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SHAREHOLDERS' WEALTH AROUND MERGER AND ACQUISITION ANNOUNCEMENTS AND FINANCIAL PERFORMANCE OF BIDDERS: EVIDENCE FROM SAARC GIANTS

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ABSTRACT

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During the last few decades the number of corporate takeovers has been rising progressively and therefore attracted many scholars to conduct multifaceted research within this field. However, the Pakistani and Indian merger and acquisition market is poorly covered. Therefore, present insights add considerable value to the existing evidence. The thesis uses the event study methodology and the independent t-sample test approach. By applying these tools, it measures the dynamics of the abnormal returns generated by Pakistani and Indian bidding and target firms' shares around acquisition deal publications. This is done for short-term event windows, up to nineteen days around the event announcement. Further, the abnormal returns and financial performance of involved companies are regressed on transactions' characteristics such as deal value, percentage acquired, mode of payment and industry relatedness to evaluate the sensitivities and drivers by the ordinary least square estimation approach (OLS). In addition, the abnormal returns are computed by using the Market Model and CAPM to explore any differences between two models. At the end the abnormal returns generated by different industries are compared with each other to explore which industry, either financial or manufacturing, generates more returns for their shareholders by a mergers and acquisitions process. The thesis found that both targets and bidding companies generate abnormal returns for their shareholders at announcement dates and besides these dates only normal returns are generated over event window. The current study also found that deal value and stock options used for payment has direct impact on the amount of abnormal returns of bidding companies. In the end the thesis did not find any significant difference between the abnormal returns computed by Market Model and CAPM.

Keywords[1] Abnormal returns, Market Model, CAPM, event study, financial performance, OLS technique

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1 INTRODUCTION

Corporate takeovers are amongst the largest investments an organization is accomplished to enhance company's value (Kenourgios et al., 2008). Thus, almost all economic sectors have seen an increasing number of mergers and acquisitions (M&A) during the last two decades. These different facts are some reasons why scientific studies within this field are numerous and cover different aspects, reaching from behavioral to strategical issues (Eckbo and Thorbun, 2008). However, the coverage of empirical research for the Pakistani and Indian market is fairly moderate. Contemporary insights may help to understand the recent situation and contribute to existing global literature. The investigations of the thesis focus on short-term dynamics of abnormal returns (AR) around an announcement of a corporate takeover and financial performance of bidders. The motivation of this work is to develop investment strategies for possible future investors and to present empirical evidence on the actual situation within the Pakistani and Indian markets.

The following chapter starts with posing an overview of the thesis by presenting the structure. Additionally, it offers a basic insight into common M&A definitions as well as motives and concludes with a brief summary of the Pakistani and Indian M&A environment.

1.1 Objectives of Study

1) To investigate either abnormal return is generated in event window around announcements of M&A transaction for bidder and target firms.
2) To investigate the impact of different characteristics (value of deal, means of payment, percentage acquired and industry relatedness) of M&A transactions on abnormal returns of acquiring companies.
3) To investigate the impact of M&A characteristics (value of deal, means of payment, percentage acquired and type of industry) on financial performance of Pakistani and Indian acquiring companies.

4) To compare financial performance of Pakistani and Indian acquiring firms after the M&A activities.
5) To compare the results of Market Model and CAPM.

To achieve these objectives, first of all the news of M&A transactions are gathered through different sources like, companies web sites, newspaper articles, web sites of registered brokers over stock exchanges etc over the period of 2000 to 2014. After that daily returns of bidders and target companies are calculated by using both Market Model and CAPM over the event windows. To know the significance of the results, independent t-sample test is used and the abnormal returns are tested against the market returns over the event window.

Further, to know the significant regressors of abnormal returns and financial performance, OLS techniques are used. In the end, again an independent t-sample test is used to find any significant difference between applied models.

1.2 Problem Statement

Corporate takeovers are amongst the biggest investments a company is capable to conduct, as it is a reasonable way to enhance a company's value (Kenourgios et al., 2008) and almost all economic sectors in the world have seen an increasing number of M&A transactions during the last two decades. These corporations are visualizing a number of advantages from such agreements like automatic reduction in competition, which increases market share and, on the other hand, give birth to economies of scale as a tool to reduce costs (Andrade et al., 2001).

By seeing different advantages of M&A, Asian countries have also experienced heavy wave of corporate takeovers recently. The wave reached to its peak in Pakistan and India in 2005 which took the attention of researchers to study the effects of these transactions on shareholder wealth and financial performance of involved firms in these countries. Since this is relative new concept for Asian companies, it is not yet clear whether these transactions enhance shareholder's wealth and financial performance of bidding and target corporations or not for Pakistani and Indian M&A markets.

1.3 Research Problems and Questions

Since the goal is to analyse and interpret stock market reactions on corporate merger and acquisition news, the research problem, which is then divided into three questions regarding the main purpose of this thesis is formulated as follows:

Do stock price returns of companies, involved in a merger or acquisition transaction, show an abnormal reaction compared to an appropriate benchmark?

The above-mentioned research question is further examined by looking at characteristics (like deal value, percentage acquired, type of industry and means of payment) of transactions that influence the dynamics of the stock price. So, the following question must be answered.

"Are there characteristics of merger and acquisition transactions that either enhance or constrain stock price dynamics of bidder and Target firms?"

After assessing the effects on shareholder's wealth, the current study also explores the effect of M&A on the financial performance of concerned companies (bidders) so for this, the following question must also be considered.

"Do the process of mergers and acquisition end in escalating financial performance of bidding companies?"

The following section offers the reader insight into international scientific research and empirical analyses on the research questions stated above.

1.4 Research Implication

This study has several implications for investors, researchers, project managers etc.

The current study allows the investors to maximize their wealth by investing the amount in the right time. Since both target and bidding companies of Pakistan and

India generate abnormal returns at announcements of M&A transactions, investors should keep their eyes on such transactions to maximize their wealth. Hence by investing their funds in the right company at the right time, investors can enjoy more returns than the market returns.

The current study clears the picture of Pakistani and Indian M&A transactions by experiencing the abnormal returns at announcements of M&A activities and only normal returns around event windows. Thus, researchers can predict the behaviour of abnormal returns for their upcoming researches because previously there was not much literature available on the topic.

This study is also useful for Portfolio managers. They can build their portfolios by considering the stocks of those companies which are going to be merged or acquired with another corporation because both target and bidding firms allow them to generate abnormal returns as compare to market return.

1.5 Contribution of Study

This study will contribute to the literature in the following ways:

The current study explores the complete picture of M&A activities because it does not only find the effects of M&A transaction on shareholders' wealth, but also investigate the impact of these activities on financial performance of bidding firms. Moreover, the current study uses regressions techniques in exploring the effects of M&A transaction on financial performance as well as abnormal returns of firms to understand the complete behaviour of M&A dealings. In addition, by including both the models (CAPM and Market Model) the thesis infers that there is not any difference present between their results and future researchers can use CAPM along with Market Model which is used heavily in the past. The thesis also compares the results of involved countries (Pakistan and India) to know which country generates more value from these M&A dealings.

1.6 Limitations of Study

This study has some Limitations:

The data for companies, especially for Indian companies, is very limited. So, the limited availability of daily and company specific data makes this work a real challenge. Besides this, to know the actual announcement date of M&A is very difficult to know so for inferences the first public announcement made by companies is considered.

The remaining study is organized as follows: in the next section previous studies are discussed then the methodology section is organized after that the results and discussion section are conferred and in the last conclusion is deliberated.

1.7 Structure

This section presents an overview of how the thesis has been developed and supplies a guideline for the reader.

Chapter two provides some basic information on the corporate takeover market. Taking from the information by chapter one, chapter two states a general research question that sets the frame for the literature review. The literature review offers a summary over internationally conducted empirical studies on stock price reactions around corporate takeover announcements and financial performance of companies after M&A. Hence, it builds the groundwork for the hypotheses developed in chapter four. This is due to the fact that it records the different findings for international markets and therefore, sets some guidelines about the expected reaction within the Pakistani and Indian market. The hypotheses chapter builds the heart of the thesis, as the aim of the work is to accept or decline these statements.

For conducting a proper event study, chapter four also provides knowledge on the methodology used within the analysis part. It offers a discussion on several models and explains the most appropriate for the purpose of measuring abnormal returns. The collected data sample is also described in that chapter. This part offers an insight how the final data set has been selected.

The analysis chapter five applies the methodology and consequently uses the assembled data sample. The output of the analysis is interpreted subsequently for each hypothesis. Finally, chapter six concludes the overall findings and implications uncoupled from the hypotheses. This allows the reader to gain a sound understanding on the dynamics within the Pakistani and Indian corporate takeover market. Furthermore, it also discusses several implications and caveats of the paper as well as ideas for further research.

2 THEORETICAL AND EMPIRICAL SECTION

2.1 Definitions and Types of M&A

The research relating to business takeover includes diverse meanings of types for mergers and acquisitions. According to (Clayman et al., 2008), acquisition is an event takes place when bidding firms acquire only a piece or part of another firm. Further on the deep insight, this segment may be referring to specific section of a corporation or to a portion of its stocks (Brealey et al., 2012). In spite of acquisitions, Gaughan (1999) depicts that mergers are those transaction where the bidders purchase the entire portions of liabilities and assets of a target companies. Consequently, the target company typically vanishes as the transaction is completed. In other words, the target company integrated after the deal is realized into the bidding company. Beck et al., (1991) named this particular type of deal as statutory merger. Additionally, if bidders only want to enjoy benefits from a well-established brand or corporation, they can begin a subsidiary merger, which change the target into a subsidiary of bidder (Clayman et al., 2008). Current study considers all the definition of mergers for analysis. Thus, existing research does not differentiate among various types of acquisition and mergers.

Previous studies like (Berk et al., 2012) describe three different types of M&A and these are as follow.

1. Horizontal Mergers
2. Vertical Mergers
3. Conglomerate Merger

Horizontal Mergers

In this type of merger two corporations join with each other which belong to the same industry. These types of mergers are the most frequent one in the whole

world. Corporations which want to take benefit from the resources of other companies in the same industry often involve into horizontal mergers.

Vertical Mergers

Vertical mergers are conducted to control the supply chain of corporations. In these mergers companies often merge those companies with themselves which act as the supplier or distributer of organization.

Conglomerate Mergers

These mergers are not very often because these types of mergers are taken place when one corporation wants to acquire firm which belongs to different industry.

2.2 Motives of M&A transactions

For most private investors is investing in the stock market a zero-NPV deal. Corporate investors are able to improve this situation. They add economic value by creating different forms of synergies and conducting wealth transfers (Berk et al., 2012 and Trautwein, 1990). The literature discusses several premises that drive the motivation for a corporate takeover. Trautwein (1990) concludes seven well-known theories, which are frequently used in empirical research. Figure 2 categorizes these seven theories into different groups to provide an overview. Within the current section the specific theories are briefly introduced.

The efficiency theory contains different forms of synergy creating. While financial synergies lead to lower costs of capital, operational synergies try to lower the expenses of the involved business units. Moreover, managerial synergy is knowledge within the incumbent firm that helps the opposite party for a superior planning and monitoring (Trautwein, 1990: 284).

Gaughan (1999) implies that the idea of the monopoly theory is to achieve a unique powerful position in a market. However, he adds, in practice is little evidence about the significance of this hypothesis. The raider theory refers to minority shareholder who tries to achieve a change in corporate policies. In addition, he closely monitors the incumbent management to improve the performance of the firm (Croci, 2007). Nevertheless, Croci (2007) mentions that the financial press has

mixed feelings about such investors. In a setting where the potential bidding company is able to predict the future income streams more accurately and hence is able to calculate a higher company valuation, the scientific literature refers to the valuation theory (Trautwein, 1990 and Ravenscraft and Scherer, 1987).

The empire-building theory says, that corporate transactions often destroy shareholders' wealth. The purpose of such a deal is to construct a prestigious and large corporation that allows the manager to improve his personal utility (Ravenscraft and Scherer, 1987: 211). Gaughan (1999) names this phenomenon the hubris hypothesis that is often mentioned within the scientific literature. Ravenscraft and Scherer (1987) describe the process theory as an outcome of procedures governed by various influences such as political power and organizational routines. Finally, the disturbance theory says that differing individual expectations might under certain assumptions cause a merger wave1 that is correlated with higher valuations of firms (Gort, 1969) and Rhodes and Viswanathan (2004)). However, Ravenscraft and Scherer (1987) underline that this theory is not throughout consistent with the empirical evidence.

2.3 Theoretical Support

To back our stances, we need solid support from theories. In this context we discuss two very famous theories that support our point i.e. M&A generate values for both firms and shareholders. These two theories are discussed below.

2.3.1 Efficient Market Hypothesis

Efficient market hypothesis depicts that any information of corporation is reflected in its share price. In other words, and in more detail, we can say the phenomenon by which actual prices of individual securities reveal the effects of those events which are recently occurred and also reflect the effects of events which the market anticipates to happen in the near future (Fama, 1976).

In short, this hypothesis signifies that security price already divulge the information that is already available in the market, so it acts as a good analyst of stock's intrinsic value. This hypothesis is segregated into three different forms. The first wing is categorized as the weak arm, in which only the historical market data and information are completely shown in security's prices. The other part is termed as the semi strong form of hypothesis that asserts all the information which is in public, is fully reflected in prices of stocks. In different words, fundamental analysis has of no use in this form. Finally, the strong division which is third form, states that all information which has passed or likely to happen is fully revealed in security's prices.

In the perspective of efficient financial market hypothesis, all the news of M&A announcement should immediately be shown in the stock prices of corporations and level of uncertainty along with other news related to the process of M&A deals will be progressively shown in stock prices. The dynamic environment of business that is prevailing around the globe has different level of market efficiency. To understand this phenomenon, we take the example of Australian stock reacted to the announcements of M&A news. These stocks are Telstra, Fairfax and Coles Myers, which valuation reactions were due to the refusal of takeover speculation, buyout proposal and reforms of operations. The prices of these stocks reacted according to dissemination of news which supported the notion that the Australian financial market possessed efficient market pricing mechanism.

Additionally, the decisions took by the board of company and managers also have significant impact of the prices of stocks. This concept can be understood with the help of following examples. Recently Google and Microsoft attempted to acquire Yahoo, in that effort the stock prices of Yahoo amplified. However, after the refusal from Yahoo management, the market experienced a decline in the stock prices. Furthermore, it was depicted the decline of around 8 percent in the stock of Coca Cola stock in one day when they announced their attempt to get hold of Quaker and after disapproval by the board the stock regains its previous position and raised by 8 percent (Kau et al., 2008). These examples clearly showed that the reaction of market from the announcement of M&A deals is a fine way to make

superior decisions, because the effects of these incidents immediately shown in the stock prices.

Similarly, the stock prices of some companies in Canada experienced tumultuous arrangements after the announcements of M&A deals. In 2007, the Australian mining company Rio Tinto tried to acquire the biggest aluminum producing company of Canada Alcan, Inc for $38 billion in cash. The friendly deal was agreed after extensive negotiation. After some time, the initial proposal was rejected by Alcan Inc of Rio Tinto, which caused the fluctuations in the stock prices but after final negotiation and completion of deal, target company experienced the increase of approximately nine percent in its share. This variation in prices is fully reflected in the market and not providing any time spaces to speculators to get hold of perks from these conditions.

2.3.2 Behavioral Finance Theory

It has been experienced that even with the most accurate information; people tend to make their own decisions based on their sentiments, beliefs or market trends. Therefore, it is hard to determine a specific manner to outsmart the market. Daniel (1998) and Hershleifer (2003) provided some evidence that irrational investors' errors create misvaluation of the securities. The market bubbles are the clearest example of this theory.

In the matter of merger and acquisitions, Davidson, Dutia and Chen (1989) explain the Rational Expectation Hypothesis. The hypothesis states that investors adjust their valuation of bidder firm share prices whenever the market recognizes an acquisition plan either by corporate announcement or through the financial press. This causes the market volume of securities to increase or decrease because the stock's value is giving a signal to investors.

Mitchell, Pulvino and Stafford (2004) show the existence of price pressure originating due to excess demand in the short run. Additionally, they corroborated that the stock price in the U.S. increased approximately three percent around the three business days preceding an M&A announcement. Overall, they showed evidence

that in the short term, the demand increases as well as the security price in the M&A announcement.

Hirshleifer and Hong Teoh (2003) describe the cascade effect in the stock market after people take the same pattern of actions for different signal values. They argued that this cascade or coarsening creates partial blockage of information. In conclusion, there is a short-term reaction in the market, which creates small public shock that can lead to people changing their actions. These public shocks are translated in achieving higher or lower levels of stock demand.

In financial markets a considerable amount of information is circulating, and it is managed with different levels of skills. According to Daniel, Hirshleifer and Subrahmanyam (1998), there are overconfident investors who overvalue the accuracy of their own information, but not the public information. They found that the investor's inclination to over or under react to different kinds of information creates a pattern that the average announcement date returns are the same sign as the average post event abnormal returns. Also, they found that under reaction is produced if the event is selected in a reaction to the mispricing of the market. For example, if investors research about M&A deals and they found that the stock is overvalued, they will buy and start to tell people, which cause the trading volume of the stock to increase dramatically. On the other hand, if overconfident investors think that the merger will not add value to the company, the trading volume of the stock will decrease. Therefore, the level of confidence of the investors creates a fluctuation in the quantity of trading stocks in the financial markets, which affect the stock's price and generates a behavioral alternative to market efficiency.

2.4 Environment of M&A in Pakistan and India

This section provides an overview of M&A deals occurred in Pakistan and India over the period of 2000-2016. The following shows the summary of these. We come to know that Pakistan experienced the highest M&A deals in the year of 2004 where 39 deals were reported on the Pakistan stock exchange. Besides that year Pakistan only experienced 1 or 2 deals per year. In contrast to this India experienced quite large amount of M&A deals within this period. Here one thing is very important that increasing trend can be seen in the case of Indian market. One

reason of this trend is the growth rate of India. India consistently perform very well as compare to Pakistan over some past years and that is why it experienced quite large number of M&A in it.

Table 1. Number of Deals in Pakistan and India 0ver the period 2000-2016.

Year	Pakistani No. of Deals	Indian No. of Deals
2000	1	189
2001	7	126
2002	16	119
2003	8	158
2004	39	156
2005	4	299
2006	14	311
2007	5	295
2008	4	350
2009	4	300
2010	4	650
2011	3	750
2012	1	700
2013	1	614
2014	1	762
2015	2	850
2016	3	900

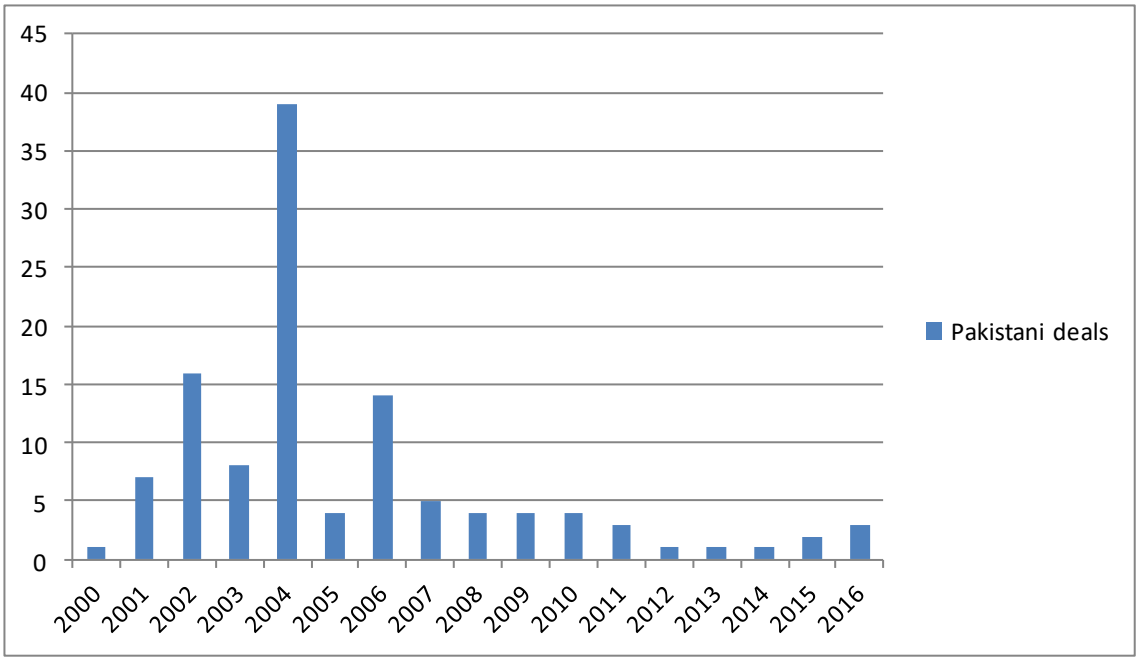

Figure 1. Pakistani Deals.

The above table 1 shows the deal summary of M&A of Pakistani market. It can be seen that the largest number of 39 deals can be seen in the year of 2004. It can be said that this is the year where Pakistan experienced its first wave of M&A. After that period a huge decline can be seen in M&A deals. The above figure also shows an upward trend of M&A deals after the year of 2013. It shows that these concepts again ready to rise up.

The following figure 2 shows the summary of M&A deals of Indian market. It is very clear that India experienced quite large number of M&A deals over this period as compare to Pakistan. The increased number of M&A shows the sound and growing economy of India. In the end after 2012, just like Pakistan, Indian economy also found an increasing trend in the field of M&A markets. This increasing trend develops the importance of this concept for the researchers to study its various impacts on the shareholder's wealth. That is why a number of studies were done in these parts of world to explore the effects of M&A on the financial performance and shareholder's wealth like (Kose et al., 2010; Zhu and Malhotra 2008; Zhu et al., 2011; Barai and Mohanty 2010; Rani et al., 2014; Zahid, 2014).

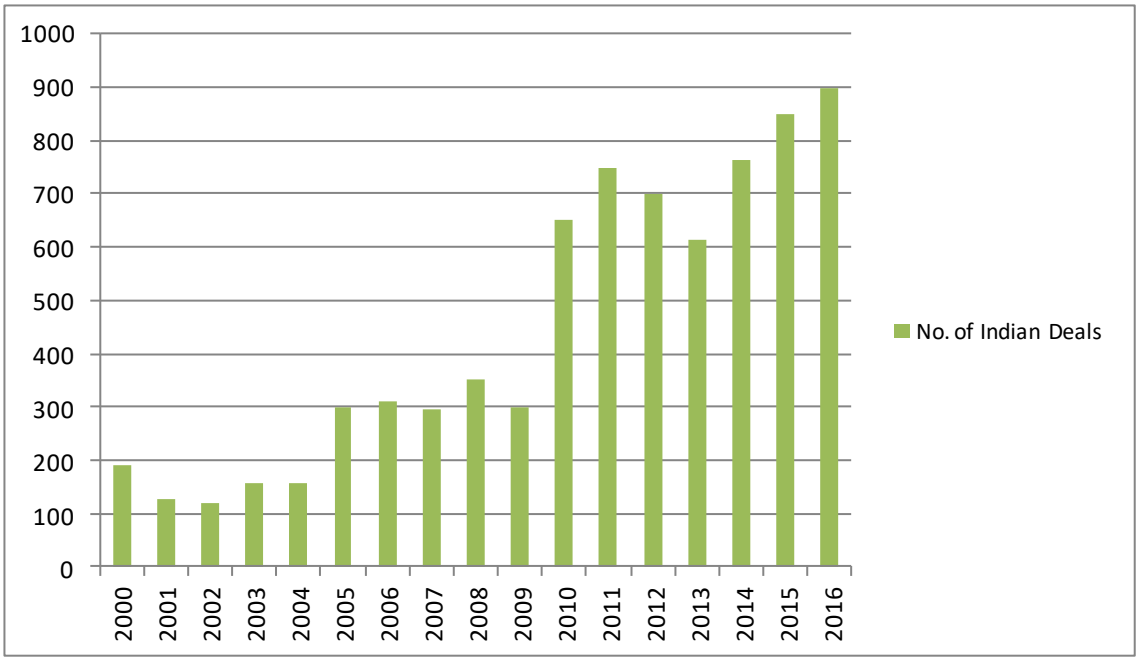

Figure 2. Indian Deals.

3 LITERATURE REVIEW

The aim of chapter three is to provide the reader with the research idea of the thesis (cf. section 1.3). Supplementary, scientific literature as well as empirical research on the topic is discussed in section 3.1. Both parts are crucial inputs for developing the hypotheses stated in chapter three. To gain knowledge from existing literature, a broad focus is applied during this chapter by considering international studies. Therefore, the following research questions set the framework regarding the empirical material considered. However, the reader should be aware of the fact that these research questions are not the claimed hypotheses for testing purposes but merely thought as guidance for literature research. Hence, the research question is not yet narrowed for the Pakistani and Indian market.

3.1 Previous Studies on Price Dynamics

This section offers an overview on existing literature regarding the behavior of the abnormal return of target and bidding companies around an announcement date of a corporate takeover. Lowinski et al. (2003) present empirical evidence on the gains and losses that occur to shareholders of the bidder firm. They use data from 1990 to 2001 for the **Swiss market** and find a significant positive cumulative abnormal return (CAR) for small event windows of two to five days. However, by expanding the event window, the abnormal return becomes insignificant.

Goergen and Renneboog (2002) researched the effects on shareholders' wealth of the fifth M&A wave during the 1990s. They include transactions from **Continental Europe and the UK**. They found highly significant abnormal returns for different event windows for the target firms. The effects on the bidding firms' shares are less strong. On very short-term windows a small significant positive return is present. However, by enlarging the time frame, the abnormal return gets insignificant. Focusing on the DACH region, the effects on bidders and targets shares are similar to the previous ones, but significant results are only found for even shorter event windows (Goergen and Renneboog, 2002: 25). Due to the small sample size of only 7 observations, which were used for the DACH region, the results are not highly reliable.

Croci (2007) rejects the raider hypothesis for the **European market**, which states that the target stock price reacts negatively to the public announcement of the first share purchases of a raider. A raider is defined as a minority shareholder who wants to change corporate policies within the target company. Therefore, the target shareholders anticipate that the raider will extract corporate resources to his advantage, which causes a decline in the firms share price. Furthermore, he found the same evidence as Goergen and Renneboog (2002) on the target firms' reaction with regard to the overall European market and for Switzerland specifically.

By expanding the focus to a global scale, there is extensive work for the **US and UK market** on this issue. Eckbo and Thorburn (2000) mention, there is substantial evidence that shareholders of the target firms realize on average large capital gains from merger and acquisition transactions. However, the evidence on reaction of the bidder firms share price is ambiguous and depending on the specific point in time and associated merger wave.

Martynova and Renneboog (2008) collected some part of the widespread empirical evidence on the profitability of corporate takeovers and compared it across decades. The findings refer to successful domestic M&A transactions between non-financial organizations. Thus, the following section offers an aggregate of the findings from a broad variety of conducted studies for different markets and merger waves.

Andrade, Michell and Stafford (2001) contribute to the short-term event window research and confirm that across all M&A waves during 1973 to 1998 abnormal gains and losses on stock prices regarding the bidding company are statistically insignificant. These findings, which stem mainly from the Anglo-American markets, contradict previous discussed ones from Goergen and Renneboog (2002) and Lowinski et al. (2003) for the European markets. This underlines the ambiguousness of the different outcomes regarding the dynamics of the abnormal returns and shows that these are dependent on time.

Additionally, further scrutiny of **target firm** leads to a fairly different picture. As discussed previously, the evidence during all waves shows merely positive effects on the share price. However, the magnitude of the positive CARs differs from study to study. While Lang, Stulz and Walkling (1989) discover a positive cumulative abnormal return of 40.3 percent in the US-market for an eleven-day event window during the third takeover wave, Dennis and McConnell (1986) came up with a negative CAR of 13.74 percent within the US-market for a similar time period and event window.

Eckbo and Langohr (1989) find a significant CAR of 16.48 percent for an event window of five days from the announcement for French companies during the third wave. This finding might be used as a proxy for the European market for the specific time period.

Regarding the fourth takeover wave during the eighties, Graham, Lemmon and Wolf (2002) uncovered a significant positive CAR of 22.51 percent on the US-market for a three-day event window starting one day before the M&A announcement. Mulherin and Boone (2000) find similar results, which report a 21.2 percent cumulative abnormal return for the same market and event window during the fifth wave in the nineties.

In conclusion, it is obvious that the evidence on target firms is consistent. All articles find a significant positive cumulative return over the defined event window. The results are independent of time and place. This means that the US market is identical to the European market and there is no difference between the various merger waves. However, looking at the bidders' CAR, the evidence within the literature is fairly ambiguous and shows strong dependence on region and time of the underlying data set.

In recent works, Zhu and Malhotra (2008); Gubbi et al. (2010); Barai and Mohanty (2010); Kohli and Mann (2011); Karels et al., (2011); Rani et al., (2011) observe positive returns for cross-border acquisitions by Indian acquirers. Recently, few studies have examined the performance of cross-border acquisitions for a sample

form cross-section of countries. Kose et al., (2010); Zhu (2011); Zhu et al., (2011) document positive returns for the acquirers from emerging economies like India, Pakistan, Malaysia.

Further Singh et al. (2012) reveal evidence of a decrease in economic value added, return on capital employed and earnings per share in the years following the cross-border mergers and acquisitions of Indian acquiring firms. Additionally, Bertranda and Betschinger (2012) show that both domestic and cross-border acquisitions tend to reduce the performance of acquirers compared to non-acquiring firms. Investigating a sample of 600 Russian acquirers their results suggest that Russian acquirers suffer from the inability to leverage value due to low M&A experience and capability, especially when making international acquisitions.

3.2 Previous studies on Financial Performance

In this part we will discuss some of the studies which discussed the effects of M&A on the financial performance of target and bidding companies. One of the most notable studies regarding post-acquisition operating performance was completed by Healy et al. (1992) who studied 50 of the largest US mergers between 1979 and 1984 with an event window of five years post-acquisition. Acquiring company operating financial performance was measured against industry performance as cash-flow return on tangible assets, excluding any premium paid by the acquirer. The results indicated that, post-acquisition, acquiring firms improved their asset productivity and delivered statistically significant industry-adjusted cash-flow returns on all tangible assets (IACRTA) of 2.8% compared to industry benchmarks.
Further Gosh (2001), reported on 315 acquisitions between 1981 and 1995. Similar to Healy (1992), it defined operating cash-flows as sales minus cost of goods sold, minus selling and administrative expenses, plus depreciation and goodwill amortization expenses. Gosh (2001) then utilized a standard change model to calculate the difference between the acquiring firm's three-year industry-adjusted pre- and post-acquisition cash-flow return performance. This indicated that ac-

quiring firms outperformed industry-average firms over both pre and post-acquisition years, the difference between average pre- and post-acquisition cash-flow was an insignificant 0.66%.

Recently, Smit and Ward (2007) also performed two pre- and post-acquisition operating financial performance analyses. They studied industry-adjusted cash-flow return on tangible assets (IACRTA), similar to Healy et al. (1992). Smit and Ward (2007) finally concluded that based on the operating financial performance of acquiring firms before and after large acquisitions, large acquisitions, on average, do not result in any improvement or deterioration in acquiring firm performance.

Further Goddard et al. (2012) look at how bank M&A in Asian and Latin American emerging countries may influence bank performance. In addition, Beccalli and Frantz (2009) examine the effect of bank performance in M&A between EU acquirers and worldwide targets. Shaffer (1993) and Focarelli and Panetta (2003) consider, among other issues, the implication of M&A in the US banking industry for target and acquiring banks. However, Beccalli and Frantz (2009), Shaffer (1993) and Focarelli and Panetta (2003) employ various measures of bank performance but not the DEA score, which has the advantage of being based on a flexible, non-parametric approach (i.e. the DEA approach).

Means of payment

The means of payment is a crucial factor within a merger and acquisition transaction. It may influence the successful completion of the deal as well as the post-performance of the combined companies (Riggs and Slusser, 1994). Basically, there are two extreme forms of payment possible, involving fully cash or stock financing. Also, combinations are regularly seen (Beck et al. 1991). As a substitute for stocks, different forms of securities could be offered, which range from preferred shares to debt securities (Chang and Moore, 2012). Martynova and Renneboog (2009) analyzed 1361 European corporate transactions between 1993 and 2001. Thereof, 62.8 percent are cash transaction, 19 percent mixed and only 18.2 percent are paid using the bidder’s stocks.

Martin (1996) states that there are many different reasons that determine the final choice of the means of payment for a corporate takeover. The final outcome is normally dependent on characteristics of the bidding and target firm as well as on environmental factors. For instance, if the management of a bidding firm is aware of the fact that their company is overvalued, they should offer stocks as payment method. In the case the bidder company is undervalued and management expects an increasing stock price, acquisitions should be done in cash (Travlos, 1987: 944). This approach clearly underlines the problem of asymmetric information between the bidder's management and external shareholders (Goergen and Renneboog, 2002).

Martynova and Renneboog (2009: 303) add that the effect of risk sharing comes into play when a transaction involves a high portion of stock payment. By receiving stocks from the bidding company, the target shareholders participate in future market reactions on the combined conglomerate and therefore also bear investment risk. Intuitively, possible future deficits are divided on a bigger stockholder base and hence, release incumbent stockholders. In contrast, a stock offering could also be received as a negative signaling effect to the existing shareholders of the bidding firm as described above. More specifically, when management prefers share payment they imply the own company to be overvalued and hence causing a negative information effect (Travlos, 1987). As a consequence, if such effects are valuable, the final reaction of the bidding firm's stock price includes the gain from the takeover and the information effect delivered through the means of payment (Travlos, 1987: 944).

Goergen and Renneboog (2002) examine the sensitivity of the target's stock price reactions to the means of payment. For total cash offers they find significant AR ranging from around 10 percent on the announcement day up to roughly 29 percent for a 121 days event window. Furthermore, they find significantly lower abnormal returns for stock and mixed offerings compared to the total cash offer.

Supportive to previous study, Chen, Chou and Lee (2011) mention that the scientific literature widely states that cash offers achieve significantly higher returns for target stockholders than stock or mixed payment acquisitions.

Looking at the bidder's stock price reaction reveals a completely different picture. Goergen and Renneboog (2002: 27) find reliable positive abnormal returns for cash bids of 0.37 percent and 0.9 percent for the event day and a five days event window respectively. In contrast to the target firms, Goergen and Renneboog (2002: 27) state that bidding companies befall higher abnormal returns using stock than cash offers. They report significant positive AR of around one percent on the event day up to 2.72 percent on a 121 event-days window.

Industry Relatedness

Unrelated M&A's refer to mergers between two firms that have different key success variables. Related M&A's refer to mergers between companies that share at least one of the components along the value chain. Operating efficiency and market power are more achievable in related M&A's because the possibility exists to achieve economies of scale and economies of scope, to control the price and quantity of the products sold, and to form collusions. Unrelated M&A's can create value by means of risk reduction via diversification. Unrelated M&A's increase the liquidity of the merged firm by creating an internal capital market that allows efficient allocation of cash across different units.

However, it is unclear what the impact on post-merger financial performance and shareholder wealth will be if the acquiring and target firms are in dissimilar industries. Firms in similar industries might achieve synergies and cost savings by eliminating overlapping areas. But very few evidences can be seen from literature. According to the empirical work of Berger and Ofek (1995), diversifying (firms belong to different industries) mergers reduce shareholder wealth whereas Lang and Stulz (1991) find supporting evidence when they examine the relationship between market value and diversification for US firms.

Control Acquired

Control acquired referred to percentage of shares obtained by the bidder firms in target firms. Beamish and Banks (1987); Geringer and Hebert (1989); and Chari et al., (2010) suggests that the level of control is one of the factors in determining the success of acquisition. Extant literature reveals that acquiring majority control is beneficial to the shareholders both of acquiring and target firms. Chari et al. (2010) observe that the acquisition of majority control results into significant increases in the stock returns of the acquiring firm as well as of target firm in the emerging markets.

Acquirers obtain complete control over the resources of the target firm through 100 per cent acquisitions. Harrison et al., (2001) suggest that access to complementary resources is a major motive for acquisitions. The acquirers gain organizationally embedded resources of the target firm which otherwise are hard to obtain. Kiymaz (2004) suggests that the acquirer can reorganize the target firm according to its needs, if it has full control over the target. Butz (1994) argues that other shareholders can obstruct actions by the acquirer if the complete stake/control is not acquired. In addition, the integration of the cross-border target firms might be difficult due to cultural differences. Further, cultural differences might also lead to communication and coordination problems. Therefore, acquirers choose to acquire 100 per cent equity of the targets in order to avoid the hassles of managing co-ownership. Caves (1996) documents that only with majority control acquisitions, acquirers can fully reflect their underlying economic/management principles, strategic ability, and resource commitment during the course of entry and operations in cross-border acquisitions.

Chen (2008) argues that the acquisitions of complete control are driven mostly by acquisitions of capabilities. On the other hand, partial/majority control acquisitions are motivated by other strategic considerations. Acquirer can procure competitive assets from local firms, such as advanced technologies and well-established brands (Anand & Delios, 2002; Chen & Zeng, 2004). Strategic goals such as

rapid entry into growing industries or capacity control in mature industries or consolidation of market power in concentrated sectors can be achieved by partial/ majority control acquisitions (Caves & Mehra, 1986; Hennart & Park, 1993).

A partial acquisition changes the ownership structure of target firm; it represents a unique form of corporate restructuring because it alters the form of control over the target's management. Meyer and Tran (2006) suggest that partial acquisitions often initiate a dynamic process leading to full control over local firms thus giving access to a wider range of resources. Recently in a disaggregated analysis of 398 complete acquisitions, Rani et al. (2012) observe that the acquirer earns 2.99 per cent cumulative average abnormal return (CAAR) in case the target firm is acquired as wholly-owned subsidiary (WOS). In contrast, the study reports that the acquirer shareholder loses almost five per cent CAAR (statistically significant at 1 percent) when the target firm is completely absorbed with the acquirer during the same period.

Variables of Study

To measure independent and dependent variables in studies to test cause-and-effect relationships, following table will provide the details with explanation

Table 2. Variables of Study.

Variables	Explanation	Type
Cumulative Abnormal Return (CAR)	Aggregation of abnormal returns of target and bidding firms over event window	Dependent Variable for Model I
Operating Cash Flow	Average of 3-year operating cash flows of bidders	Dependent Variable for Model II
Payment Methods	Dummy Variable i.e. how payment is made either by cash, by stock and by both 0=Cash Deal, 1=Stock Deal, 2=Cash and Stock deal	Independent Variable
Volume of Deal	Value or size of deal	Independent Variable
Industry Relatedness	Dummy Variable i.e. Bidder & Target firms either belong to same Industry or not 0=unrelated industry, 1= related industry	Independent Variable
Percentage of Share Acquired	Percentage of shares acquired by bidder	Independent Variable
Total Asset	Total Assets of bidder firms shows size of firms	Control Variable
Total Debt	Total long-term debt of bidder firms	Control Variable
Total Asset to Total Debt	Debt ratio total debt/total assets	Control Variable
Growth Rate	Real GDP growth rate of countries	Control Variable

3.3 Literature Gap

Empirical research shows that precision can achieve by increasing the time frame in calculating parameters (Armitage, 1995; Krivin et al., 2003). Previous studies such as Goergen & Renneboog (2002) and Kyei (2012) do not use long period for beta calculation and that is why these studies lack the element of precision. Current study uses the time period of 365 days prior to event window to estimate the values of parameters to overcome the issue of precision.

Moreover, past studies do not use appropriate ways to estimate financial performance of firms. Most of them use only one or two profitability ratios which are highly sensitive to non-operating activities (Zahid, 2014; Ahmed and Ahmed, 2014; Smit and Ward, 2007). That is why these studies could not depict the true effects of different characteristics of M&A deals on financial performance of bidding firms. Hence current study uses operating cash flows return to estimate financial performance of firms which are not affected by non-operating activities to trounce this issue.

Additionally previous studies cannot be termed as the complete studies on the concept of mergers and acquisitions because they only focus on one side of the picture i.e. only explain the performance or shareholder's wealth like (Laabs and Schierek, 2010; Kyei 2008; Andrade et al., 2001;Rani et al., 2014; Du & Sim,2015) According to the best knowledge of researcher a very few studies in the past consider effects of M&A deals on both the shareholder wealth of target and bidding companies and financial performance of bidding firms but these studies were done in developed economy. In Asian perspective a complete study on the notion of M&A is very rare. Hence current study fills this gap and reports the effects of M&A deals on both the shareholder wealth of bidding and target firms and as well as the financial performance of bidding companies.

According to researcher's best knowledge using CAPM in calculations of abnormal return is very rare. Previous studies like (Goergen and Renneboog, 2002; Lowinski et al., 2003; Schierek and Laabs, 2010) only used Market Model in the computation of abnormal return and ignoring the key model CAPM. Hence current study fills

this gap and uses both the models for the calculation of abnormal returns. In the end the thesis also compares the results of these models to find any differences.

4 DATA AND METHODOLOGY

4.1 Hypothesis

Current section first defines the scope of the study and then builds up the hypotheses on the basis of research questions asked in chapter 2. These claims erect the corner stone of this study and mirror the anticipation of the author regarding the effects of explored events on share price dynamics.

Scope of Study

Scope makes the boundary of the thesis and classifies the range of the pragmatic research conducted in imminent stages. In addition, it also entails in which area the study contributes to existing and available work. Thereby, the centre is set on the Pakistani and Indian M&A markets. More explicitly, those events are taken in which both (target and bidder) companies belonged to Pakistan and India. Hence, the thesis segregates and investigates only the behaviour of the Pakistani and Indian market.

To ensure authenticity, data is composed over the period of 2000-2014. Then raw data is processed by a dual stage selection process which narrated in later chapter. Consequently, all results and their interpretations from the examination part purely fit in to Pakistani and Indian markets.

Hypothesis of Study

This part determines the specificity and extent of the conduct of empirical research. Following hypotheses are derived from empirical results of technical research presented in chapter two coupled with rational instinct and financial theories. Generally, thesis intends to validate the theoretical and global expectations for Pakistani and Indian corporate takeover markets.

Shareholder of Target Firms

H1: Pakistani and Indian corporate transactions generate significant abnormal return for target shareholder around the short-term event windows

Above hypothesis has the evident conclusions for advanced economies in empirical literature, which experienced significant positive abnormal returns for target companies constantly like (Goergen and Renneboog, 2002; Croci ,2007; Eckbo and Thorburn, 2000). Therefore, current study wants to test this result for Pakistani and Indian M&A activities and expects the same behavior of abnormal returns for Pakistani and Indian target companies as for worldwide corporations for the global capital markets.

Shareholders of Acquirer

H2: Pakistani and Indian corporate transactions generate significant abnormal returns for shareholders of bidding companies around the short-term event windows

The above hypothesis is generated on the basis of sundry international empirical research conducted in developed economies. Their results are fairly diverse. Some studies found insignificant abnormal returns while some generated negative abnormal returns (Bacon and Von Gersdorff 2009; Andrade et al., 2001) for the shareholders of bidding companies. However, many investigated studies uncover a small but positive significant return for the bidders (Lowinski et al. 2003; Renneboog 2008; Graham etal., 2002). Therefore, current study assumes and expects a positive significant abnormal return for Pakistani and Indian M&A activities over the short-term event windows.

Comparison of Involved Parties

H3: Pakistani and Indian M&A activities generate significant difference between abnormal returns of target and bidding companies at announcement date

International empirical research also shows for developed countries that target companies generate more returns as compare to bidding firms at announcement

date such as (Graham, Lemmon and Wolf, 2002 and Mulherin and Boone 2000). This signifies that the bidding companies have to pay the main part of the expected return of the synergies to the shareholders of target companies. Current thesis also wants to establish this relation for Pakistani and Indian companies.

Regressors of Abnormal Return

H4: Pakistani and Indian bidding companies exhibit an increasing abnormal return by raising the stock proportion, value of deal, using cash in payment and for same industries.

The worldwide empirical confirmation justifies above hypothesis four. Literature shows that different characteristics of deal like size, acquiring stake, means of payment, nature of deal and industry relatedness affects the volume of abnormal returns (Moore and Chang, 2012; Rennebog and Goergen, 2002; Rennebog and Martynova, 2009; Chen et al., 2011; Stulz and Lang, 1994; Ofek 1995; Rani et al. 2012; Kiymaz 2004). In addition, some studies show that bidding companies prefer total cash payments over stock and mixed mean to settle the deal like (Renneboog, 2002; Chen et al., 2011). Similarly researches like (Harrison et al., 2001; Chari et al., 2010; Caves 1996) shows that higher abnormal returns are generated when bidding companies acquire larger stake in the companies of same industry.

Comparison of Financial Health

Hypothesis 5: Pakistani bidders enjoy sound financial health than Indian bidders after M&A deals

The above claim has its own roots with the association foreign and domestic deals. In this hypothesis we consider Pakistani as domestic and Indian as foreign deals. So many past studies are conducted to find which country performs better in the modern economies after the deal (Francis et al., 2007; Lowinski et al. 2003; Emiris, 2002). It generates mix results therefore the thesis expects that domestic (Pakistani) bidder's outer perform the foreign (Indian) bidders.

Regressors of Financial Health

H6: Increased share percentage, deal value, industry relatedness and mode of payment of M&A deal impact the financial performance of bidders

The claim above is also generated with the guidance of recent empirical studies of modern economies. It was experienced that different characteristics of deal i.e. size, industry relatedness, means of payment, stake acquired affect the financial performance of the bidding companies (Healy et al., 1992; Travlos, 1987; Rani et al., 2014). Similarly, current study is interested to locate those characteristics which affect the financial performance of Pakistani and Indian bidding companies.

Comparison of Countries

H8: Pakistani and Indian M&A activities generate different abnormal returns for Pakistani and Indian shareholders

The above hypothesis is built to find any difference between the abnormal returns generated by the companies of two countries. The hypothesis has its roots from the international literature which compares the abnormal returns of domestic and foreign takeovers. Current study uses Pakistani companies as domestic and Indian companies as foreign. Pragmatic literature shows mixed results between them. Some found that domestic firms generate more like (Boyle, 2009; Emiris, 2002) and some experienced that foreign companies were winner like (Francis et al., 2007) whereas studies like (Lowinski et al. 2003 and Goergen and Renneboog, 2002) experienced insinificant difference between countries.

4.2 Data Summary

Hypotheses which are devised earlier are declarations that require sample of real events to be proved. So different sets of data are gathered, which permit the testing of hypotheses. Existing section puts up a critical part of the thesis because the whole analysis is based on the accurateness of data.

Moreover, present chapter also offers an insight into data assembly process. In short, the ultimate data set is a product of two key steps adopted for sorting the

facts from stock exchanges of Pakistan and India. This leads to a final data sample of 44 (22 from each country) events that conform to the specific descriptions. In the sections below, the thesis will elaborate the iterative procedure of finding the final data sample. Additionally, data is gathered for current study from almost all industries of Pakistan and India which experienced M&A activities recently.

- Manufacturing Sectors
- Automobile Industries
- Media, Technology and Telecommunication Sectors
- Chemical Industries
- Financial Industries

Current study collects data from every above-mentioned industry which experienced M&A deals over the period of 2000-2014.

4.3 First Selection Procedure

The following criteria is employed in an initial step to sieve applicable data that meets the requirements of event study, in particular for the tests adopted within coming chapter.

- Only Pakistani and Indian corporations are focused.

- Since frequently traded stock prices are necessary to compute the size of the abnormal returns so only public limited companies are included.

- Transactions which are greater or equal to RS. 200 million are incorporated. Deals with not available magnitude are excluded for further recognition.

The above selection procedures allow us to develop the boundary of our thesis. So those deals which are linked with Pakistani and Indian firms are studied. Further deal value which can be crucial factor in determining the abnormal returns of involved companies also cut short the massive list of M&A deals in this part of the world. The size of deal is very vital in the symmetry of data. Here only large deals are focused which provide symmetry and avoid any outliers.

4.4 Second Selection Procedure

Since the major goal of the thesis is to study the dynamics of abnormal returns generated by M&A activities as mentioned before thus it is vital to work with that data which is only affected by such kinds of events. Siegel and McWilliams (1997) revealed the confounding special effects, which influence the stock prices and hence create difficulties in accurate inferences. Usual confounding effect arises from the announcement of unexpected earnings and declaration of dividends which affect the stock prices. Further as the length of event windows enhances, the likelihood of such troubling effects increases (McWilliams and Siegel, 1997). To get rid of unfavorable influences of the share prices, potential confusing things are searched nine days before and after the event date. For this, newspaper news, company homepages and other online sources have been explored to develop the following selection criteria.

- Companies involves in no other merger and acquisition activity
- Dividends are not declared and unexpected earnings are not announced
- Company does not involve in large damage suits
- No change is done in a key executive

By adopting these processes, the thesis aims to produce a “pure” data sample which is free from disturbances within the time series. But, this cannot be happened because share prices are so sensitive that are continuously influenced by company’s unrelated information. Finally, our data sample includes 44 events overall from both countries, which are qualified for the event study, conducted in later part. In addition, it is also critical to recognize as exactly as possible the first declaration date of M&A to grasp the whole effect of the share price (Dodd, 1980).

4.5 Data Set

Having worked out this final data sample, numerous deal specific characteristics are embedded to these events such as means of payments, value deal, share acquired and industry relatedness. These characteristics are used for the OLS regressions in later part of the thesis.

Nature of Deal	**Deals of Pakistan**	**22**	Target	22
			Bidder	22
	Deals of India	**22**	Target	22
			Bidder	22

Figure 3. Nature of Deals.

The above table presents, there is a total of 44 deals 22 from each country. It also shows that overall 44 events are related to target companies and 44 events concerning bidding firms (22 each from Pakistan and India).

Secondly means of payments declares that how payment is made to settle the deal. The data contains different kinds of methods like cash, stock or a mix form (cash and stock) as means of payment. Any other means of payment i.e. debt security is out of the scope of existing data. From Pakistan we have five cash, eleven stock and six mixed deals within the sample. Looking at the Indian side, the sample has twelve cash, four stock and six mixed deals.

Means of Payment		**Cash**	**5**
	Pakistan	**Stock**	**11**
		Mixed	**6**
	India	**Cash**	**12**
		Stock	**4**
		Mixed	**6**

Figure 4. Means of Payment.

Other than means of payment we have another dummy variable of Industry relatedness and that variable is explained in the below table.

Industry Relatedness			
	Pakistan	**Related**	**13**
		Unrelated	**12**
	India	**Related**	**17**
		Unrelated	**5**

Figure 5. Industry Relatedness.

By looking at this table we come to know that in the case of Pakistani deals we have 13 deals within the industry and 12 deals across the industry. This thing also shows that proportion of deals beyond industry is also growing rapidly. In the case of Indian deals, we come to know that 17 deals are committed within the same

industry and only 5 deals are completed among different industries. This thing signifies that proportion of deal among different industries is not very common in India as compare to Pakistan.

Furthermore, the nature of bid signifies if the deal is a hostile or friendly transaction. The scientific literature shows not very clear definition of a friendly or a hostile corporate takeover. Demidova (2007) defines a hostile transaction as a deal where the management of target companies are not ready to sell the corporation to a new influencing stockholder, whereas the attitudes of managers is positive towards the deal within a friendly takeover. According to Branch and Yang (2010) a hostile takeover is a contract which is either was refused by the board of target companies but the bidding corporations carry on pursuing the acquirement or a direct statement of the offer with no previous notice is made to the board or management of targets. As current study could not find extensive data on this variable so this variable is excluded from this thesis.
In addition, the size of deal of the transaction is included to the sample. The value presents a view of the complete extent of the deal. For the accurateness of the results all values are transformed in Pakistani rupees by adopting the conversion rate between India and Pakistan for the particular year.

Furthermore, current study also uses the percentage acquired by the bidders as a continuous variable in regression model. So, percentage of share acquired is known by home pages of companies along with the reports of concerned stock exchanges.

Since current study also wants to explore the financial performance of the bidding companies so for this purpose data of operating cash flows gathered from websites of individual companies. For regression purposes the average amount of subsequent three years of operating cash flow is used and taken as a dependent variable in the model.

4.6 Time Series

For assessing the various parameters and calculating abnormal return, time series data is assembled. More specifically, for every corporation that is placed in the final data sample, the daily closing and opening share prices is collected for the period from 01.01.2000 until 31.12.2014.

The Karachi Stock Exchange 100-Index (KSE 100-Index) and Bombay Stock Exchange 500-Index (BSE 500-Index) are taken as market standard, since they are the most suitable one. They are recognized as the overall pointer for the Pakistani and Indian markets. They also contain nearly all top organizations listed in stock exchanges and based on the concept of market capitalisation.

4.7 Methodological Framework

Current context of thesis explains the methodology for the pragmatic assessment of the settled hypothesis which is set by event study approach. This technique is frequently used to analyze share price effects of relevant corporations to assorted events of interests (Degryse et al., 2009). Serra (2002) describes event study approach as an econometric technique adopted to draw and estimate implications about the effect of an incident or event in a particular period. Further Werner (2010) also adds, the general idea, considering proficient capital market, that the share price of a corporation reflects the economic significance of an event immediately. This implies that the methodology of event study allows testing for two foremost purposes i.e. it does not only enable us to ordeal the efficiency of stock exchanges, particularly if the share prices completely reflect all existing information upon their declaration or not (Brown et al., 2011) but we can also explore the influence of explicit events on the share price and their wealth contribution to stockholders' wealth (Binder, 1998). The following structure shows the norm of empirical event study for the analysis of current thesis.

Table 3. Structure of Event study.

Step	Action
1	Define exact event date as well as the event and estimation window
2	Measuring firm's returns in absence of firm's specific news.
3	Measuring abnormal returns
4	Aggregating abnormal returns across firms
5	Testing aggregating returns to determine their significance
6	Regressing transaction characteristics on abnormal returns

The first step is to spot the interested event. Based on the aim of current study, this is the primary public declaration of an acquisition or merger event. Secondly, in the absence of analyzed announcements, returns of individual corporations are computed. Therefore, we have to choose between different economic or statistical models. The discussion of appropriate model is done in later section.

After gauging the expected returns, the abnormal returns which are in fact the extra and additional returns are computed in a third step. Further, the aggregated abnormal returns across time and firms are tested either they are significant or not on a reliable level. Finally, regression model is run to recognize the real value regressors of abnormal returns.

4.8 Event and Estimation Window

The event pane is the time frame over which movement of share price is investigated. In general, this procedure commences before the event and ends on defined period subsequent to the event (Dunbar and Tabak, 1999). In contrast, the estimation pane is developed to compute the parameters for calculations of price movements through the event window (Dunbar and Tabak, 1999).

For the calculation of parameters different choices regarding length of estimation window is explained in previous parametric researches. Henderson (1990) signifies that there are four different alternatives exist for the estimation epoch: during, before after and around the event windows. MacKinlay (1997), mention that event

and estimation windows should not be overlapped with each other. Overlapping generates inaccurate results for the abnormal returns. Thus, to achieve precise results, we fix our estimation window previous to the event window. The following is outline of our estimation and event windows.

Estimation Window t-11 to t-365

This shows that our estimation window starts from eleventh day before the event date and ends on one year before from that point.

Event Window t-1 to t+1 where t=0 is event day

t-3 to t+3

t-5 to t+5

t-9 to t+9

Furthermore, the inclusion of the event window, within the estimation for the normal model parameters, leads to biased estimators where the returns would capture the influence from the event. This is problematic because the approach is based on the fact that the event impact is captured solely by the abnormal returns (MacKinlay, 1997: 20). Armitage (1995) concludes that by using daily based time series, the estimation window should range from 100 to 300 days. However, there exists a trade-off by lengthening the estimation window and getting a greater precision of the estimators compared to more up to date coefficients. To minimize the chance that a company undergoes a major change in its profitability or line of business during the estimation window (Krivin, Patton, Rose and Tabak, 2003) and by using Armitage's (1995) rule of thumb that "100 days or more seem safe", the thesis sets the estimation period to the lower range of 365 trading days as depicted in above figure, where "t" represents the day of the event announcement. Therefore, time-series data beginning 365 days before the event date is used and collected.

In contrast to the rigid estimation window, the effect of stock prices over the event windows is captured over different periods within the analysis part. They range from simply the event day (AR0) to a nineteen days window (CAR-9/9). The measuring of the impact prior to the event date should capture effects from rumours, information leakages, or insider trading (Marynova and Renneboog, 2008).

4.9 Discussion of appropriate model for the normal return estimation

By implementing the event study methodology different models for estimating the expected return are applicable. The basic concept is to find the theoretical normal return of the stock over a defined **model** and compare the estimation with the effective return. Therefore, the computed theoretical return serves as a benchmark and is by definition dependent on the chosen model. However, the right selection often receives little or no discussion, even though the evidence shows that the choice can influence the final results (Armitage, 1995).

By monitoring different event studies, the use of various models e.g. is observed (cf. Martynova and Renneboog, 2008). MacKinley (1997) groups the approaches loosely into two categories economic and statistical models. While the former group relies on assumptions concerning the investors' behavior, the latter is uniquely based on statistical assumptions. In practice, the use of economic models brings automatically the necessity of statistical assumptions. The following sections discuss some of the eligible models and finally present the most appropriate approach to use within instant context.

4.9.1 Economic Models

Two common economic models are the capital asset pricing model (CAPM) and the arbitrage pricing theory (APT). The APT is an asset-pricing model where the expected return of a given asset is a linear combination of multiple risk factors (MacKinley, 1997). Using this model, the theory assumes to make riskless profits by implementing different investment strategies and using securities that are mispriced and identified by the APT (Bodie, Kane and Marcus 2007). MacKinley (1997) concludes that the most important variable within the APT is the market factor,

while the other factors add rather minor explanatory power. Kummer and Hoffmeister (1978) as well as Danbolt (2004) use the CAPM in their studies for modeling the expected return. This famous approach, which was developed in the early 1960 by Treynor, Sharpe, Lintner, and Mossin, calculates the relationship between the risk, measured by the securities beta, and equilibrium expected returns on risky assets. It is based on several simplifying assumptions, which ignore many real-world implications. However, it allows for adding more complex features and therefore creating a reasonably realistic and comprehensible model (Bodie et al., 2007). Fama and French (1996) conclude that the use of the CAPM produces a dependence of the outcome to the different imposed restrictions on the model.

4.9.2 Statistical Models

Walker (2000) as well as Healy, Palepu and Ruback (1992) have applied the so-called **market adjusted model** (Martynova and Renneboog, 2008) for analyzing US data during the fourth merger wave. Walker (2000) uses cumulative market-adjusted returns (CMAR) and cumulative matched firm adjusted returns (CMFAR) regressed on different characteristics of the event to evaluate stock price performances over the ordinary least square (OLS) approach.

A rather simplistic model, for analyzing share repurchases over tender offers, is used by Lakonishok and Vermaelen (1990). Therein, they assume that a stock I will earn the market rate of return, R_m, over any period t. Armitage (1995: 27) calls this approach the **index model**. Constitutive on the index model, the regularly called **market model** or single-index model assumes a stable relation between the market return and the security return (MacKinlay, 1997 and Bilbao, Arenas, Rodriguez and Antomil, 2007). The estimation of the parameter is done by OLS regression. An enhancement of the market model is the **multi factor model**. This approach is motivated by the benefit of reducing the variance of the abnormal return by including further variables as industry indices (MacKinlay, 1997). MacKinlay (1997) concludes that the gains from using multifactor models for event studies are minor as the marginal explanatory power of additional factors is small.

By considering all these above arguments, current study employs two models to calculate the normal returns of companies and in the end will compare the results of two with each other. Arguments regarding the statistical models imply that the use of the market model seems most appropriate. It emphasizes the balance of complexity and costs the most sensible way. The second model which is adopted from economic models is CAPM due to its vast application.

4.10 Market Model

After identifying the market model as the suitable fit for estimating normal returns in statistical models, current section provides the basic understanding that later interpretations can be assessed appropriately. Sharpe (1963) constructed an approach, which supposes to relate each return of an asset, in a greater or lesser extent, to the variations in the return on a market index (Bilbao et al., 2007: 829). Alexander et al. (1999) define the market model for estimating the normal return in the following way:

$$Ri = \alpha + \beta Rm + \varepsilon$$

Where

Ri = return on security i for some given period

Rm = return on benchmark m for some given period

α = intercept term

β = slope term

ε = random error term

While α and ε are the components of the company's return that are autonomous of the market, β captures the expected change in Ri given a change in Rm. There-

fore, the market model breaks the normal return into two parts, a market independent and a market dependent fraction (Brown et al., 2011). Furthermore, Sharpe (1963) assumes that the covariance between the different random error terms of the different securities equals 0, which means that the error terms are completely uncorrelated. Brown et al. (2011) imply that the only reason why stocks move together in a systematically way, is because of a common co-movement within the market. Therefore, there are no other effects included beyond the market that account for co-movement among securities.

4.11 CAPM

Current study also Calculate expected returns of corporations by using CAPM. According to this model expected returns of corporations can be determined by the following formula.

$$E.R_i = R_f + (R_m - R_f)\,\beta_i$$

$E.R_i$ = Expected return of corporation

R_f = Risk Free rate of return

R_m = Market Return

β_i = Beta of company

Incorporation of CAPM enables us to compare the results of two models (Market Model and CAPM). This insight will tell us that either any difference is prevailing in calculation of abnormal returns or not and if there is any difference prevailing then which model is good for employing event study.

4.12 Estimation of Parameters

Estimating the α and β parameters for each stock is one crucial piece of finally finding the abnormal return. Since there is evidence that historical betas provide useful information about future betas, past time series data is employed to estimate the needed parameters over the estimation window defined above (Brown

et al., 2011). MacKinley (1997) proposes to use the ordinary least square approach (OLS), which should represent a consistent estimation procedure for the market model, in computing the parameters. Hence, one applies following equations for parameter approximation including return data from the stocks under investigation and from the appropriate market index. Following equation presents the calculation for estimating the beta parameter of an individual stock.

$$\beta = \frac{\sigma i}{\sigma m2} = \frac{\Sigma[(Ri - \bar{R})(Rmt - \bar{Rm})]}{\Sigma(Rmt - \bar{Rm})}$$

σim = covariance between the stock and the market index

σm2= variance of the market index

Rit = daily return of individual stock at t

$\bar{R}i$ = average return of individual stock

Rmt = daily return of market index

$\bar{R}m$ = average return of market index

Current study calculates beta value by using above equation. Having estimated the beta value, one is able to predict the alpha, which is the intercept within equation of market model, using following formula.

$$\alpha i = \bar{R}i - \beta i \bar{R}m$$

Having estimated the necessary elements for the market model and CAPM, allows calculating the abnormal return as described in the following section.

4.13 Measuring and aggregating the abnormal return

Using the previously introduced market model and CAPM allows estimating the normal return over the defined event window. More specifically, both models compute the return that was expected from the market over the specified period. To find the abnormal returns for the companies, current study uses the following equation.

$$Ab\ R = AR - ER$$

Ab R = Abnormal return of Company

AR = Actual return of company computed directly from market daily data over event window.

ER= Expected return of company calculated by using CAPM and Market Model.

To catch the aggregated return over a period, more specifically over the event window, the cumulative abnormal return is calculated by simple adding the daily average abnormal returns up using the following equation (MacKinley, 1997: 24)

$$CAR = \Sigma AR_i$$

*CARt*1,*t* 2 = cumulative abnormal return over the period t1 to t2

This approach is mainly used within the literature and was already applied by Fama, Fisher, Jensen and Roll (1969) for their famous event study about efficient markets. According to Henderson (1990) this methodology has withstood the test of time. Up to this point, the paper has provided the knowledge to compute the abnormal effects realized during a corporate transaction. In next section their significance is tested, which assures that the results are reliable and different from zero.

4.14 Testing the aggregated return

The final step within an event study is to test the significance of the abnormal returns (Hernderson, 1990: 286). This test builds the main tool for accepting or rejecting the hypotheses stated in thesis. Since it is a crucial element for justifying the findings, Armitage (1995) points out that it is important to choose the most appropriate testing method. The scientific literature covers mainly two kinds of tests, namely parametric and non-parametric approaches.

On one hand DeFusco, McLeavey, Pinto and Runkle (2004) describe a parametric test as a tool that is concerned about parameters, which are dependent on a certain set of assumptions. For instance, the mean or variance is a parameter, while the distribution of the population producing the sample is a specific assumption. On the other hand, a non-parametric test is not worried about certain parameters and only makes minor assumptions about the population (DeFusco et al., 2004). DeFusco et al. (2004) state that the latter kind of tests are mainly used when the data does not meet the distributional assumptions, the data is given in ranks or when the tested hypotheses do not concern a parameter. The second and third points mentioned do definitely not comply with the data set used for this paper. Furthermore, the paper assumes that the distributional requirements for parametric tests hold. Serra (2002) summarizes these as follows. The abnormal returns of the specific events are normally distributed and the residuals are not correlated across securities, meaning that there is cross-sectional independence.

In conclusion, this paper applies the parametric t-test to assess the significance of the computed abnormal returns. Berry, Gallinger and Henderson (1990) underline that this is an appropriate instrument for event studies. Additionally, Henderson (1990: 298) remarks that non-parametric tests are an unnecessary complication and do not work satisfactorily.

While the statistical software SPSS computes the test statistics, the paper presents in the following section a short overview for providing the main intuition behind the t-test.

$$t = \frac{\widehat{CAR} - CAR}{se(\widehat{CAR})}$$

where

CAR ˆ = estimated parameter or abnormal return

CAR = value tested against

se(CARˆ) = estimated standard error of the parameter or the abnormal return

Under the assumption of normality, the variable t from above equation follows the t-distribution with n-2 degrees of freedom (Gujarati and Porter, 2009 and De-Fusco et al., 2004). The CAR^ value from above equation depends on the hypothesis that has to be tested. However, within this paper the CAR^ value after event date is tested against the CAR value before the event date. Using the computed t-value and a corresponding t table, one may obtain the level of significance of a certain parameter or abnormal return. Based on this number, one is able to reject or accept a stated hypothesis (Gujarati and Porter, 2009).

In order to obtain a distinct impression about the magnitude of the result, the thesis always provides the p-value or probability, respectively. It represents the lowest significance level at which a parameter is different from zero (Gujarati and Porter, 2009). This value is calculated by SPSS and is based on the t-value calculation. The advantage of using this indicator is that no table of significance is needed.

4.15 Regression technique

By conducting different regressions, the thesis tries to explain the abnormal returns by different variables as claimed by hypotheses four to six (cf. chapter four). Therefore, the computed abnormal return is regressed on various variables. The regressions are implemented by using the OLS-method. This approach is one of the most powerful and popular methods of regression analysis (Gujarati and Porter, 2009: 55) and is as well used in section 4.2 for estimating the parameters within the market model.

The thesis makes the use of dummy and continuous variables during the analysis part. Dummy variables classify the data into mutually exclusive categories (Gujarati and Porter, 2009: 278).
Therefore, the estimated parameter from the dummy variable describes the magnitude of a level shift of the intercept.10 Parameters estimated from continuous variables indicate the change of the dependent variable by increasing the contin-

uous variable by one unit and holding everything else constant. The specific variables used within the regressions are more precisely described in section 5.4. Finally, this chapter should provide the reader with the basic understanding of the methodology used within this thesis. For the sake of simplicity, further minor technical descriptions used during the analysis part are provided within the related sections.

Since our focus is on cross country analysis so regression analysis will facilitate us with better results (Buch and DeLong, 2004). Therefore, the computed cumulative abnormal return is regressed on different characteristics of M&A.

Cumulative Abnormal Return = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$……. (i)

X_1 = Dummy Variable for Mode of Payments for M&A (0 = Cash, 1 = stock and 2 = cash and Stock deals)

X_2 =Dummy Variable (0 = firms belong to different industry and 1= firms belong to same industry)

X_3 = Percentage of share acquired

X_4 = Value of Deal

ε = Error Term

4.16 Measurement of Financial Performance

Current study uses operating cash flow as the measurement of financial performance. Pragmatic research showed that accrual accounting-based performance measures, such as ROI, ROA, ROE etc are inappropriate because such measures could be affected by accounting methods and choices for consolidation of financial statements (Ramaswamy and Waegelein, 2003). Similarly, this technique resulted in a robust financial performance measuring methodology that could overcome the influences of accounting treatments, financing methods, the level of assets employed as well as industry and economic factors (Healy et al., 1997).

This operating cash flow is arrived at before deducting depreciation, interest expense, income taxes and extraordinary losses as well as before adding extraordinary gains, interest income and non-operating revenues. Thus, it is not affected by changes in tax and leverage factors.

For analysis purposes this paper uses three years' operating cash flows of firms after the closing and completion of transactions.

4.17 Testing Financial Performance

To find the impact of different M&A characteristics on financial performance of bidder we will use OLS technique.

Operating Cash Flows = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$ ..... (ii)

X_1 = Dummy Variable for Mode of Payments for M&A (0 for Cash, 1 for stock and 2 for cash and Stock deals)

X_2 = Dummy Variable (0 for firms belong to different industry and 1 for firms belong to same industry)

X_3 = Percentage of share acquired

X_4 = Value of Deal

ε = Error Term

5 RESULTS

5.1 Empirical analysis and interpretation

Earlier chapters are strongly unified to the current part; empirical analysis and its understanding as they put together its base. Thus, the methodology which is elucidated before is used for generating results on the gathered data explained in previous section. The following section presents the meaningful and interesting results regarding the stated hypotheses which are presented earlier. In general, our scrutiny is conducted over various affair windows beginning with AR0 (event day) to CAR-9/9 nineteen days event window which initiate 9 days prior to the event day and lasts to nine days after it. Only the most pertinent results are presented in the current section for offering a structured and clear impression on the outcomes.

Further, current chapter also tests if the stated hypotheses can be accepted or not accepted. Hence, the various declarations are tested and interpreted individually within each section. In contrast, the coming chapter accumulates different findings of this part and concludes in general South Asian (Pakistani and Indian) M&A dynamics.

5.2 Stock price dynamics of Target companies

Current division explores the reaction of abnormal returns of target companies by testing the following hypothesis:

H1: Pakistani and Indian corporate transactions generate significant abnormal return for target shareholder around the short-term event windows

Findings applying Independent t-sample test

The behaviour of abnormal returns over observed nineteen days i.e. nine days before and after the event day shows the form of an efficient market outlook which is represented by following figure. Therefore, numerous indications may be extracted like abnormal return is generated on AR0 (event day) and CAR (cumulative abnormal return) turns back to a definite height after the event day.

From the following picture we can see clearly that 0.13% abnormal return for all target companies is generated on event day which returned back immediately and maintain its position. Besides the event day abnormal return is fluctuating around 0.001% for short term event window. Furthermore, it can also be seen that for longer period the return again started to incline which again support the efficient market hypothesis. From the following picture we can conclude that Pakistani and Indian markets are highly efficient because immediate reaction can be seen in the prices of companies and market balance this reaction in short period and make it ready for next information.

After acquiring these abnormal returns now researcher is interested in its significance. So, to find the significance of these returns independent t-sample test is run.

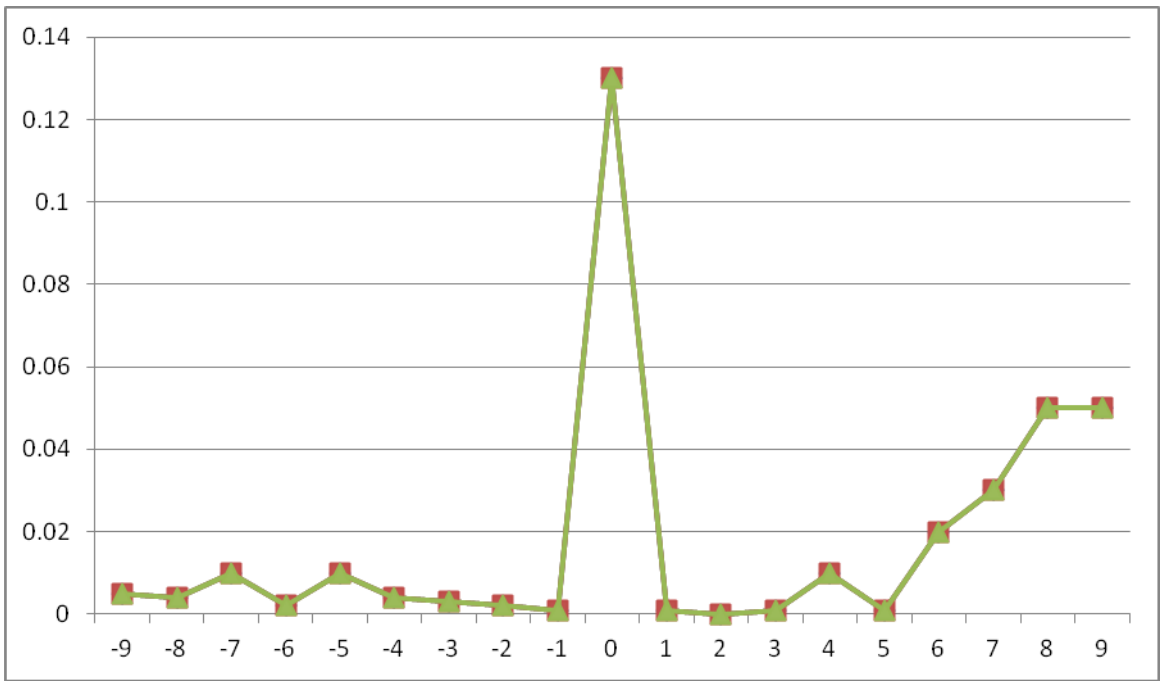

Figure 6: Abnormal Returns of all Target firms in event window

Before running the independent t-sample test we are interested in finding the abnormality report of data. As the central limit theorem shows when sample size becomes larger than 30 observations, data becomes normal. But to enhance its reliability current study uses the following abnormality test.

Histogram

The following histogram shows that our data is approximately normal and we can proceed further with our analysis.

P-P Chart

Besides histogram current study also makes P-P chart to ensure the normality of data. The following picture 3 shows that our data is approximately normal.

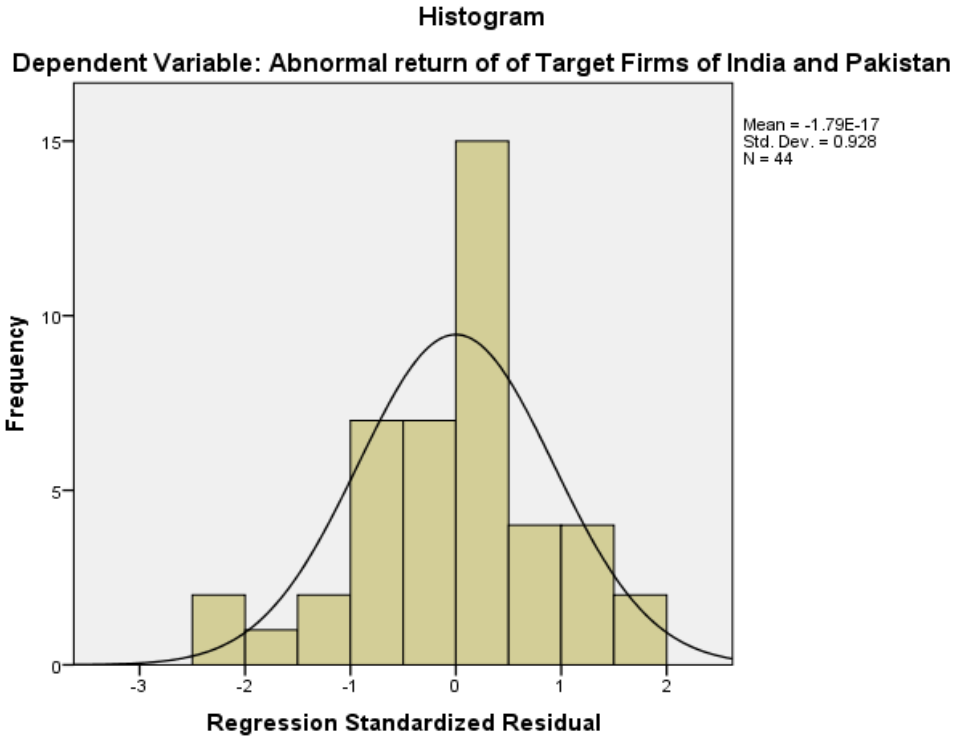

Figure 7. Histogram of Abnormal Returns of Targets.

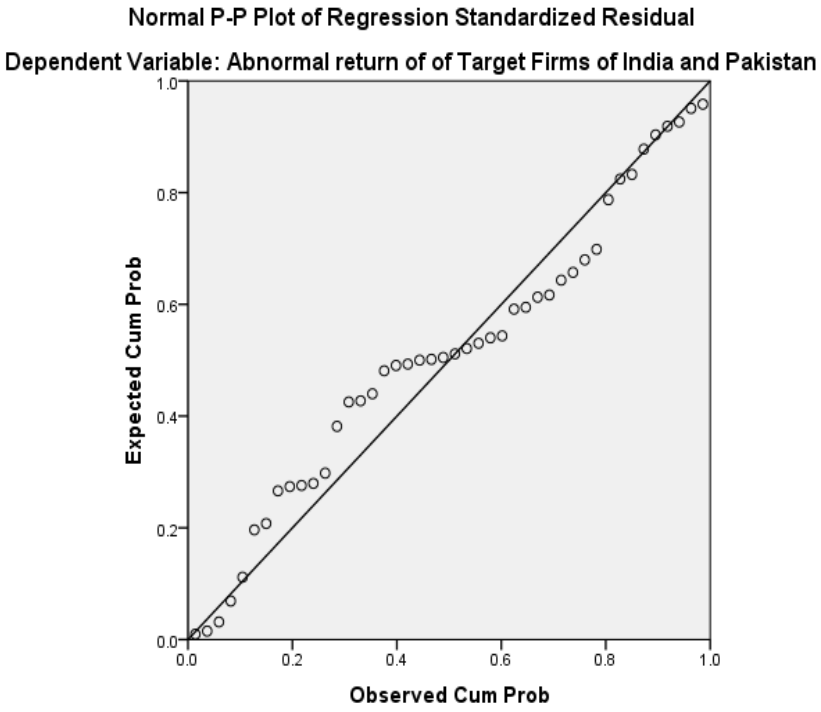

Figure 8. P-P Chart of Abnormal Returns of Targets.

After taking green signal from normality measures now we are ready to run independent t-sample test. Following table 1 shows the probability of abnormal return generated by target companies 0.13% on the event day (AR0) is 0.0000 percent. This impact value signifies that chances of making type 1 error are only 0.0000 percent, or the probability of declining our claim is 0.0000 percent (Gujarati and Porter, 2009). Other studies also refer to confidence intervals, which are connected to the possibility value by deducting it from one or hundred percent (Kobelt and Steinhausen, 2006). The 99, 95 and 90 percent intervals are frequently used within past studies and therefore used within immediate conclusion evaluation.
Further the following table shows that both Pakistani and Indian targets received significant Abnormal returns on event days of 0.61% and 0.09% respectively. Additionally, the following table also signifies that there is not any difference observed while calculating the abnormal returns of Pakistani and Indian targets by using CAPM and Market Model.

Table 4. AbR0 of Targets.

	P-value	Standard error	t-value
AR0 of All Targets by MM	0.00000***	0.605	0.154
AR0 of Pakistani Targets Firms by MM	0.00000***	0.817	0.851
AR0 of Indian Targets Firms by MM	0.00700***	0.9	-0.558
Targets Firms of Pakistan & India by MM	0.831	0.8167	0.803
AR0 of CAPM & MM 0f Pakistani Firms	0.13600	1.86	-5.08
AR0 of CAPM & MM 0f Indian Firms	0.17400	1.26	-2.59
AR0 of Pakistani Targets by CAPM	0.00300***	1.87	-5.13
AR0 of Indian Targets by CAPM	0.00000***	1.26	-3.51

*** shows significance at 1% significant level

For examining a specific event windows and not only the event day, the current study uses the CAR (cumulative abnormal return). Therefore, numerous event periods are assessed. In these the shortest window comprises on 3 days, the event day, the immediate previous and following day (CAR-1/1) while the most extensive one comprises on nineteen days having event day, the nine days after and prior that day (CAR-9/9). This does not only present us a widespread picture about the

abnormal returns but also provides snap shot of the prior period of the event date. Therefore, table 2 shows results from event windows (CAR -1/1), (CAR-3/3), (CAR-5/5) and (CAR-9/9).

Table 5. CAR of Targets at Event window.

	P-Value	Standard error	t-value
CAR-1/1 of Pak	0.335	0.61	0.446
CAR-3/3 of Pak	0.65	1.84	0.427
CAR-5/5 of Pak	0.268	1.99	0.016
CAR-9/9 of Pak	0.009***	2.85	-0.015
CAR-1/1 of Ind	0.701	0.507	-0.306
CAR-3/3 of Ind	0.145	0.99	-1.02
CAR-5/5 of Ind	0.038**	1.03	-0.521
CAR-9/9 of Ind	0.636	3.43	-0.595

*** Significant at 1% and ** Significant at 5%

The above table 2 shows that cumulative abnormal returns (CAR) are highly insignificant for short event windows than for the longer ones. These shows the markets of Pakistan and India are highly efficient that settle themselves immediately after the event and as the time goes, they make ready themselves for another event. So, the loosen event windows generate significant cumulative abnormal returns.

By summing up these above findings, current study undoubtedly accepts hypothesis 1 that declares shareholders of Pakistani and Indian target companies earn a cumulative abnormal return. These findings are consistent with international research like (Eckbo and Thorburn, 2000; Goergen and Renneboog, 2002; Croci ,2007; Jianyu Ma, 2009). Furthermore, this hypothesis is not constantly accepted for all mentioned short-term event windows. Though, its magnitude is inversely related to the span of event window. This signifies some reversion effects over time.

Since above figure 1 portrays, that main response of the stock prices is on event day where shareholders of target companies enjoy significant return of 0.13 percent on average while days after and prior of the event day results in insignificant returns, describing that on a single day (AR0) companies are generating abnormal return and around the event date only normal returns are created.

This division of the thesis adds to the existing global research as it underlines and supports the international findings for the Pakistani and Indian market. The literature on international event studies concerning corporate takeovers is distinct in presenting a positive abnormal return for the shareholders of target companies. However, the extent of the effect is vague within prior empirical studies, since abnormal returns presenting for current analysis are rather small contrast to earlier international research like (Goergen and Renneboog, 2002; Croci ,2007; Jianyu Ma, 2009). This discrepancy to the usual international findings might be in association to the financial crisis that experienced during the studied period. Therefore, the thesis entails that during this time; possible corporate investors were rather risk avoider.

5.3 Stock price dynamics of bidders

This segment explores the reaction of abnormal returns of bidders by testing the following hypothesis:

H2: Pakistani and Indian corporate transactions generate significant abnormal returns for shareholders of bidding companies around the short-term event windows

The above hypothesis is generated on the basis of sundry international empirical research mentioned in hypothesis section. As described earlier, the results are fairly diverse. Some studies found insignificant abnormal returns while some generated negative abnormal returns for the shareholders of bidding companies. However, many investigated studies uncover a small but positive significant return

for the bidders (Lowinski et al. 2003; Renneboog 2008). That is why this study expects positive significant abnormal returns over the short-term event windows for Pakistani and Indian bidding companies.

Before running the independent t-sample test for bidding companies we are interested in finding the abnormality report of data. As the central limit theorem shows when sample size becomes larger than 30 observations, data becomes normal. But to enhance its reliability current study uses the following abnormality test.

Histogram

The following picture 4 represents the histogram which shows that our data for bidding companies of Pakistan and India is approximately normal and we can proceed further with our analysis.

P-P Chart

Besides histogram current study also makes P-P chart to ensure the normality of data. The following picture 5 shows that our data is approximately normal.

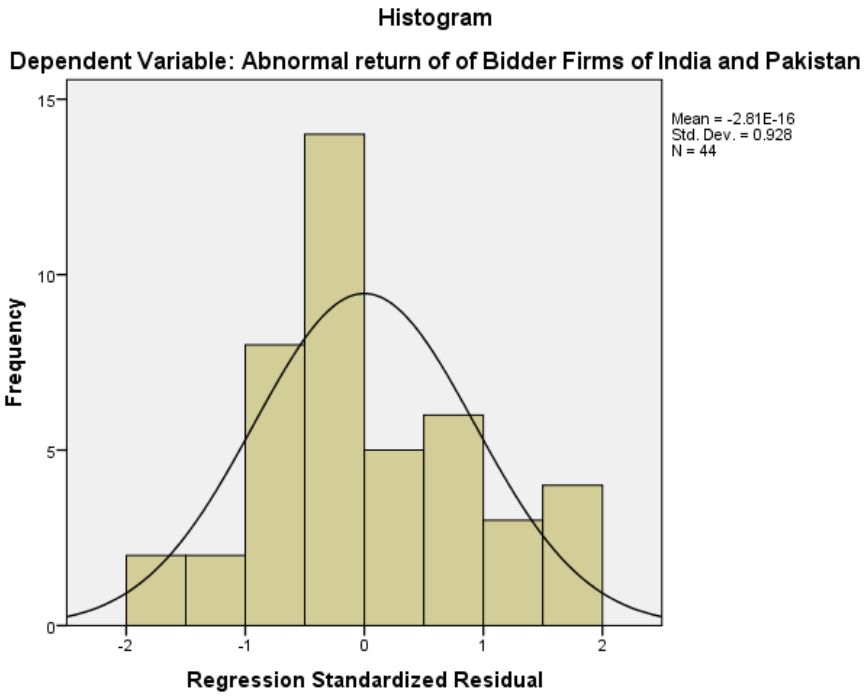

Figure 9. Histogram of Abnormal Returns of Bidders.

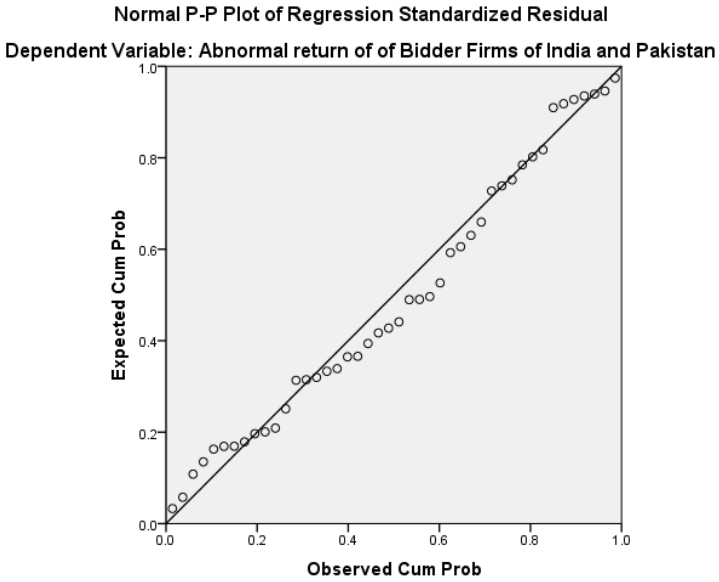

Figure 10. P-P Chart of Abnormal Returns of Bidders.

After receiving green signals from the normality measures, current study draws the overall picture of dynamics of returns for bidding companies over event windows.

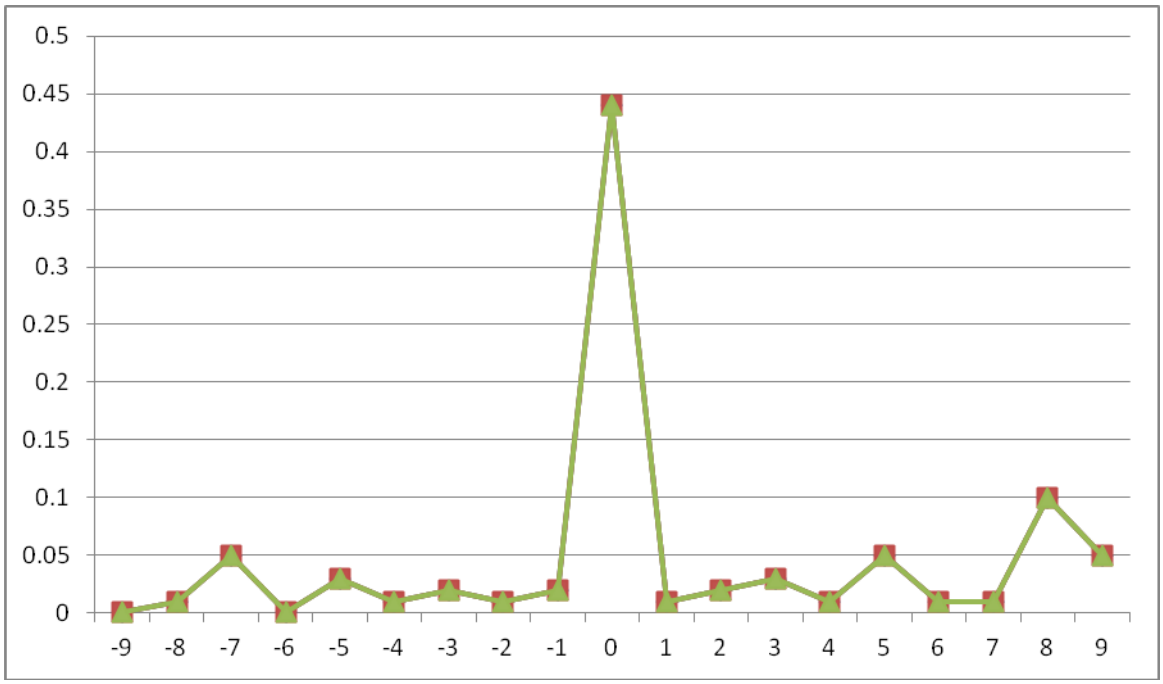

Figure 11. Abnormal Returns of all Bidders in event window.

The above diagram shows that prior to the event day the abnormal returns are close to zero percent mark but at event day bidders are generating 0.44 percent abnormal returns for shareholders. Further the abnormal returns generated by companies are returned back immediately and maintain its position. Additionally, it can also be seen that for longer period the return again started to incline again after event day which support the efficient market hypothesis. From the following picture we can conclude that Pakistani and Indian markets are highly efficient because immediate reaction can be seen in the prices of companies and market balance this reaction in short period and make it ready for next information.

Table 6. Ab R0 of Bidders.

	P-value	Standard error	t-value
AR0 of All Bidders by MM	0.00000***	0.31	1.16
AR0 of Pakistani Bidders by MM	0.00600***	0.47	0.29
AR0 of Indian Bidders by MM	0.02000**	0.41	1.38
AR0 of Bidders of Pakistan & India by MM	0.864	0.46	-1.27
AR0 of CAPM & MM 0f Pakistani Firms	0.11500	1.04	-7.88
AR0 of CAPM & MM 0f Indian Firms	0.09600*	0.92	-3.19
AR0 of Pakistani Bidders by CAPM	0.00800***	1.03	-8.31
AR0 of Indian Bidders by CAPM	0.00800***	0.92	-3.08

*** Significant at 1%, **Significant at 5%, *Significant at 10*

By using the above table and relating abnormal returns at event date (AbR0), we can find that bidders of Pakistan and India just like targets also generate abnormal returns of 0.44% and these results are highly significant at 1% level of significance. By considering more closely, we come to know that both Pakistani and Indian bidders generate significant abnormal returns of 0.04% and 0.84% respectively as compare to the market on event date at 1% level of significance.

Furthermore, we can see that for case of Pakistani market no significant difference can be seen between the results of two models (CAPM and Market Model) while a significant difference at 10% level of significance can be seen in the case of Indian market.

For getting the complete picture about the bidding firms, following table 4 contains the results including days prior and after to the corporate takeover announcement. For this purpose, we divide the event window into small and large segments like CAR-1/1, CAR-3/3, CAR-5/5 and CAR-9/9.

Table 7. CAR of Bidders at Event window.

	P-Value	Standard error	t-value
CAR-1/1 of Pak	0.285	0.57	-1.17
CAR-3/3 of Pak	0.98	1.1	0.71
CAR-5/5 of Paki	0.754	1.66	-0.28
CAR-9/9 of Pak	0.905	2.2	0.99
CAR-1/1 of Ind	0.369	0.45	0.84
CAR-3/3 of Ind	0.898	0.82	-0.37
CAR-5/5 of Ind	0.4	1.09	-2.26
CAR-9/9 of Ind	0.583	1.69	-2.5

Similar to previous results in the case of target firms, the outcomes for the CAR-1/1 and CAR -3/3 are not significant for both Pakistani and Indian bidders on a decent level as implied by the p-values of 0.285 and 0.98, 0.369 and 0.898 respectively. Table 4 further assesses the results for the expanded event windows CAR-5/5 and CAR-10/10. The findings for these event windows also underline the non-significant results for the bidders. This table proofs the indication that abnormal return is insignificant and hence not different from zero for segments over event windows.

Thus, thesis can clearly accept hypothesis two, which states that the shareholders of Pakistani and Indian bidding companies earn an abnormal return at event date of a corporate takeover. This finding is not robust for all short-term event windows tested. The outcomes match with the findings from (Lowinski et al. 2003; Renneboog 2008; Bacon and Von Gersdorff, 2009; Rani et al., 2014) who also discovered a significant positive abnormal return at event date for bidding companies.

Finally, the thesis adds to the existing international literature that shareholders of a Pakistani and Indian bidding company gain abnormal returns and therefore share the economic rent created by value enhancing effects with the target company.

5.4 Comparison of involved parties

This section intends to proof that shareholders of which involve parties either target or bidder companies receive the better abnormal return generated through a corporate takeover by testing following claim:

H3: Pakistani and Indian M&A activities generate significant difference between abnormal returns of target and bidding companies at announcement date

The statement has its roots in the combination of hypothesis one and two. Since those state that both parties involved in a corporate takeover pocket an abnormal return. Thus, the difference between the abnormal return of the target and the bidding firm may be of interest for the reader. Therefore, the current study aims to investigate if the disparity has a significant magnitude. However, knowing the results from previous hypotheses the thesis does not expect to gain a remarkable value added because they both generate abnormal returns.

Table 8. Comparison of Target and Bidders at Announcement date.

	P-value	Standard error	t-value
Bidder/Target AbR0	0.005***	0.31	0.466
Bidder/Target CAR-1/1	0.286	0.35	-0.326
Bidder/Target CAR-3/3	0.01*	0.68	-1.7
Bidder/Target CAR-5/5	0.009***	0.99	-2.07
Bidder/Target CAR-9/9	0.814	1.15	0.115

*** Significant at 1%* Significant at 10%

The above table shows that at event day, a significant difference can be seen between abnormal return of bidders and targets. The difference is highly significant with the probability of 0.005. Further, this show at event day bidding companies generate more abnormal returns as compare to targets as the t-value is positive. By taking a deeper look into account, we come to know that the CAR -3/3 and Car-5/5 also delivers a significant difference of the cumulative abnormal return between bidders and targets with a p-value of 0.01 and 0.0999 respectively. This thing is very important due to negative values of t-test which signifies that in these

periods of event date targets generate more returns as compare to bidders. Expanding the event window to a nineteen-day period, the CAR-9/9 slightly reverses down compared to the CAR-5/5 and generate insignificant difference. The difference is so small which is not significant.

With regard to hypothesis three, which states that the shareholders of the target company earn the major part of the total abnormal return generated through a corporate takeover, the thesis do not reject this hypothesis on the different periods of event window. Actually, bidders generate more at event date and at some days before & after (3 and 5) the targets were the winners. However, taking specific event days into account, it is obvious that the major difference of the total abnormal return generated accrues on the day of the announcement. The significant difference found on the third day prior to the publication of the corporate takeover cannot be explained by any economically sound reason. Results are consistent with (Jianyu Ma, 2009) which also found that bidders generate more returns than targets at event date.

There are several implications discussed in the empirical literature why the target earns almost all of the abnormal return generated through a corporate takeover before or after the event date. For instance, Eckbo and Thorburn (2000) mention that fierce competition between companies shift the rents of the merger activity towards the target shareholders. Therefore, higher bidding prices directly reduce the benefits for the bidding company and its shareholders. Franks and Harris (1989) mention that the average bidder is eight times bigger in size as the average target. This implies that the created economic value by the merger is related to a relatively much bigger asset base regarding the bidder shares compared to the target. Hence, the value creation compared to the higher market value is relatively small and as a result less significant. Eckbo and Thorburn (2000:1) define this effect as attenuation bias. In conclusion, one might deflect that the average Pakistani and Indian bidding company is considerably bigger than its counterparty.

Hypotheses three contributes in that context to the existing literature that it approves the international findings for the Pakistani and Indian corporate takeover market. Therefore, it delivers the evidence that target shareholders of these countries receive a significant higher abnormal return in comparison to bidding firms shareholders.

5.5 Impact of Deal's characteristics on AbR0

Hypothesis four investigates the effect of different characteristics of M&A deal i.e. means of payment, percentage of share acquired by bidders, deal value and industry relatedness on the abnormal return at event day of the bidding company, by claiming following statement:

Pakistani and Indian bidding companies exhibit an increasing abnormal return by raising the stock proportion, value of deal, using cash in payment and for same industries.

Like all previous hypotheses, hypothesis four is also based on previous international research and additionally gives emphasis on the risk-sharing intuition such as (Zhang, 2003; Faccio and Masulis, 2005). The negative effect of possible information release is assumed to be rather minor compared to the positive influencing ones. The reverse effect of this claim may be that target firms prefer a higher stock ratio.

Actually, current section contains the results regarding the influences of various deal specifications (Deal value, Percentage Acquired, Mode of Payment and Industry Relatedness) on the abnormal return generated by Pakistani and Indian bidding companies during the defined event window. For this the following equation is specified to catch the effects on the abnormal return dynamics of the bidding firms' stock over the indicated time period.

$$AbR0 = \beta_0 + \beta_1 X_1 + \beta_2 X_1 + \beta_3 X_1 + \beta_4 X_2 + \beta_5 X_2 + \beta_6 X_3 + \beta_7 X_4 + \varepsilon \ldots\ldots \text{(ii)}$$

X_1 = Dummy Variable for Mode of Payments for M&A with β_1 used for cash, β_2 used for stock and β_3 used for both cash and stock.

X_2 = Dummy Variable used for Industry relatedness with β_4 is taken as companies belonged to same industry and β_5 is taken as companies from different industries.

X_3 = Percentage of share acquired

X_4 = Value of Deal

ε = Error Term

The parameter *β0* represents the intercept. Since the model includes different dummy variables, one has to be cautious with its interpretation as it contains the omitted dummy variable. Hence, β_1, β_2 and β_3 represent the level of abnormal return for difference in mode of payments like payment made by cash only, stock only and using both cash and stock. Similarly, β_4 and β_5 are also used for dummy variable industry relatedness where β_4 used for companies related to same industries and β_5 depicted that companies belonged to different industries. Finally, the remaining parameters are continuous whereas β_6 and β_7 capture the effects of percentage acquired and deal value on the abnormal returns of bidding companies.

Table 9. Model Summary for Indian Bidders.

Adjusted R-Square	F-value	P-value
.24	2.354	0.088*

*Significant at 10%

The above table shows the model summary by which it is very clear that model is significant at 1% significance level. The other key fact described by the above table is the value of adjusted R-square which is almost 24%. This value specifies that 24 percent variation is explained in dependent variable by employed independent

variables. After getting encouraging results from the above table, we can proceed further with the regression technique.

Table 10. Coefficients of Indian Bidders.

	Beta	t-value	p-value
(Constant)	7.943	1.740	.101
Share Acquired	.360	1.581	.133
Deal Value	-.410	-1.919	.073*
Dummy	.820	3.233	.005***
Stock			
Dummy	.231	1.131	.275
Cash			
Stock			
Dummy	-.216	-1.119	.279
Related			
Industry			

*** Significant at 1%, *Significant at 10%

The above table shows the coefficients of regression model for Indian bidders. We can see that only two variables proved significant i.e. deal value and dummy variable payment made by stock at 10% and 5% level of significance respectively. Table proved the negative relationship exist between abnormal return at event day and value of the deal. This inverse relation signifies that when value of deal increases the abnormal return generated by bidding companies decreases and vice versa. This fact concludes that small deals generate more returns as compare to large deals.

The other significant variable shows the direct relation with the abnormal returns of bidding companies of India. This direct relation indicates that as the proportion of stock increases in the payment means, the abnormal returns will also increase which is consistent with other studies like (Goergen and Renneboog, 2002; Faccio

and Masulis, 2005). Besides these variables all others variables proved insignificant because their p-values are above 0.1. Other variables which are not reported in the above table are excluded by the software.

After determining the facts about bidder companies of India now we move towards the targets of Indian companies.

Table 11. Model Summary for Indian Targets.

Adjusted R-Square	F-value	P-value
.17	1.885	0.153

The above table shows that model is not significant for target firms of India. This might be because of some difficulties present in the data. Although model is not significant but it adjusted R-value is on moderate side. It explains 17% variation in abnormal returns of target firms. After assessing the above results now, we move forward to the coefficients table.

Table 12. Regressors of Abnormal Returns of Indian Target Firm.

	Beta	t-value	p-value
(Constant)	21.229	2.030	.059
Share Acquired	-.129	-.541	.596
Deal Value	-.498	-2.231	.040**
Dummy Stock	.359	1.355	.194
Dummy Cash Stock	.498	2.330	.033**
Dummy Related Industry	.065	.323	.751

**significant at 5%

The above table shows that only two parameters are proved significant at 5% significance level i.e. value of deal and dummy variable cash stock. These results are consistent with the studies like (Beck et al. 1991).

After assessing the results of Indian companies now we try to explain the results of Pakistani companies. The table below shows the model summary of Pakistani bidders.

Table 13. Model Summary of Pakistani Bidders.

Adjusted R-Square	F-value	P-value
.-11	.576	0.718

The above do not generate encouraged results for us. The model is not significant at 10% significance level. The following table of coefficients proved that not a single variable proved significant in determining the level of abnormal returns.

Table 14. Regressors of Abnormal Returns of Pakistani Bidders.

	Beta	t-value	p-value
(Constant)	5.135	.884	.390
Share Acquired	.242	.878	.393
Deal Value	-.244	-.996	.334
Dummy Cash Stock	-.031	-.112	.912
Dummy Cash Stock	-.275	-1.081	.296
Dummy Related Industry	-.070	-.264	.795

5.6 Financial Comparison of Involved Countries

In this section we will try to explain the financial performance of the bidders of involved countries i.e. Pakistan and India by using following claim:

Pakistani bidders enjoy sound financial health than Indian bidders after M&A deal

The above statement is tested by using three-year average operating cash flows of both countries (Pakistan and India) and using independent t-test to find any discrepancy. To know the true picture, current study uses further three years' operating cash flows i.e. 1 year, 2 years and 3 years.

Table 15. Comparison of Pakistani and Indian companies.

	P-value	Standard error	t-value
Average OPCF	0.421	0.18	1.87
OPCF 1Year	0.982	0.225	1.65
OPCF 2Year	0.895	0.15	2.83
OPCF 3Year	0.094*	0.135	3.103

*Significant at 10%

The above table shows that Indian companies enjoy better operating cash flows than Pakistani companies in long term. It shows the difference is present between bidders of two countries but their difference is not significant for a short term except for the third year after the deal. At that point a significant difference can be seen between the operating cash flows of involved countries. Our results are significant with pat study where foreign bidder's outer perform the domestic like (Rani, 2014).

The big reason of these results could be the strong financial health of involved companies. We all know that companies which buy other companies are very large

and having sound financial situation. So, we can say up to the second year after the deal both companies enjoy good financial health. At third year we cannot describe the reason that why Indian companies enjoy better financial health than Pakistani companies. The major reason might be that the true benefits of M&A transaction come at long run for the bidders. But this still this thing cannot be said with surety and it needs more research.

5.7 Characteristics of M&A Affects Financial Performance of Bidders

Hypothesis six enables us to test the following claim about the financial performance of bidders:

Increased share percentage, deal value, industry relatedness and mode of payment of M&A deal impact the financial performance of bidders

The above statement is tested by using regression techniques. The above section compares the financial performance of Pakistani and Indian bidders whereas current section explores the impact of different characteristics i.e. percentage of shares, deal value, industry relatedness and mode of payment on the operating cash flow of Pakistani and Indian bidders. The following table explores the results of linear regression for Indian bidding companies.

Table 16. Model Summary of Indian Bidders.

Adjusted R-Square	P-value	F-value
0.24	0.089*	2.344

*Significant at 10%

The above table shows the model summary of the bidders. The table shows the value of adjusted R square which is normal. It specifies that independent variables explain almost 24% variation in dependent variable. The other thing which is very important to explain in the above table is the p-value of model. It is reported as 0.089 which is significant at 1% level of significant. After receiving green signal of

the results, we are now ready to explore the impact of variables on dependent variable.

Table 17. Regressors of Financial Performance of Indian Bidders.

	Beta	t-value	P-value
Constant	14.702	7.331	.000***
Share Acquired	.257	1.128	.276
Value of Deal	-.485	-2.267	.038**
Dummy Stock	.120	.473	.643
Dummy cash stock	-.200	-.977	.343
Dummy Industry Relatedness	-.280	-1.448	.167

***Significant at 1%**Significant at 5%

Current study makes different dummy variables of industry relatedness and mode of payment to find the impact of independent variables on dependent one.

Operating Cash Flows = $\beta 0 + \beta 1X1 + \beta 2\ X1 + \beta 3\ X1 + \beta 4X2 + \beta 5X2 + \beta 6X3 + \beta 7X4 + \varepsilon$

X1 = Dummy Variable for Mode of Payments for M&A with β1 used for cash, β2 used for stock and β3 used for both cash and stock.

X2 = Dummy Variable used for Industry relatedness with β4 is taken as companies belonged to same industry and β5 is taken as companies from different industries.

X3 = Percentage of share acquired

X4 = Value of Deal

ε = Error Term

The above table of coefficients shows that only two factors are proved which affect the financial performance of Indian bidders. Those are constant and deal value. Since β7 is positive that shows the direct relation between deal value and operating cash flows of Indian bidding companies. This signifies that as the value of the deal increases the firm enjoys more financial health in long run. This result is consistent with the previous study like (Ramaswamy and Waegelein, 2003). The other variables which are not reported in the table are excluded by the software SPSS-20 in running regression technique.

After assessing the results of Indian companies, one might be interested to explore the situation of Pakistani companies (bidders). So, following table signifies the results of Pakistani companies.

Table 18. Model Summary of Financial Performance of Pakistani Bidders.

R-Square	P-value	F-value
0.33	0.038**	3.095

**Significant at 5%

The above table reports the key figures of the models. The most important figure is the p-value of the model which is significant at 5% level of significance. The other important figure is the value of adjusted R-square which is also satisfactory and termed as a moderate value that explain almost 33% variation in the dependent variable.

After receiving encouraged results from the software, we can proceed further now and explore the impact of different characteristics discussed above on the operating cash flows of Pakistani companies. The following table of coefficients shows that there are also two variables which affect the financial performance of bidding companies of Pakistan i.e. cash used as the payment mode and deal value. These results are coincided with past studies like (Rani et al., 2014 and Ramaswamy and Waegelein, 2003). The positive value of both β1 and β7 indicate a direct relation exist between the independent and dependent variables.

The results of Pakistani companies are different from Indian companies. In Indian companies' financial performance is independent from the mode of payment while it is proved that it matters for Pakistani companies. Out flow of funds may affect the amount of investing activities but actually they generate value for the operations of business. That is why the positive relation can be seen in case of Pakistani companies. In short M&A required heavy amount of outflow which a company did for generating value and if payments are made by using cash only, it will increase the financial performance of companies because it generates extra amounts for the operation and enhance the cash received from operations.

Table 19. Regressors of Financial Performance of Pakistani Bidders.

	Beta	t-value	P-value
Constant	3.692	1.149	.267
Share Acquired	-.249	-1.165	.261
Value of Deal	.397	2.095	.052**
Dummy cash	-.565	-2.671	.017**
Dummy cash –stock	-.137	-.694	.497
Dummy Industry Relatedness	.337	1.656	.117

**Significant at 5%

Other variables which stated above are excluded by the software while running the regression models. So, variables which are included by the software are shown above.

5.8 Comparison of Countries

H7: Pakistani and Indian M&A activities generate different abnormal returns for Pakistani and Indian shareholders

The above hypothesis is built to find any difference between the abnormal returns generated by the companies of two countries. The hypothesis has its roots from the international literature which compares the abnormal returns of domestic and foreign takeovers. Current study uses Pakistani companies as domestic and Indian companies as foreign. Pragmatic literature shows mixed results between them. Some found that domestic firms generate more like (Boyle, 2009; Emiris, 2002) and some experienced that foreign companies were winner like (Francis et al., 2007) whereas studies like (Lowinski et al. 2003 and Goergen and Renneboog, 2002) experienced insignificant difference between countries.

Table 20. Comparison of Financial Performance of Countries.

	p-value	Standard Error	t-value
Ind and Pak Targets	.831	.89965	-.803
Ind and Pak Bidders	.864	.46476	1.273

The above table shows that there is not any significant difference is prevailing between the abnormal returns of Pakistani and Indian firms. Although Pakistani target firms are generating more abnormal returns as compare to Indian targets showed by the negative t-value but that difference is not significant. Similarly, the positive t-value in the case of bidding companies signifies that Indian bidding companies are generating more returns at announcement day as compare to Pakistani companies but that difference is not significant.

5.9 Industry Comparison

In this segment we try to investigate the impact of M&A activities on the returns of companies belong to different industry. This thing enables us to understand which industry is generating more returns as compare to others. For analysis we take only two industries i.e. financial and manufacturing because these are the

most important industries in Pakistan and India. There returns are tested with their counterpart i.e. non-financial and non-manufacturing industries.

Table 21. Industry Comparison.

	p-value	Standard Error	t-value
Manufacturing vs Non-Manufacturing	.871	.45989	.790
Financial vs Non-Financial	.654	.72405	-1.254

The above table shows the comparison of different industries of Pakistan and India. The above table shows that manufacturing industries generate more returns than non-manufacturing industries but this difference is not significant. Similarly, insignificant difference is observed between the returns of financial and non-financial industries. One reason of this behaviour can be that every industry produces almost same returns at announcement date of M&A activities.

6 CONCLUSIONS AND IMPLICATIONS

The major purpose of this thesis is to establish the evidence on the corporate takeover market for the Pakistani and Indian M&A environment. Interestingly, some results diverge significantly from the international findings and bring up some new insights on various specifics of the Pakistani and Indian markets. In current chapter, the thesis aims to combine these findings that are concluded under all hypotheses for gaining a sound and linked overview for the Pakistani and Indian M&A markets. The reader should keep in mind that the results are only valid for the investigated period. Additionally, different caveats are discussed that have to be taken into account regarding the analysis part. Finally, the section is concluded with the lessons learned and some recommendations for further research.

6.1 Conclusion

The thesis finds significant abnormal returns for **Pakistani and Indian target firms** at announcement dates. However, by expanding the event window the cumulative abnormal return declines as well as the related t-value. Even though there is no high significance on the specific event days around the event. Therefore, the assumption of efficient market holds completely. In addition the findings are related with international literature. Finally, the results obtained by the CAPM model do not differ from the results estimated by the Market Model. Hence it is proved that both models generate same results.

The current study also accepts the claim that shares of Pakistani and Indian **bidding companies** do experience a positive abnormal return over the investigated short-term period. Similar to target companies bidding firms also generate abnormal returns on event day and any other day of event window they only generate normal returns. The hypothesis of efficient market is also hold for the markets because the amount of abnormal return vanishes in the next day of the announcement. The findings are also related to the international literature. In the end it is also proved that CAPM and Market Model generate similar results.

The thesis also finds significant difference between the returns of target and Bidding companies. It is proved that at event date bidders generate more returns as compare to target companies. This shows that bidders justify their heavy investments and enjoy the benefits of their tactical move.

The results from regression analysis are very interesting. They clear that bidders and targets firms are having different regressors which affect their shareholder's wealth. The common coefficient which affects their abnormal return is the size of the deal. Deal value is very crucial because it is the price of contract and price affects the returns of the firms. It is very crucial that stock option proved significant in case of bidders while it is proved insignificant for the target firms. Higher returns are generated by bidders if they make payments by using stock and cash payments suits more to the target firms.

The thesis also realized that returns generated by Pakistani and Indian firms are also of same magnitude and non-significant difference is observed between them. This suggests that they both generate abnormal returns at announcement date. A significant difference is found between the financial performance of Indian and Pakistani firms. Here one thing is very important i.e. bidders enjoy the benefit of their merger and acquisitions only in long term.

In the end we can conclude that Pakistani and Indian companies (Targets and Bidders) generate abnormal returns for their shareholders at announcement day and that abnormal return vanishes in the very next day because the markets of Pakistan and India is very efficient.

6.2 Further Research

In the opinion of the author the thesis contains the most important aspects of the Pakistani and Indian takeover market to infer meaningful facets from the analysis. However, there are some issues that could offer additional insight into the field and enhance the conducted analysis regarding its inferences. By opening up the geographic area, more specifically, comparing events from different regions with the South Asia will generate comprehensive picture of M&A effects.

Another thing can be done is to make panel data of these M&A transaction and then make the analysis. This can lead us to the next stage of the concept.

Finally, an intertemporal assessment may help to understand the variation over time of the stock price dynamics around merger events. Therefore, the results from this thesis could be compared to the outcomes computed for the prior wave or an earlier wave period.

There are several areas to do further research within this field, which would add additional evidence to the results of this thesis. Thus, the thesis states a starting point by concluding the general findings for the Pakistani and Indian corporate takeover market during the period from 2000 to 2014.

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DATA SITE

1. http://www.google.com/finance
2. http://finance.yahoo.com
3. http://www.investing.com
4. www.**wsj**.com
5. https://www.djindexes.com
6. https://www.msci.com
7. https://www.statisticstimes.com
8. http://www.economagic.com
9. http://data.worldbank.org
10. https://scholar.google.com.pk
11. http://www.nber.org/cycles/cyclesmain.html
12. http://usgovinfo.about.com/od/moneymatters/a/When-Did-The-Great-Recession-End.htm

APPENDIX 1

Thesis passport (to be given to the supervisor for filing after the thesis is finished).

Name of student _____

Group _____

Contact information_____

Topic of thesis _____

Client _____

	At latest	Date	Signature
1. Introduction to thesis and related assignments completed	_____	_____	_____
2. Approval of topic	_____	_____	_____
3. Thesis plan approved	_____	_____	_____
4. Interim seminar presentation held	_____	_____	_____
5. Contents of thesis approved	_____	_____	_____
6. Layout and language approved	_____	_____	_____
7. Abstract in foreign language accepted	_____	_____	_____
8. Thesis submitted to the opponent	_____	_____	_____
9. Participation in presentation seminars			
- excluding acting as an opponent and own presentation			
1. _____		_____	_____
2. _____		_____	_____
3. _____		_____	_____
4. _____		_____	_____
5. _____		_____	_____
6. _____		_____	_____
10. Presentation of own thesis held		_____	_____
11. Acting as an opponent (title/student)			
_____		_____	_____
12. Maturity test accepted		_____	_____
13. A hardbound version of the thesis submitted to the supervisor (if not submitted to Theseus)		_____	_____

14. I hereby assure that I saved my thesis in electronic form into Theseus at the address

_____

Address Signature of the student

VAASAN AMMATTIKORKEAKOULU
UNIVERSITY OF APPLIED SCIENCES

APPENDIX 2

APPENDICES

You can enclose as appendices for example a questionnaire used in the study or other material that is related to the study.

Material that the client wished to classify can be enclosed as an appendix; in this case, the appendix is not included in the published version submitted to Theseus or in the hard-bound version.

THE TITLES AND NUMBERING OF APPENDICES

The appendices are numbered and given a title. When you refer to an appendix in the text, use the correct referencing practice. Remember to mention the number of the appendix.

Table 3. Thesis Assessment Criteria

	Excellent (5) - Very good (4)	Good (3)	Satisfactory (2) - Passable (1)	Fail 0
Choice of topic	The topic is significant and current with regard to developing the field of study. The topic meets the need of the client from the working life. With respect to the choice of topic, the student is able to question and justify the development needs in his/her field of study. The topic is, from the point of view student's professional knowledge, skills and qualifications, innovative and opens up new perspectives in working life.	The topic meets the needs of the client. With respect to the choice of topic, the student has an understanding of the development needs in his/her field of study and is able to analyse them and present them in logically. The topic develops the student's professional knowledge, skills and qualifications and is challenging	With respect to the choice of topic, the student recognises the development needs in the field. The topic corresponds to the student's professional knowledge, skills and qualifications. The topic develops the student's knowledge and skills, and the student is able to justify in what way	The choice of the topic is not based on the proven needs of the working life nor to the development of the field of study. The minimum requirements of Polytechnic Degree (EQF 6) are not me
Knowledge basis	The student has built up the knowledge basis of selected diverse sources that are relevant to the topic. S/he is able to make syntheses and draw conclusions logically based on the material. The student uses and defines the concepts in a diverse way and with the thesis creates new usable theory in the field.	The student recognises the phenomenon/topic showing expertise in the field. The use and definition of concepts is analytical and justified. The student has built up a wide knowledge basis using reliable sources. The student defines the phenomena critically, diversely and creating new perspectives.	The student's acquaintance with the topic is good but narrow. A more wide approach would be needed in the understanding and definition of concepts. The knowledge basis is narrow. The use of sources is wide but making syntheses and analyses and drawing conclusions based on the sources has proved out to be difficult.	The knowledge basis is incomplete, narrow and invalid. The minimum requirements of Polytechnic Degree (EQF 6) are not met.
Implementation	The student finds the essential questions of the topic/problem in a creative way and restricts the problems in a justified and logical way. The student has found the appropriate methods to approach the topic and manages them well. The student's expertise can be seen in the process as well as the sharing of the expertise with the co- operation partners. The student assesses his/her work process analytically and shows a capability to develop.	The student recognises the essential questions regarding the topic and restricts the problem successfully with regard to the topic and the requirements of the thesis. The student uses methods appropriate to the topic and shows that s/he manages them. The student works autonomously but is also able to do constructive co-operation with other parties. The schedule	The student recognises relevant questions regarding the topic/problem but the restriction of the problem is vague. The methods applied are conventional and their management according to the given model. Keeping the schedule and following the plan is difficult. The student finishes the thesis in accordance with the objectives and showing expertise.	The approach is clearly insufficient and the thesis is not finished in the agreed schedule or at all in spite of instructions and guidance. The knowledge basis, methods and implementation do not have valid connection. The minimum requirements of Polytechnic Degree (EQF 6) are not met.

	Excellent (5) - Very good (4)	Good (3)	Satisfactory (2) - Passable (1)	Fail 0
		and work process is managed. The student's approach to the thesis shows initiative, development ability and reflection.		
Analysis and discussion of results	The results show expertise that is interesting from the viewpoint of the development in the field. The student is able to analyse complex problems, utilising the knowledge basis, in a new way and make a feasible application out of the results serving the working life (new perspective, innovation, advancement of the field). The student is able to form a clear opinion and a model of further action and development needs in the field and to justify them.	The student is able to apply wide knowledge basis successfully in solving the problem in the field of specialisation. The student is able to critically view the results, theories and methods used. The student is able to apply the results and suggest further action relevant to the working life and the field. S/he is able to define the development needs concerning knowledge and skills in the field.	The results of the thesis meet the objectives on most parts. The student is able to view the results critically and assess his/her own skills and expertise with respect to the objectives but superficially. The student is able to suggest further action and development, meeting the basic requirements regarding the skills and knowledge in the field.	The results do not have any relation to the problem, theory or methods. The results cannot be applied to develop professional practices. The critical assessment of the results is insufficient. The minimum requirements of Polytechnic Degree (EQF 6) are not met.
Reporting	The report shows interesting expertise with regard to the development of the field. The report shows excellent mastery of the language and it conveys the student's thinking clearly and in a logical and illustrative way. The language is flawless and business style. The oral presentation is convincing and brings up the student's expertise well.	The student is able to present the results and conclusions analytically, illustratively and with good reasoning. S/he can communicate the results successfully to various interest groups showing critical thinking developing expertise. The language is flawless and business style. The oral presentation is illustrative and directed to the target group	The student follows the reposting instruction issued by the UAS. The report is structured and the language fairly good business style. The oral presentation is structured and concentrates on the presentation of the contents.	The reporting instructions have not been followed. There are flaws in the language and structure. Plagiarism can be detected in the report. The minimum requirements of Polytechnic Degree (EQF 6) are not met