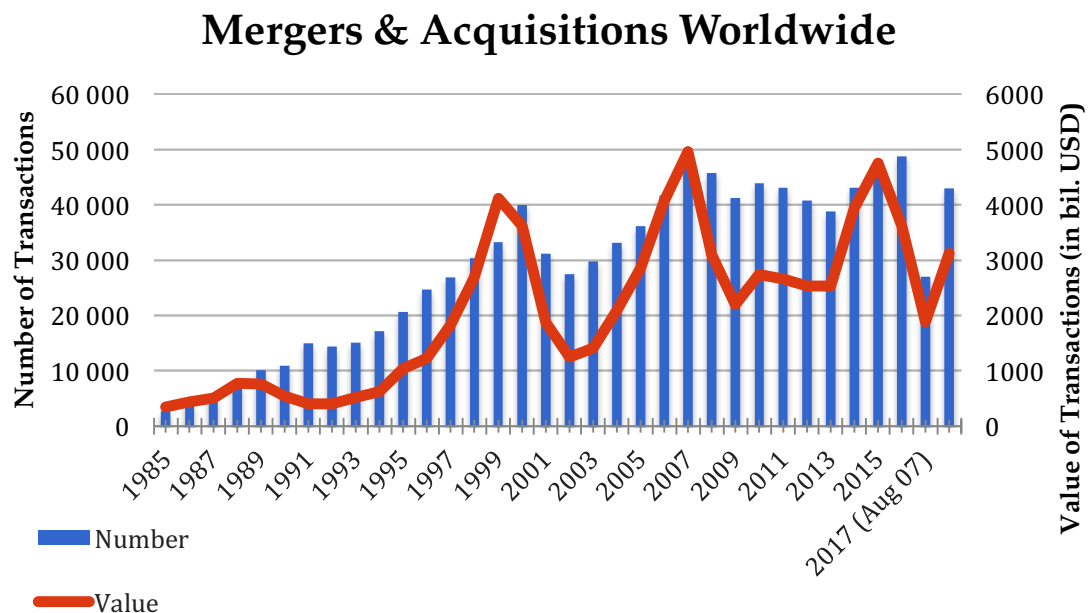


**Figure 1.** Different merger and acquisition types (modified Tenhunen and Werner 2000)

### 3.3 Merger and acquisition activity

During the most recent decades, both the value and the number of mergers and acquisitions has increased significantly. It is a well-known fact, that merger and acquisition activity appears in waves. The activity has strongly correlated with the development of the economy. Generally, the tops of the waves have appeared during a boom market and the bottoms during recessions. According to the Institute for Mergers, Acquisitions & Alliances (IMAA), there have been 6 merger and acquisition waves during last 100 years. However, this data is from the U.S. market and European data is reliable only after the year 1960. Thus, the count of worldwide merger and acquisition waves does not match with the waves in Europe. The first actual merger and acquisition wave in Europe was experienced during the 80s. (IMAA 2017.)

As we are able to see from the graph 1, the recession of the early 2000's stopped the merger and acquisition boom during 1997-2000. After the recession of early 2000's, the wave found its new record height right before the global financial crisis. After the financial crisis appeared in 2008, the wave turned downwards again. However, today the activity has reached the level of the previous top of the wave and according to many financial institutions, the market is at the halfway of the seventh merger and acquisition wave. (Gaughan 2015: 2-8; Cartwright and Schoenberg 2006.)



**Figure 2.** The numbers and values of recent M&A activity (IMAA 2017.)

Merger and acquisition activity has not been a popular topic among academic researchers compared to merger and acquisition effects on shareholder value. However, Maksimovic, Phillips and Yang (2013) examine differences in merger and acquisitions activity between private and listed companies. The study finds a clear difference between these two. They find that the listed companies mostly

drive these merger and acquisitions waves. Maksimovic et al. (2013) show that companies with greater productivity are more probable to buy assets, while the companies with a low productivity are more probable to sell their assets. Moreover, among the listed companies they find that companies with a better credit rating are more active and more likely to buy or sell their assets. (Maksimovic et al. 2013: 2169-2179.)

### 3.4 Motives of mergers and acquisitions

The main purpose of the companies is to create value for its shareholders. One popular way for a company to pursue either business or financial advantage, is through acquisitions. Earlier studies related to the motivation of merger and acquisition activity, find mainly consistent results suggesting that synergy advantages and opportunity for growth are the main reasons for the mergers and acquisitions.

Hanna (2005) finds that the major reason for an acquisition is management's desire to grow the company. According to Hanna (2005), besides obtaining growth opportunities, companies try to differentiate by acquiring companies from different sectors. As Hanna (2005) states that mergers and acquisitions emerge due to management's desire to grow, some other researchers such as Koherns (2004) and Goergen and Renneboog (2004) conclude that this activity emerges due to the use of free cash flows, the pursue of synergy advantages, and even because of correction of management's failure. (Anderade et al. 2001: 9-11; Goergen and Renneboog 2004: 15; Hanna 2005: 130.)

In my opinion, the most acceptable reason behind mergers and acquisitions is provided by Gaughan (2015). He introduces the idea that companies complete these transactions in seek of growth and synergy advantages. Companies that seek growth can grow their business in two different ways. These methods are internal development, including actions such as the development of products or brand, or through acquisitions. While the internal development is slow and time consuming, acquisitions are a rapid way to grow the business. This rapid growth is a great advantage especially in highly competitive sectors. According to Gaughan (2015) the second reason for acquisitions, besides rapid growth, are synergy advantages. Synergy advantage can be described so that the combination of two different companies is greater than the sum of these companies ( $1+1=3$ ). Synergy advantages can be divided into two different groups, operational and financial advantages. Operational synergy advantages are usually discovered because of increased profits and decrease of costs. Financial synergy advantage creates indirect benefits such as decreased cost of capital. A good example of this is that banks may grant loans to the larger and more diversified companies with more favorable terms since after the acquisition the company may be seen as a less risky company compared to the old company. (Gaughan 2015: 123-142; King Dalton and Covin 2003: 187-189.)

Nguyen, Yung and Sun (2012) study management's motives behind mergers and acquisitions. Their study uses a sample of 3520 acquisitions in the U.S. market. In the study, they find that 73% of the decisions are associated with the timing in the market, 59% associated with agent motives and arrogance. In addition, 3% of acquisitions are associated with financial development and synergies. These findings clearly argue with Gaughan (2015) where he finds synergies as one of the main reason for acquisitions. However, according to Nguyen et al. (2012), 80% of the motives are a combination of several sources.

Hence, they conclude that true motives behind mergers and acquisitions are very complicated, or even impossible to distinguish because the motives may include several variables either increasing or decreasing the value of the transaction. This study also supports earlier studies such as Myers and Majluf (1984) where they find that the management uses overvalued shares as a primary payment method to promote their own intentions. (Nguyen et al. 2012: 1365-1374.)

## 4. DATA AND METHODS

The conclusions on the shareholder value creation are based on the listed stock market's short-term and long-term reactions on the announcement. The most popular and reliable way to present the results is by using event study. Most of the previous studies have measured abnormal returns during the determined event window to conclude the created shareholder value. (Andrade et al. 2001). In this chapter, the first section describes the data sources of the sample, how the data is restricted, and finally illustrates the sample in tables. The second section introduces the methodology that is used to examine the empirical part of the study.

### 4.1 Data

The University of Vaasa provides the data of mergers and acquisitions for this study. The data sample covers over 2800 mergers and acquisitions in Finland during the period between January 2007 and August 2017. The data sample includes specific information on each deal including target name, acquirer name, deal status, acquirer nation, announcement data, form of the deal, deal type, deal attitude and percentage of shares acquired. In addition, some deals include information such as deal value, however since deal values are generally undisclosed, the data does not include deal values for all the deals. The data sample is gathered originally from two different data streams. Acquisitions by Finnish companies are gathered from the Thomson Reuter database and share price data is collected from Thomson Reuter Data stream database.

Since the dependent variable of this study is the abnormal return of Finnish listed companies during merger and acquisition announcement, the market returns are required in order to be able to calculate abnormal returns. The OMX Helsinki index is used as an indicator of market returns because all the companies in the sample are Finnish. OMX Helsinki index end date values are collected from a same period as the share price sample, and used to calculate market returns.

Since the data sample is relatively large and contains all mergers and acquisitions in Finland during 2007–08/2017, it is necessary to limit the sample. First of all, the time period used in this study is from the beginning of year 2007 to the end of August 2017. The first implied restriction is that all the private acquirers are removed from the sample. This limitation is justified by the fact that the share price data of private companies is relatively hard to gather compared to the share price data of the listed companies. The second restriction is related to the activity of the acquirer. If the acquirer has executed more than 1 acquisition during a year, the deals are removed from the sample. This is justified since it is impossible to examine effects of a single merger or an acquisition if the acquirer has completed several other acquisitions during the observation period. In addition, the sample of this study includes only acquisitions in which the acquirer has acquired 100% of the target company. Acquisitions which are less than 100% of the target companies are removed because the acquisition of the entire target company is assumed to have the most significant effect on the acquirer's share price.

After these restrictions and limitations, the sample includes 108 mergers and acquisitions in total. Approximately 40% of the mergers and acquisitions were executed domestically and the rest of the deals were cross-border mergers and

acquisitions. As the business sector of the operations is one variable in this study, it can be noted that one third of the mergers and acquisitions were between companies that operated in the same sector of business. Also, the final characteristic examined is the size of the acquiring company. Acquirer's total assets determine the difference between a large and a small acquirer. If the total assets of the acquirer are more than 43 million euros, it is determined as a large company (European Union 2005). However, after fitting the stock market share price data to the merger and acquisition sample, it was notable that there were a couple of companies whose share price data was not available in the data, making it necessary to remove these companies from the sample. The final sample includes 104 transactions. A summary of these transactions and characteristics is available on the table 1 below.

	Geographic scope		Business operations		Size	
	Domestic	Cross-border	Same	Different	Small	Large
Number of transactions	44	60	32	72	15	89
% of transactions	42%	58%	31%	69%	14%	86%
Total number	104		104		104	
Total %	100%		100%		100%	

**Table1.** Descriptive statistics of the data sample

## 4.2 Methods

In this thesis, the effects of the merger and acquisition announcement on the acquirer's shareholder value is examined by using a universal method called as the event study. Event study is widely used in the academic studies in finance (see e.g. Bhabra and Huang 2013; Tuch and O'Sullivan 2007). According to Benningan (2008), the main examination subject for the event study is usually

the effect of a certain event on a certain variable. The subject may be hiring a new CEO, issuing a profit warning, or publishing any other announcement that may affect the share price of the company. After the announcement, researchers usually examine whether the announcement generates any abnormal returns for the shareholders. Abnormal return is defined as the difference between actual return and the expected return. In this thesis, the examined announcements are the acquisition announcements of the target and the variables are the abnormal returns of the price of the acquirer company. (Benningan 2008: 5-10; Peterson 1989: 40-44.)

The estimation window in this study is determined similarly as Chen and Siems (2004) do in their study, in which they study the effects of terrorism on global capital markets. The purpose of the estimation window in this study is to estimate betas for each share. The betas take into account the company specific risk while calculating the expected returns using the capital asset pricing model (CAPM), which will be introduced later in this study. The estimation period for the study is determined to be (-30, -11) such as in Chen and Siems' study (2004).

The empirical study is divided into two sections. In the first section, study examines the short-term effects with cumulative abnormal returns (CAR). The second section examines the long-term effects of the announcement on the shareholder value. The long-term effect study is executed by examining abnormal return with buy-and-hold strategy. For both, short- and long-term event studies, the OMX Helsinki index demonstrates the market return.

The event window is a time period where it is assumed that the certain announcement creates abnormal returns. The width of the event window is dependent on the purpose of the study. If the study examines only the short-

term effects of the announcement, the event window usually includes only a short period before and after the announcement date. When examining the short-term effects, a typical study may have an event window of anything between  $\pm 10$  days and  $\pm 1$  day (see e.g. Bhabran and Huangin (2013) and Gregory and McCorriston (2005)). However, when the study examines the long-term effects, the event window usually extends the post-announcement period and not the pre-announcement period (MacKinlay 1997: 15-20). In this study, the event windows for the empirical study are -10, -1, +1, +10, +30 and 1 year.  $\pm 10$  days and  $\pm 1$  day are meant to examine the short-term effects. The event window of -1, +30 is meant to examine extended short-term period like Tuch and O'Sullivan (2007) in their study. The purpose is to collect share prices on these days (-1= share price on the day prior to the announcement date). When a day has not been a regular banking day, the previous share price is collected. Due to this fact, the event window may differ by a day or two, but this should not have significant effect on the results of the study. It is notable that leap years may affect the long-term examination but not significantly.

In this thesis, the return of a share is calculated by using a traditional way where the change in the share price is divided by the starting price. However, the general return calculation is slightly modified by natural logarithm suggested by Vaihekoski (2004). In this study, the return is calculated as following:

$$R_{it} = \ln \left( \frac{P_{it}}{P_{i(t-1)}} \right), \quad (1)$$

where  $R_{it}$  is the return of a share  $i$  at the time  $t$ .  $\ln$  illustrates the natural logarithm and  $P_{it}$  is the share price of the share  $i$  at the time  $t$ .  $P_{i(t-1)}$  illustrates

the share price of a share  $i$  at the time  $t - 1$ . The equation (1) is used also to calculate the market return. The market return is necessary since it is used to calculate the expected and abnormal returns. (Vaihekoski 2004: 194.)

As mentioned earlier in this study, the OMX Helsinki index illustrates the returns of the market. However, it is necessary to notice the company specific risks and take them into account. The method used in this study to observe the company specific risk, is the capital asset pricing model (CAPM). The CAPM takes into account both the market risk and the company specific risk and due to this, it is used in this study to calculate the expected returns. The CAPM equation is constructed as following:

$$E[R_{it}] = R_f + \beta_i(R_{mt} - R_f). \quad (2)$$

In the equation (2)  $E[R_{it}]$  illustrates the expected return of the share  $i$  at the time  $t$ .  $R_f$  is the part of the return that does not include any risk, also referred to as the risk-free return. In this study, the Finnish 3-year bond illustrates the risk-free return. In the equation (2),  $\beta_i$  is the beta of the share  $i$ , which illustrates the sensitivity of the share  $i$  to the market movements. The beta is calculated during the estimation window (-30, -11) for each share and deal separately.  $R_{mt}$  is the market return at the time  $t$ . As mentioned OMX Helsinki illustrates the market return. (Sharpe (1964: 425.)

In this study, the abnormal return is the dependent variable. It is important to understand, that the abnormal return is the difference between the actual return and the expected return of the share. The equation used in this thesis to obtain the abnormal return is the following:

$$AR_{it} = R_{it} - E[R_{it}], \quad (3)$$

where the  $AR_{it}$  is the abnormal return of the share  $i$  at the time  $t$ .  $R_{it}$  illustrates the return calculated in the equation (1) and  $E[R_{it}]$  is the expected return, calculated by the equation (2), at the time  $t$ . The abnormal return is a measurement of unexpected shareholder return. If the abnormal return is positive, shareholders gain unexpected returns and vice versa. (Kohtari and Warner 2006: 10.)

Since in the short-term study, the event window is wider than a single day, returns must be compounded over time to obtain correct abnormal returns of the share. The accepted method by McWilliams and Siegel (1997) is to calculate compounding cumulative abnormal return (CAR), which is calculated by the following:

$$CAR_{it} = AR_{it} + AR_{i(t+1)} + AR_{i(t+2)} \dots + AR_{i(t+n)}. \quad (4)$$

$CAR_{it}$  is the cumulative abnormal return of the share  $i$  during time period  $t$ . Cumulative abnormal return is calculated to measure the shareholder returns around the announcement date and the event window. The amount of abnormal returns added together is dependent of the width of the event window. (Bhabra & Huang 2013: 195.)

As mentioned earlier, the event windows for short-term examinations in this study are determined in respect of previous literature. The shortest event window in this study is similar to what Bhabran and Huangin (2013) use in

their study (-1, +1). The next event window is (-10, +10), which is similar to what Gregory and McCorriston (2005) use. Finally, the last short-term event window is an extended short-term event window (-1, +30), like the one used by Tuch and O'Sullivan (2007).

The intention of this study is also to examine the long-term effects of merger and acquisition announcements on the shareholder value. In the previous literature such as Kennedy and Limmack (1996), Gregory and McCorriston (2005) and Conn et al. (2005), time periods of the event window have varied from (-24 months, +11 months) to (0, +5 years). Since the long-term event windows in the previous studies have varied significantly, this thesis uses a time period similar to Malatesta (1983) with slight modifications (-1, +1 year). While examining long-term performance of mergers and acquisitions, this study uses similar methodology as Bhabran and Huaning (2013), which is called as buy-and-hold abnormal returns. (Bhabran and Huaning 2013: 198; Malatesta 1983: 160; Gregory and McCorriston 2005: 111; Kennedy and Limmack 1996: 278.)

The effects of deal characteristics are divided into three groups according the hypotheses. The first group compares domestic and cross-border mergers and acquisitions and whether these characteristics have any effect on the deal performance. Since the second hypothesis in the chapter 2 states the geographical scope of the deal affects abnormal returns for the shareholders, the first group compares abnormal returns of domestic and cross-border mergers and acquisitions. The second group hypothesis states that the business sector of the target and the acquirer matter in terms of the deal performance. Thus, the second group compares the abnormal returns of acquisitions executed

within a single business sector, to deals between different business sectors. Finally, the last group hypothesis argues the size of the target has effect on the shareholder value. Due to this, the third group compares abnormal shareholder returns between small and large target companies.

Both, short-term and long-term, abnormal returns' statistical significance is tested using independent-samples t-test. Independent t-test analyzes the means between two independent groups with a same dependent variable. This methodology is also commonly used in previous literature such as Buckley et al. (2014) and Bhabra and Huang (2013). According to Heikkilä (2010), p-value measures the risk that the result of the study is a coincidence. Due to this, the closer the p-value is to 1.0, the greater the probability that H0 is accepted. Thus, the closer the p-value is to 0, the greater the probability that the hypothesis is accepted. In this study, the results are strongly statistically significant if p-value  $\leq 0.01$  and statistically significant if  $0.01 \leq \text{p-value} \leq 0.05$ .

## 5. EMPIRICAL RESULTS

This chapter introduces the empirical results of the study. The data sample of this study is constructed of 104 Finnish merger and acquisition announcements during January 2007–August 2017. The first section of this chapter demonstrates the effects of merger and acquisition announcements and deal characteristics on shareholder value and introduces the results on the short-term. The second section includes a similar study but in the long-term.

### 5.1 Short-term effects

This study examines the short-term and long-term effects of merger and acquisition announcements on the shareholder value. This section provides empirical results of the short-term effects on shareholder value. The event windows for short-term study were determined according to previous literature. The short-term event windows of this study are  $(-1, +1)$ ,  $(-10, +10)$ , and  $(-1, +30)$ .

The empirical results of the short-term effects on shareholder value are summarized in the table 2 below. On the left-hand side is the event window which is used to examine the abnormal returns. Next to the event windows are the actual returns which are calculated using the CAR-method introduced in the equation (4). Expected returns are calculated using the CAPM, which is also introduced in the chapter 4. Abnormal return is simply the difference between

the actual return and the expected return. Below these abnormal returns are the results of the independent t-test in the parentheses.

Event window	Actual return	Expected return	Abnormal return
-10, +10	1,87 %	0,07 %	1,80 % (1,93)*
-1, +1	1,34 %	-0,28 %	1,61 % (2,87)***
-1, +30	2,79 %	0,11 %	2,67 % (2,09)**

**Table 2.** Empirical short-term results. Statistical significance of the abnormal returns are marked as \*\*\*, \*\*, \* if they are statistically significant at the 0,01 level, 0,05 level and 0,1 level respectively.

As the table 2 shows, during event windows, announcements of the mergers and acquisition create abnormal returns at least in a short-term. During the event window (-10, +10), the acquirer generated 1,80% positive abnormal return on average, which is statistically significant at the 10% level. When the event window observed is the shortest event window in this study (-1, +1), the statistical significance of the abnormal returns increases and is significant at the 1% level. The mean abnormal return for the shortest event window is +1,61%. The longest event window for the short-term study is (-1, +30) and during this event window the acquirer could generate positive abnormal return of 2,67%. This result is statistically significant at the 5% level.

As hypotheses in the chapter 2 illustrate, the intention of this study is not only to examine the effects of merger and acquisition announcements on shareholder value, but also to examine whether the deal characteristics have any effect on the deal's performance. Tables 3, 4, and 5 below, show the effects of the deal

characteristics on deal performance. Table 3 shows the effects of the geographical scope of the deal by examining the difference of abnormal returns of domestic and cross-border merger and acquisitions. Table 4 illustrates the differences between deals that are completed between companies operating in the same sector and between the companies that operate in different business sectors. Finally, table 5 shows whether the size of the acquirer has any effect on the deal performance.

Event window	Return Domestic	ER Domestic	AR Domestic	Return Cross-border	ER Cross-border	AR Cross-border	AR difference
-10, +10	2,10 %	0,26 %	1,84 % (1,26)	1,70 %	-0,07 %	1,78 % (1,44)	0,07 % (0,03)
-1, +1	1,11 %	-0,54 %	1,65 % (1,98)*	1,50 %	-0,08 %	1,58 % (2,08)**	0,07 % (0,06)
-1, +30	4,80 %	0,83 %	3,96 % (2,19)**	1,31 %	-0,41 %	1,73 % (0,98)	2,24 % (0,93)

**Table 3.** Effect of deal's geographical scope on deal performance. Statistical significances of the abnormal returns are marked as \*\*\*, \*\*, \* if they are statistically significant at the 0,01 level, 0,05 level and 0,1 level respectively.

As the table 3 above shows, mergers and acquisitions that are completed domestically generate greater abnormal return compared to the cross-border mergers and acquisitions. During the event window of (-10, +10) neither domestic nor cross-border mergers and acquisitions are able to provide statistically significant abnormal returns for the shareholders. However, when the event window is shorter (-1, +1), domestic mergers and acquisitions create 1,65% positive abnormal return and cross-border mergers and acquisitions 1,58% positive abnormal return, which are statistically significant at the 10% and 5% level, respectively. The event window of (-1, +30) creates positive abnormal return of 3,96% for domestic deals and 1,73% for cross-border deals. Only the domestic abnormal return of 3,96% among the event window (-1, +30)

is statistically significant, being so at the 5% level. However, as the table 3 shows, any of the differences between abnormal returns are not statistically significant. The study contains 44 domestic merger and acquisition deals and 60 cross-border deals.

Event window	Return same SIC	ER same SIC	AR same SIC	Return different SIC	ER different SIC	AR different SIC	AR difference
-10, +10	0,30 %	0,80 %	-0,49 % (-0,23)	2,57 %	-0,26 %	2,83 % (2,91)***	-3,32 % (-1,48)
-1, +1	-0,78 %	-0,24 %	-0,54 % (-0,47)	2,28 %	-0,29 %	2,57 % (4,27)***	-3,11 % (-2,51)***
-1, +30	-2,51 %	0,14 %	-2,65 % (-1,00)	5,14 %	0,10 %	5,04 % (3,77)***	-7,69 % (-2,70)***

**Table 4.** Effect of the sectors on the deal performance. Statistical significances of the abnormal returns are marked as \*\*\*, \*\*, \* if they are statistically significant at the 0,01 level, 0,05 level and 0,1 level respectively.

Table 4 above illustrates the results of the examination whether the sectors where the target and the acquirer operate, have any effect on deal performance. This examination provides the most significant and surprising results of the short-term section. Table 4 shows that deals, where the target operates in a different sector than the acquirer, generates significantly greater abnormal returns compared to the deals where the target and acquirer operate in the same sector. When the acquirer and the target operate in the same sector, abnormal return is negative for each event window. On the other hand, when the target and the acquirer operate in different sectors, the deals generate an abnormal return of +2,83% during the event window (-10, +10), +2,57% during the event window (-1, +1) and +5,04% during the event window (-1, +30). All of these positive abnormal returns are statistically significant at the 1% level. The differences between abnormal returns are statistically significant during event

windows (-1, +1) and (-1, +30). The study of business sector effects contains 32 deals of companies that operate in the same sector and 72 deals of companies that operate in different sectors.

Table 5 below shows the results of examining whether the size of the acquirer matters in merger and acquisition deal performance. As table 5 illustrates, small acquirers (total assets below € 43m.) create greater abnormal returns compared to the larger acquirers. However, the results of small acquirers' abnormal returns are statistically significant only during the event window (-1, +1), when the small acquirer's abnormal return is +4,87% and statistically significant at the 5% level. On the other hand, large acquirers' returns are statistically significant at the 10% level during two different event windows, (-1, +1) and (-1, +30). During these event windows, large companies are able to create positive abnormal returns of +1,06% and +2,29% respectively. The study of size effects contains 15 small companies and 89 large companies.

Event window	Return small	ER small	AR small	Return large	ER large	AR large	AR difference
-10, +10	5,47 %	0,53 %	4,94 % (1,71)	1,27 %	-0,01 %	1,28 % (1,31)	3,67 % (1,12)
-1, +1	4,64 %	-0,23 %	4,87 % (2,32)**	0,78 %	-0,28 %	1,06 % (1,98)*	3,81 % (1,76)*
-1, +30	3,38 %	-1,54 %	4,93 % (1,05)	2,69 %	0,39 %	2,29 % (1,79)*	2,63 % (0,62)

**Table 5.** Effect of acquirer size on deal performance. Statistical significances of the abnormal returns are marked as \*\*\*, \*\*, \* if they are statistically significant at the 0,01 level, 0,05 level and 0,1 level respectively.

While we have now tested whether one deal characteristic has any effect on the deal performance, next we test whether combinations of these characteristics have even stronger significant effect on the deal performance. While combining

the characteristics, the only combinations that resulted over 10 observations is the combination of domestic deals between different business operations. This combination resulted 30 observations in total. Due to the low amount of observations, it is impossible to make any reliable conclusions or generalizations relying on these results.

As the table 6 below illustrates, the combination of these two characteristics creates even greater abnormal return for the shareholders than either of the characteristics alone (see tables 3 and 4). In deals, where the target is from a different field of business and a domestic company, the acquirer creates +2,90%, +2,77% and +5,55% of abnormal returns during the event windows (-10, 10), (-1, +1) and (-1, +30), respectively. These results are significant at the 10%, 1% and 1% level, respectively. On the other hand, if the deal is between companies from the same field of business where the target is a foreign company, the acquirer creates negative abnormal return for the shareholders. However, these negative abnormal returns are not statistically significant. The difference between abnormal returns are statistically significant during the event window (-1, +30). The difference of -10,71% is statistically significant at the 5% level.

Event window	Return Different SIC and domestic	ER Different SIC and domestic	AR Different SIC and domestic	Return same SIC and cross-border	ER same SIC and cross-border	AR same SIC and cross-border	AR difference
-10, +10	2,67 %	-0,24 %	2,90 % (1,92)*	-0,16 %	0,39 %	-0,55 % (-0,19)	3,45% (1,07)
-1, +1	2,12 %	-0,65 %	2,77 % (2,86)***	-0,57 %	-0,18 %	-0,39 % (-0,23)	3,16% (1,64)
-1, +30	6,20 %	0,65 %	5,55 % (2,52)***	-5,87 %	-0,72 %	-5,16 % (-1,31)	-10,71% (2,44)**

**Table 6.** Effect of the sectors and geographical scope. Statistical significances of the abnormal returns are marked as \*\*\*, \*\*, \* if they are statistically significant at the 0,01 level, 0,05 level and 0,1 level respectively.

As a summary of the short-term results, merger and acquisition announcements create short-term shareholder value, which is strongly significant during the (-1, +1) event window. Also, there are several characteristics that affect the deals' performance. Domestic mergers and acquisitions tend to perform better compared to the cross-border deals. However, the differences between the abnormal returns are not statistically significant. Whether the target and acquirer operate on the same sector, affects the deal performance. The returns of the deals between a target and acquirer from different fields are strongly significant during each of the event windows used in the short-term study. Also, the difference between abnormal returns are strongly significant during event windows (-1, +1) and (-1, +30). Finally, the size of the acquirer has effect on the deal performance. Smaller acquirers tend to generate greater abnormal return than larger companies. Abnormal returns of the smaller acquirers are statistically significant during the (-1, +1) event window. If the deal is between companies that operate in different business sectors and the target is domestic, the deal performance is even better than with any of these characteristics alone.

According to this study, it can be stated that merger and acquisition announcements create statistically significant and positive abnormal returns in the short-term. The short-term results are more robust than the determined significance levels of this study and thus, the null hypothesis of H1 is rejected.

During the examination of the effects of the deal characteristics on the deal performance, it is notable that there are differences in abnormal returns when comparing different characteristics. When observing short-term effects of the geographical scope of the deal, domestic deals performed better than cross-border deals. Especially during the event window (-1, +30) domestic deals

created +2,24% greater abnormal return than the cross-border deals. The result is not statistically significant, as well as any other difference between abnormal returns. Because the domestic deals do not create statistically significant abnormal returns compared to the cross-border deals during the short-term, the null hypothesis of H2 is accepted.

The results of the examinations of the size effect on the deal performance are consistent with the assumptions of chapter 2. In the study, a small company is defined as a company that has total assets below 43 million euros. In the short-term, small companies seem to generate greater abnormal return compared to the large companies. During the event window (-1, +1) small companies created 4,87% of positive abnormal return, which is statistically significant at the 5% level. However, the differences between the abnormal returns are positive but statistically insignificant except during the event window (-1, +1) when the difference is statistically significant at the 10% level. Due to fact that the differences are statistically insignificant, the null hypothesis of H3 is accepted.

The final hypothesis tests whether the sector where the target and the acquirer operate, has effect on the deal performance. The results of this study are the clearest among all of the examinations in this thesis. When the target and the acquirer operate in the same sector the deals perform significantly worse than the deals where the target and the acquirer operate in different sectors. The deals where the target and the acquirer are from different sectors created positive abnormal returns of +2,83%, +2,57% and +5,04% during event windows (-10, +10), (-1, +1) and (-1, +30) respectively. All of these short-term results are strongly statistically significant at the 1% level. Also, the differences between the abnormal returns are strongly significant during the event windows (-1, +1)

and (-1, +30). Due to the strongly significant differences between abnormal returns of the short-term event windows, null hypothesis of H4 is accepted.

## 5.2 Long-term effects

This study examines the short-term and the long-term effects of merger and acquisition announcement on the shareholder value. This section provides empirical results of the long-term effects on shareholder value. The event window for the long-term study is determined according to previous literature and the event window for the long-term in this study is (-1, +1 year). The table of this section is constructed similarly than in the earlier section where the short-term effects of merger and acquisition announcements were introduced.

The empirical results of the long-term effects on the shareholder value are summarized in the table 7 below. As the table illustrates, short-term positive abnormal returns have turned negative while examining the long-term effects. During the long-term event window (-1, +1 year), the actual return experienced by companies is negative (-4,48%), while the expected return calculated by using the CAPM is positive (+1,00%). Thus, after subtracting the expected return from the actual return, the abnormal return is -5,48%. However, the t-statistic is a poor -1,24, which means that the result is not statistically significant at any of the significance levels of this study.

As well as in the short-term examination, the long-term study also examines the effects of the deal characteristics on the deal performance. While the short-term study includes several different event windows, long-term study has only one event window. Due to this fact, this section is able to show the results of the

deal characteristics in one table, table 7. Table 7 is constructed similarly to the tables 3, 4 and 5, but the first column is different. The first column includes the event windows as well as the characteristics that are examined in the study. The table 7 illustrates how most of the abnormal returns are negative when the event window is longer (-1, +1 year). The only characteristic that generates positive abnormal return is the target and acquirer operating in different business sectors, when the acquirer gains 1,06% abnormal return. However, the positive abnormal return is not statistically significant at any level observed in this study.

Study of the geographical scope shows that the cross-border merger and acquisition deals perform better compared to the domestic deals. The t-statistics are very poor (-0,84 and -0,90) for both results, so the results are not statistically significant. Next characteristic is the business sector of the operations. The long-term results in the table 7 show that when the target and the acquirer operate in the same sector, the acquirer faces an abnormal return of -20,19%. This result is statistically significant at the 10% level. On the other hand, when the sector of operations is different between the target and the acquirer the abnormal return is +1,06% but not statistically significant. The difference between different sector companies is the only statistically significant difference of the long-term study. The size effect on the deal performance is the last characteristic. Similarly, as the business sector study, smaller size acquirers experience high negative abnormal return of -20,19%, which is statistically significant at the 10% level. The large companies face a negative abnormal return of only -3,00%. However, this result is not statistically significant either.

Event window and charact.	Return general, domes., same, small and dif. SIC+ dome.	ER general, dome., same, small and dif. SIC + dome.	AR general, dome., same, small and dif. SIC + dome.	Return cross-border, dif., large and same SIC + cross-border	ER cross-border, dif., large and same SIC + cross-border	AR cross-border, dif., large and same SIC + cross-border	AR difference
General -1, +1 year	-4,48 %	1,00 %	-5,48 % (-1,24)				
Geographic -1, +1 year	-6,11 %	0,25 %	-6,36 % (-0,84)	-3,29 %	1,54 %	-4,83 % (-0,90)	-1,53 % (-0,20)
SIC -1, +1 year	-19,71 %	0,47 %	-20,19 % (-1,98)*	2,29 %	1,23 %	1,06 % (0,24)	-21,24 % (-2,29)**
Size -1, +1 year	-8,50 %	11,70 %	-20,19 % (-1,85)*	-3,80 %	-0,81 %	-3,00 % (0,62)	-17,20 % (-1,38)
Combination -1, +1 year	5,40 %	3,14 %	2,25 % (0,37)	-11,11 %	5,47 %	-16,58 % (-1,53)	18,84 % (1,53)

**Table 7.** Empirical results of the long-term effects. Statistical significances of the abnormal returns are marked as \*\*\*, \*\*, \* if they are statistically significant at the 0,01 level, 0,05 level and 0,1 level respectively

The characteristics combination of a deal between different sector companies where the target is domestic can create even greater short-term abnormal return for the shareholders than either characteristic of the deals alone. Characteristic “Combination” illustrates deal performance of these combined characteristic in table 7 above. In the long-term, the combination of these characteristics creates the greatest abnormal return of +2,25%. However, the result is statistically poor and it has a t-statistic of only 0,37. When the target is a cross-border company and the target and the acquirer operate in the same sector, the abnormal return is -16,58% but statistically insignificant. Also, the difference between these two results (18,84%) is statistically insignificant.

According to long-term study, it is clear that merger and acquisition announcements create negative abnormal return for the shareholders of the acquirer. However, the t-statistics of the negative abnormal return (-5,48%) is poor (-1,24), which means that the result is statistically insignificant. The long-term result is lower than the determined significance levels of this study and thus, the null hypothesis of H1 is accepted.

As well as in the short-term study, the long-term study finds that there are characteristics that effects on the deal performance. Long-term study shows that domestic deals created abnormal returns of -6,36%, while the cross-border deals created abnormal returns of -4,83%. However, neither of the results are statistically significant. Also, while comparing the difference between domestic and cross-border deals' abnormal returns the difference is statistically insignificant. Because the difference between these abnormal returns is statistically insignificant the long-term study suggests that the null hypothesis of H2 is accepted.

In this thesis, a small company is defined similarly as in the short-term study (total assets below 43 million euros). Long-term study shows that small companies created negative abnormal return (-20,19%), which is statistically significant at the 10% level. On the other hand, large companies created greater abnormal return (-3,00%), which is statistically insignificant. The difference between these abnormal returns is -17,20% and statistically insignificant. Because during the long-term event window (-1, +1 year) the difference between abnormal return of small companies and large companies is not statistically significant, the null hypothesis of H3 is accepted.

The fourth hypothesis examines whether the sector where the target and the acquirer operate, has any effect on the deal performance. As well as in the short-term study, the long-term study finds the results of this examination as most significant. While the target and the acquirer operate in the different sector the deals perform significantly better compared the deals where the target and the acquirer operate in same sectors. In the long-term, different sector company deals experience a statistically insignificant -3,00% abnormal return, while the same sector company deals experience a statistically insignificant -20,19% abnormal return. The difference between these results is statistically significant at the 5% level. Due to the statistical significance of the difference, null hypothesis of H4 is accepted.

## 6. DISCUSSION AND CONCLUSIONS

During the last decade, company management has highlighted the significance of mergers and acquisitions as a part of their growth strategies. Majority of the companies have stated that the mergers and acquisitions are their first source of growth. The previous literature has been fairly consistent with the conclusions on the effects of the mergers and acquisitions on the shareholder value. However, there is some inconsistency between study results but the popularity of mergers and acquisitions as a part of the growth strategies has increased consistently during last decades. (Andrade et al. 2001: 110-121.)

This thesis examines the effect of the mergers and acquisitions on the shareholder value. The empirical part of the study is divided into two parts in terms of the width of the event window. First part examines the short-term effects on the shareholder value and the second part examines the long-term effects on it. The data used to examine these effects is gathered from Thomson Reuters, initially including over 2800 mergers and acquisitions executed by Finnish companies between January 2007 and August 2017. However, it was necessary to restrict the large data sample, so after all the limitations described in the chapter 3, the final sample included 104 mergers and acquisitions. One aspect of this study was to examine, whether there are any characteristics of the target or the acquirer that may affect the deal performance. The characteristics that are studied in this thesis are location of the target, sector of the target and the acquirer (same or different) and the size of the acquirer. The effects of the mergers and acquisitions and the characteristics are tested using abnormal returns of the share price changes.

The event windows used in this study were divided into two parts. Short-term event windows included event windows  $(-10, +10)$ ,  $(-1, +1)$  and  $(-1, +30)$ . The long-term event study included only one event window  $(-1, +1\text{year})$ . In the short-term study the abnormal returns were calculated using cumulative abnormal return (CAR) calculations. The long-term study used the buy-and-hold strategy. Both event studies, short-term and long-term, calculated the abnormal returns by computing the difference between the actual share returns and the expected returns. The expected returns were calculated using the capital asset pricing model (CAPM), where the betas for each transaction were computed during the estimation window  $(-30, -11)$  and the market return was the return of the OMX Helsinki index. The statistical significances of the results were tested with the t-test.

The study found that merger and acquisition announcements create abnormal returns in both, the short-term and the long-term. The short-term study showed that the announcements create statistically significant positive abnormal returns for the acquirer. Similar conclusions have been reported in previous literature (see e.g. Bhabra and Huaning (2013)). However, the findings of this study are also in a disagreement with some previous studies such as Tuch and O'Sullivan (2007) and Kiymaz and Baker (2008) who find that short-term effects of the deal announcement have been negative and insignificant. In this study, the long-term abnormal returns have turned to statistically insignificant and negative abnormal returns from the short-term positive abnormal returns. The findings of the long-term study support also the previous literature. The previous literature that has made similar conclusions including studies such as Gregory (1997), Conn et al. (2005) and Gregory and McCorriston (2005). They found that in the long-term, effects of the deal announcement are negative on shareholder value.

One aspect of this thesis was to study whether there are deal characteristics that affect the deal performance. The findings show that some characteristics affect more, compared to the others. According to the previous literature (see e.g. Aw and Chatterjee (2004) and Moeller and Schelingemann (2005)), geographical scope of the deal affects the performance of the deal. The findings of these previous studies have stated that due to cultural differences and distance between the companies, domestic mergers and acquisitions are more profitable compared to the cross-border mergers and acquisitions. The study of this thesis has made similar conclusions and finds that in the short-term, domestic mergers and acquisitions are more profitable than the cross-border deals, but statistically insignificant. Again, the long-term study resulted opposite results compared to the short-term study. Long-term study found that the cross-border deals are more profitable than the domestic deals. These results are also statistically insignificant. (Moeller and Schelingemann 2005: 555.)

According to Roberts and Berry (1985), earlier knowledge of the target's market is vital, while completing the transaction. The majority of the studies have supported the idea by Roberts and Berry (1985) and conclude that the mergers and acquisitions between companies that operate in the same sector, perform better than deals that include two companies from different sectors. The results of this thesis find that deals where the target and the acquirer are from different sectors, perform better than the same sector company deals. The results are similar for short-term and long-term. The short-term difference between abnormal returns is statistically strongly significant at the 1% level and the long-term difference is statistically significant at the 5% level. Hence the findings are inconsistent with the previous literature (see e.g. Bhabra and

Huang (2013) and King et al. (2003)). (King et al. 2003: 190-193; Roberts and Berry 1985: 5.)

The size of the acquirer has not effect on the deal performance according to the empirical part of this study. During all the short-term event windows the abnormal returns of the small companies are greater than the abnormal returns of the large companies. The difference between abnormal returns of the event window (-1, +1) is only statistically significant results at the 10% level. Long-term event window resulted greater abnormal return for the large companies. The large companies had a smaller negative abnormal return (-3,00%) than the small companies (-20,19%). The short-term findings of the study do not support Moeller et al. (2004), who find small acquirer abnormal returns greater than the large acquirer abnormal returns.

The combination of the different sector companies' and domestic companies' transactions creates an impressive +5,55% return during the event window (-1, +30) and the result is statistically significant at the 1% level. The short-term study created statistically significant abnormal returns of +2,77% and +2,90% for the event windows (-1, +1) and (-10, +10). These abnormal returns are greater than either characteristics' abnormal returns alone. Also, the difference between the abnormal returns is statistically significant at the 5% level during the event window (-1, +30). The long-term study finds that deals between different sector companies and the domestic target result in +2,25% abnormal returns for the shareholder. However, the t-statistic is 0,37 and thus statistically insignificant. On the other hand, deals between the cross-border target and companies from the same sector generated insignificant abnormal return of -16,58%. Also, the difference between these abnormal returns is statistically insignificant.

The empirical results of this study show that merger and acquisition announcements affect positively on the shareholder value during the short-term. Especially, when the event window is narrow, shareholders experience significant positive abnormal returns. On the other hand, in the long-term the announcements create insignificant negative abnormal returns for the shareholders.

In the future, the company's management should determine the target according to the purpose of the merger and acquisition deal. According to the findings of this study the management of a small company should seek targets that operate in the domestic market but in the different sector than the acquirer. That is how the management maximizes the shareholder value in a short-term. However, it is important to know that each of the transactions is different and includes different possibilities and threats. A small acquirer's acquisition of a domestic and different sector company may lead to a complete opposite result than the findings of this study.

The findings of the study are mainly consistent with the previous literature. Studies about Finnish companies' mergers and acquisitions are limited and thus additional research on this field is strongly recommend. This study includes only transactions completed by listed Finnish companies, so possible future studies should study also the transactions of the private companies. Additional studies may want to study abnormal returns before the deal announcement since there may be some leaked information.

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