Profit Warning Announcements and the Security Prices of Companies Listed on the Nairobi Securities Exchange, Kenya

Raude John O. Messo[*]**, Charles Yugi Tibbs**

Department of Finance and Accounting
*Corresponding author: johnmesso@yahoo.com

Abstract   Business plays a significant role in prosperity in society and creates resources that permit social development and welfare. The market price of its securities measures the worth of business. Thus, security prices show how a company, through its commercial operations, actively contribute to progress in an economy. However, this is not the case for NSE N20 share index, which, in 2015, 2016 and January 2017 experienced price declines, prompting this study investigated the effect of Profit Warning Announcements on the Security Prices of companies listed on the NSE, Kenya. The study applied the Signaling Theory, the Efficient Market Hypothesis, and the Market Expectation Theory. It used the Event Study Methodology that employed a mixed Research Design and Longitudinal Research and administered a questionnaire and interview schedules to collect data from ten listed companies. The study used parametric statistical techniques - the ANOVA and to analyze data and test the hypothesis. The study concluded that Profit warning Announcements did not affect the performance of Securities Prices of companies listed on the NSE, Kenya. This study will guide the market activities and provide a better understanding of how Profit warning Announcements affect returns. It will enable the policymakers to assess and evaluate the current status and, provide a platform for making reviews, designs, and formulate policies to regulate and control trading activities on the financial markets, contribute to knowledge and strengthen the foundation for further research. Future research should investigate the effects of Profit warning Announcements on the performance of security prices of specific companies that were affected by the price declines.

Cite This Article: Raude John O. Messo, and Charles Yugi Tibbs, "Profit Warning Announcements and the Security Prices of Companies Listed on the Nairobi Securities Exchange, Kenya." *Journal of Finance and Accounting*, vol. 7, no. 1 (2019): 12-21. doi: 10.12691/jfa-7-1-3.

1. Introduction

Business plays a significant role in prosperity in society and creates resources that permit social development and welfare. The market price of its securities measures the worth of business. Thus, security prices show how a company, through its commercial operations, actively contribute to progress in an economy. Security price-performance keeps changing upward and downward depending on market behavior. Boyes, [1] argues that a rice in security price indicates that the market expectations are revised upward, and, demand for company's securities will be high resulting into more investors wanting to buy the company's securities, and fewer will want to sell them. Similarly, a fall in security price indicates that the market expectations are revised downward, and, fewer investors will want to buy the company's securities, and more will want to sell the same. Brown [2] argument that even a great set of results can actually see a stock trading lower if those results were below expectations and a poor set of

results could see a stock trading higher if they weren't as bad as the market was expecting.

Security Performance according to Schwert [3], plays a vital role in the economy through various means, such as, the security exchange which is considered a general measure of the state of the economy, through which security prices affect the real economy. According to Modigliani [4], proposition, a permanent increase in security prices increases the individual's wealth holdings, and therefore in the higher stable income. Modigliani's [4] proposition is supported by Bernanke and Gertler, [5] and Kiyotaki and Moores' [6] arguments of the financial accelerator by which stock prices impact output which, refers to the impact that stock prices have on firms' financial statements.

In theory, the value of a company is its market capitalization, which is the security price multiplied by the number of securities outstanding at any point in time. Further, security price reflects a company's current value and also reflects the growth that investors expect in the future. Therefore, changes in security price resulting from events impacts on the value of the firm. Uduak,

Emmanuel and Sunny [7] concluded that, firms' value is a function of events and developments in the firms and the environment.

However, this is contrary to the happenings on the Nairobi Securities Exchange, Kenya whose N20 share index, according to the NSE Handbook (2017), experienced declines in 2015 and 2016 and January 2017 by 21 percent, 21 percent and 12 percent respectively as shown in Figure 1. According to Schwert's [8] statement on security exchange and the general measure of the state of the economy, the decline is of great concern to investors, firms, and the economy as a whole, as it affects the firm's market capitalization, their total value and the country's economy. Schwert's [8] statement is supported the Pearce's [9] observation where a significant economic recovery followed an increase in security prices in the United States. Therefore, the poor performance on the NSEs N20 raises the question; is the decline in the NSE, Kenya N20 share index result from Profit warning Announcements? This study answered the question by investigating the effect of Profit Warning Announcements on the Performance of the Security Prices of 10 companies listed on the NSE, Kenya.

1.1. Statement of Problem

Security Price plays a vital role in determining the value of the firm, also known as Firm Value (FV). In theory, security price is an economic concept that reflects the value of a business. However, this is not the case with NSE, Kenya N20 index which in 2015, 2016 and January 2017, experienced declines in security prices by 21 percent 21, percent and 12 percent in 2015, 2016 and January 2017 respectively. These declines are of great concern to investors, the government, and the public at large since a decline in security prices reduces the value of the firm hence the economy. Thus, the concerns prompted this study investigated the cause of the declines by

investigating the effect of Profit warning Announcements on the Performance of Security Prices of 10 companies listed on the NSE, Kenya.

1.2. Objective of the Study

The objective of the study was to investigate the effect of Profit warning Announcements on the Performance of Security Prices of companies listed on the NSE, Kenya.

1.3. Research Hypotheses

The study formulated and tested a null hypothesis that:
H_0: Profit warning Announcements has no significant effect on the Performance of Security
Prices of the company listed on the NSE, Kenya.

1.4. Significance of the Study

Findings of this study are expected to be of significance to various groups of people: first, to the market players (financial institutions, securities markets, brokers, financial analysts, economists, and investors) to guide the market activities and provide a better understanding of how to optimize returns. Policymakers (Capital Markets Authorities, Securities Exchanges, Central Banks, and other financial regulatory agencies) to enable them to assess and evaluate the current status and, provide a platform for making meaningful reviews, design, and formulate policies to regulate and control trading activities on the financial markets. Finally, to add knowledge (scholars, researchers, and learners). The ideas presented in this study will complement the existing studies and will serve as reference data in conducting new studies or testing the validity of other studies in this area. Further, the ideas will serve as a cross-reference that would give a background or an overview of future studies, contribute to knowledge, and strengthen the foundation for further research.
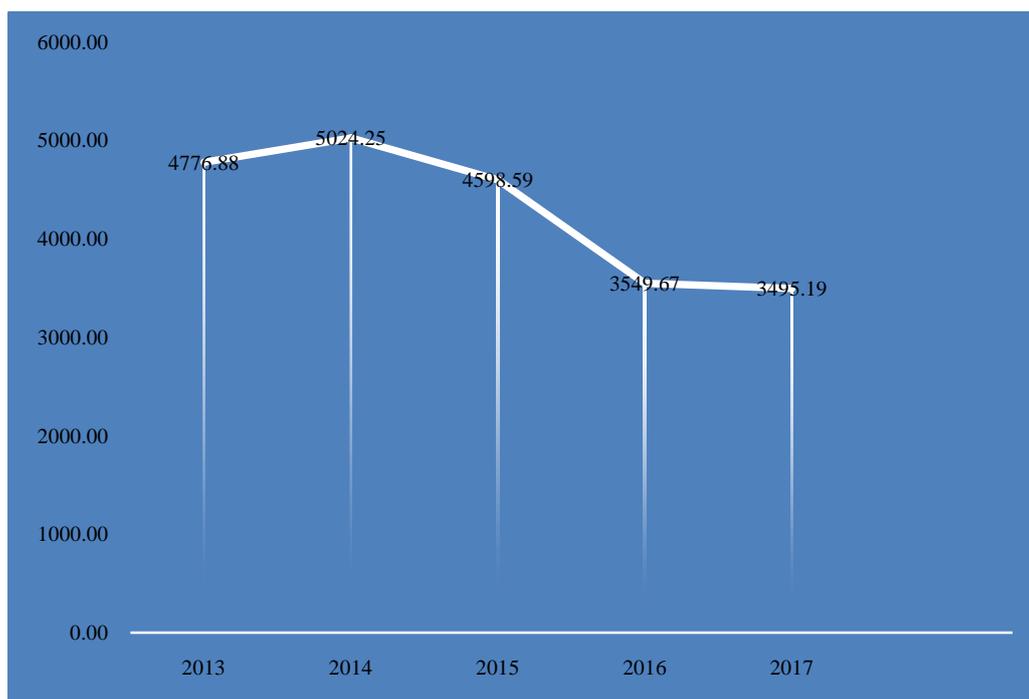

Figure 1. NSE N20 Share Index Decline Curve (Source: NSE Handbook (2017))

1.5. Limitation of the Study

This study encountered the following limitations: only ten companies issued Profit warning to its members, missing documents, lack or missing data, security prices were not continuous, documents approvals/announcements were not dated and non-response to questionnaires. Thus, the researcher removed from the list companies whose documents were not dated and those with missing or the data were not continuous. Missing documents were overcome by using the internet to obtain data of the missing documents.

1.6. Assumptions of the Study

The study made assumptions that the data collected were correct and accurate. Besides, this study assumes that the finding of this study will be a representative of the whole.

2. Literature Review and Empirical Studies

2.1. Literature Review

2.1.1. Signaling Theory

The Signaling Theory can be traced way back to 1961 when Modigliani and Miller [10] claimed that firms increase dividends to convey positive information about earnings prospects. The theory was, however, brought forward by Stephen Ross in 1977 who argued that in an inefficient market, management could use dividend payment to signal important information to the market which is only known to them. If management increases the dividend, it signals expected a high profit, and therefore share prices will rise. Ross further argued that dividend decisions were relevant, and a firm that paid a higher dividend had a higher value.

Earlier in 1973, Ross Watts published an article "The information content of dividends." In this article, Ross concluded that dividends contain weak to no information. Three years later, in 1976, Richardson Pettit carried a similar study which concluded in favor of the Signaling Theory. According to Pettit [11], the difference between reported earnings and real long-term earnings power was significant enough, for dividends to be able to contain information about future earnings. Aharony and Swary, [12] after analyzing quarterly dividend and earnings announcements, concluded that dividends and earnings were strong support for the Signaling Theory.

Fifth Schedule of Capital Markets (Securities) (2002) requires public companies listed on the securities exchange to disclose to their stakeholders, the public, and the shareholders in particular information about their earnings. In compliance, all company listed frequently declare to their shareholders the progress of their earnings. Thus, the disclosure calls for public announcements by a listed company of their performance in the form of Profit warnings Announcements.

This study critiques Signaling Theory from the Modigliani and Miller hypothesis (1959) that dividend reduction conveys information that future earnings will be reduced and vice-versa and the Gordon's [13] Dividend Irrelevance Model, which states that the dividend is expected to grow when earnings are retained. The discussion of Signaling Theory is that announcement of an increase in dividend payout is taken very positively in the market and helps to build a very positive image of the company regarding the growth prospects and stability in the future and vice-versa. Therefore, positive earnings announcements should be associated with good and positive expectation, while a negative earnings announcement is expected to generate bad and negative expectation. Thus, a neutral earnings announcement is expected not to influence perceived value-maximizing investors' positive and negative expectation, hence the abnormal return to being generated during the earnings.

However, the findings of Modigliani and Miller [10], Ross [14], Aharony and Swary [12], Pettit [11], and Gordon's [13] Model give contradicting arguments about the Signaling Theory, indicating that the theory has not adequately dealt with in the Profit warning Announcements and the Performance of Security Prices. Modigliani and Miller hypothesis and Gordon's [13] Model may be true for their models. However, it may not be true in general and for the assumptions put forward. Earnings and Dividend announcements are based on a firm's earnings and dividend policy. Therefore, Profit warning Announcement has an adverse effect the earnings and the dividend. Thus, as stated in Gordon's [13] Dividend Irrelevance Model, the dividend is expected to grow when earnings are retained since the retained earnings are invested in profitable projects.

This theory is important in this study because it provides a signal and an in-depth understanding of the behavior of security prices upon public announcements of Earnings, Dividend, and Profit Warnings by a company.

2.1.2. Efficient Market Hypothesis

The event study is founded on the principle of the Efficient Market Hypothesis. Efficient Market Hypothesis according to Regnault [15] states that security price at all times fully reflect all available information, and therefore, it is not possible for an investor to outperform the security market since prices follow a random walk. Efficient Market Hypothesis, according to Fama et al., [16], was developed by Fama in 1960s from the earlier theoretical developments of Regnault [15]. According to Regnault [15], prices can only change when there is new information in the market. The premise of the Efficient Market Hypothesis is that the price of the security has intrinsic value, and is calculated by obtaining the present values of streams of future cash flows expected from a firm's assets. This, at any time, reflect all available information about the firm's current and future earnings. The prices follow a random walk; hence, investors can only earn normal returns, determined by market models such as the Capital Asset Pricing Model. The speed at which any new information resulting from an unexpected event is reflected in the price of a security is a reliable indicator of market efficiency.

Rao [17] states that the concept of EMH, which is based on the reflection of relevant information in market prices of the securities, was introduced by Fama in 1960s.

This concept relates intense competition in the capital market to fair pricing of debt and equity securities. As such, the concept of weak-form efficient markets should reflect only past information; semi-strong form efficient markets should reflect both past and present information; and strong-form efficient markets should reflect both past, present, and future information. Therefore, the market is efficient in weak-form if investors cannot obtain abnormal returns by analyzing relevant historical information about the securities, rendering investment tools like filter strategy, technical analysis to be ineffective. Hence, fundamental analysis will be the only effective approach for investment management.

The market is efficient in the semi-strong form if analysis of relevant historical and current information is of no use for gaining abnormal returns, rendering filter strategy, technical analysis, and fundamental analysis not to be effective for investment management. Finally, the market is efficient in strong-form if analysis of all information; past, present, and future is of no use to gain abnormal returns. For market efficiency, the following are pre-requisite: Rationality. This is the assumption that investors in the market are deemed rational to adjust their estimates of securities prices of the company when new information is released into the market. Others pre-requisites are independent deviation and arbitrage. Independent deviation assumes that the released information to the market is incomplete; hence, the irrational investor may rely on projected future sales above rational while arbitrage is the act of exploiting situations of pricing. According to Poitras [18], "When the estimated value is sufficiently above the market price, then this provides a potentially profitable buying opportunity, or, if the estimated value is sufficiently below the market price, this is a selling opportunity." When securities are underpriced, arbitrageurs buy them in large quantities thus bringing the prices to equilibrium and short selling overpriced substitute securities, hence obeying the law that states that at any point of time the securities will be correctly priced. These are the pillars of an Efficient Market.

Although the Efficient Market Hypothesis was formulated in the 1960s, studies are still being carried out to test the market efficiency in various securities exchanges. In one of the recent studies, Kelikume [19], tested the efficiency of the Nigerian Stock Market, using a wavelet unit root test with different lags and other traditional random walk testing procedures, on monthly average stock price index over the sample period 1985 to 2015. The study found that the Nigerian Stock Market was efficient and followed the random walk behavior. EMH is however criticized mainly on the market crash of October 1987. Moreover, the interpretation that the hypothesis implies that returns should be unpredictable is highly misleading.

2.1.3. Market Expectation Theory

Whereas the Expectation Theory has been well used to explain the term structure of interest rates, the theory can also be used in this study. As such, the theory is of great importance in understanding the behavior of securities prices upon making public Announcements of Earnings, Dividends, and Profit warnings. Market Expectation Theory according to Aswath [20], postulates that it is not the magnitude of the earnings change that matter, but the "surprise" in the earnings, measured as the earnings change relative to expectations. As such, when a company announces its earnings, markets will react to the "news" in the announcement, but the way we measure the news has to be relative to expectations. This theory has rarely been used.

Boyes [1], states that shareholders' value will reflect the current and expected future economic earnings of the company. Thus, it is the market expectations (buyers and sellers) of the future firm's performance that determines the price of a security. Once determined, and nothing changes, the security price will not change. The revision of expectation is what causes a rise or fall in price. According to Boyes [1], using the Feltham and Ohlson's [21] Abnormal Net Income Model, the market value of a firm is its book value (the current security holders' equity), plus the present value of economic profits expected to be earned in the future:

$$P_0 = CBV + PV[EP] \qquad (1)$$

Where P_0 is the current security price and, PV[EP] is the present value of economic profits expected in the future. According to Boyes [1], this model indicates that the market value goes up when the expectation of the future net income rise, that is when announced earnings exceed expectations of the future, triggering an increase in net income expectation going forward and vice versa.

Thus, Security Prices tend to rise when earnings results exceed market expectations and decline when earnings results are below market expectation. For example, a company may announce earnings, which are higher than the previous period by say 10 percent. This is improved performance compared to previous earnings but may trigger a negative price reaction since the market expectation was, say 15 percent. Thus, according to Aswath [20], a company that reports that its earnings went up by 30 percent may be seen as delivering bad news, if investors were expecting an increase of 40 percent, and a firm that announces earnings decline of 30 percent may be providing positive information, if the expectation was that earnings would decline by 40 percent. Bajkowski, [22] argues that positive earnings surprises occur when actual reported earnings are significantly above the forecasted earnings per share while negative earnings surprises occur when reported earnings per share are significantly below the earnings expectations. Brown [2], argues that one of the hardest lessons to learn in the market is that it's about expectations rather than reality. According to Brown [2], even a great set of results can actually see a stock trading lower if those results were below expectations. Inversely, a poor set of results could see a stock trading higher if they weren't as bad as the market was expecting.

The market expectations can be measured using reverse DCF valuation, Asset Valuation, and Reverse Earnings Valuation. Another method widely used is the consensus between the stockbrokers on earnings estimates made by research analysts in the market. Since there are few or studies on Market Expectation Theory, this study argues that one of the obstacles of the theory is to determine the market expectation.

2.2. Empirical Literature

Profit Warning Announcement is made by a company to advise its security holders that the company's earnings will decline and therefore not meet their expectation. According to Tserendash, Xiaojing and Lions [23], the disclosure of the profit warning is one approach for the companies to deliver the company's information to the public, thereby reducing the information asymmetry and increasing company information transparency. The modern theory of Profit states that "the entrepreneur as a business enterprise itself and Profits as his net income, profits are his (the entrepreneur) reward of and are governed by the demand for and supply of entrepreneur." In theory, Profit Warnings are adjustments to the publicly available expected results of a listed company. Profit Warnings are intended adjustment to earnings estimates to align them with the earnings achieved during the period. Profit Warnings are price-sensitive and therefore require companies to inform investors at the earliest possible. The practice is to make Profit Warning announcement a few weeks before the release of new earnings.

Profit Warning affects security prices negatively. The security holders are also affected as the announcement completely changes their expectation, increases risk to their investments, and creates a state of uncertainty. According to Cockroach Theory (a market theory), when a company reveals bad news to the public, there may be much more related negative events that have yet to be revealed. This theory comes from the common belief that seeing one cockroach is usually evidence that there are much more not seen. In theory, Profit Warnings and the Cockroach can have a devastating effect on the company, the market, and the industry, for example, Healy and Krishna [24]; Enron case. Investors can withdraw their securities in panic hence making security prices to drop drastically.

Benabdennbi and Atrakouti [25] studied the impact of the of Profit warnings Announcement on their stock prices of Moroccan companies using 71 Profit warnings from 35 companies listed in the Casablanca Stock Market. The study used the market model from the simple event study methodology in order to look at the fluctuations of companies' abnormal returns, cumulative abnormal returns using a regression model and a t-test technique. The study found abnormal return happened at the exact day of the announcement of the profit warning (t=0) and that CAR showed that the abnormal returns spread throughout the eight following days after the profit warnings announcement. Benabdennbi and Atrakouti's [25] study contrasts the findings of this study. This study accounts for the contrast based on the areas of the studies (Morocco vis a vis Kenya), the techniques used (t-test vis a vis ANOVA) and the period of the study 10 years vis a vis 5 years).

Shuxing, Khelifa, Abdelhafid, and Brahim [26] investigated the role of time-varying betas, event-induced variance, and conditional heteroskedasticity in the estimation of abnormal returns around important news announcements using event study methodology. The study was based on the stock price reaction to profit warnings on firms listed on the Hong Kong Stock Exchange. The study found the presence of price reversal patterns following both positive and negative warning and statistical significance of some post-positive-warning cumulative abnormal returns to disappear and their magnitude to drop to the extent that minor transaction costs would eliminate the profitability of the contrarian strategy.

Maarten [27], in a study on how the market reacts to a Profit Warning Announcement in the short and medium-term examined117 first-time profit warnings issued by firms listed on Euronext Amsterdam from 2001 and 2007, using Event Study Methodology, t-Test and Univariate / Multivariate Regression Analysis. The study found that significant negative abnormal returns followed profit warnings in the short-term while in the medium-term, abnormal returns continued to drift downward for the entire twelve months post-event period. Kiminda, Githinji, and Riro [28] examined share returns following unexpected corporate profit warnings announcements. The study tested whether there were abnormal returns on share prices after the announcement of profit warnings on 510 companies quoted on the Nairobi Securities Exchange (NSE), using the event study on one hundred- and fifty-days event window. The study found that profit warning had an impact on the stock return in the NSE and the impact was negative and significant for the period of pre-warning and post warning and on the day of the actual announcement. There were also indications of information leakages where there were negative abnormal returns days before the profit warning announcements. In a review of the studies, the proposed study suggests that the former would have utilized or included the panel data analysis in their methodology due to its robustness in efficiency improvement and elimination of the impact of omitted variables.

3. Research Methodology

This chapter presents the methodological base for this study. Thus, a Philosophical Perspective, Research Design, Target Population, Census, Study Area, Data Collection, and Data Analysis are discussed.

3.1. Philosophical Perspective

According to Crotty [29], research philosophy is a system of beliefs and assumptions about the development of knowledge. It is what the researcher is doing when carrying out research. Research philosophy includes assumptions about human knowledge, the realities a researcher encounters in his/her research, and the extent and ways a researcher's values influence his/her research process.

This study is anchored on positivism research philosophy founded by Auguste Comte (1798 - 1857) since it used quantifiable data and statistical analytical technique in the analysis of data. Positivism research philosophy was appropriate to achieve its objectives. Macionis and Gerber [30], state that Positivism is a philosophical theory and that certain ("positive") knowledge is based on natural phenomena and their properties and relations.

3.2. Research Design

This study employed a mixed research design (a Descriptive Survey Research Design, a Causal Design and Longitudinal Research Design). A Descriptive Survey Research Design, according to Trochim [31], provides the glue that holds the research projects together. Also, it used to structure the research, show parts of the research project, the samples or groups, measurement, treatments or programs, and methods of assignment work together to try to address the central research questions". Descriptive Survey Research Design was appropriate to this study since it reported summary data of central tendency and dispersion, namely the mean and deviation.

The inferential statistic was appropriate to this study to make inferences about the population based on the census, that is a hypothesis and significance testing.

3.3. Target Population

This study targeted ten companies listed on the NSE, Kenya that met the requirements of the study. That is a company must have had its securities traded on the NSE, Kenya for a complete year(s) uninterrupted during the study period; two, a company must have had its securities traded on NSE, Kenya continuously during the event in question; and finally, a company must have issued Profit warning public announcement(s) and must have been trading at the time of announcement.

Table 1. Companies Listed on the NSE, Kenya

County	Sector /Industry	Companies listed on the NSE	Companies that met the requirement of the study
Nairobi	Banking	11	2
	Insurance	6	2
	Energy	5	1
	Commercial	11	3
	Manufacturing	6	-
	Investment	6	-
	Agricultural	4	-
	Automobile	2	-
	Construction	5	-
	Telecommunication	1	-
	Real Estate	1	-
	Exchange Trade	1	-
Mombasa	Manufacturing	1	1
Machakos	Manufacturing	1	-
Kiambu	Agricultural	1	-
Kericho	Agricultural	2	-
Kakamega	Manufacturing	1	1
	Total	65	10

Source: NSE Handbook (2017).

3.4. Census

Since the target population was small, this study used census of ten companies.

Study Area

This study was conducted in three counties in Kenya, namely; Mombasa County, Nairobi County, and Kakamega County.

3.5. Data Collection Procedure

Primary data was collected from 10 companies listed on the NSE by administering a questionnaire and obtaining collaborating information by examining records held by the company. The questionnaire used structured questions consisting of 12 questions divided into six parts; 'A,' 'B,' 'C,' 'D' 'E.' and 'F'. Part A of the questionnaire consisted of four questions on the general information of the company. This provided the study with the general background information of the company/respondent. Part B of the questionnaire consisted of one question that collected data on the Earnings Announcements by the companies/respondents and, the date of the Announcements. This provided this study with the dates Profit warning Announcements were made public by the companies. Part C and D of the questionnaire consisted of two questions that collected data on the Performance of Security Prices. This part provided this study with data on the security prices. Part E of the questionnaire consisted of two questions that collected data on the Market Factor of the company. This provided this study with data on Market share and the Age of the company during the study period. Finally, Part F of the questionnaire consisted of two questions on the securities held by the companies/respondents. This provided the study with information about the types of securities held by the companies during the study period and information which was used to collaborate the finding of the study.

Secondary data were collected from the NSE, Kenya, using schedules. The schedules had two parts. Part A consisted of general information of the respondent /company while Part B consisted of information relating to Security Prices and Trade Volumes. This provided the study with pre-event, Event, and post-event data on the Performance of the Security Prices.

3.6. Data Collection Procedure

Data collection was carried out by delivering questionnaires to the respondents. After fourteen days, the research assistants visited the respondents to collect the filled questionnaires. Where the respondent was unable to fill the questionnaires or part thereof, the research assistant assisted. This study triangulated the data using questionnaire, schedules, and interviews. The researcher then visited the NSE, Kenya, to collect data on the movement of security Prices and Trade Volumes using schedules. Further, the researcher used the internet online electronic platform to collect missing data, corporate actions, and to collaborate data collected using questionnaires. The unforeseen data collection problems were minimized by using the internet to obtain the missing data, validity checks, quality checks, and testing the assumptions.

3.7. Validity and Reliability of Research Instruments

This study subjected the instrument for primary data collection to Karl Pearson's Product Moment correlation coefficient formula below.

$$r = \frac{n\left(\sum XY - \sum X \sum Y\right)}{\sqrt{\left(\left(n\sum X^2 - (\sum X)^2\right)\left(n\sum Y2 - (\sum Y)^2\right)\right)}} \qquad (2)$$

Where: r = reliability coefficient
n = number of respondents
X = total score of the test administration
Y = total score of the retest administration.

Reliability was expressed as a coefficient with values between zero and one; where zero indicates no reliability and one indicates perfect reliability. The reliability test revealed a coefficient of 0.7, implying reliability was strong.

However, this study did not validate the instrument for secondary data since they are already published. Instead, the study validated data by checking the consistency of the datasets and by evaluating: the data provider's purpose, the data collector, time when the data was collected, how the data was collected, the type of data collected and whether the data relates to the area of study. Besides, the researcher made a judgment of a good fit between the research objectives and the dataset. According to Sunjoo and Erika [32], a sound conceptualization of the research questions and a good fit between the research questions and the dataset are prerequisites to yielding valuable results.

3.8. Data Analysis and Presentation

This study analyzed data using the Analysis of Variance (ANOVA) technique and presented the results using tables and graphs. Before analyzing data, this study checked the six assumptions of ANOVA by running normality and homogeneity of variances tests in addition to observing the other four assumptions namely; the dependent variables assumption, the independent variables assumption, the independence of observations and no significant outliers' assumptions. Finally, the study carried out null hypotheses significance tests to infer the results and to draw conclusions.

Further, this study used the Event Study Methodology. In applying Event Study Methodology, this study first identified the exact dates of the event announcements. This exercise was done by examining records, publications, and the financial statements of the companies and collaborated by using internet online electronic platform and information obtained from the respondents. This was followed by dropping confounding Events to remove noise by, excluding all events that occurred together with the defined event. This study then composed the event list and retrieved assets. The event list in this study was designed to include information from the company relating to the event date, the company's name, and the company identifier. The company identifier enabled this study to retrieve asset price data from the companies to run the event study and identify the normal market reaction to the determined events. Thus, this study determined: the estimation window to 200 trading days ending 20 days before event day, the event day and estimation window to 41 trading days (-20+20) and the post-event window to 200 days preceding the event day.

This study then computed the returns, the mean returns, the expected market mean returns using the CAPM model, and abnormal returns from the collected data. The study then ran significant tests to determine whether the announcements triggered reactions in the security prices at 5 percent significant level. Thus p-value above .05 implies that the effect of the announcement was insignificant while p-value less than .05 meant that the effect of the announcement was significant.

i) Abnormal Returns

Abnormal return is the unexpected excess return brought about by a particular event. This study calculated abnormal returns as a crucial measure that isolate the effects of the events from other general market factors, using the following formula:

ii) Security return

$$R = \frac{P1 - P0}{P0} \qquad (3)$$

Where:
R is the return of company at time T
P_i, is the actual price of company at time T_1
P_0 is the actual price of company at time T_0.

iii) The Capital Asset Pricing Model

This study applied the Capital Asset Pricing Model (CAPM). According to Treynor and Jack [33], CAPM was formulated by Treynor in 1961 and 1962, Sharpe in 1964, Lintner in 1965 and Mossin in 1966 to calculate the expected returns E[R]. This model was built on the earlier work of Harry Markowitz on diversification and modern portfolio theory. It is a two-factor model; security and market risks and benchmarked by the risk-free rate of return.

iv)

$$[R] = R_{ft}(1 - \beta_j) + \beta_j R_{mt} + \varepsilon_{jt} \qquad (4)$$

Where:
E[R] is the return for security j during period t
R_{ft} is the risk-free rate of return during period t
β_j is the systematic risk of security j to the market
R_{mt} is the return on the market index during period t
ε_{jt} is the residual of the equation.

v) Standard Deviation

$$S(AR_i) = \hat{\sigma}_{AR_i}\sqrt{1 + \frac{1}{M_i} + \frac{\left(R_{m,\tau} - \overline{R}_{m,Est}\right)^2}{\sum_{Est\min}^{Est\max}\left(R_{m,\tau} - \overline{R}_{M,Est}\right)^2}} \qquad (5)$$

Where:
$Rm_{,T}$ is the Market return at time T
$Rm_{,Est}$ is the Market return estimated

vi) Abnormal Return

$$R_{AB} = R - E[R]. \qquad (6)$$

3.9. Observation of Ethical Standards

According to Resnick [34], Research ethics are essential for the reasons that; one, they promote the aims of research; two, they support the values required for collaborative work since the researchers are held accountable for their actions; three, they ensure that the public can trust research and four, they support important social and moral values. Thus, in compliance with ethical consideration, this study obtained consent from

respondent and research participants, minimized the risk of harm to participants, protected the anonymity of the respondents, ensured confidentiality of the information obtained, avoided using deceptive practices, gave the respondents and the participants the right to withdraw from the research and finally, obtained a permit from NACOSTI.

4 Results and Discussions

4.1. Introduction

This chapter presents results and discussions of the Effects of Profit warning Announcements on the Performance of Security prices of companies listed on the NSE, Kenya.

4.2. Descriptive Statistics

In order to test the effect of Profit warning Announcements on the Performance of Security Prices on the NSE, Kenya, this study computed the means before and after the announcements and compared them to determine whether there were changes. In addition, this study calculated the standard deviations to establish the spreads from the means.

Table 2. Descriptive Statistics

	Mean abnormal return			Standard Deviation		
Before	After	% Change	Before	After	% Change
0.00	0.00	0	0.04	0.04	0.00

Descriptive Statistics Table 2 presents the mean abnormal return and standard deviation results before and after the Profit Warning Announcements. The results show zero percent (from 0.00 (SD = 0.04) to 0.00 (SD = 0.04)) upon Profit Warning Announcement. The no change in mean imply the market efficiency efficient at the informational level while low standard deviation suggests that the spread was around the mean.

Table 3. Homogeneity Test

Levene Statistic	df1	df2	p-value
.023	1	598	.880

Table 3 presents the results of the Homogeneity of variances on the Effect of Profit Warning Announcements on the Performance of Security prices of the companies listed on the NSE, Kenya, using Levene's test. The results show variances were equal, $F_{(1,598)} = .023$, p-value = .880. Since the p-value is greater than 0.05 level, the Homogeneity assumption is confirmed.

Figure 1 and Figure 2 presents the results of the test for Normality on the effect of Profit warning Announcements on the Performance of Security prices of companies listed on the NSE, Kenya. The Histograms appear to be bell-shaped, thus confirming Normality.

This study formulated null-hypothesis Ho that the Effect of Profit warnings Announcements on the Performance of Securities of companies listed on the NSE,

Kenya was not significant. Table 4 presents the results of ANOVA conducted to compare the difference in group means on the effect of Profit warnings Announcements on the Performance of Security Prices. The results show $F_{(1,598)} = 0.370$ and p-value = 0.543. These results indicate that the Profit warning Announcements was within the market expectation; therefore, did not trigger price changes. According to Aswath [20], it is not the magnitude of the earnings change that matter, but the "surprise" in the earnings, measured as the earnings change relative to expectations. As such, when a company announce earnings, markets will react to the "news" in the announcement, but the way the news is measured has to be relative to expectations. Under the Market Expectation Theory, security prices tend to rise when earnings results exceed market expectations and decline when earnings results are below market expectation. Brown, [2] states that a great set of results can see a stock trading lower if those results were below expectations while a poor set of results could see a stock trading higher if they were not as bad as the market was expecting.
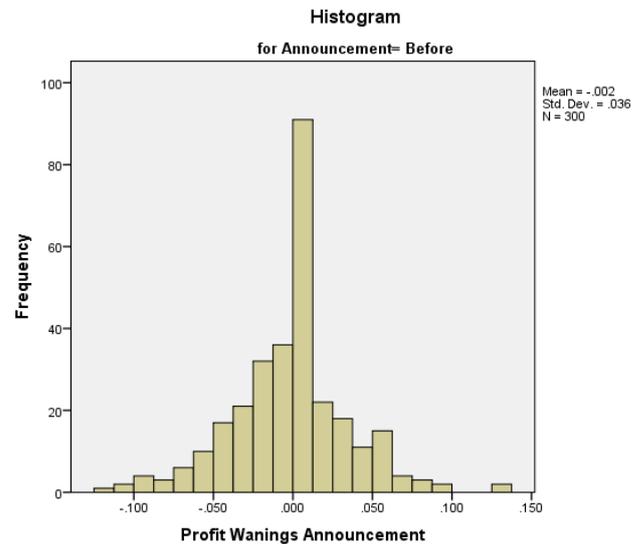

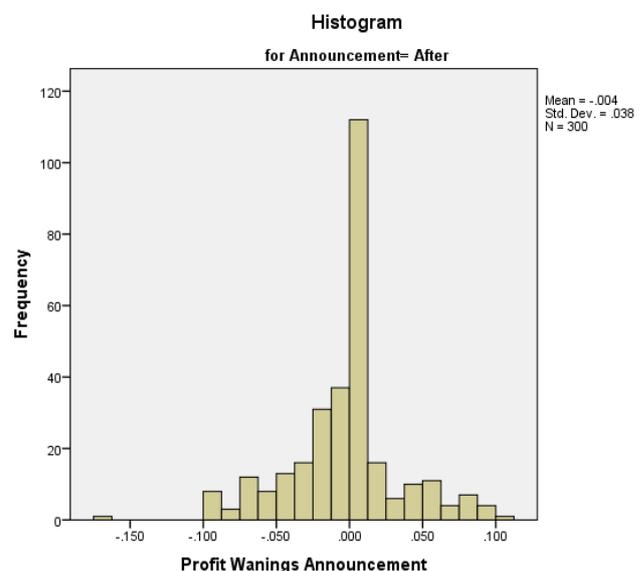**Figure 2**. Normality Test (Source: Researcher (2019))

Figure 3. Normality Test (Source: Researcher (2019))

Table 4. Significance Test

	Sum of Squares	df	Mean Square	F	p-value
Between Groups	.001	1	.001	.370	.543
Within Groups	.821	598	.001		
Total	.822	599			

Similarly, statistical insignificance, according to Regnault [15], may be attributed to the market being efficient in weak-form. According to Regnault [15], the market is efficient in weak-form if investors cannot obtain abnormal returns by analyzing relevant historical information about the securities, rendering investment tools like filter strategy, technical analysis to be ineffective. These results show that all information was incorporated in the security prices at the time of the Profit warning Announcements.

The finding of this study is inconsistent with the findings of Benabdennbi and Atrakouti [25] study on the impact of the of Profit warnings Announcement on their stock prices of Moroccan companies using 71 Profit warnings from 35 companies listed in the Casablanca Stock Market. The study used the market model from the simple event study methodology in order to look at the fluctuations of companies' abnormal returns, cumulative abnormal returns using a regression model and a t-test technique. The study found abnormal return happened at the exact day of the announcement of the profit warning (t=0) and that CAR showed that the abnormal returns spread throughout the eight following days after the profit warnings announcement. The inconsistency between Benabdennbi and Atrakouti's [25] study, and this study is on account o, location of the studies, and the techniques used (regression analysis vis a vis ANOVA). Shuxing, Khelifa, Abdelhafid, and Brahim [26] investigated the role of time-varying betas, event-induced variance, and conditional heteroskedasticity in the estimation of abnormal returns around important news announcements using event study methodology. The study was based on the stock price reaction to profit warnings on firms listed on the Hong Kong Stock Exchange. The study found the presence of price reversal patterns following both positive and negative warning and statistical significance of some post-positive-warning cumulative abnormal returns to disappear and their magnitude to drop to the extent that minor transaction costs would eliminate the profitability of the contrarian strategy. The inconsistency between Shuxing, Khelifa, Abdelhafid, and Brahim's [25] study, and this study is on account of the location of the studies, the topic of the studies and the techniques used.

Maarten, [27] in a study on how the market reacts to a Profit warning Announcement in the short and medium-term examined 117 first-time profit warnings issued by firms listed on Euronext Amsterdam using Event Study Methodology, t-Test, and Univariate/Multivariate Regression Analysis. Maarten's [27] study found that substantial negative abnormal returns followed profit warnings in the short-term while in the medium-term, abnormal returns continued to drift downward for the entire twelve months post-event period. The inconsistency between Maarten's [27] study and this study may be due to techniques used and the size of the sample; Kiminda, Githinji, and Riro [35] examined share returns following

unexpected corporate profit warnings announcements. The study tested whether there were abnormal returns on share prices after the announcement of profit warnings on 510 companies quoted on the Nairobi Securities Exchange (NSE), using the event study on one hundred- and fifty-days event window. The study found that profit warning had an impact on the stock return in the NSE and the impact was negative and significant for the period of pre-warning and post warning and on the day of the actual announcement. There were also indications of information leakages where there were negative abnormal returns days before the profit warning announcements. The inconsistency between Kiminda, Githinji, and Riro's [28] study and this study may be due to the number of days on the window. Whereas Kiminda, Githinji, and Riro's [28] study used 150 days, this study used 41 days.

5. Summary and Conclusions

5.1. Summary of the Findings

This study investigated the effect of Profit warning Announcements on the Performance of Securities Prices of companies listed on the Nairobi Securities Exchange, Kenya. The study collected data from 10 companies listed on the Nairobi Securities Exchange, Kenya analyzed using the Event Study Methodology and the ANOVA technique. The study revealed insignificant result

5.2. Findings

This study formulated a hypothesis that the "Profit warning Announcements has no significant effect on the Performance of Security Prices of company listed on the NSE, Kenya." The Study tested the hypothesis and found that the effect of Profit warning Announcements on the Performance of Security Prices did not have significant effect on the Performance of Security Prices. The Study was conducted at 5 percent significant level, and gave p-value of .543.

5.3. Conclusions

Based on the findings of the study, the study concludes that Profit warning Announcement did not have effects on the Performances of Security Prices. This is demonstrated by significance tests yielding p-values greater than 5 percent significant level.

These results could be due to the number of companies studied, the estimation of the event window or the technique used. Since the study objectives did not yield statistically significant results, this study concludes that the Null hypothesis was, in fact, true. The study was conducted for ten companies listed on the NSE, Kenya. The test for significance was done through the null hypothesis using ANOVA. The null hypothesis was that the Announcements did not have significant effects on the performance of securities and the alternative hypotheses was that Announcements did have significant effects on the performance of securities. The estimation period was 200 days, whereas the event period was 41 days for the study period (January 2013 to December 2017).

5.4. Recommendations

Based on the data, the factors, and the methodology used in this study, and since there are many prior studies in this area, the finding of this study indicates possible directions for future research. As the study has revealed, there are some similarities, differences, and results that may not have been covered, and, which may be useful for companies listed or not listed on the NSE, Kenya. Future research should investigate specific companies that were affected by the decline in security prices and companies listed on other security exchanges in order to generalize the findings.

Further, this study recommends companies listed on the NSE, Kenya, to be encouraged to date their financial statements and other documents. Dating records and the financial statements will provide the regulators, investors, the market players, and the public with the date when the financial statements were approved, and corporate action made. Finally, the regulator should strengthen regulations. Strengthen regulations will ensure compliance with insider trading laws by market players hence improve market efficiency, and build investors and public confidence, establish relevant policies to enhance the efficiency of the securities exchange.

References

[1] Boyes, W. (2011). Managerial Economics: Market and the Firm. 2 ed. Cengage Learning. South –Western. *https://books.google.co.ke/books?isbn=1133417108.*

[2] Brown, S. (2019). How market expectations can move stock prices. https://www.fin24.com/Finweek/Investment/how-market-expectations-can-move-stock-prices-20190214.

[3] Schwert G. W. (1981) Using Financial Data to Measure Effects of Regulation. *Journal of Law and Economics, 24* (April 1981) 121-158.

[4] Modigliani, F. (1971), "Monetary Policy and Consumption: Linkages via Interest Rate and Wealth Effects in the FMP Model, Consumer Spending and Monetary Policy: The Linkages", Federal Reserve Bank of Boston Conference Series, Conference Series No. 5, June 1971.

[5] Bernanke, B. and Gertler, M. (1989). Agency Costs, Net Worth, and Business Fluctuations. *The American Economic Review,* Vol. 79, No. 1 (Mar., 1989), pp. 14-31.

[6] Kiyotaki and Moore, (1997). Credit Cycles. *Journal of Political Economy.* Vol. 105, No. 2 (April 1997), pp. 211-248.

[7] Uduak B. U., Emmanuel I. M., Sunny O A (2017). Stock Price Movements and the Value of Firms in Nigeria: Theoretical and Empirical Realities. *IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 19, Issue 2. Ver. II (Feb. 2017),* PP 45-54.

[8] Schwert, G. W. (1990). Stock Returns and Real Activity: A Century of Evidence. *The Journal of Finance* Vol. 45, No. 4 (Sep., 1990), pp. 1237-1257.

[9] Pearce, D. K., (1983). Stock Prices and the Economy. *Economic Review – Federal Reserve Bank of Kansas City. November 1983.*

[10] Modigliani, F. and Miller Merton H., (1961). Dividend Policy, Growth and Valuation of the Shares. *Journal of Business. Vol. XXIV* (October 1961), pp. 411-33.

[11] Pettit, R. R. (1976). The Impact of Dividend and Earnings Announcements: A Reconciliation. *The Journal of Business, 1976, vol. 49, issue 1,* 86-96.

[12] Aharony, J. and Swary, I. (1980), "Quarterly Dividend and Earnings Announcements and Stockholders' Return: An Empirical Analysis", *The Journal of Finance,* vol. 35, no.1, pp. 1-12.

[13] *Gordon, Myron J. (1962). The investment, Financing and Valuation of Corporation. Richard D. Irvin.*

[14] Ross, S. A. (1977). The Determination of Financial Structure: The Incentive-Signaling Approach. *Bell Journal of Economics,* Vol. 8, No. 1. (Spring, 1977), pp. 23-40.

[15] Regnault, J. (1863). Calcul des Chances et Philosophie de la Bourse, Mallet-Bachelier et Castel, Paris. https://archive.org/details/calculdeschances00regn/page/n1

[16] Fama, E. F., Fisher, L., Jensen, M. C. and Roll, R. (1969). The Adjustment of Stock Prices to *New Information. International Economic Review,* 10, 1-21.

[17] Rao S. N. (2010). Limitations of the Efficient Market Hypothesis. http://www.som.iitb.ac.in/live/current4.html

[18] Poitras, G. (2011). *Valuation of Securities: Philosophy, History and Application.* World Scientific Publishing Co. Singapore.

[19] Kelikume, I., (2016). New evidence from the efficient market hypothesis for the Nigerian stock index using the wavelet unit root test approach. *The Journal of Developing Areas Volume 50, Number 5, 2016 (Special Issue).* pp. 185-197.

[20] Aswath, D., (2012). *Investment Valuation: Tools and Techniques for determining the Value of Any Asset.* 3rd Ed. John Wiley and Sons.

[21] Feltham, G. A., and J. A. Ohlson, (1995). Valuation and clean surplus accounting for operating and financial activities, *Contemporary Accounting Research.* 11, 689-731.

[22] Bajkowski, J. (2016). Are All Earnings Surprises Equal? American Association of Individual Investors Journal. https://www.aaii.com/updates/article/10347-are-all-earnings-surprises-equal.

[23] Tserendash T, Xiaojing W. and Catherine L., (2010). The relationship between the rofit warning and stock returns: Empirical evidence in EU markets *http//umu.diva-portal.org/smash/get/diva2:394405/FULLTEXT01.pdf.*

[24] Healy P. M. and Krishna, G. P., (2003). The Fall of Enron. *Journal of Economic Perspectives— Volume 17, Number 2, Spring 2003 Pp 3-26.*

[25] Benabdennbi, Y. and Atrakouti, A. (2019). The Impact of Profit Warnings on Casablanca Stock Market. *Journal of Stock & Forex Trading.* 7: 1.

[26] Shuxing Y., Khelifa M., Abdelhafid B. and Brahim S (2017). Stock price reaction to profit warnings: the role of time-varying betas. *Review of Quantitative Finance and Accounting.*

[27] Maarten H., (2011). Stock Returns Following Profit Warnings: Evidence from the Dutch Stock Market. http://arno.uvt.nl/show.cgi?fid=120999.

[28] Kiminda, R.W. Githinji, C. K., and Riro G. K., (2014). Effects of Profit Warnings on the Announcement on Performance of Stocks in the Nairobi Securities Exchange. *European Journal of Business and Social Sciences,* Vol. 3, No. 3, pp 150-168, June 2014. P.P. 150-168.

[29] Crotty, M. (1998). *The Foundations of Social Research.* London: Sage.

[30] Macionis, J. J. and Gerber, L. M., (2010). *Sociology, Seventh Canadian Edition*, Pearson Education, Canada.

[31] Trochim W. M.K. (2006). The Research Methods Knowledge Base? http://socialresearchmethods.net/kb/index.php.

[32] Sunjoo, B. and Erika, S F. (2013). Secondary analysis of national survey datasets. *Japan Journal of Nursing Science.* (2013) 10, 130-135.

[33] Treynor, Jack L. 2012. Treynor on Institutional Investing: "Toward a Theory of Market Value of Risky Assets".

[34] Resnick, D. B. (2015). What is Ethics in Research and Why is it Important? https://ahrecs.com/resources/ethics-research-important-resources-david-b-resnik-2015.

[35] Kiremu K. G., Galo N, Wagala A and Mutegi J. K. (2013). Stock Price and Volumes Reaction to Annual Earnings Announcement: A Case of the Nairobi Securities Exchange. *International Journal of Business, Humanities and Technology.*Vol. 3 No. 2; February 2013.