



Observation of the events and other factors that can potentially influence the stock prices

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Abstract

The topic of the external events and information having a potential impact on the stock prices movement has been around and about for a very long time. It is believed that a lot of specialists have been inquiring into finding evidence of the effects on the securities that hypothetically were caused by the events, news and information that is not associated with the fundamental financial factors. Nevertheless, constant debates concerned with this topic, have motivated the researcher to undertake an examination into the figures and variables that could potentially prove or disprove the effects. Furthermore, other possible reasons, behind the stock prices movement, were discussed. Thus, the three research questions or objectives were posed to be discussed in the study. Firstly, to determine if the events observed indeed had any impact and what the reasons behind the impact could have been. Secondly, to find other plausible explanation and reasons behind the observed situation with the security prices.

The choice was made towards the quantitative approach for the research. It was utilized to observe and study the main objectives. The observations were made for the four case companies for the two-year period. The main source of data was obtained from the stock market records for each case firm. Hence, the necessary formula-based calculations were made do obtain the needed figures for the further analysis and discussion. The qualitative data has complimented the quantitative findings for the better understanding and test of the hypothesis. The qualitative data is represented by the theoretical information form the studies and articles as well as the annual reports.

Based on the obtained information, the objectives and hypothesis were explored through the technique of the event studies. The analysis and discussion have shown that it is moderately plausible that the observed events could have had a minor impact on the stock prices fluctuation. Nevertheless, there is no evidence of the lasting effect nor solid evidence that proves the exact pattern of the influence. It has also been concluded that other fundamental factors such as the financial performance of the firms or the global circumstances might have affected the stock prices of the case firms.

Keywords/tags (subjects)

Stock market, stock prices, stock prices movement, investment market, investors, market information

No appendix is attached.

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1 Introduction

The following chapter displays the introduction of the main topic that author researches and describes in this thesis. Also, it would outline research questions, background, and objectives, as well as the author's motivation behind the intent to conduct the research on this topic.

Till this day a lot of specialists are debating whether external news and events, which are not correlated to the financial and operational information releases of the company can influence the stock prices. Shocking statements of the CEO's, misconduct or trends that upset the public, actions of official firm representatives that lead to the backlash, lastly actions of the firm that receive a lot of publicity – some believe that all these factors potentially can have an effect on the stock prices, or investment decisions. Nevertheless, there is very little amount of certified data available that events and external information not correlated to the fundamental and economic factors can influence the price movements of the securities on the stock markets.

This study is focusing on finding out how reputation damaging news and events which were observed in social media and escalated by it – hence the external information, could influence the securities prices of the big corporations. It was also inquisitive to see how potential impact of the public attention to a certain piece of information could relate to the stock prices movement on the market. The author was eager to find out in what way the news and events had impacted the company's stock price at the moment when the information was released, how the stock prices were behaving a year before and a year after – to maximize the span of the research and get more accurate data. The forementioned time span was chosen in order to see if the events negative effect has had any impact at all or was there some other underlying reason behind the stock price movement. The study also attempts to observe if the events information has not done any change or damage at all, or if the occasion itself was a consequence of some long-lasting chain of occurrences that has been already happening in the company or the market.

1.1 Background and motivation

This research inquiries into the topic of how reputational damaging events and the response of the public to the released information influences stock prices. Furthermore, it attempts to find out if

there any potential impact at all, or if some other factors like fundamentals or firm's financial figures are involved into the fluctuation of the security prices. The study explored the topic by assessing and comparing the stock prices a year before the event in question, at the moment and following year after the event in question had happened, thus concluding whether the impact was visible at all, have there been any significant fluctuation. The research is based on several isolated and non-related events that occurred in different times and dates involving several multinational firms and their representatives. The author of this work was motivated to discover how events observed in this thesis have impacted the stock market prices of those companies.

All the multinational companies construct their own public image, corporate reputation, and brand equity partially by targeting their marketing on the statements that they release on their social media pages, website and other electronic media associated with the company. (Horn et al, 2015). Moreover, part of the reputation and public image is maintained through the announcements and statements made by the CEO's and other top executives. The company's credibility in the eyes of the public and investors is partially based on the CEO's reputation as a delegator, boss and a leader. (Jin & Yeo, 2011.)

The study assumes that such trends as corporate activism, charity work and shifting business models into the latest trends are also part of positive image construction nowadays. However, according to the research conducted by Brayden G. King and Mary-Hunter McDonnell under certain circumstances engaging the firm into positive social responsibility potentially can be doing more harm than good to the public image, since activists are more likely to target negativity on the firms that have launched into the movement and supported it, but later have done something wrong or contradictory to the values that they have initially backed (King & McDonnell, 2012).

If a celebrity who is associated with the brand gets an adverse reaction from the public for its actions, the firm might experience a negative clash as well (Zipporah & Mberia, 2014).

Taking into consideration the statements that are listed above, this study attempted to find and analyse the pattern of how a firm's security prices can be influenced by the unflattering news and events that gain big public awareness and shift public's opinion about the firm, thus reaching the investors and potentially impacting their decisions on buying or selling the stocks. As the actions

that ignited the spark of increased negative attention the author took the cases that include actions of top management and CEO statements, conduct of brand representatives, social media statements and charitable work, known as corporate activism or trend support. The study has found several isolated cases in which either a wrongly put statement, misinformation, sudden sequence of action or unethical behavioural display have influenced the associated company's public reputation, sales volumes and how reputational damage resulted in stock price plunging.

The first case analysed is the case of a statement made by Mr. Elon Musk, CEO of Tesla Motors. On the 1st of May 2020 Mr. Musk has published on his official Twitter account the following statement: "Tesla stock price is too high imo" (Twitter, 2020). After that statement was released, according to the news article published by Bursztynsky, the share price of Tesla Motors declined on 12% and closed on 10.3% (Bursztynsky, 2020). This case is a possible representation of the CEO's statement effecting directly the firm's security prices.

As a next example, the study used the case of a hired representative-celebrity, whose behaviour potentially influenced the plunge in the company's stocks. According to the news article published by SportingNews, during an interview on the UEFA's Euro 2020 tournament the renowned football player Mr. Cristiano Ronaldo attempted to move aside from him two bottles of Coca-Cola drink and expressed his preferences towards the bottle of water. The event had taken place on the 14.6.2021. This action has led to a sudden downfall in Coca-Cola stocks. Some headlines state that the firm's value has dropped up to 4 billion dollars. (Camenker, 2021.)

As an illustration of how a news of the modern corporate activism trend "going the wrong way" can potentially lead to a negative decline in stock prices and adverse reaction of the public, the study took the following case. In 2020 the public protests of Black Lives Matter movement have taken place and have received a great deal of support from businesses all over the world. However, not all the firms that started to engage in corporate activism, as a part of their support of the protests, were appreciated by the public and some even got boycotted or shamed for the lack of endorsement of the movement. For instance, after renown café company Starbucks have refused to let its workers to wear any items of clothes that mention Black Lives Matter, Twitter users have generated hashtag #BoycottStarbucks on Jun 12 of 2020. On that day Twitter reported a minor

peak in Tweets with these hashtags that reached the amount of 38,653 publications. (Commetric, 2020.)

As reported by Yahoo!Finance on Monday, when the stock trade was opened, the stocks of Starbucks plunged from Friday's 11th of June 112,56 \$ to 112,45 \$ on Monday 14th of June, even though in the days before scandal the stock was steadily climbing from June 8. The stocks continued to decline until Friday 17th of June with the close of trading at 109,70 \$. (Yahoo!Finance, 2021.) Nevertheless, the firm has swiftly bounced back and on the same day with Twitter's resonance – it had released a statement on their official webpage which was siding with the Black Lives Matter. In this statement the company has displayed its commitment to the cause of fighting social injustice and its support towards protesters. The same day Starbucks permitted to use the regalia as a part of their clothing. (Starbucks,2020.)

The last, but not the least is the case when the firm's online statements, activates and a low earnings report have exposed it to a negative public reaction and has resulted in potential great economic loss. This case showcases how swiftly and greatly news can spread and result into the huge financial losses in less than a day's time. In the beginning of 2022 Facebook parent Meta had set a record of losing about \$232 billion in value in just one day resulting into Meta trading at the lowest point since July 2020 (Deagon, 2022).

The news that has shaken the ground were the potential consequences from Meta (Facebook, Instagram) intending to leave EU if the European Union will not agree to the new data transfer on the US servers. As a result of such announcement the Facebook (Meta) stock had plunged on 5% in one day, which set it at the new lowest record, since the stock was already considerably down due to the unfavourable earnings report. The news articles informing about Meta potentially leaving EU started to appear on Monday 7th in the public social media, press, newspapers and in overall, 7th of February was the day when the news became public and quickly gained a lot of audience. (Swartz, 2022).

All the cases described above are reviewed in this thesis as the pieces of information released by the initial signaller. After reaching the receivers – the public and the potential investors, those information pieces have caused a certain feedback. The primary aim of conducting this research was

to find out whether this feedback have impacted the securities of those firms in a given moment or some other economic, performance, financial or fundamental reason was behind the securities behaviour on the market.

When briefly mentioning other factors that can affect firm's securities, the study means such factors as performance of the company, macroeconomic factors, market behaviour, internal company processes, earnings and financial figures placed in the fiscal reports. According to Al-Tamimi et al (2011), the internal plus external fundamental factors can have a presumable influence the stock prices (Al-Tamimi et al, 2011).

The author was motivated to conduct this research to see how the information accessible to the public can govern the stock supply and demand, allowing the investors to buy in the reduced price or forcing them to sell the stock, so they can avoid losing their money. This topic is useful especially for common people, like the author, who are interested in investing their savings into the public stocks of companies to derive small profits. Arguably, the person who is not considered a professional investor might lack a certain knowledge that allows them to invest effectively resulting in the loss of invested money due to different reasons. The everlasting hope of this study is to ensure that the research in this work would be educational and would help the reader to determine how external information can influence the cost of stocks and therefore, help the potential investor to make the right decision.

1.2 Research objective and questions

This study intends to find and discuss the correlation between the information released into public and the movement of the stock prices in the same period of time as the information release. The research is going to focus on individual non-related cases and attempt to assess why, how and in what way the circumstances of the event have led to the outcome in question. The following questions are the fundamental questions of this thesis and reflect the main objective and purpose of the research.

1. Have the events which were observed in this thesis, influenced the stock prices?
2. If proven that they did, how was the effect reflected?
3. What other factors could have had an impact on the behaviour of the securities?

By finding a justifiable answer to those questions and conducting research, the author assessed and described the topic from different perspectives and angles, thus either proving or disproving the claim.

In this study, it has been determined that undertaking quantitative method-based research would be a proper method to obtain reliable data to support the topic's development and analysis. Choice of the quantitative approach has allowed a broad and effective obtainment of the data needed for the justifications of the hypothesis. The formulas applied to the calculations have brought the results that have allowed this study to test its hypothesis and obtain the results needed for the justified conclusion. Additionally, the qualitative data has been collected by utilizing already existing articles, studies, annual reports, and other materials available in public access to complete and expand the research. Along with qualitative data, the quantitative data was used due to the nature of the research – the financial metrics and formulas had to be utilized in order to produce calculation that had proven or disproven the hypothesis. The security prices data was mainly used to produce the results and correlate then with the qualitative data.

1.3 Structure of the thesis

An Introduction presents the topic of the thesis to the reader and outlines the author's motivation and basic information about the research questions, purposes, and its composition. Followed by the "Literature Review" part that proves already existing theory and factors that can contribute to the understanding of the research as well as describes the theoretical background of the core terms employed in the study based on available academic literature. The next chapter, following the theoretical literature, is committed to the outline of the research's structure and how it is constructed based on already obtained data from "Literature review". "Research methodology" chapter offers detailed description of the research method that has been utilized, data collection techniques used and data analysis approaches that have been applied. Then, in the next "Research results", the numerical data that has been obtained and calculated is reflected. In the next chapter called "Discussion" the study outlines the explanation of the analysis based on information received by means of the research and the study undertaken. Moreover, this chapter contains the disclaimer and some advice for further research.

Lastly, the “Conclusion” part presents an overall summary of the study and defines the research findings simultaneously comparing them to the initial questions.

2 Literature review

The chapter below displays the theoretical background of this thesis and introduces the reader to the theoretical material that has been used while conducting the research work. Consequently, the chapter also includes the hypothesis and empirical review of literature.

2.1 Theoretical Background

Equity as a financial asset

Equity investments, which are part of the financial assets, play a principal part in this research. According to the study of Munk (2013), financial asset is a liquid asset valued via obtaining ownership claim or contractual rights. Examples of financial assets are bank deposits, cash money, funds, bonds and among other things – stocks. In the same study it is described that financial assets possess two most common traits like expected return and the uncertainty that is associated with that return. It is common for financial assets to be described via risk and return. (Munk, 2013.)

In this thesis, the researcher studies the underlying aftermath of several events which might have had an influence on the share price fluctuation in the window of the distinct period. In accordance with the purpose of this study the core meaning of terms like “equity” and “return” should be defined.

Equity is an ownership claim – it can be defined as simply as the monetary value of the interest, property, or the value of asset after deducting the debts connected to that asset, or equity also can be identified as a portion of the residual ownership in a company. (Berne & Stiefel, 1994). The equity can be formed from common equity, warrants or preferred equity. This research is primarily concentrated on the common equity. Common equity is tangible measure which is utilized in order to estimate a financial institution’s capability to handle conceivable losses. Common equity is also often used to measure firm’s physical capital. (Murdoch, 1997). Return on common equity

is determined from two sources (Income and capital gains/losses), the formula is showcased in the formula below. (Ramirez, 2011).

$$Total\ Return = \frac{Value\ at\ t_1 - Value\ at\ t_0 + Income}{Value\ at\ t_0} \quad (1)$$

In the formula above, the *value* means the price of the share and *Income* means dividends. The timeframe is represented by t_0 and t_1 . (Adapted to Ramirez, 2011.)

Equity has market and intrinsic value (Subramanyam, & Venkatachalam, 2007). In turn, the market value can be identified as a price at which a particular asset can be sold or bought (Elsten & Hill, 2017). Intrinsic value or, in other words, fundamental value can be identified as the measure of what an asset is worth in terms of its price. The intrinsic value is applicable only if the sufficient amount of information and data was collected and analyzed via complex financial models. The value of company stock is usually analyzed via calculation of fundamental value. Consequently, if as a result of calculations, it is found that intrinsic value is less than market value: IV (intrinsic market value) $< MV$ (market value), that would mean that the share is overpriced, subsequently, it is in the best interest of investor to sell the aforementioned shares. Following the topic, if the indications are in the position when intrinsic value is equal to the market value, or: $IV = MV$, that would determine that the share's price can be considered fair. It is also mentioned that if the deviation or the difference is detected in the range of 10% to 20%, the criteria is still validated and met. Accordingly, the recommendation to hold is given to the investor. Lastly, if the result of the analysis derives the conclusion that intrinsic value is greater than market value, or $IV > MV$, that would mean that the share is undervalued, and it is a favorable time window for the investor to obtain more shares. (Ramirez, 2011.)

The term income is quite frequently used in this study therefore, it needs to be explained. In the basic sense, income means the money that the individual or an entity receives in exchange for the goods, labor, or any other contracted activity. For individuals, income may refer to total earnings, salaries, wages and return on investment. For the firms it might mean revenue from selling services or products, reserves and dividends related to the business. There are also different types of income when trying to define it: gross income, which represents total value without any outflow,

and net income which refers to the income left after subtractions like fees and taxes. (Sloman, & Garratt, 2010).

Efficient Market Hypothesis

To develop a better understanding of how share prices represent the intrinsic value, the efficient market hypothesis should be taken into observation.

Before starting on diving into the market efficiency, the study insists that it is necessary to explain the term “weight of the securities”. The security weight can be also identified as the weight of individual asset or stock, as an example. The stock weight can be calculated by adding the cash value to all the individual stock positions, also the total portfolio value is needed. Then, the stock’s position cash value is divided by total portfolio value and then the multiplication by 100 is applied.

(Nasdaq, 2016.)

The topic that is described in this subchapter is closely correlated with the theory of market efficiency.

Fama (1970) has designed a framework for depiction of the degree of market efficiency. In accordance with his study, in the situation when prices reflect all relevant information and accurate data, at any frame of time, the condition for this is favorable when the market prices, at the given time, are observed as securities and at least reflect the necessary information available. In the same work, Fama (1970) has defined the three dominant forms of efficiency: first follows the weak form, then semi-strong, and strong is the last one. The form is determined by applying the applicable information that is reflected in the prices. However, the revelation that states the fact that some investors regularly attempt to derive returns based on abnormalities by trading on the foundation of information is evidentially proven contrary to the market efficiency. Basically, the returns that are deemed abnormal are the returns that of the surplus from the returns that are expected in accordance with the market’s return and security’s risk. (Fama, 1970.) It can be presumed that all above mentioned forms of efficiently have to be described for a better understanding of the topic. Below, the thesis presents a concise description of those forms.

According to Shaker (2013), his study suggests that the form of EMH which is short form (Efficient Market Hypothesis), suggests that the present market price of the securities will subsume all available information on the security market – is considered the weakest. This information may include

such positions as rates of return complemented by the historical sequence of the prices, information generated by the market and historical data. It is widely assumed that the lowest efficiency form identifies the market as being perfectly efficient in case when the current prices are entirely displaying all information generated by the historical share pricing. Furthermore, the trading rules relying on the fact that past prices are incapable of developing the identification of the misplaced assets. (Shaker, 2013.) Therefore, the weak form indicates that the stock prices published at the current moment mirror the data and information from the bygone securities prices and therefore available type of technical analysis that could support the investors does not exist. As stated in the article by Shaker (2013), the semi-strong market efficient is at place if the conditions are the following: the stock prices set in swiftly to any information that is in public availability. Subsequently, the form of efficiency, which is presumed to be called semi-strong, is constructed of currently operating asset prices that afore reflect the past prices, as well as volume information. Thus, neither technical form of analysis, nor fundamental form of analysis techniques will be capable of producing a reliable excess return. In other words, because the public information is a part of the price at the given moment, the investors cannot use either of analysis methods, nevertheless, the information that is not available to the public can be useful to the investors. Lastly, the strong form efficiency states that the stock prices abundantly represent all information from private and public sources. This is the consequence of the fact that private data and information is promptly assimilated by market prices, subsequently, it cannot be utilized to gain abnormal trading profits. In theory, this implies that paradoxically event the management of the company, who has access to the inside information, cannot reap abnormal profit by utilizing the information they have. The strong form is also totally accounted for when it comes to the present stock price, therefore, there is not any type of information that is capable of giving an investor a winning dime on the market.

(Shaker, 2013.) From real-life perspective, the data stipulates that the abnormal profits cannot be consecutively earned by the investors via utilization of technical analysis or the past prices strategies in developed markets (Bessembinder & Chan, 1998). The study suggests that in the countries whose markets are considered developed, for example, like Turkey, Bangladesh, Hungary – it may be hypothetically possible to make profit from unitlizing the technical analysis (Fifield et al, 2005).

This study assumes that it is also necessary to reflect the information presented from other academic sources to discuss the topic further.

The study by Ali (2001), suggests that the past prices cannot have a power of serving as evidence for prediction of the current and future price activities and stock market, according to the efficiency hypothesis is “informationally efficient”. The same study concludes that in Pakistan, in the aggregate level, the news sensations and the general news are negatively related to the activity of the stock market. Nevertheless, this relationship proved by this study to be significant in relations the stocks trading volume, however, insignificant in relations to stock returns. Lastly, the study also states that the public information, as news, does not play as critical role in the stock returns fluctuation on the market as the private information. (Ali et al, 2001.)

Going back to the semi-strong markets, the semi-strong company specific information suggests that dividend changes, economy-wide events, announcements of deals and mergers, stock splits, can be used when conducting the efficiency analysis. The data applied on the research of the Australian stock market’s efficiency has proven that the market in this developed country is semi-strong, however, some variables pinpoint towards weak market efficiency. (Groenewold & Kang, 1993).

According to Cid (2020), the evidence from different researchers points out that developed security markets are proven to be semi-strong efficient. Nevertheless, some evidence suggests the contrary. Usually, the test is conducted by the researchers to see if the investors can gain abnormal profits by using the non-public information for trading, this could prove if the efficiency is semi-strong. Some of the studies have found that the abnormal gains can be earned even with the usage of non-public information. (Cid, 2020.)

However, some of the studies can claim some contrary information. Hence, it can be presumed that the market efficiency theory can produce controversial results, and hypothetically some specialists still debate about how accurate its applicability is.

According to Szylar (2013), the investment managers consider the analysis and the implications of efficient markets of extreme importance to them. Few implications can be determined based on the evidence derived from developed markets, nevertheless, the market efficiency theory is still under the debate by many specialists and researchers, because in some cases it is hard to predict and conclude the solid derivation. Some of the factors from Szylar’s study suggest that:

- If the certain market of securities is considered to be the weak-form efficient, hence, the investors cannot gain abnormal returns by utilizing the trading on the foundation of past trends in prices.
- The study suggests that if the security market is the semi-strong market, consequently, when conducting the analysis, the researcher should consider if the information is already mirrored by the security prices, plus should also consider the fact how the potential new information impacts the securities value.
- The securities laws are designed to avert the exploration of the information that is private – this is the reason why the security market is not strong-form efficient.

(Szylar, 2013.)

Since, based on the information provided above, the investment managers are the primary decision makers when it comes to the market analysis, it is essential to explain the concept of portfolio management. In accordance with Hiriyappa (2008), the portfolio management is the term that includes the assembly and maintenance of the cluster of investments. However, the portfolio management is more concentrated on the risk reduction and rather than the growth of the returns on investment. Portfolio management is related to the collection and constant updating of the investments collection. The main reason behind employing and incorporating the portfolio management in the investment work is its capability of risk reduction. Nevertheless, it is not focused on incising the return on investment. (Hiriyappa, 2008.) Some of the fundamentals of the portfolio management are information ratios, return, benchmark, risk, and preferences. There are both active and passive portfolio management types. (Grinold & Kahn, 2000.)

Continuing, the topic of portfolio management may be found helpful by the current research, since it is presumably evidential from the information above that this phenomenon plays an important role on the stock market.

Active portfolio management strives to outperform the market as opposed to the certain benchmark or index. In turn, the passive portfolio management is copying or mimicking the investment holdings of the certain index and strives to achieve alike result. Nevertheless, it is suggested that in relation to the market efficiency theory, the active portfolio management cannot create added value, because it is assumed that the portfolio managers cannot generate the abnormal returns

and “beat” the market on the continuous basis – so, if the securities markets are weak-form or semi-strong efficient, in theory, passive portfolio management will be outperforming the active one. It is possible, because in the situation above, the active trading, whether via endeavouring to exploit the public information or the price patterns. It has also been observed, that on average mutual funds do not overperform the market based on the risk-adjustment. In general, before considering fees and expenses, the mutual funds perform alike to the market. (Amenc & Le Sourd, 2005). In brief, the mutual funds are the types of investment machines or ventures, that consist of the portfolios of securities, stocks, bonds and else. The mutual funds charge fees and give individual investors the way to the portfolios that are professionally managed. (Haslem., 2009.) Consequently, to the best of this researcher’s knowledge, mutual funds perform worse than the market, in general, when the expenses and fees are taken into account. Even with the passive management of the mutual fund, there still costs remaining related to managing those funds, as a consequence reducing the net return. (Amenc & Le Sourd, 2005.)

It can be assumed that mutual funds might be considered an effective way for the non-experienced investors to obtain needed information.

Continuing the portfolio management topic, it is also worth mentioning that the role of the portfolio manager is essentially not confined to the need of “beating” the market, the role is mostly about establishing and governing a consistent portfolio. The manager must carefully monitor the portfolio’s objectives and apply sufficient asset allocation, diversification and consideration of the risk performance, also taking into account the tax and other situations. (Amenc & Le Sourd, 2005.)

In the end, portfolio managers are the one that make the partial decision based on the hypothesis above and the investment managers the ones that are the primary decision makers.

This study sees the necessity of a brief discussion about the systematic risk and its nature. In brief, the systematic risk is the risk that occurs when the investment into the firm is made, or in any security present on the market. It is believed that all securities possess a certain level of the systematic risk, which is dependent on the security’s correlation with the current market. In quantitative analysis of the firm, Beta metric represents the amount of the systematic risk. (Chen et al, 2021.) In turn, Alpha reflects the “excess” return and is often also associated with the systematic risk

analysis and used in the financial world as a measurement of the asset's performance on the market. (Mohanty et al, 2021).

Equity analysis

The information above gives the investors the platform for consideration. This thesis is not focused on the determination of the intrinsic value since the analysis capacity is limited, because performing the full securities analysis and the analysis of the firm more resources are required and more statistically significant information.

It is necessary to describe the patterns and meaning of fundamental analysis. The core of the fundamental analysis is how information available to the public is utilized. Its examination is also part of the analysis process. Thus, in accordance with the findings – the formation of the forecasts that aim to outline the intrinsic value of an asset. In turn, the current market is considered as the basis for the formulation and underlayment for the intrinsic value. It is also considered to be based on the economic conditions and firm's financial situation. This analysis inspects relevant economical and financial factors. In the basic principle, the fundamental analysis studies all the information available that is applicable to the factors that could potentially have an effect on the value of the security. For instance, the term of the fundamental analysis incorporates the estimation of the intrinsic value by using the firm's economic data, like sales forecasts, earnings, estimation of risk. Industry and economic data are also part of the estimation process, for example, inflation, interest rates factors, economic growth. It is implied that the decision whether to buy or sell is dependent on the index of the current market price and whether it is lesser or greater than the calculated estimation of the intrinsic value of the evaluated asset, security or share. Thus, the final target of the fundamental analysis is to establish the mark that is comparable with the security's current price and the derived data shows that security is either undervalued or overvalued by other investors on the market of the investments. If the security market value has been considered to be greater than the price of the market, it means that the stocks are perceived undervalued, and the investors are encouraged to purchase. Nonetheless, in the case if the market value is headed towards a point which is lower than the market price, it means that the intrinsic value is lower, that means that the stocks are considered to be overvalued, and the investors are recommended to sell. The

data used of the fundamental analysis can be usually found in the annual or quarterly reports, reports on the occurring events with the firm's involvement like the change of the top management, acquisitions or other significant factors. (Thomsett, 2006.)

As was stated above, when describing the type of market efficiency which is considered to be a semi-strong form, it assumes that all the information, to which access of the public is given, shows in the present prices. However, the researchers are debating about what features represent the market efficiency on the particular markets and there cannot be done a firm conclusion about the particular market, only a strong assumption. (Amenc & Le Sourd, 2005).

The textbook called "Corporate finance: theory and practice" (2022), claims that the form of analysis, which is considered fundamental, supports, explains, and clarifies the semi-strong market efficiency by disseminating information that is value relevant (Vernimmen et al, 2022).

Following the footsteps of the fundamental analysis, it was necessary to describe the technical analysis and its patterns. In order to undertake the best possible research and analysis approach in this thesis, it is necessary to dive into the core of both analysis models.

According to Chen (2010), the term of technical analysis is identified as a study of how the future directions can be discovered via behavior of the prices recorded in the past and present, and the actions of those prices in a certain financial market. (Chen, 2010). When using the technical analysis, the investors endeavor to gain profits by comparing the patterns of trading volume and prices of the securities. It is true, that the technical analysis helps to better understand the "health" of the sectors and industries that they are going to invest into, as well as dissect the performance of the firm, by classifying different types of the firms from the same sector. (Standfield, 2005.) Nevertheless, some assume that even though technical analysis can earn abnormal returns, there is no consistent steady gain of the abnormal profits in using such analytical approach since it assumes that the market prices have inefficiency and exploits it. This would mean that if this market inefficiency is detectable through the pattern of prices, it will be arbitrated quickly and will no longer exist. Thus, technical analysis potentially can produce abnormal returns, but on the other hand might not be the utterly best pattern to coexist with market efficiency. (Park & Irwin, 2007.)

Market anomalies

In this section the author feels compelled to describe the market anomalies since even though the number of evidence shows that the markets are efficient, the number of anomalies has been identified by the researchers. Basically, market anomalies are the cases when the prices behave unexpectedly on the equity markets. These anomalies can possibly be exploited by the investors in order to earn abnormal returns. According to the capital markets, an anomaly is a deflection from the prediction made based on the theory which deals with the efficient markets. It can be believed that some market anomalies may be present if the deviation in the price of security or the asset cannot be connected directly to the information which is currently relevant and present in the market, or also the information which was newly released into the market. (Zacks, 2011.)

It is believed that like any anomaly in the world, in any other situation or environment, market anomalies are also rare and unpredictable.

According to the same study of Zacks, (2011) there are three main types of market anomalies: cross-sectional, time-series and other. For example, to the time-series calendar anomalies are usually related. In the study the author makes an example based on the Muslim holiday Ramadan, when in the period during 1989-2007 the stock return is 9% higher than the rest of the year. It can also be considered as the "holiday effect". (Zacks, 2011.)

Anomalies, that are caused by overreaction, which might be applicable to this thesis, are the case when the stocks are hastily overbought or oversold because of psychological or emotional reasons rather than fundamental. In accordance with the theory by Musnadi & Majid (2018), the hypothesis of underreaction and overreaction expresses that under the certain conditions, the investors tend to underreact or overreact to the novice data and information, and any extraordinary phenomena (Mugnadi & Majid, 2018). The study would get back to the term of "overreaction" at the end of this chapter.

Such anomaly as "month of the year" is also a part of market anomalies, and it represents the calendar patterns in each year. According to the study, the calendar effects are most commonly known as "January effect" and "April effect". Consequently, it is known, based on the same study, it is stated that the stock returns in April and January are significantly different from the other

month during the year. Hence, it is believed to violate the hypothesis of the market efficiency that was partly developed by Fama in 1970 and is described above in the sub-chapter 1.1.2. (Sawitri & Astuty, 2018.)

Another type of market anomalies is cross-sectional. Into these types of anomalies such phenomenon like size- and value-effects are included in cross-sectional anomalies, as well as P/E ratio effect. The anomalies types are shown in the figure 1 below:

Exhibit 3 Sampling of Observed Pricing Anomalies		
Time Series	Cross-Sectional	Other
January effect	Size effect	Closed-end fund discount
Day-of-the-week effect	Value effect	Earnings surprise
Weekend effect	Book-to-market ratios	Initial public offerings
Turn-of-the-month effect	P/E ratio effect	Distressed securities effect
Holiday effect	Value Line enigma	Stock splits
Time-of-day effect		Super Bowl
Momentum		
Overreaction		

Figure 1 - (A® Program Curriculum, 2022).

Amount “Other” anomalies, the author would like to mention such terms as “earnings surprise” and “initial public offerings”.

The part of the anomalies topic that is particularly useful for understanding of this work’s research is the topic of “momentum” and “overreaction anomalies”.

The very basic example of the investment strategy that is described as a momentum, is first provided in the study of Jegadeesh & Titman, (1993). It is described based upon the case of the intermediate horizon from 3 to 12 month, during which a portfolio that happens to acquire most of the past winners and vends off losers from the past, had generated an economically and statistically abnormal profit (Jegadeesh & Titman, 1993).

If imagining that the former winners are the stocks that visibly had performed better in the past and the former losers – are the stocks that respectively performed poorly – the strategy described implies that the positive returns can be generated.

The momentum mentioned as an example above is explained as a phenomenon in the study of Hou et al, (2009) and is described as a phenomenon which implies that when the investors is purchasing the stocks which show latest superior returns while at the same time shorting stocks with latest inferior returns, the investor can potentially get some excess profits (Hou et al, 2009).

Another study calls the momentum: “the main battlefield in finance” because it implies that the stocks that have been performing well in the past, in accordance with the historical data, will possibly continue to perform well in the future, nevertheless, this contradicts the basic the basic premise of the efficient market hypothesis (Ansari & Khan, 2012).

The theory of the terms overreaction and momentum is particularly applicable to this thesis, and the following theoretical findings are the evidence.

According to the DeBondt & Thaler, (1985), the investors tend to overreact to the issuing of an unexpected information on the market. This study puts forward that the stock prices will be puffed up for those firms who release “good” information and depressed for those companies that release “bad” information, and this anomaly has been identified as an overreaction effect. In their work, using the overreaction effect, DeBondt and Thaler proposed a pattern that requires purchasing “loser” portfolios and selling off “winning” ones. The “loosing” or “winning” status of the securities is identified by assessing their total returns during the period of the past 3 to 5 years. Their research has concluded that in the investigated period the “loosing” portfolios actually outperformed the market, on the other hand, the “winging” ones performance has declined. (De Bondt, & Thaler, 1985.) The specialists have been debating whether the existence of momentum is not contradicting to the theory of market efficiency, because it is credible that the shocks to the expected growth rates of cash flows exist and are visible to the shareholders, and it is also plausible that these shocks incorporate a serial correlation that that is short lived, but still considered

rational. In simpler interpretation, having shares with a certain degree of a momentum in their security might not necessarily imply irrationality, on the contrary, it may reveal that prices are adjusting to the shock in growth rates. (A[®] Program Curriculum ,2022.)

One of the last anomalies this research is going to discussed, is called a value effect anomaly. This anomaly is one of the types of cross-sectional anomalies. Value stocks are usually referred to as securities that have the “below-average” P/E and market to book (M/B) ratios, but their dividend yields are above-average. Some of the globally conducted empirical researches have found that value stocks have persistently showcased an outperformance in relation to the growth stocks over a long period. Nevertheless, if such effect continues, this type of anomaly challenges the semi-strong market efficiency due to the fact that value effect manner implies that all the information is publicly available, when categorizing the stocks. (A[®] Program Curriculum, 2022.) The model of the three-factor was developed by Fama and French (1996) to predict the stock returns. Besides the use of market returns, as implied by the capital asset pricing model – CAPM, the model, developed by those researchers, includes the sizing of the firm, that is calculated by its book value of equity and the market value of its equity, divided by the market value of firm’s equity, which is a value measure. The model is unique in the scene that it describes the risk dimensions that are related to stock returns, however, are not considered by the CAPM model. The Fama’s and French’s research has found that whenever their three-factor model’s structure is applied, instead of usage of CAPM, the value stock anomaly becomes non-existent. (Fama & French, 1996).

Other factors that can potentially make share prices change

Continuing observing the theoretical material relevant to the current study, it is necessary to discuss the reason behind the stock prices moving up or moving down. Since the research conducted in this thesis primarily involves considering and observing the fluctuation of the stocks prior and after the particular event.

The prices on the market are claimed to be determined by supply and demand. There is no clear connection on how the stocks will behave. Nevertheless, it is believed that securities are moved by various factors, and the stocks are, among other things, the price can be moved by the level of supply and demand. (O'Connor & Faille, 2000.)

The citation below, showcases what kind analysis and what kind of factors are looked at when trying to determine the share price, hence, these factors mentioned, are influencing the share prices.

The paper of Kumar et al, (2013) claims that the two common techniques which help to predict the security prices on the market, are used by the professional investors on the frequent basis. The techniques are called “chartist” or sometimes “technical” analysis and intrinsic value analysis which is often referred as fundamental. The technical analysis includes providing forecasts of the share prices or other assets involved in the financial markets. Moreover, it involves buying or selling advice provision based on visual examination and observation of the past historical data of the price fluctuations. (Kumar et al, 2013.)

Succeeding the theory described above, let’s dive in deeper in the meaning of the fundamentals and other actives in the share prices movement process.

Fundamental analysis, which is based on fundamental factors, such as qualitative and quantitative information, like any statistical information concerned with the firm and on the qualitative side – any non-statistical non measurable data, such as management factors. Fundamental analysis, the analysis based on the fundamental factors, implies the usage of the present-day and past historical financial statements in combination with data from the industry and economic data to uncover mispriced securities and firm’s intrinsic value. (Pudji, 2017).

Based on the factors that are written above, it can be assumed that a lot of variables and information influence the stock prices in different circumstances, plus, based on already discussed literature, a lot of specialists still debate on some of the conclusions regarding the causes of the securities price movements.

Based on the findings of the study by Pudji (2017), there is quite extensive literature evidential material that proves that market’s expectation of future developments in the economy are reflected by the stock prices movements. The study also suggests that annual returns on stock might be noticeably correlated with the production’s rate of growth in the future. (Pudji, 2017.)

Evaluating the information above, it is becoming clear that, that plenty of factors are vital to the concept of share pricing formation. Due to the abundance of information and limitation of this research, only partial explanation and theoretical concepts will be introduced and discussed.

To continue, it is necessary to observe the term of P/E ratio, as a very vital basics of fundamentals. Based on Huang et al (2007), the P/E ratio (the price-earning ratio) in combination with other valuation fundamentals like book-to-market ratio, price-sale ratio and price-to-cash ratio are used often by the analysts operating on the financial market. The analysts are using those to evaluate and determine the stocks. (Huang et al, 2007.)

The P/E ratio is transcribed as price-to-earning ratio. The foremost purpose of this ratio is to evaluate and measure the current share prices of a firm, in relation to its earnings-per-share. It is the most widely used tool of valuation on the stock markets. The following formula shows the calculation process used when applying the ratio into the calculation process:

$$\frac{P}{E} \text{ Ratio} = \frac{\text{Earnings per share}}{\text{Market value per share}} \quad (2)$$

(Gottwald, 2012.)

Continuing this subchapter, it is also important to explain the term of “ESP”, since it was and further will be mentioned. ESP means – earnings per share. It is calculated via dividing the firm’s profit by the outstanding shares of its stock. The derived results are used by the investors to detect the firm’s profitability. ESP is also commonly used by the investors to construct their portfolio and helps them detect their future actions regarding the purchase of the shared. (Fernandez, 2002.)

It can be assumed that based on the factors above, ESP can also potentially indirectly impact the stock prices determination and be used in the fundamental analysis.

Proceeding with the topic of the fundamentals that influence the stock prices, many specialists also mention such market phenomenon as the discount rate. It is the compounded rate (typically

expressed as annual) at which each and every addition of expected economic income is being discounted, so it devolves to its present value. The discounted rate mirrors both the risk-profile and the time value of money of the expected income stream. It is the total representation of the cost of capital. In basic words, it is used to count the percent value of the future stream of stock earnings. (Pratt, 2014.)

In overall, as fundamental factors all the financials of the enterprise can be considered. The meaning can also include the net profit margin which represents the measurement of the total success of a company. Thus, the net profit margin is a yield ratio that indicates the profit as a percentage of revenue that the firm has made as a result of its operations. The increase in net profit margin would lead to the increased ability of the firm to return the profits to the investors. Therefore, if the company has a positive reputation enhancing the profits of its investors – it can attract more new individuals interested in investment and raise stocks value, resulting into the possible growth of the share price. (Sukesti et al, 2021.)

Continuing the theoretical review, it is important to explain the formula of Net Profit Margin. In the study of Nariswari & Nugraha (2020), it is said that net profit margin (NPM) is used to calculate, and measure left over percentage of sales after the total costs and expenses have been deducted. The deductibles may include tax, interest, and stock dividends. Consequently, when a firm has a high NPM then it can be presumed good. (Nariswari & Nugraha, 2020.)

The formula for net profit margin is:

$$\text{Net Profit Margin} = \frac{EAT}{\text{Net Sales}} \times 100\% \quad (\text{Nariswari \& Nugraha, 2020}).$$

Subsequently, the external elements that can reshape the conditions of supply and demand for the firm's stocks are also deserved to be mentioned in this research, since they have a significant effect on the overall behaviour of the stock market. Economic growth, inflation, liquidity, trends, news and market sentiment are playing a part in the development and movements on the stock markets. During the economic rise, the businesses are thriving and expanding, the economic growth can directly affect some of the fundamental factors like net profit and company financial actions, if the buying power decreases, the revenue might decrease since consumers would be buying less, thus in the economic decline firms are more careful with their expansion. Inflation, which is the rise in prices over a specific time period, is another technical factor that can impact

stock prices. Basically, when inflation is on the ascent high dividend deriving stock prices decrease. Following, the liquidity is also proven to influence stock prices. It reflects the quantity of interest that the stock of a specific company attracts. (Lipsey & Chrystal, 2011.) Next, the demographics can also play an important role on the stock market's demand – the larger the quantity of middle-aged investors, the higher the valuation multiples and the demand for equities (Lin,2011).

This thesis would like to specify its attention towards the following factors that influence stock prices: news and public sentiment. It can be implied that these factors might have had a role to play in the drop or rise of the stocks of the firms the cases of which are taken as an example in this thesis. Although it is believed that specialists and scholars are still debating whether information releases and news have the same effect as fundamentals, this theory still deserves some consideration.

In accordance with the pre-announcements the news released by the firms might influence the security prices via decisions of the investors. Some financial specialists and economists have been considering for a long time the existence of the effects from the releases of the economic data, and what impacts do they pose specifically on the volatility of asset market. The specialists have been examining specifically the news arrival dates and their consequences on volatility. (Bomfim, 2003). Hence, it can be believed that the question of why and how the news and information releases have been influencing the behaviour of stockholders and investors has been around for a long time.

The study of Nofsinger (2001), found out that the information releases that are specific to the firms trigger investors to conduct a higher degree of trading around the period when the news are being released. The news that are particularly “reaction triggering” are the news about dividends and earnings. Some institutions are found to be buying and selling on both good and bad news, nevertheless, the individual investors mainly trade on good news. (Nofsinger, 2001.) However, it can be possible that the research related to the news and information released by the public about the matters unrelated to the financial or governance - have very little evidential base and it is unclear how vast is the degree of impact on the investors decisions is.

Although, the study of Agus Harjito et al (2022), believes that the emerging markets indeed can respond more efficient to the external events and news. In the same research it was also found that big sports event announcements are important to investors in terms of decision making. (Agus Harjito et al, 2022.)

Another interesting phenomenon that can potentially influence the stock market is public sentiment or just sentiment.

Negative sentiment is the result of anxiety, bad mood or irrational thinking that can lead investors to react unfavourably, for example, to sudden bad news, as a result, selling their stock off. Studies that specialize in behavioural patterns in economy have proven that negative sentiment which is invoked by anxiety or bad mood impacts investment decision, thus impacting the asset or a share's price. Nevertheless, some investors use such a sudden reaction and drop in the prices to acquire more shares, thereby the price might start rising. (Kaplanski & Levy, 2010.)

The public sentiment is particularly interesting for the author to explore because the author considers it as a primary reason for the rapid stock price fluctuation of the case companies.

Currently, public sentiment is highly affected by the availability of social media: the investors and the public have more efficient and swifter access to the news and information. As a consequence of the extensive presence of social media, decisions of investors can be impacted by public emotions. The study has proven that public sentiment can cause emotional turnover in investors and interfere into the decision-making process; therefore, public sentiment can affect stock returns. Because investors have easier access to the votes, comments, discussions, and tags – the investors are more aware of the emotional situation brought up by the news about the firm, consequently, they can base their decision on the mood of the public and try to predict how the stock price would behave. (Li et al, 2014.)

Besides public sentiment, investor sentiment is also a topic that is worth highlighting. In author's mind, it is one of the key reasons behind the sudden drops of the stock prices of the key companies. This assumption is based on the theory that is observed in the study by Baker et al., (2007),

the study states that investor sentiment is a conviction and precognition about the future prospects of the investment risks and cash flow which is not bottomed by the facts at hand. In other words, the investor sentiment is very similar to the market sentiment and represents the reaction of the market or an individual investor towards the behaviour of the stocks or the belief of how much risk and reward the specific stock is going to derive. Such traits as overconfidence or conservatism can have a certain effect on how investors overreact or underreact on the fundamentals. Plus, mass psychology or a macro-economic influence can also play a part in the decisions of investors. There is no single measurement when it comes to attempts of summarization and generalization of investor's sentiment because it is quite hard to put the human emotions, public pressure, and individual traits into an equation. However, the study suggests that the sentiment can be indeed measured in the isolated cases using variables like implemented investor survey, investor mood, mutual fund flows and other variables that are present when calculating an investor sentiment towards particular stock like, for example, IPO volume (demand for initial public offerings) and equity issues over total new issues and so on. (Baker et al, 2007.)

One of the last reasons behind the share price movement, that should be mentioned in this chapter is short sales. The study Hugonnier et al (2022), of believes that short sales take quite a significant part of the stock market and are very common on the developed markets. In accordance with the example, presented in the study, short sales take place when the investor is "borrowing" or reserving the security and later sells them off in the believe that due to the market circumstances the price of the stocks will go down, and they can purchase those back at a lower rate. (Hugonnier et al, 2022.) Another study of Nagel (2005), claims that the short sales can explain and support the theory of the stock return anomalies, and also claims that when enough investors are starting to "sell short" in the hopes that the price of the securities will go down, it can have an opposite effect and keep the price rising. (Nagel, 2005).

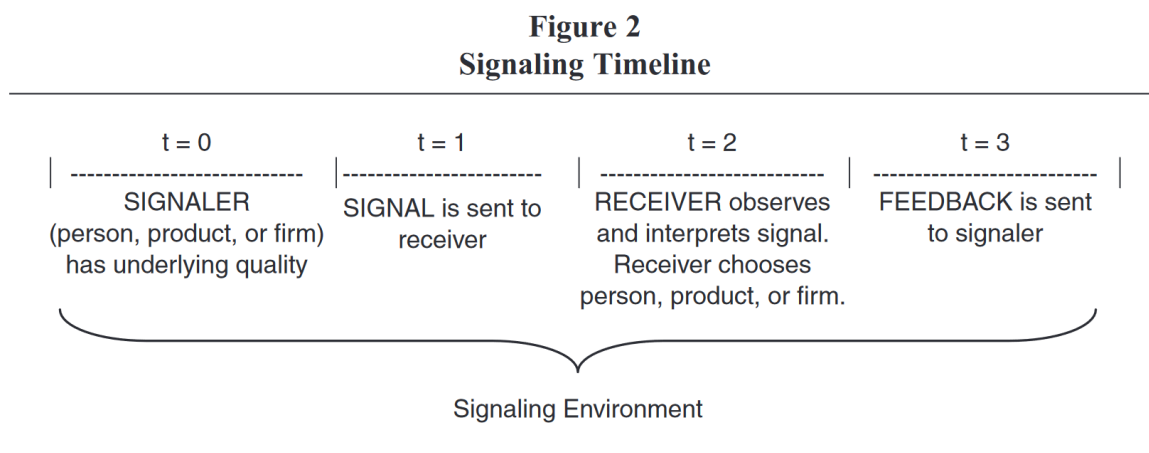
Information signaling and information theory

A certain part of the discussion, in this research, is based on the theory of information signalling. It was incorporated into this work because it helps to explain and conclude the influence of the news on the investors, as information receivers. The signalling theory also observes what kind of the effect the information could have on the receiving end, how it can influence the decision and

whether it can have a lasting impact. This thesis is based essentially on the factor of how the public's reaction to the pieces of news hence information, could lead the investors to decide on hastily selling or buying stocks, causing a potential fluctuation of the stock prices.

According to the paper published by Cetro et al (2011), the theory of signalling is beneficial when it comes to describing a behavioural pattern of two or more parties, for instance, an individual and an organisation. It is especially useful when those parties have access to different information. (Cetro et al. 2011.) In the same study the signalling theory is described as a correlation of how the information is understood and used by the sender and the receiver. Basically, the theory is focusing on the consequences that the perception of the delivered information invokes. The theory also studies the informational asymmetry – how the information is deformed during the process of its perception and delivery. (Cetro et al, 2011.) The signalling timeline is a very important aspect of this research since it is focused on the aftermath that the “signal” – the news has triggered. The signalling timeline represents the interaction between the “signaller” – the sender of the initial signal and the “receiver”, and represents the journey of the “signal” or information. (Cetro et al, 2011.)

The Figure 2, which is taken from the same study, showcases the signalling timeline.



Note: t = time.

Figure 2 - Cetro et al (2011).

This thesis is overlooking on the “signal” – the news that was released after the event in question has happened, “receiver” – the public and the stock market players, and the “feedback” – the response and public reaction to the news which results into the stock price fluctuation and the following effect of it.

One of the cases used as a base for the research in this thesis can be utilized as an example of the information signalling timeline. As mentioned in the “introduction” part Mr. Elon Musk has released a statement in Facebook that can be considered a piece of information and therefore a “signal”, it had an underlying quality of potentially informing the public and stakeholders that in the opinion of Mr. Musk the Tesla’s stock is too high in his opinion (Twitter. 2020). After the statement was released “send signal”, it got obtained by the “receiver” – the public Twitter users, after it has started trending, it could have possibly reached the stockholders of Tesla, who in turn started to sell their stock, hence lowering the price. The receiver’s behaviour is causing the “feedback” – the heist sale of stocks and the wide range of publicity. Thus, hypothetically, the “feedback” that the public has “sent back” to the Tesla’s celebrity CEO is the favourable reaction that was intended by his “piece of information”.

The practical conclusion made by the study of Cetro et al (2011), about the information signalling is the fact that the input of the information whether intentional or unintentional can lead to the people altering their behaviour towards the subject or the topic, or people reacting to it in the certain predicted or unpredicted way. (Cetro et al, 2011.)

Taking into consideration the fact, that the theory of information signalling is used in this thesis, it is only appropriate to briefly explain the theory of information itself and descry the role of information including its role in potential influence on the stock market, public and investor decisions.

According to the book of Robert B. Ash, information theory is the theory that is directed into analysing of a subject that is called a “communication system”, presented in the Figure 4 below. (Ash, 2012). Each of the blogs from the diagram below present a separate entity of the system, starting from the source of the message – in our case the case companies, then preceding to the encoder and the channel, effected by the “noise”, the decoder’s role -is the public and its perception of the

information, the final destination, in our case – is the investor who was deciding the certain individual actions that have potentially as a result made an impact on the stock prices of the case companies.

This thesis includes the scheme of the communication system below, in the Figure 3.

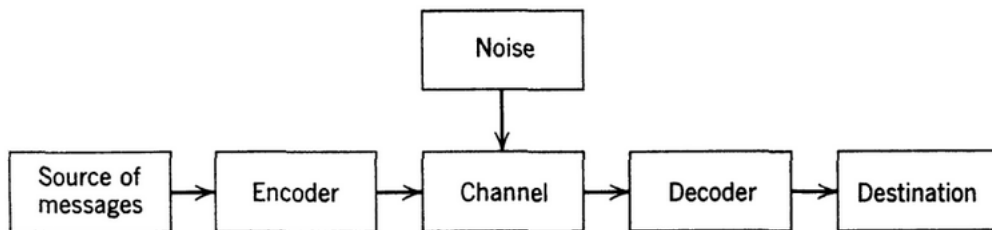


Fig. 1.1.1. Communication system.

Figure 3 - Ash (2012).

This study is not focused on analysing the information theory in depth and establishing the research based on it, nevertheless, one important aspect of this theory is significant to acknowledge.

Based on the mathematical and quantitative patterns of information theory, essentially, it is used to identify the amount of the certainty or an uncertainty of the outcome of random information signalling process (Ash, 2012).

Information theory model, hypothetically, could reveal whether any of the information signals – the news and public reaction have had any significant influence and a certain consequence on the receiver or, in our case, investor, however, the data derived during research is statistically insignificant to make any solid conclusions on that matter.

Company analysis

The last part of the theoretical background subchapter, which is dedicated to the financial terms, is the company analysis strategy. Before proceeding, the statement needs to be made, that due to the limitations of this research and primary focus on the topic of stocks fluctuation impact – the full company analysis will not be conducted for the each of the case firms. Therefore, the thorough

theoretical and research basis cannot be constructed, due to its massiveness and partial uselessness for the goals and the conclusions of this research. The author only briefly describes the theoretical aspect of the patterns of firm analysis.

As a tool for the firm's analysis the investor can utilize financial analysis and valuation technique. The company analysis usually contains an analysis of the firm's financial position, competitive strategy (its strategy of dealing with or responding to the threats and opportunities which are introduced by the external environment), and the last part of the analysis is the analysis of the firm's product or services. All mentioned above is utilized, after the researcher, who is analyzing the firm, has acquired the information about the external environment of the company in question. For instance, information about the demographics, environmental, macroeconomic, governmental and technological, plus, any other social forces that might have influence the firm's industries competitive structure. The investor, that intends to analyze the company, should determine if the strategy is essentially defensive or offensive in its core, and how the firm is going to utilize it. (A[®] Program Curriculum. 2022.)

This thesis will not primarily be focusing on the thorough company analysis. The theory from this chapter will be utilized mainly for the parts like discussion and methodology, only to back up the arguments posed by the researcher.

For the researcher, whatever the purpose, the company analysis should provide the following findings:

- a corporate profile of the company, an overview of its business, investment activities, weaknesses, strength, and corporate governance
- relevant industry characteristics
- an overview on the demand of the firm's core product/service
- analysis of costs
- explanation of the firm's pricing environment
- as a final step – have a selection of relevant financial ratios, including a comparison with competitors and comparison over a certain period of time utilizing the historical and forecast data

The analysis also commonly includes the forecasting of the firm's financial statements. (A® Program Curriculum, 2022.)

Continuing, the study explains the terms that has been used above and dive into the deeper meaning of the components that constitute the company analysis.

The first is the term of the corporate profile, that has been mentioned. The corporate profile represents the allocation of the company's main services, products, current position in the industry, history and all the cycle stages like capital expenditure activities past, present and planned. Proceeding, the corporate governance arrangements include such factors like managerial electoral system, board structure, strategy, ownership, and investment channels. When it comes to the industry characteristics, it gets more complex, since there are a lot of variables: stage of the life cycle, economic characteristics, customer factors, like brand loyalty, intensity of the competition, industry structure and even government regulations that are applicable to the industry. The demand analysis is also the part of the company evaluation, it includes the sources of demand, product differentiation, correlation with social factors. Pricing analysis is partially based on the demand analysis because its includes researching the past relationships of prices, supply and demand, as well as profitability and production costs. Next, the supply analysis includes the research of the sources or materials, import or export. After all the information above have been gathered and analyzed, the calculations must be made in the form of financial ratios and measures. The ratios that are important to include into the company analysis, are the Activity ratio (efficiency measurement), Liquidity Ratios (ability to meet short-term obligations), Solvency Ratios (The ability to meet the obligations), Profitability Ratios (margins, returns) and, lastly, analysis of relevant financial statistics and related considerations. (A® Program Curriculum, 2022.)

This information concludes the subchapter that observes the theory of the financial and market factors observed in this study.

2.2 Other theoretical terminology used in the study

The term of the corporate reputation has been used in this study's introduction and discussion, thus it should be briefly explained. Already for some time the topic of corporate reputation has become increasingly popular in society. The study of Burke et al (2011) explains the meaning of

the term corporate reputation - it is the result of the function of attitudes and perceptions towards the company and its activities which are set in motion by stakeholder groups or individuals. It is also mentioned that the main basis on which corporate reputation rests is judgment and evaluation made by the people outside of the company. (Burke et al, 2011.)

Following the topic of term observation, the study like to consider and describe the term of corporate activism. Since the case of the corporation Starbucks that is observed in this thesis, has sparked out of wrongly conducted corporate activism act. Corporate activism is a social activity in which modern firms engage by taking a stand on environmental, political, or social issues. This practice has become increasingly popular and various companies strive to follow most approved and accepted movements by charitable support, reduction of their input on the climate or endorsement of the regalia or the movements in the design of their social media pages or products. (Villagra et al, 2021.)

The term "boycotting", which has been briefly mentioned in the introduction, refers to the pattern when the consumers are attempting to enforce the companies to change their strategy, product, attitude towards the social issues (Kozinets & Handelman, 1998). The boycott can take place in social media, physically on strike or by avoiding the services or goods that the boycotted firms produce (Jost et al, 2017).

Alongside the description of actions and terms that are frequently associated with social media, the author would like to describe the role of social media in the firm's operations in general.

Nowadays, companies utilize social media for plenty of purposes: marketing, employee hiring process by posting updates on the open positions, sharing news and updates about the future of the firm and novel changes within it, communication with customers and even expressing company's position or opinion regarding certain social trends or situations. Social media can be an excellent tool to develop competitive advantage, gain customers and maintain company image, nevertheless, wrong content, reclass statements or incompetent social media management can lead to the negative reaction of the audience, loss of consumer trust and a decline in sales. (Brown, 2012.)

One of the last terms observed in this subchapter is celebrity endorsement. It is known as a highly effective tool that affects consumer purchasing decisions. Through emotional appeal, word of mouth and common trust of the customer in their idol's opinion the brands can influence consumer's judgment and establish higher buying rates. Effectiveness of celebrity endorsement is highly dependent on a series of factors, once those factors are put as a criterion and applied in the process of choosing the right renown person to represent the brand – the firm can get a successful increase in sales, more attention from the public and enhance its reputation. The criteria can include the following points: trustworthiness of the celebrity, celebrities' credibility, style, expertise, relevance to the brand or product and attitude towards the product and a company. If the factors match the profile of the company's activities, the celebrities' involvement in the firm's marketing is making the product more credible. (Awan et al, 2015.)

The last term observed in this subchapter is the role of the CEO in the reputation of the firm. The CEO's reputation can have an instant effect on the company and this impact can be quite long-lasting. In the majority of cases, a CEO's reputation can also saturate the organizational boundaries, set the brand's perception by society and press, and strengthen or weaken firm's position on the market. Among other things, a CEO's reputation can bring tangible benefits like a rise in sales, stock prices or new partnerships. Nevertheless, sometimes a CEO can be posing as a celebrity due to its active usage of social media and frequent social interactions, or be a hired celebrity, thus taking over a significant part in a company's marketing through social media platforms, commercials and shows. Such activities of the CEO can derive a lot of benefits or bare detrimental effects in cases of unethical behaviour. (Ranft et al, 2006.)

3 Research methodology

The following chapter contains the description of the research approach used in this work and the reasons for choosing the research method. Moreover, this chapter explains the data collection process and data analysis procedure.

3.1 Research approach and design

The first step of the research is the determination of the research approach or methodology. According to Lewis et al (2009), the term of methodology is referred to the theory that outlines the

guidance to the research conduction (Lewis et al, 2009). Consequently, in this part of the study the author is observing the data collection method, research approach, method, and design.

This chapter is substantially focused on the research design. The term of the research design can be identified as the extensive strategy that is used by the researchers to accommodate and explain the topic of the research through the combination of different elements of the study. Summarizing, the straightforward agenda of the research design is to provide a valid and functional approach to the research topic. (Vaus, 2001.) Thus, an assumption can be made that research design is aimed at creating a structure that helps to answer the research questions.

The research itself means the method of data collection and analysis. There are generally three main types of the research – qualitative, quantitative, and mixed method. (Lewis et al, 2009.)

As a result of the nature of this research, in order to answer the research questions adequately, the quantitative method was utilized. In contemplation of the factors and figures that had resulted in derived results and conclusion, the quantitative approach had proven to be the most effective, since the author was able to calculate and incorporate the figures to better understand the topic and provide an explanation. According to the article by Sukamolson (2007), the definition of the quantitative research is identified as a social research that utilizes the empirical methods together with empirical statements (Sukamolson, 2007). The quantitative approach, in this research, is introduced in the format of calculations of financial ratios, analysis of the stock market indications and event studies. Alongside quantitative approach, it was decided to incorporate a fair amount of qualitative data as well. In this work it is utilized to derive the conclusions and assess the roles of the events in the fluctuations and occurrences in the stock market. The non-numerical data is represented by the theoretical studies relevant to the topic, annual reports of the case companies, and other information that compliments the quantitative research.

Coming back to the research design, in this study the focus is targeted on identifying how and if the events observed in this thesis have influenced the stock prices, or if there was another explanation. Plus, the researcher means to find out if the influence is concentrated in external information or there is another reason behind the stock price fluctuation like the recent financial performance of the firm. Consequently, the author of this study, undertakes the quantitative

approach first, to collect numerical data and to generalize and investigate particular fact via calculations. Hence, the positivism research philosophy has been chosen as the most applicable one. According to Park et al (2020), the positivism philosophy is dependent and correlated to the hypothetico-deductive method, which helps to verify and check a priori hypotheses that is generally stated in the quantitative way. Moreover, the hypotheses which are compatible with positivism, are formed upon the functional relationships and can presumably be brought by between causal and explanatory factors such as independent variables, and also outcomes which are represented by dependent variables. (Park et al, 2020.) When conducted in accordance with the positivism philosophy, the studies generally contain a hypothesis that is designed on the basis of pre-existing theoretical data, this data is tested and potentially confirmed or denied (either partially or fully). This leads to the occurrence of generalization and an advancement of the theory base. (Lewis et al, 2009.) Since the generalization is applied in the research, the author has chosen the deductive approach as a complementation to the positivism philosophy. The following choice of the research approach allows the another to utilize the deduction method to test the hypothesis and evaluate the facts quantitatively (Lewis et al, 2009). Finally, this research is based on 2-year period of data collection from the case companies, the year before and the year after the event in question, plus, the partial and more thought estimation and investigation of the 10 days before and 10 days after the event's date. Based on that, the researcher believes this study to be the longitudinal one, since such approach allows to examine the phenomenon more thoroughly (Lewis et al, 2009). To conclude this subchapter, it should be mentioned that since this research is utilizing only one data collection method as primary, the mono method is adopted as the suitable one (Lopez-Robles & Vizcarguenaga-Aguirre, 2020).

3.2 Data collection

The author of this study determines the events in question as the events that have taken place on the specific day and might have resulted in the stocks fluctuations of a specific firm. To broaden the span of the analysis the data of the stock prices of the firms in questions is obtained a year before and a year after the observed event. Nevertheless, it is important to mention, that for Meta corporation the time observed after the event in question is 270 days, since it haven't been a full year since the event had passed until this research was concluded. Nasdaq and Yahoo Finance stock exchanges were used as the tools of obtaining the stock closing prices and other stock market data for the mentioned time span for each company in question. In this research, the four

companies have been chosen, all those companies are trading in the USA stock market, as was proven above, so the availability of stock price data both on Nasdaq and Yahoo was sufficient. The data was gathered manually from the base of those websites and uploaded into the spreadsheet. Also, in this research, the data from the regular news articles was used, to build the case and find out the news pieces of information, applicable to the case companies. The basic information about the firms was gathered from the annual reports and corporate websites. All the figures that were used of the calculations were also obtained from the financial data which is published on Yahoo Finance of the corporations in question.

As a part of the research, this thesis has gathered the data of stock prices of the firm and stock prices of the Index, for Tesla Inc. from 1.5.2019 to 30.4.2021, as well as the data derived represents the return on investment in the firm and return if invested in market, for the said period. The same has been done for the Coca-Cola Ltd for the period of 11.6.2021 to 10.6.2022. As was done for the Starbucks Plc during the period of 12.6.2019 to 11.6.2021. For Facebook (Meta) Inc. the time is a bit different, since the event in question has happened on the 7.2.2022, the period taken into the study is starting in 10.2.2022 and ending 1.11.2022.

3.3 Brief description and analysis of the case companies

In the introduction part of this thesis, it has been briefly mentioned about the case companies and their area of business. This subchapter is dedicated to the deeper dive into the corporate analysis, although limited and shortened only to the key elements necessary for the research conducted in this thesis. The purpose of this subchapter is mainly targeted on giving the reader a better understanding and knowledge of the case firms.

Tesla Inc.

Tesla Inc is a firm based in USA, based in Austin, Texas. It is a multinational company, occupied in the industrial range of automation and energy. Tesla Inc employs around 100.000 people and its most popular products and the most renown ones are electric vehicles. (Tesla, 2022.)

It is a quite commonly known fact that Tesla's celebrity CEO, Mr. Elon Musk is the company leader and the brand representative, spokesperson, and its social media representative. In the review of

the theoretical literature, the study discussed the influence of the CEO’s reputation and representation on the social media, and Mr. Musk is a very good example of that phenomenon. Not only he is directly associated with the brand and the corporation but also the brand’s perception in the society, and its benefits, and promotion based on the activities of its celebrity CEO in the media space.

The most recent operational summary of Tesla Inc is presented below. The data of total deliveries, production, and count of vehicles:

OPERATIONAL SUMMARY (Unaudited)						
	Q2-2021	Q3-2021	Q4-2021	Q1-2022	Q2-2022	YoY
Model S/X production	2,340	8,941	13,109	14,218	16,411	601%
Model 3/Y production	204,081	228,882	292,731	291,189	242,169	19%
Total production	206,421	237,823	305,840	305,407	258,580	25%
Model S/X deliveries	1,895	9,289	11,766	14,724	16,162	753%
Model 3/Y deliveries	199,409	232,102	296,884	295,324	238,533	20%
Total deliveries	201,304	241,391	308,650	310,048	254,695	27%
of which subject to operating lease accounting	14,492	16,658	16,160	12,167	9,227	-36%
Total end of quarter operating lease vehicle count	95,491	108,757	120,342	128,402	131,756	38%
Global vehicle inventory (days of supply) ⁽¹⁾	9	6	4	3	4	-56%
Solar deployed (MW)	85	83	85	48	106	25%
Storage deployed (MWh)	1,274	1,295	978	846	1,133	-11%
Store and service locations	598	630	655	673	709	19%
Mobile service fleet	1,091	1,190	1,281	1,372	1,453	33%
Supercharger stations	2,966	3,254	3,476	3,724	3,971	34%
Supercharger connectors	26,900	29,281	31,498	33,657	36,165	34%

Figure 4 - Tesla Q2 (2022).

The most recent financial quarterly data is presented in the bar graph below, the fluctuation and changes in Net Income, adjusted EBITDA, Operational Cash Flow and Free Cash flow from the period of 3Q-2019 to 2Q -2022.

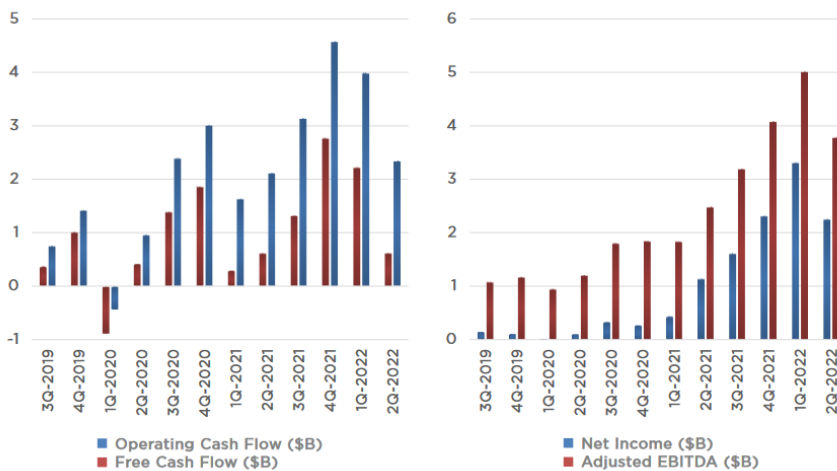


Figure 5 - Tesla Q2 (2022).

Last, but not the least figure attach below, showcases important financial data to constitute the internal financial and economical metrics of the company profile.

STATEMENT OF OPERATIONS					
(Unaudited)					
In millions of USD or shares as applicable, except per share data	Q2-2021	Q3-2021	Q4-2021	Q1-2022	Q2-2022
REVENUES					
Automotive sales	9,520	11,393	15,025	15,514	13,670
Automotive regulatory credits	354	279	314	679	344
Automotive leasing	332	385	628	668	588
Total automotive revenue	10,206	12,057	15,967	16,861	14,602
Energy generation and storage	801	806	688	616	866
Services and other	951	894	1,064	1,279	1,466
Total revenues	11,958	13,757	17,719	18,756	16,934
COST OF REVENUES					
Automotive sales	7,119	8,150	10,689	10,914	10,153
Automotive leasing	188	234	396	408	368
Total automotive cost of revenues	7,307	8,384	11,085	11,322	10,521
Energy generation and storage	781	803	739	688	769
Services and other	986	910	1,048	1,286	1,410
Total cost of revenues	9,074	10,097	12,872	13,296	12,700
Gross profit	2,884	3,660	4,847	5,460	4,234
OPERATING EXPENSES					
Research and development	576	611	740	865	667
Selling, general and administrative	973	994	1,494	992	961
Restructuring and other	23	51	—	—	142
Total operating expenses	1,572	1,656	2,234	1,857	1,770
INCOME FROM OPERATIONS	1,312	2,004	2,613	3,603	2,464
Interest income	11	10	25	28	26
Interest expense	(75)	(126)	(71)	(61)	(44)
Other income (expense), net	45	(6)	68	56	28
INCOME BEFORE INCOME TAXES	1,293	1,882	2,635	3,626	2,474
Provision for income taxes	115	223	292	346	205
NET INCOME	1,178	1,659	2,343	3,280	2,269
Net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests in subsidiaries	36	41	22	(38)	10
NET INCOME ATTRIBUTABLE TO COMMON STOCKHOLDERS	1,142	1,618	2,321	3,318	2,259
Net income per share of common stock attributable to common stockholders					
Basic	\$ 1.18	\$ 1.62	\$ 2.29	\$ 3.20	\$ 2.18
Diluted	\$ 1.02	\$ 1.44	\$ 2.05	\$ 2.86	\$ 1.95
Weighted average shares used in computing net income per share of common stock					
Basic	971	998	1,015	1,034	1,037
Diluted	1,119	1,123	1,135	1,157	1,155

Figure 6 - Tesla Q2 (2022).

Based on the theory of the company analysis, the information collected above reflects the core data about the product volumes, overview of the firm and its core financial figures.

The last component of the company profile in this short analysis is the information below.

According to Hoffman (2015), the main marketing and competitive strategy of the company states the goal of development of the substantial international acceptance of alternative vehicles to the traditional internal combustion vehicles that are petroleum based – electric vehicles. Tesla's strategic direction is to be focused on the high-priced and high-performance electric vehicles that compete with the traditional performance high-end cars like Porsche or BMW. The main objective of the firm is to achieve increase in profits and sales and simultaneously reach high sustainability. The main competitors are Mitsubishi, Toyota, BMW among other few. The market segment of the company is the non-petroleum-powered automobiles. (Hoffman, 2015.)

Starbucks Corporation

Starbucks is considered to be the world's largest coffeehouse chains. It is an American multinational corporation, with the headquarters in Seattle, Washington. The company employs approximately 33,900 people in 80 countries. Its main products and services are coffee, coffee drinks, and authentic coffee outlets. (Starbucks, 2022.)

The corporate profile consists of the factors observed below.

The main differentiation and competitive strategy of Starbucks is the fact that the chain is set on creating a mystique atmosphere around the process of coffee enjoyment. The stores are designed in the way that the customers would want to spend time in them, work, chat, socialize. The strategic management structure of the company based on the feedback/learning process, long-range plans development and adjusting the mission and objective based on the frequent information gathering. The key competitors of the Starbucks are Dunkin Donuts, McDonald's, Lavazza. (Hoffman, 2015.)

Completing the short analysis of the Starbucks, the study would like to dive into the financial figures of the recent years. One of the main risk factors for the firm, that are pointed out in the Annual Report 2021 are the COVID-19, prolonged volatility, or significant disruption of global market, increase in real estate costs and disruption of the supply chain among many other points that were mentioned. The following figure depicts the total return to shareholders from the period of October 2016 to October 2021 (in Millions USD). (Starbucks Fiscal 2021 Annual Report, 2021.)

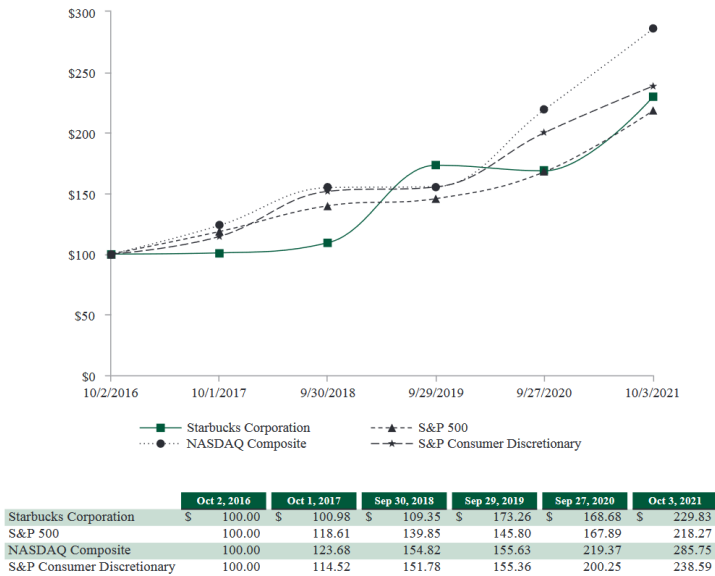


Figure 7 - Starbucks Fiscal 2021 Annual Report, (2021).

Brief analysis of the company also must include the figures below like results of operations for the period of September 2020 to October 2021 (in Millions USD).

In 2020 during the most active time of the Covid-19 pandemic, the corporation have suffered revenue losses, in comparison to the Net Revenue of 2019 (\$21,544.4, in millions) and only (\$19,164.6 in millions) in 2020. (Starbucks Fiscal 2020 Annual Report, 2020).

Consolidated results of operations (in millions):

Revenues

<u>Fiscal Year Ended</u>	Oct 3, 2021	Sep 27, 2020	% Change
Net revenues:			
Company-operated stores	\$ 24,607.0	\$ 19,164.6	28.4 %
Licensed stores	2,683.6	2,327.1	15.3
Other	1,770.0	2,026.3	(12.6)
Total net revenues	\$ 29,060.6	\$ 23,518.0	23.6 %

Figure 8 - Starbucks Fiscal 2021 Annual Report, (2021).

The last, but not the least addition is the international results of operations.

International⁽¹⁾

Fiscal Year Ended	Oct 3, 2021	Sep 27, 2020	Oct 3, 2021	Sep 27, 2020
	As a % of International Total Net Revenues			
Net revenues:				
Company-operated stores	\$ 5,869.7	\$ 4,385.8	84.8 %	83.8 %
Licensed stores	981.4	817.2	14.2	15.6
Other	70.5	27.6	1.0	0.5
Total net revenues	6,921.6	5,230.6	100.0	100.0
Product and distribution costs	2,187.3	1,729.1	31.6	33.1
Store operating expenses	2,571.4	2,276.0	37.2	43.5
Other operating expenses	147.3	153.6	2.1	2.9
Depreciation and amortization expenses	544.7	518.4	7.9	9.9
General and administrative expenses	360.5	286.4	5.2	5.5
Restructuring and impairments	—	(1.2)	—	—
Total operating expenses	5,811.2	4,962.3	84.0	94.9
Income from equity investees	135.3	102.3	2.0	2.0
Operating income	\$ 1,245.7	\$ 370.6	18.0 %	7.1 %

Figure 9 - Starbucks Fiscal 2021 Annual Report, (2021).

In overall, the Starbucks company is a strong multinational player and has good variables on the stock market.

The Coca-Cola Company

The firm is a beverage company, with the main product – flavoured soda, sold in almost 100 countries. The corporation employs approximately 86.200 employees worldwide. Some years, the company has been selling annually in some years about 50 billion beverage servings. (Coca-Colacompany, 2022.)

Presumably, it is a well-known fact is that Coca-Cola is one of the largest beverage companies in the world, and one of the most recognized ones, hence it may have a very strong corporate profile. The analysis by Chu (2020), has demonstrated that the corporation has 48% global market share in the beverage industry, and is a world's most chosen consumer brand in 2018. Its main marketing strategy is quite strong, the main point of it is the advertising in working in the cascade with the product innovation and is very well incorporated into the brand culture. The customers of Coca-Cola have a high degree of recognition and strong brand loyalty. Some of the challenges and risks of the company include the decrease in the revenue from the second quarter of 2019 to the second quarter 2020 from 99.97 hundred million USD to 71.5 hundred million USD. The main challenge also are other competitors that are gaining popularity international and locally. (Chu, 2020.) The main competitor of the Coca-Cola is PepsiCo. (McKelvey, 2006).

The next parts of the brief company analysis that the study would like to observe, are the financial and governance metrics. The company governance culture is based on diversity, innovation and accountability. The firm has different committees to control the operations, like Audit Committee, Executive Committee among others. (The Coca-Cola Company, 2022.) When it comes to the financial data, the Net Operating Revenue and Operating Income are presented below by the main segments:

2019-2021 Net Operating Revenues, Operating Income and Unit Case Volume by Operating Segment

Year ended December 31.

(\$ in millions)	2019			2020			2021		
	Net Operating Revenues	Operating Income	Unit Case Volume Growth	Net Operating Revenues	Operating Income	Unit Case Volume Growth	Net Operating Revenues	Operating Income	Unit Case Volume Growth
● Europe, Middle East & Africa	\$ 7,058	\$ 3,551	2%	\$ 6,057	\$ 3,313	(6%)	\$ 7,193	\$ 3,735	9%
● Latin America	4,118	2,375	1%	3,499	2,116	(2%)	4,143	2,534	6%
● North America	11,915	2,594	0%	11,477	2,471	(7%)	13,190	3,331	5%
● Asia Pacific	5,327	2,282	5%	4,722	2,133	(9%)	5,291	2,355	10%
● Global Ventures	2,562	334	7%	1,991	(123)	(13%)	2,805	293	17%
● Bottling Investments	7,440	358	24%	6,265	308	(15%)	7,203	473	11%

Figure 10 - The Coca-Cola Company (2022).

Another factor that can potentially contribute to the short analysis of the firm is the portfolio. It is depicted in the following figure:

Portfolio

Year ended December 31.

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Volume (in billions)									
Volume – Unit Cases	28.2	28.6	29.2	29.3	29.2	29.6	30.3	29.0	31.3
Volume – Liters	160.1	162.4	165.8	166.4	165.8	168.1	172.0	164.5	177.5
Responsible Marketing (Market responsibly, including no advertising to children under the age of 12 anywhere in the world.)									
Print	100%	100%	100%	100%	100%	not available	not available	not available	not available
Online	100%	99.5%	99.8%	100%	99.8%	not available	not available	not available	not available
Television	96.9%	88.5%	97.0%	95.2%	95.0%	not available	not available	not available	not available
Low- and No-Calorie Portfolio Low- or no-calorie sales (percent of volume sold that is low- or no-calorie)				25.2%	27.3%	27.2%	29.0%	28.2%	28.0%
Percent of the company's sparkling soft drink brands available in packages of 250 milliliters (8.5 ounces) or less				about 40%	> 40%	44%	42%	42%	41%
Front of Package Labeling Provide transparent nutrition information, featuring calories on the front of all of our packages.		nearly all markets	nearly all markets	nearly all markets	nearly all markets	nearly all markets	nearly all markets	nearly all markets	nearly all markets

© The Coca-Cola Company © Coca-Cola System

Figure 11 - The Coca-Cola Company (2022).

The Net Profit Margin (NPM) of the company was 23,9% in 2019 Annual Financial Report, in 2020 NPM was 23,4% and in 2021 it was 23,5%. The total financial assets were claimed to be \$86,381 billion the total return on equity dropped in 2017 (6.2%, -76.8%) and decreased in 2020 (40.5%, -18.4%), nevertheless it has grown in 2018 (37.8%, +507.6%) and 2019 (49.6%, +31.3%), in 2021 the numbers were the following (46.2%, +14.1%). (The Coca-Cola Company Earnings release, 2019-2021.)

In overall, the corporate profile and the short company analysis show that the company manages to maintain its dominance on the market niche, nevertheless, facing a strong competition that might be resulting in some loses either because of external or internal factors.

Meta Corporation (Facebook)

According to the official webpage, Meta Platforms Inc. was formally named Facebook Inc. Meta is a multinational technology giant based in USA, Menlo Park, California. The conglomerate owns Facebook, WhatsApp, Instagram, and other technological products. Its industry can be defined as: social media, social networks, and consumer electronics. The corporation is employing approximately 83,500 employees worldwide. (Meta, 2022.)

The assumption can be made that the main competitors of Facebook and Meta are other social media web services and chats, like Snapchat, TikTok, LinkedIn and Twitter, which do not belong to Meta, and it is a publicly known fact. But since Meta Platforms owns the main and most frequently used social media platforms, it doesn't have too many competitors on the market. Facebook Inc was founded in 2004, and when it became Meta, ad since then, the Meta's products empowered about 3 billion people to share news, ideas, create and connect around the world, its vision and mission hasn't changed: the corporation strives to: "give people the power to build community and bring the world closer together". (Meta Investor Relations, 2022)

To complete the short corporate analysis of Meta Platforms, the data from the Meta Platform's Quarterly report and financial data derived from it are needed to be observed. The figure below represents the highlights of the Fourth Quarter and the Year 2021, in Millions.

Fourth Quarter and Full Year 2021 Financial Highlights

In millions, except percentages and per share amounts	Three Months Ended December 31,		Year-over-Year % Change	Year Ended December 31,		Year-over-Year % Change
	2021	2020		2021	2020	
Total revenue	\$ 33,671	\$ 28,072	20%	\$ 117,929	\$ 85,965	37%
Total costs and expenses	21,086	15,297	38%	71,176	53,294	34%
Income from operations	\$ 12,585	\$ 12,775	(1)%	\$ 46,753	\$ 32,671	43%
Operating margin	37%	46%		40%	38%	
Provision for income taxes	\$ 2,417	\$ 1,836	32%	\$ 7,914	\$ 4,034	96%
Effective tax rate	19%	14%		17%	12%	
Net income	\$ 10,285	\$ 11,219	(8)%	\$ 39,370	\$ 29,146	35%
Diluted earnings per share (EPS)	\$ 3.67	\$ 3.88	(5)%	\$ 13.77	\$ 10.09	36%

Figure 12 - Meta Reports Fourth Quarter and Full Year (2022).

As it can be seen, the total revenues have seen an increase, however, the expenses of the firm have increased as well. It seems that until 2021 the Meta Inc had a growth in its financial figures, as presented in the Figure 13 below.

META PLATFORMS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(In millions, except for per share amounts)
(Unaudited)

	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2021	2020	2021	2020
Revenue	\$ 33,671	\$ 28,072	\$ 117,929	\$ 85,965
Costs and expenses:				
Cost of revenue	6,348	5,210	22,649	16,692
Research and development	7,046	5,208	24,655	18,447
Marketing and sales	4,387	3,280	14,043	11,591
General and administrative	3,305	1,599	9,829	6,664
Total costs and expenses	21,086	15,297	71,176	53,294
Income from operations	12,585	12,775	46,753	32,671
Interest and other income, net	117	280	531	509
Income before provision for income taxes	12,702	13,055	47,284	33,180
Provision for income taxes	2,417	1,836	7,914	4,034
Net income	\$ 10,285	\$ 11,219	\$ 39,370	\$ 29,146

Figure 13 - Meta Reports Fourth Quarter and Full Year (2022).

Nevertheless, if looking on the first quarter of the 2022 the company has a serious decline in all of its earnings figures, as it can be seen on the figures represented below, the Net Income and Revenue of the corporation have faced a significant decrease, as portrayed on the figures below (in Millions). (Meta Reports Fourth Quarter and Full Year, 2022).

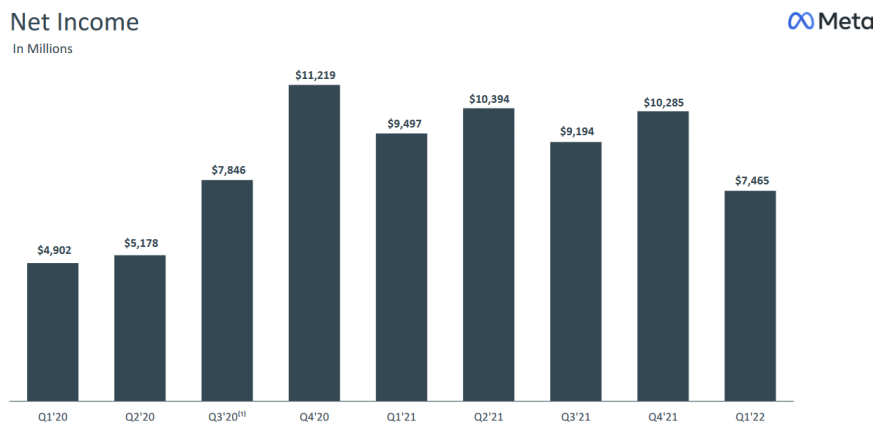


Figure 14 - Earnings Presentation Final (2022).

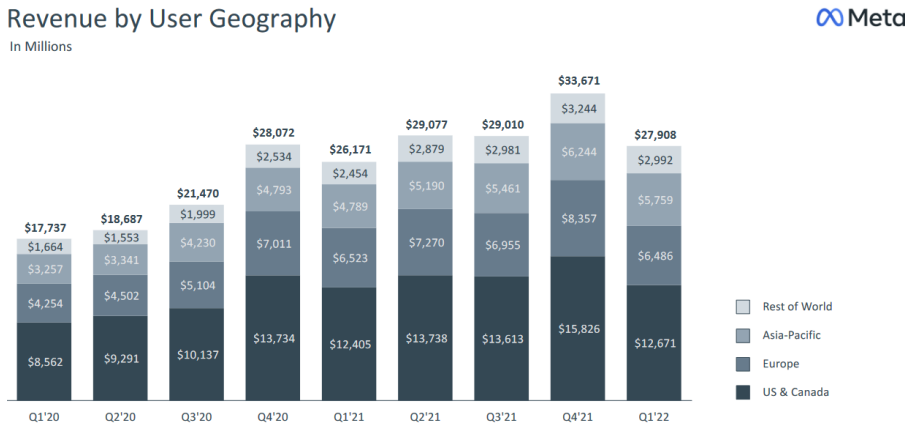


Figure 15 - Earnings Presentation Final (2022).

Plus, as was already mentioned in the Introduction of this thesis – the unfavourable news about the corporation multiplied on the questionable actions have potentially further decreased its positions.

The case companies are registered in the USA market and also trading on it. The author has found that out via Nasdaq. All of the case companies are traded in Nasdaq. In turn, Nasdaq is the international stock marketplace where the securities are traded, it is based in USA, New York. (Nasdaq, 2022). It is relatively easy to find out that the case firms are traded on it, and that the Nasdaq is their main trading market. By checking from the Nasdaq own website page. Presumably, there is no need to explain this since it is a publicly known fact.

This subchapter concludes the brief company analysis observed in the literature review.

3.4 Events studies

It has been decided to base the research on finding out whether the events have influenced the fluctuation of the firms' stocks, or some other factors concerned with the same firms did. In order to strengthen the legitimacy and accuracy of the research and the calculations that have been made, for each of the case companies, the research observed the closing prices of the stocks on each of the trading days a year before and year after of the event in question (except for Facebook Meta Inc, the dates taken after the event in question are taken only before the time of the re-

search conduction – November 2022). Due to the above-described approach, it has been determined, that for this research the event study analysis method would be used. The chosen analysis method was initially proposed by Craig MacKinlay in (1997), and it implied that by utilizing available data from the financial markets, the impact of a particular event on the company's value can be measured through an event study technique. (MacKinley, 1997). This statement is perfectly applicable to the main research goals of this thesis.

This method was mainly chosen because the event studies orient the influence of the specific event, mainly economic, on the value of the firms utilizing the information available on the financial markets. (MacKinley, 1997). As was stated earlier in this thesis when discussing the information signalling theory, the information released by the signaller, the "signal" and is sent to the receiver, who in turn gives its "feedback" or reaction in a certain way. (Cetro et al, 2011). In the case of the companies chosen for this study, the information or the "signal" and the "feedback" are delivered though the channel of the financial markets and therefore might have an effect on the decisions of those who can alter the value of the companies. The theory in the analysis method by MacKinley (1997), he explains via research and the impact of the events information like information about mergers, earnings announcements and other. (MacKinley, 1997).

In order to estimate the impact of the events, each case firm requires the measurement of abnormal returns using the study of MacKinlay as an example and formula retrieval base. Keeping up with the MacKinlay's (1997) market model, the abnormal returns are needed to showcase the genuine post-return status of the security during the selected event window, the subtraction of the normal return of the firm during the same event window is also included. In turn, the return, which is called normal, is defined as an expected return, but with no setting down of a specifically occurring event. The market model is used for the analysis of each firm in order to correlate the return of the securities from the firm to the market portfolio's return. (MacKinlay 1997.) First the R_{it} must be calculated – where i is the case firm and t is a time period, and R is the normal or market return. The formula below showcases the relationship between the return, which is considered normal, and the security return. In the MacKinlay (1997), the formula has been described as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (1)$$

$$E(\varepsilon_{it} = 0), \text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2$$

In the formula above, the R_{it} and R_{mt} are representing the returns on security of the firm, which is represented with the letter i , and the market portfolio, which is considered during the given period represented by t . In turn, the symbol of ε_{it} is the 0 mean disturbance term, α_i and β_i are the parameters which are being used in the market model. Another parameter that can help to determine the market model is $\sigma_{\varepsilon_i}^2$. In accordance with the MacKinlay's study, the market model is needed as the part of calculation, because of its ability to reduce the variance of the abnormal return. Such result is reached by the process of the removal of a return's portion. The return's portion is related to the market return's variation. (MacKinlay, 1997.)

To illustrate the further research calculations, the next formula technique that has been utilized in this thesis is the formula with the purpose of the abnormal return's analysis and measurement.

A core technique of the analysis proposed by MacKinley (1997) is the timeline, which was constructed for a broader study of an event. The timeline identifies the $t = 0$ as the representation of the event, or an announcement of the event, that took place as a first part of the timeline. The window of the event is set as $t = T1 + 1$ to $t = T2$, and the estimation window is consistent of $t = T0 + 1$ to $t = T1$. The post-event window is represented as $t = T2 + 1$ to $t = T3$. As in the original study, let $L1 = T1 - T0$, $L2 = T2 - T1$ and $L3 = T3 - T2$ to be the symbol of the estimation window, the post-event window, and the event window. (MacKinlay, 1997). The time sequence from the original study in illustrated below, in the Figure 16:

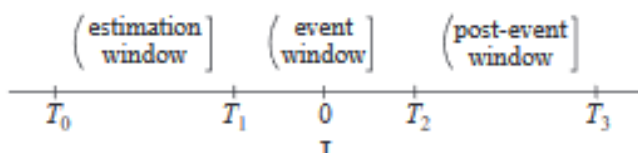


Figure 1. Time line for an event study.

Figure 16 - MacKinley, (1997).

The author of this thesis has constructed own research timeline, which is applicable to the hypothesis, based and adapted on the theory observed above. In the figure below, the T_0 is the -365 days (1 year before the event in question), it is representing the estimation window of the share prices market information, before the events observed in this study took place. Next, T_1 depicts the -10 days before the event has happened, or a pre-announcement window. T is represented as a day 0, or a day when the event in question has occurred, and the days marked as -1, 0 and 1 are representing the announcement window. Following, the T_2 portrays the 10 days after the event have taken place – the post-announcement window. Respectively, the next 365 days after the event occurrence are represented by T_3 , or the post-event window. The graphic is demonstrated in figure 17.

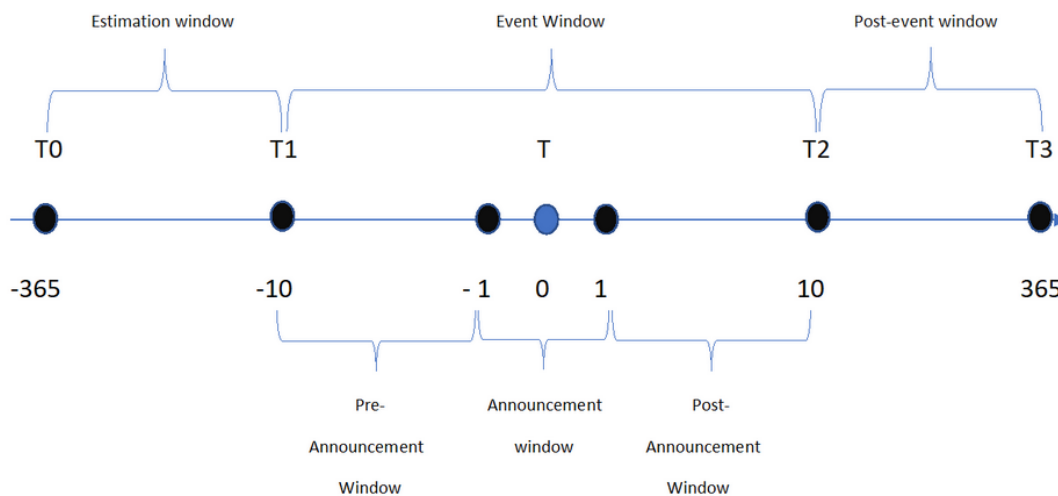


Figure 17 – The Timeline for the event window explored in this study, adapted to MacKinley, (1997)

The timeline is used to help provide the measurement of the abnormal returns and analysis dedicated to the facilitated abnormal returns.

The only exception from this timeline is Facebook – Meta Inc stocks, as was stated above, by the time this research is completed, it will not be full 365 days that have passed since the event in

question, nevertheless, the same technique is perfectly applicable and causes no major deviations in the results.

Furthermore, both types of the return - normal and abnormal can potentially capture the event's impact in the right circumstances. The design above provides the estimation of a return which is considered normal and its parameters, which are not affected by the returns around the event. The returns from the event could have a more significant effect on the measure of normal returns, in the situation when the window of the event is included in the estimation of the parameters applicable to normal model. (MacKinlay, 1997.)

Following the analysis of the market's model and the timeline, the study requires to undertake the estimation of the said market model and its parameters such as β_i, α_i , the ordinary least squares (OLS) is used for the estimation window. The following formula is adapted from MacKinlay (1997).

$$\beta_i = \frac{\sum_{t=T_0+1}^{T_1} (R_{it} - \mu_i)(R_{mt} - \mu_m)}{\sum_{t=T_0+1}^{T_1} (R_{mt} - \mu_m)^2} \quad (2)$$

$$\alpha_i = \mu_i - \beta_i \mu_m \quad (3)$$

In these formulas, $\mu_i = \frac{1}{L_1} \sum_{t=T_0+1}^{T_1} R_{it}$ and $\mu_m = \frac{1}{L_1} \sum_{t=T_0+1}^{T_1} R_{mt}$. R_{it} and R_{mt} are the return variables during the event period T for security of i and the market respectively. (Adapted to MacKinlay, 1997.)

Beta (β_i) and Alpha (α_i) are utilized in order to calculate the abnormal returns via the formula:

$$AR_{it} = R_{it} - \alpha_i - \beta_i R_{mt} \quad (4)$$

The necessity of calculating the abnormal returns has been mainly described above, nevertheless, in accordance with MacKinlay (1997), to draw a general inference for the event of observation, the abnormal return observation should be aggregated. In general, there are two existing types that can be considered as the aggregation: across securities and through time. (MacKinlay, 1997.) In this thesis, the one aggregated through time is used. The formula below represents the chosen pattern:

$$\widehat{CAR}_l(T_1, T_2) = \sum_{T=T_1}^{T_2} \widehat{AR}_{lT} \quad (5)$$

It can be seen from the formula above, the concept of calculating the cumulative abnormal return is used. Its usage is vital in order to accommodate and observe a multiple period in the window of the event. $\widehat{CAR}_l(T_1, T_2)$ - is a cumulative abnormal return which is taken in the period from T_1 to T_2 (the sum of the included abnormal returns) or the respective (-10 to +10) for each case company as is showcased in the graphics in the "Results" chapter. (Adapted to MacKinlay, 1997.)

One of the last calculations conducted in this thesis is the adaptation of the formula to find the average of AR and CARs. The formula's application is utilized after the calculations of Abnormal Returns and Cumulative Abnormal Returns for the periods of time taken in the study.

$$\overline{AR}_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad (6)$$

The formula above is followed by:

$$\overline{CAR}_{(T_1, T_2)} = \sum_{t=T_1}^{T_2} \overline{AR}_t \quad (7)$$

The formulas above are used for the calculations of the long-term returns, the long-term returns are determined by using a buy-and-hold abnormal returns approach. This method resides on the

strategy of investment when potential investors acquire a stock on the specific day, and then holds it until the day in the future. (Event study tools, 2021.)

3.5 Qualitative data

Although the foremost research method of this study is the quantitative method, since the findings that constitute the hypothesis were taken from the numerical data, the qualitative data has also been used. The purpose of utilizing the qualitative data was dictated by the need of broadening the description of the numerical formulas and calculations used, thus, supporting the main research.

The main source of qualitative data was obtained from the news articles that have been mentioned above and are mentioned in the “Discussion” part of this thesis. Following, this study is also using the annual reports to access the general information of the case companies and conduct the narrow corporate analysis. The parts that were used for the evaluation include the general descriptions of the strategies, visions, missions, marketing, and financial statement. Lastly, the qualitative data was also used as a basis of literature review and adapted in the discussion in the form of referrals to the articles, books, and studies of other researchers.

4 Research results

The present chapter showcases the results for the hypothesis utilizing the methodologies and data presented in the previous chapter. Each subchapter represents the finding for each case company.

4.1 Tesla Inc.

For observing the data related to Tesla Inc., the period of 1.5.2019 to 30.4.2020 was taken. The data derived from the calculations shows that the abnormal return around the event has been fluctuating, as demonstrated on the graphics below, the period of (-10) and (+10) was taken:

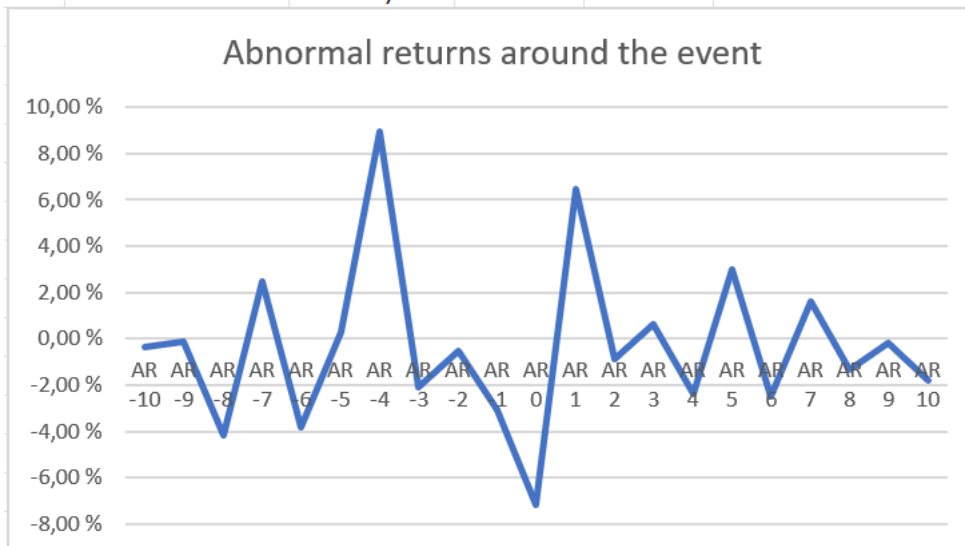


Figure 18 – Tesla Inc. abnormal returns around the event for Tesla Inc.

Following the calculations of the abnormal return for the forementioned period, the abnormal return was calculated for the year before the event in question, 10 days before, 90 days after, 180 days and a year after as presented in the table 1 below, it compares the abnormal returns in the forementioned period:

AR (-365; 0)	184,579 %
AR (-10; 0)	-5,96 %
AR (0;+90)	79,82 %
AR (0; +180)	153,22 %
AR (0; +365)	336,15 %

Table 1 – Abnormal returns for (-365) to (+365).

Following the indicators of the abnormal returns, the data about the firm return if invested in the firm) from (-365) till (0) days was calculated: 199,697%. In turn, the market return on the investment for the same period was: 12,47%. Furthermore, the predicted return on stock from (-365) till (0) has been computed: 15,12% as well as abnormal return, which is 184,579% as was already shown in the table above. Lastly, the calculations of the cumulative abnormal return were made. The results of those calculations are presented in the Table 2 and Table 3.

CAR (0; +365)	-3,26 %
CAR (-365; 0)	-9,20 %
CAR (-365; +365)	-5,32 %

Table 2 – Cumulative abnormal return from (-365) till (0) and (+365) Tesla Inc.

CAR (-5;+5)	3,32 %
CAR (0; +1)	-0,66 %
CAR (0; +2)	-1,53 %
CAR (0; +3)	-0,88 %

Table 3 – Cumulative abnormal return from (-5) till (0) and (+3) Tesla Inc.

To make the calculations above possible though the formula, Alpha and Beta were also found. For Tesla, the Alpha and Beta of the forementioned period are equivalent to:

Alpha	0,00507282
Beta	1,17200663

Table 4 – Alpha and Beta

These indicators are needed to outline the firm's recent performance track record and firm's sensitivity to general market movements.

4.2 Starbucks Corporation

For observing the data related to Starbucks Corporation, the period of 12.6.2019 to 11.6.2021 was taken. The data derived from the formulas implementation observes that the abnormal return around the event has been as demonstrated on the graphic below, the period of (-10) and (+10) was taken:

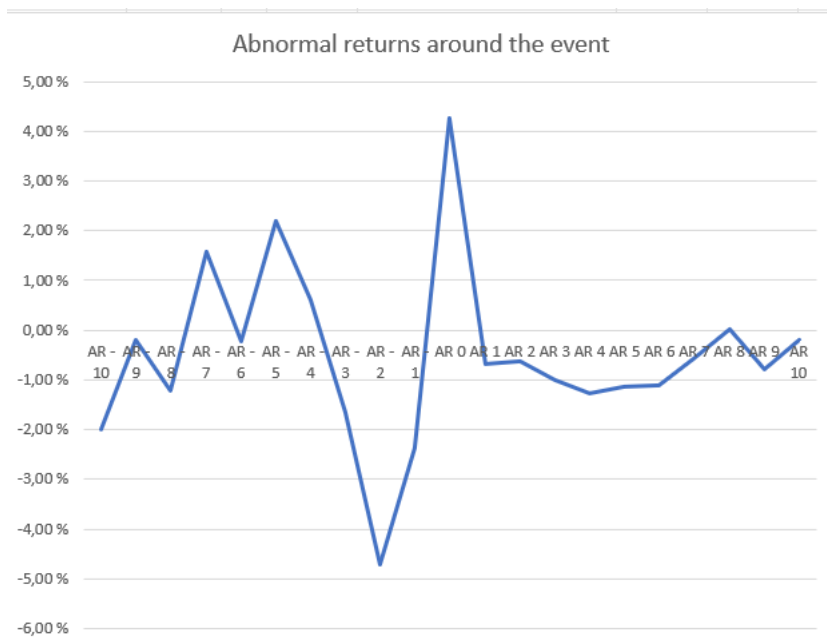


Figure 19 – Abnormal returns around the event for Starbucks Corporation

Next, after computing the abnormal return for the period mentioned above, the abnormal return was found out for the period of the year before the event in question, followed by 10 days before and 90 days after, 180 days and a year after as presented in the table 5 – the comparison of the abnormal returns.

AR (-365; 0)	-32,614 %
AR (-10; 0)	-3,09 %
AR (0;+90)	-2,96 %
AR (0; +180)	3,36 %
AR (0; +365)	-2,84 %

Table 5 – Abnormal returns from (-365) to (+365)

The computation of the abnormal returns was followed by the formulating of the the data about the firm return if the investment would have been made in the researched time. Return on investment from (-365) till (0) days was indicating: - 7,90%. Furthermore, for the same period the market return of Starbucks was: 23,05%. Following by the calculation of the predicted return on stock from (-365) till (0) has been formulated at: 24,72%. The result of the abnormal return calculation is reflected in Table 5: -32,614%. The last calculation made in this category was the cumulative abnormal return. The results of using the CAR formula are portrayed in the Table 6 and Table 7.

CAR (0; +365)	27,03 %
CAR (-365; 0)	-1,69 %

CAR (-365;+365)	21,08 %
-----------------	---------

Table 6 – Cumulative abnormal return for (-365) and (+365) Starbucks corporation

CAR (-5;+5)	-6,39 %
CAR (0; +1)	3,58 %
CAR (0; +2)	2,94 %
CAR (0; +3)	1,93 %

Table 7 – Cumulative abnormal return for (-5), (0), (+1), (+2), (+3) and (+5) Starbucks corporation

Lastly, to make the formulas used for calculations above complete, Alpha and Beta were used for reflecting the company's recent performance track record and sensitivity to general movements of the market respectively.

Alpha	-0,000991
Beta	1,076633

Table 8 – Alpha and Beta for Starbucks corporation

4.3 The Coca-Cola Company

When considering the important variables related to the Coca-Cola Company, the period of 11.6.2020 to 10.6.2022 was selected. The data retrieved from the calculations oversees the abnormal return around the event in question. The period that is demonstrated on the graphic below, is counted from (-10) to (+10):



Figure 20 – Abnormal returns around the event for the Coca-Cola company

The calculation of abnormal returns for (-10) till (+10) was followed by finding out the abnormal return for the time span of the year before the event in question, followed by 10 days before and 90 days after, 180 days and a year after. The Table 9 below showcases the findings.

AR (-365; 0)	10,288 %
AR (-10; 0)	-0,31 %
AR (0;+90)	-1,24 %
AR (0; +180)	2,23 %

AR (0; +365)	15,22 %
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Table 9 – Abnormal returns for Coca-Cola company (-365) to (+365)

After showcasing the findings for the abnormal returns, it is important to mention such metrics as the firm's return if the investment would have been made during the observed period. Return on investment for (-365) to (0) days was calculated as: 21,981 %. Next, for the aforementioned period the market return of Coca-Cola was: 49,32 %. After calculating the predicted return on stock for (-365) to (0) has been formulated at: 11,69 %. The index of the abnormal return is reflected in Table 9: 10,288%. The calculation of cumulative abnormal return was also applied. The results of computing the CAR formula are shown in the Table 10 and Table 11. Table 10 showcases the CAR for periods of (0) till (+5) and (-5). The Table 11 portrays the CAR from (0) to (+365) days.

CAR (-5;+5)	-4,45 %
CAR (0; +1)	-1,44 %
CAR (0; +2)	-2,77 %
CAR (0; +3)	-2,51 %

Table 10 – CAR for Coca-Cola Company from (-5) to (+5)

CAR (0; +365)	2,47 %
CAR (-365; 0)	-0,73 %

CAR (-365; +365)	3,06 %
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Table 11 – CAR for Coca-Cola Company for the period of (-365) till (+365)

Concluding the calculations for Coca-Cola company, to produce the formulas utilized for calculations mentioned above, Alpha and Beta were used for portraying the corporation's recent performance track record and sensitivity towards the general movements of the market accordingly.

Alpha	0,000493
Beta	0,236105

Table 12 – Alpha and Beta for Coca-Cola Company

4.4 Meta Corporation (Facebook)

When reviewing the variables related to the Meta corporation, the period of 10.2.2021 to 01.11.2022 was selected, since the event in question has happened less than a year ago. The data retrieved from the formulas calculations portrays the abnormal return during the period close to the event in question. The period that is reflected in the graphic below, the calculations were conducted from days (-10) to (+10):

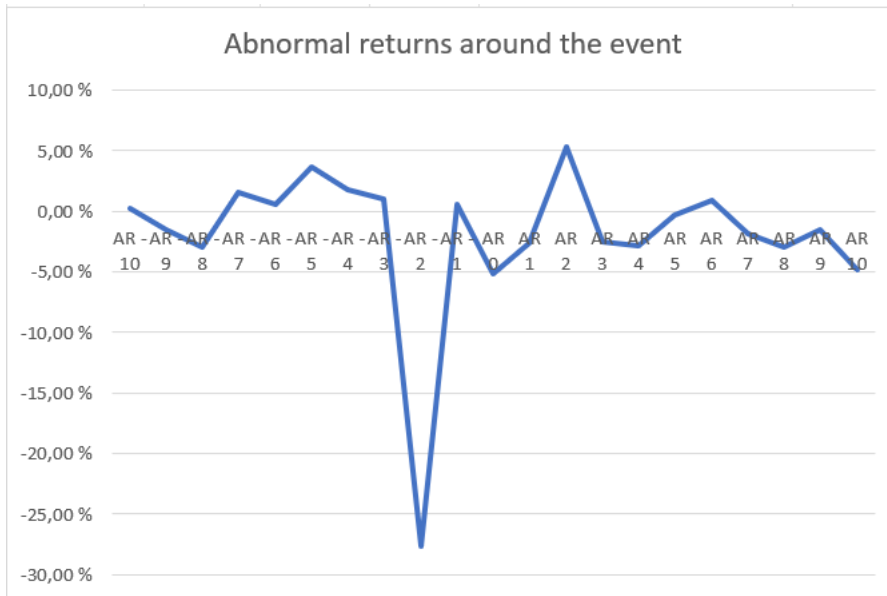


Figure 21 – Abnormal returns around the event for Meta Corporation

After finding out the variables of the abnormal returns of the period mentioned above, the abnormal return for the time span of the year before the event in question, followed by 10 days before and 90 days after, 180 days and 270 days were calculated. The Table 13 portrays the results.

AR (-365; 0)	-11,098 %
AR (-10; 0)	-27,74 %
AR (0; +90)	-3,29 %
AR (0; +180)	-12,93 %
AR (0; +270)	-49,30 %

Table 13 – Abnormal returns for (-365) to (+270) days for Meta corporation

Following the estimation of the abnormal returns, the firm's return if the investment would have been made during the observed period should be mentioned. Return on investment for (-365) to (0) days was computed to be: - 10,814%. Moreover, for the same period, return if invested into market for Coca-Cola was: 1,53%. Complementing the findings, the predicted return on stock for (-365) to (0) has been calculated at: 0,28%. The result of the abnormal return calculations is shown in Table 13: -11,098%. The formula of cumulative abnormal return was also used to deliver the results - the CAR metrics are shown in the Table 14 and Table 15. Table 14 showcases the CAR for periods of (0) till (+5) and (-5). The Table 15 portrays the CAR from (0) to (+270) days.

CAR (-5;+5)	-28,88 %
CAR (0; +1)	-7,87 %
CAR (0; +2)	-2,53 %
CAR (0; +3)	-5,10 %

Table 14 – CAR for Meta (Facebook) from (-5) till (+5)

CAR (0; +270)	-79,77 %
CAR (-365; 0)	-28,16 %
CAR(-365; +270)	-102,72 %

Table 15 – CAR for Meta (Facebook) from (-365) to (+270)

Finishing the calculations for Meta corporation, the research must mention the variables that helped producing the formulas - Alpha and Beta were utilized, the Table 16 below contains their index for Meta. These variables are also needed in order to outline the corporation's recent performance track record and sensitivity towards the general movements of the market.

Alpha	0,001009
Beta	0,119926

Table 16 – Alpha and Beta for Meta Corporation

This concludes the chapter that showcases the results of the calculations and formulas used in the methodological part of this work.

5 Discussion, limitations, and recommendations

This chapter's focus concentrates on evaluation and interpretation of the findings, clarification, and correlation of the results to the study's hypothesis and research questions. This chapter also contains the analysis of the findings. In addition, this chapter examines and explains the limitations of this thesis. Furthermore, the recommendations and suggestions for the further research are provided.

5.1 Discussion and analysis

In this subchapter the research is discussing the findings, highlighted in the previous chapter, and considers their implication and possible meanings. The structure of the subchapter is built in the way that the hypothesis and findings are discussed for each case company according to the calculated numbers and provided information.

Tesla Inc.

Tesla's celebrity CEO, as mentioned in the chapter that introduces the core of this study, has no doubt a high presence in the social media. As mentioned in the "Literature review", corporate image and reputation of the company potentially can be expressed through the social media and influenced by it. Since, as was pointed out in the same chapter, the presence of the firm or its representatives on social media can lead to the number of different reactions of the audience, which might include potential investors, the reputation and image can be either risen or damaged by it. Hence, as was said in the part of "Literature review" with explanation about the information signalling and information theory – the information, once released can be deformed and interpreted by the receiver in a way, that was not intended by the "signaller" and the response, the "feedback", might be the opposite of what was intended by the sender of the information, the "signaller". Therefore, the assumption can be made that if the posts and actions of the celebrity CEO in the social media were somehow intending to trigger a certain reaction (feedback) from the receivers (investors), it can always sustain a certain deviation and consequently, potentially cannot be the solid ground to base the investment decision and assess the range of a financial asset price fluctuation. As a result, it can be presumed that even if the post of Mr. Elon Musk had some slight effect on the stock prices fluctuation, the correlation and the direct impact cannot be solidly proven in this study, based on the presumption above.

Looking at the information and metrics presented in the chapter that reflects the results of the research, it can be seen from the graphic of AR portrayed in figure 18 we can see that on the day (0) – day of the event (the Tweet), the AR metric has fallen on (-7%) from the index of the AR on that day before that. Nevertheless, already on the next day (1) – the AR index is back on top adding (+6.5%). Potentially this can mean that the phenomena of the short sales have been applied. This financial term has been mentioned in the "Literature review" as well as its concept and potential impact on the stock prices. It can be presumed that in this case with Tesla Inc., the concept of short sales implied that the potential investors had "borrowed" the securities of Tesla Inc and had started to sell them on the open market once the news were released, perhaps, planning to buy it on the lower price later. This is presumed possible because due to the high riskiness of Tesla's securities and their high volatility at times – potentially experienced investors could use this stock trade "trick" to gain the profits. Nevertheless, this concept has the flaw that can potentially increase the cost of the securities for a short period of time, as had been described in the "Literature

review”, because it can cause the liquidity of the securities, since the investors must leave a request (order) on the short sales, and when it takes place, the liquidity can increase.

The assumption above, can be considered as a possible reason for the firm’s stock to top its AR for (+6.5%) in just one day after the event’s occurrence, nevertheless, there might be also other reasons present.

This study can also suppose that one of the reasons for the drop of the stock prices, and then the rise, during the observed period was the fact that since the (-365) days to (+365) the AR percentage of the firm has grown from 184,579% to 336,15%. These indexes can, for instance, probably mean that the stock of Tesla Inc is undervalued. Based on the theory about the patterns of fundamental analysis, that was described above in this study, the publicly available information and findings derived from it are used by the professional investors or agencies to determine an intrinsic value of the firm’s asset. Hence, the decision to buy or sell can be dependent on the current market price and whether it is greater or, in fact, lesser than the calculated value estimation. In “normal” circumstances of a semi-strong market, the Tesla’s stock, should be overvalued, due to the behaviour of its financial metrics (see Figure 6) and their market history. However, it can be believed that some unexpected conditions, which can potentially include the news releases, on the market could likely force the investors to undervalue the stock despite of the data extracted from their portfolio management analysis, in that case, the investors might start actively buying the stock, while it is deemed undervalued, causing the sudden spike in the price, like the one which happened just one day after the occurrence of the event in question. Continuing this topic, the fund of Catherine Wood has invested into Tesla Inc, and according to the fund’s prediction, the stock was undervalued and would hit the mark of \$4,000, and the prediction came true in 2021. (ARK-Invest.com, 2022).

When looking at the chapter that reflects the results of the calculations, conducted in this research, and considering the figures reflected in Beta and Alpha, the presumption can be made that Tesla Inc. was sensitive to the market movements at that time, and the index for the highlighted period may be suggesting that Tesla’s stock has a higher risk volatility, but the basic common knowledge rule of finance is that the greater the risk, the higher is the plausible gain. These assumptions can lead to the thought that the presented fluctuation in Tesla’s stock prices can be

also due to the active reliance of the investors on the market anomalies. From the data observed in the chapter that reflects the results, it can be presumed that the firm's stock can behave unexpectedly towards the market. As was stated in the "Literature review", some investors may use the anomalies to gain some abnormal return. According to the theory discussed, the anomalies that might be applicable to case of Tesla Inc's stocks are anomalies that can be caused by the overreaction. The potential investors of Tesla might be overreacting to the new information that might be out of the ordinary, for instance, it can be assumed that the statements by the CEO could potentially be the "extraordinary" information, that can lead to the short-lived anomalies. If, the study assumes that the forementioned announcement of the CEO is the "other anomaly" – the investors might have overreacted, and started selling their stocks hastily, in turn, other investors, started actively buying the stock, thus leading to its price drop and then a sudden gain.

To conclude the discussion about the hypothesis's applicability towards the Tesla's stock price drop and its correlation to the event in question – the study would like to mention the following assumption. It is not clear whether the case of Mr. Musk's statement had really caused the observed fluctuation since, as discussed above, there could be the number of reasons, nevertheless, it is plausible that some of the reasons, like the anomaly reaction or the potential short sales phenomena could have been at some point triggered by this event. Thus, it is believable that for some investors, the release of the CEO's statement might have been the trigger to sell or purchase the stock, leading to the mild price fluctuation. Although, from the numbers presented above, it could not have any long-lasting effect.

Starbucks Corporation

In the introduction chapter briefly describes the case that is reviewed by this study's hypothesis to have potential effect on the company stock prices. The corporation have had the issue with the corporate activism and boycotting during the protests of summer 2020, in basic sense – not following the modern movement had caused a public backlash and an attempt to boycott the firm though Twitter.

Taking into consideration the data that has been collected and analysed in this study, it is unclear whether this event had any real influence on the stock prices of Starbucks corporation, and it looks like the effect did not have any lasting consequences as can be seen from the data in the chapter

that presents the results. Although, if glancing at the AR data, it can be seen that from day (-3) to (0) the AR has been dropping to (-4,7%), and then since day (0) to a day (2) it has suddenly risen to (4,2%). This could be explained by the fact, that the actual Twitter trend had started on the day (-2) and the day (0) was, in fact, the day the company has had published an apology. In that case, it is possible to explain the behaviour of the securities and the investors via the term of the public sentiment. The meaning and imprint of the public sentiment for the investment market has been explained earlier in the chapter that contains the theoretical literature. Although, the public sentiment is usually triggered by the financial news and information released by the company, when the investors react to the releases of the good or bad news related to the finances and activities of the firm. Nevertheless, some of the studies to which the literature of this thesis is referred to believe that external information can trigger the negative sentiment in the public and investor sentiment. Events that are not concerned with the firm's market performance could be considered external. It is possible to assume that the negative reaction of the public could have caused some investors to sell their stock, thus dropping the price, nevertheless, after the public apology was made, the investors could have started buying again. This theory could potentially prove the hypothesis and answer the research question.

Although, it is also likely that the potential reason for the stock prices fluctuation of the Starbucks corporation could be also due to the fundamental factors described in the "Literature review", particularly the economic situation due to the influence of Covid-19 which has occurred in the same year as the event in question. From the AR data it can be seen that for the period of (-365) to (0) the AR is -32,614%, and the pick of Covid-19 have been happening in the second half of this period. Due to the nature of the Starbucks business and its services, it can be seen from the figure 8, that in 2020 the earnings of the corporation were less. This might have happened due to such fundamental factor is a world economical situation at that time.

Lastly, if taking a glance on the topic of information theory and information signalling, it can be potentially applied to this case as well. Although it does not provide a particularly transparent explanation, the case when the investors could have potentially reacted to the piece of information that influenced the stock prices in a certain way, could be viewed though this theory.

According to the theory displayed in this study's literature, the information which has been released voluntarily or unvoluntarily by the "signaller" or the "source of message" travels via the channel to the public or the "receiver". In turn, the receiver reacts to this information in the certain way. The study can assume hypothetically that when the Starbucks corporation became the unvoluntary source of negative information that was transmitted through the channels such as social media and news, when the information reached the "receiver" the public or the investor, they have sent back a "signal" reaction that led to the boycotting and the fluctuation of the stock prices. Yet, when the firm voluntarily had sent a positive "signal", the information about correcting the mistake, the feedback of the public and investors was positive, so the prices of the stocks went up.

The Coca-Cola Company

When it comes to analysing the main hypothesis and research questions of this thesis through the case of the Coca-Cola company, it can be assumed that case with the public behaviour of the hired celebrity which, although might have had some sort of impact on the corporate reputation, has not much to do with the fluctuations of the stock prices.

Firstly, when looking down on the Portfolio and the financial assets data presented in the chapter that reflects the methodology applied in the research: like operating revenues, net profit margin, total return on equity and total financial asset, the variables of the firm are not that high, and they continue to decline as can be seen from the financial metrics mentioned in the same chapter. The NPM has decreased by few percent points and in 2020 the total return on equity have faced the decline as well. Plus, the net income for 2019-2020 has been decreasing, according to the Figure 10.

In accordance with Shaker (2013) as mentioned in the "Literature review" of this thesis, based on the Fama's (1970) theory of the efficient market hypothesis, the available public information cannot give full and adequate information based on the current operating assets data. (Shaker, 2013.) Therefore, it can be presumed that it is hard for the investors to make abnormal profits or exhibit abnormal activity during the time when the stock prices are not reflecting all the information available on the market – for example, when disrupted by an external source. That can lead to the assumption, that however momentous the external information can be – like the piece of news

based on the behaviour of the brand's representative – it cannot be considered as a reliable source of data capable of producing the adequate investment analysis or decision. The study by Ali et al (2001), which is mentioned in the theoretical literature part, implies that the public information, as, for instance - news, haven't been showing any significant influence on the stock returns fluctuation on the market, since it is considered to be less important than the private information like internal company plans or figures. (Ali et al, 2001). Based on those statements, it can be believed, that in the situation with the Coca-Cola company, however scandalous was the reaction on the actions of endorsed celebrity – it might not have a significant impact on the share prices of the firm during the observed period.

When taking a look on the numbers obtained from the calculations, it can be seen that based on the index from abnormal returns on the day (0) of the event, the sudden drop for -1,31% has occurred. Also, the CAR figures of the (-5) and (+5) days around the event are also negative. Nevertheless, already in the next day after the event the stock price climbs back. Additionally, it has been facing fluctuations before and after the event in question, as can be seen from the graphic in Figure 20. Consequently, the abnormal returns are not showing any activity out of the ordinary, and the conclusion can be made that such short-term events and external information which caused negative reaction of the public, do not possess a strong impact on the security prices, neither have long-term effect.

According to the theory reflected in this study's theoretical literature, in relation the theory of market efficiency, the information and the financial information reflected on the market can potentially influence the decisions of the investors. Thus, the fluctuations of the stock prices, the decrease the intrinsic value of the firm and in its securities price can be also due to the data from the annual financial information released. The information for the annual reports is reflected in the chapter that contains methodological description.

Meta Corporation (Facebook)

The case described in the introduction part indicates that there has been some fluctuation in the stock prices.

From the graphic of Abnormal Returns, it indeed can be seen that there has been a plunge of -5,2% on the day (0) and -2,62% on the day (1). This can potentially mean that some investors have actually used the event as an opportunity to sell or purchase securities thus influencing the price fluctuation. Some of the reasons might have included short sales or the investor sentiment which led to the prompt selling or buying, maybe some were hopeful to gain abnormal profits. In the occasion which presumes those actions of the investors possible, it is indeed plausible that the news release could have influenced the observed fluctuation of the securities prices. Nevertheless, the AR for the day (-2) for the record percentage of -27.7%. This implies that perhaps other circumstances might be responsible for the drops of the stock prices.

This study assumes that the phenomenon, described in the fundamental factors part, has a correlation to the reflected figures. As was described, information, press-releases or financial reports released by the firm can affect the decisions of the investors. According to the Meta's official website, the Annual Report 2021 was published on the 3d of February 2022 as well as the 4Q report for 2021 for the financial performance in which the firm projected that its revenue for the 1st quarter of 2022 will be significantly below of what had been expected. Meta Reports Fourth Quarter and Full Year, 2022).

Consequently, the same day the drop of (-27,2%) in AR have happened as well as a significant decline in the stock prices. AR for (-365) of -11,098 % and for (+270) of -49,30 % also indicates that from the beginning to the end of the observed period the situation on the market was not in favour of the corporation. The CAR figures also indicate the price losses and that the event responsible for their decline had indeed left an effect on the future market performance of Meta corporation. Hypothetically, after the release of an unflattering financial figures for the upcoming quarter, the investors could have started to panic sell, or in a hope to drop the price and buy back started to sell short.

It is also plausible to presume that in both situations one of the market behaviour phenomena that might have occurred both with the report release and the news about potential exit from Europe is the pre-announcement phenomenon. As was described in the theoretical literature of this study, some corporations can do the pre-announcement or let some limited number of stakeholders associated with the operations learn about its future information releases. These people, in

turn, can start selling or buying more stakes, already influencing the prices before the event has taken place.

Taking all the above into consideration, it can be presumably concluded that the event concerned with the news about possible EU exit of the corporation might have had some effect on the drop of the stock prices on the small window of 2 days - (0) and (1). Nevertheless, the event with the release of the annual report could have also had some effect on the stock prices and the further negative development on the market for the company, since according to the data, the company had not entirely recovered.

5.2 Limitations and recommendations

It has been already mentioned in this thesis that the topic of the impact from the external information or events not related to the financial or internal company matters have a little base of evidence. Corresponding to the theory observed in this study, there is no clear evidence that the external events such as news, events or publicly observed occasions can have a significant lasting effect on the securities and market performance of the firms. Moreover, the number of academically certified and verified studies observing similar topics is quite limited.

As a consequence of a small size of this study and limited number of the cases observed in it, the mission has failed to provide a detailed justification of the data and theories built around the influence of the events on the securities prices. For this reason, the more detailed study is recommended to be conducted on this topic, using more examples, academic sources and cases. The additional calculational ratios and dimensions are also advised to be applied in order to get a better picture of the market situation for both the case firms and the investment market. Additionally, the time period taken for the observation of the security prices should be extended, paying closer attention to the indexes prior to the event and after.

Lastly, the more in-depth analysis through the information signalling theory and the study of Fama and French, used as a calculations model, could be applied in the future research to reach more accurate results. The work of Fama and French could be used to calculate the abnormal returns on the long-term span as well as to observe possible event impacts. The information signalling theory

can potentially provide a better understanding of the behaviour and response of the investors though its analysis.

6 Conclusions

To summarize the findings and discussion of how the events which were observed in this study have hypothetically influenced the movement of security prices, the overall conclusion must be drawn up.

The topic of how external occasions and information impact the stock market behaviour and security prices of the firms is considered to be very interesting and the findings from it might be engrossing to the professional investors as well as the common people who are only starting their journey of the investment. The current study has concluded, based on the data derived from the calculations and arguments in the part reflecting the main discussion points, that although plausible in some cases, the events observed by this study haven't had any significant impact on the stock prices of the firms mentioned. On the contrary, the hypothetical likeliness of other reasons like company financial performance and other related internal information could have had more impact on the numbers reflected.

In this research 4 companies and 4 different non-related occasions were chosen when the news, expression or the behavioural act of the representative have led to the public backlash. The stock market data was analysed for the two-year period for each company, except for the Meta corporation, since there hasn't passed a year since the event observed. By following the structure of the study by Mackinlay (1997), the calculation was made in order to determine the existence of an impact and its actual causes. The quantitative method was used to obtain the numerical data. For all the cases portrayed, it was concluded that several reasons could have in fact caused a mild price fluctuation, nevertheless, in the current it is impossible to provide sufficient prove. The other likely factors were also discussed. Hypothetically there could have been also a combination of factors. Despite this argumentation, the conclusion must be drawn that in this research there is no sufficient evidence to make a claim that the events observed had influence on the security prices or investors behaviour, and other circumstances like fundamental economic factors or the situation

on the stock market, or financial information could potentially have had some impact as well. Under certain circumstances it might be moderately plausible that the events in question could have had an effect, but more thorough examination into the market is needed.

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