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## **BUSINESS RISK AS A DETERMINANT OF CORPORATE INVESTMENT DECISIONS OF FIRMS LISTED ON NAIROBI SECURITIES EXCHANGE IN KENYA.**

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### **ABSTRACT**

**T**his study aimed at assessing business risk as determinants of corporate investment decisions of firms listed on Nairobi securities exchange in Kenya. The objective of the study was to identify the effect of business risk on corporate investment decisions of firms listed at the NSE. The study used both primary and secondary data. The study adopted descriptive research design and the target population was 64 firms listed on the Nairobi Securities Exchange (NSE). Data was analyzed using descriptive statistics, correlation analysis and regression analysis using SPSS version 23. The study used simple linear regression models to establish the relationship between dependent and independent variables. The study established the Firms had a strategic plan for the 5 past years and the firms had an audit committee. The study concludes that business risk affects corporate investment decisions of firms listed at the NSE. There was a strategic plan for the past 5 years and there was an audit committee. The study recommends that the Capital Market Authority (CMA) as a regulatory body of the listed firms at NSE should put in place effective regulatory frameworks that outline business risk management practices of the listed firms.

## INTRODUCTION

Corporate investment decision is defined by Bakke and Whited (2010) as the decisions made by management in a firm, on when and how much money is to be spend or acquisition of debt in pursuing profit making projects. These decisions are often made after long deliberations at the management level. Firth, et al. (2012) note that financial and technical analyses are done and accurate information is sought, so as to make well informed decisions. Since an error in decision making means big losses in terms of cash flows and an increase in debt.

Corporate investment decision making is the responsibility of managers. For big firms the investment decision often involves huge amounts of money, which if lost may mean difficulties in cash flows and inability to run firm operations. In this regard, investors', financial analysts and economists have developed capital investment models that guide the management in a firm while making investment decisions. The model is based on the expected future cash flows from one specific investment opportunity. Owidi and Mugo-Waweru (2016) confirm that this is particularly important for firms that trade in stock exchange, and they may be listed or not. The amount and timing of cash flows determine the economic value of such an investment decision. Timing of cash flow is important says Bodie (2013), as cash received earlier than the expected time can be re-invested into other profit-making opportunities and thus increase returns for the firm and its investors. Using the net present value (NPV) one is able to calculate the economic value of an investment project to the firm at any given moment.

Every investment decision involves some level of risk, this is clearly exposed by Virlics (2013) in investment decision making and risk. The paper looks at the role played by risk and uncertainty in the process of investment decision making. In business, the proprietor considers the expected returns, availability of investments and cost of acquiring them, length of time before returns can be expected and the expected riskiness of such an investment project including changes in market value through inflation and depreciation. Uncertainty is one of the risks that decision makers have to analyze and deliberate upon before making a conclusive decision, this then implies that accurate information has to be collected to decrease the level of uncertainty of the markets. Awais, Laber, Rasheed and Khursheed (2016) note that looking at past experiences and histories would give managers a better chance to make sound investment decisions. The authors further noted that there are three main factors that contribute to existence of risks; risks are due to uncontrolled factors that cannot be measured precisely, risks are caused by the cost of information that some firms may not afford and inability of decision makers to use the available information (Awais, et al., 2016).

What are the determinants of investment decisions at firm level? This question has been raised since the Modigliani and Miller theorem (1958) who postulated that there has been no relation between the financial structure and financial policy for real investment decisions under certain conditions; and extended this to neoclassical models of investment. According to the q-theory of Tobin (1969) and extended into a proposed model by Hayashi (1982), investment demand could be predicted by the ratio of the market value of a firm's capital stock to its replacement cost under perfect market assumptions (symmetric information, no transaction costs, no default risk, and no taxation); and its market value could also explain further investment opportunities.

### **Statement of the Problem**

Investment decision-making is an important part of strategic decision-making in every enterprise. Successfulness of new projects dramatically contributes to the growth of an enterprise's efficiency for example M-pesa project for Safaricom that has grown its net profit to Kshs. 23.9 billion in 2016 (Kamau & Kagiri, 2015). On the other hand, failed projects can lead not only to a considerable decline in efficiency, but it can even jeopardize its future existence unfortunately some of the investment decision made have been unsuccessful. The quality of investment decision making is affected by a large number of factors, while the most important include: cash flow, business risk, level of income, leverage, financial literacy, technology, corruption, insecurity, regulatory decisions, liquidity, ability to invest (Hana, 2010).

Listed firms allow shareholders to participate in share ownership of these firms which increases their capital base. In return for the amount of money invested by shareholders, listed firms pay them dividends on a regular basis. It is in view of this relationship that the shareholder wealth maximization objective of the firm emanates. Corporate investment decisions guide this wealth maximization objective of the firm listed on NSE (Bodie, 2013). It is then prudent to take a closer look at the factors that influence corporate investment decisions, since these decisions determine the profits or losses made by a firm.

The review of literature indicated a positive relationship between cash flow and investment decision as revealed by studies of Pablo (2006) and Phan (2013). Njuguna, Namusonge and Kanali (2016) examined the determinants of investment intentions: an individual retail investor's perspective from Nairobi Securities Exchange and established that subjective investment knowledge, expected investment value, compatibility, perceived behavioral control had a positive and statistically significant effect on investment intentions of individual investors. Aroni, Namusonge and Sakwa (2014) assessed the influence of dividend payout on investment in shares-a survey of retail investors in Kenya and established that dividend payout had a significant influence on decisions to invest in shares with p-value.

These studies looked at some of the factors affecting decision making for a specific investor thus creating a gap as none addressed the determinants on corporate investment decisions of firms listed at the Nairobi Security Exchange (NSE). The current study therefore sought to fill the gap by specifically investigating business risk as a determinant of corporate investment decisions of firms listed on Nairobi securities exchange in Kenya

### **Objectives of the Study**

To identify the effect of business risk on corporate investment decisions of firms listed at the Nairobi Security Exchange, Kenya.

### **Research Hypothesis**

Ho1: Cash flow does not affect corporate investment decisions of firms listed at the NSE

## LITERATURE REVIEW

### Theoretical Framework Portfolio Theory

Portfolio theory was advanced by Harry Markowitz in 1952. He defines portfolio is a collection of securities. As most securities are available, investments have uncertain returns and thus risky, one needs to establish which portfolio to own. Markowitz asserts investors should base their portfolio decisions solely on expected returns and standard deviations. Investors should estimate the expected return and standard deviation of each portfolio and then choose the best one on the basis of these two parameters.

Markowitz (1952) developed a basic and most accepted model for portfolio selection, by introducing the usage of expected rate of return and expected risk for a portfolio. He identified the risk-reduction benefits associated with holding a diversified portfolio of assets. The objective of a portfolio may be for capital gains or for income, or a mixture of both. A growth-oriented portfolio is a collection of investments selected for their price appreciation potential, while an income-oriented portfolio consists of investments selected for their current income of dividends or interest. At the end of the day, investors had to make decisions of how to trade their portfolios for maximum benefits.

Later on, Neumann and Morgenstern (1974) advanced the portfolio theory by basing it on the expected utility model. According to the theory, the great tradeoff in investing is between risk and return. Markowitz (1952), Roy (1958), and Tobin (1958) advocate the wisdom of holding a diversified portfolio. Their mean variance analysis is concerned with how an investor should allocate his wealth among various assets available in the market given that he is a one period utility maximizer.

Sharpe (1964), Lintner (1965) and Mossin (1966) made a number of assumptions have extended the Markowitz mean variance framework to develop a relation for expected return. Given that investors are risk averse, it seems intuitively sensible that high risk stocks should have high expected returns. The work of Sharpe, Lintner and Mossin has resulted in the capital asset pricing model (CAPM). The CAPM model provides a simplified device by comparing each security's return with a single yardstick, the return on the market portfolio. This device is the beta ( $\beta$ ) coefficient, thus the CAPM is a single factor model depending only upon the security market. The model is founded on the assumption that the market is efficient and investors' measure returns and risk by means and variances. Consequently, it is possible for a range of investments in both individual stocks and portfolios to be plotted in terms of mean-variance characteristics. Given that investors prefer higher expected returns and lower risk, portfolios which are efficient should dominate those that are inefficient. The competing model of CAPM is a three-factor model of Fama and French (1993).

Omisore, Yusuf and Christopher (2011) stated that in essence, portfolio is the total collection of all investments held by an individual or institution, including stocks, bonds, real estate, options, futures, and alternative investments. Portfolio risk is the chance that combination of assets or units within individual group of investment fail to meet financial objectives. In theory, portfolio risk can be eliminated by successful diversification as a basis of making sound decisions on how, where, and when to invest so as to realize minimal risks and maximum returns.

An efficient portfolio is one that has maximum expected return for a given variance or minimum variance

for a given expected return. By selecting assets with low correlation of returns, it is feasible to reduce overall risk of the portfolio. This occurs because as the returns of one asset go down, they will be offset by the returns of another asset going up. This is more likely to happen with securities from firms in different industries especially if those industries move differently against macroeconomic business cycles (Zopounidis, Doumpos & Fabozzi, 2014).

Individuals as well as institutional investors are confronted with basically the same problems when allocating their own financial funds or those of those of third parties. The asset allocation puzzle, in theory is a very big dimension (Levinson & Zhu, 2013). This is because there exists tens of thousands of listed firms in the world stock exchange markets, masses of government and commercial bonds with different risks and maturities, treasuries, currencies, commodities, arts and real estate. Moreover, there is an even much bigger number of financial derivatives on the mentioned asset classes and their representatives such as different kinds of options, swaps, Forwards and structural products (Michalski, 2013). These variables bring every investor to have to make decisions and do a pre-selection process that helps them to make the right decision of which asset classes to pick and where is it best to invest it. The decision to be made, is a very stressful part for all investors whether individual or corporates; the case for corporates is bigger because the risk is spread across a wider number of people, unlike individuals who suffer risks alone. This theory was relevant to the current study as it explains how listed firms can minimize business risk exposure and therefore maximizing on wealth of shareholders. The theory further explains how business risks can be minimized when such firms make corporate investment decisions.

## **Empirical Studies**

### **Business Risk**

Business risks are the risks associated with a chosen business strategy including business cycles, investment decision industry cycles, and technological change (Hull, 2014). According to Gigerenzer (2015) in risk savvy -how to make good decisions, the investment decisions made should put into consideration the changes in risk levels. This study, therefore, employs this variable in analysis of investment decision. Every business faces the same 5 key risks: Development risk (Can the original product/service idea actually be created?). Manufacturing risk (If the product can be developed, can it actually be produced in appropriate volume?), Marketing Risk (If the product can be made, can it be sold effectively?), Financial Risk (If the product can be sold effectively, will the resulting firms be profitable and can the profits actually be realized in a form that allows investors to receive cash) and Growth Risk (If the firms can achieve operating profitability at one level, can profitability be maintained as the firms grows and evolves) (Block, Sandner & Spiegel, 2015). The current work will forecast on: growth, financial, development risks and market risks.

In 2017, Chepkoech investigated on the factors affecting investment decisions of pension schemes in Kenya. The study tried to establish the trade-off between the risk endured in investment and the returns over investment decisions of pension schemes in Kenya. The study noted that the investment decisions in pension schemes were dependent on risk–return trade off and macroeconomic factors. On the basis of the study findings, it was evident that risk-return trade off affected investment decisions of pension schemes in Kenya. It was made apparent that successful pension schemes investment should be one whose returns justify the risk taken. In this regard, it was evident that fund managers balanced the risk to ensure optimal return. Regarding the effect of macroeconomic factors on investment decisions of pension schemes in Kenya, it was evident that pension schemes investment decision was influenced by interest rates, capital markets performance, the rate of national economic growth and other macroeconomic factors before making investment decisions.

Muiruri (2014) on the effects of estimating systematic risk in equity stocks in the Nairobi Securities Exchange (NSE), noting that investors seek information on risks associated with different investment options and create a relationship with returns. The study found out that there is a relationship between systematic market risks and returns which informs the decisions making process for potential investors. The study also looked at 12 sectors of the NSE and revealed that the agricultural sector is the riskiest with market fluctuations and the highest volatility, while finance and investment sector is the least risky. Such market analyses inform investors on risks associated with each sector of the NSE and hence make decisions on their capacity of risk tolerance.

Restrepo, Correia and Población (2012) analyzed the effect of political risk on corporate investment decisions. This paper analyzes the different definitions and expressions of political risk and proposes a broad and more inclusive definition regarding its origins and effects. Regarding the effects of political risk on corporate investment decisions, this paper shows the multitude of ways by which the different expressions of political risk may influence both positively and negatively the value of investment opportunities and the decisions of firms to invest. Finally, it proposes different lines of research addressing some of the weaknesses identified in the existing literature.

Neamtiu, Shroff, White and Williams (2014) who suggested that risk preference may be stable and that the effect of situational factors, such as stock market performance, may be caused by changes in perceptions of risk. They further found that influences on investment choices simultaneously affected risk perceptions. It could be the case that attitude to perceived risk is constant, and that what changes is the perception of risk. From the perspective of providing financial advice, this implies that by correcting misperceptions about the risks of investments, a financial adviser can have a positive influence on investment decisions. A financial adviser might note that the provision of some information about an investment is likely to reduce a client's perception of risk.

Mohd (2015) business risk impact on capital structure: a case of Jordan in America. The researcher investigated how industrial sector firms decide about their capital structure with reference to risk exposure. This research concludes about the manager's behavior with respect to business risk, profitability, firm size and sales growth. Design/methodology/approach: Data of industrial sector of Jordan, over the period of 2009-2011 is used for this study. Linear regression model is used for data analysis. Findings: This research study results show that industrial sectors firm's managers are risk averse, whereas sales growth and firm size are positively related to financial policy decision. Profitability is negatively related with financial policy of the firm.

Salomon (2014) assessed the relationship between terrorism and foreign direct investment in Kenya. Secondary data on the Terrorism attacks and FDI from 2010 to 2012 was used for the study. Multiple regression model was used to test the relationship between the study variables. By applying the model, the study found that terrorism negatively affects FDI in Kenya. It was concluded that Terrorism activities negatively affect the FDI in Kenya. Terrorism activities decrease the foreign investor confidence, which decrease the FDI. The Null hypothesis that there is no relationship between terrorism and FDI was thus rejected.

Kiriro (2013) assessed relationship between risk and growth in corporate investment for firms listed in the Nairobi Securities Exchange. The study targeted all the listed firms from 2008 to 2012. This was therefore a census covering all the data on stock performance in the bourse. Data was subjected to various tools of

analysis to establish any trend that would be used to predict future performance of the market. The finding showed there is a moderate correlation between risk and the growth in corporate investments. The researcher recommended for more consultations between the management and shareholders to balance growth in assets and the expected returns to investors. This is aimed to reduce any conflicts that might arise and provide an ideal working environment.

Farayibi (2015) looked at the impact of risk on investment decision in Nigeria. The researcher achieved the purpose of the study using primary data via the administration of questionnaires to respondents from various investment firms in Lagos, Nigeria. The data collected from the respondents were analyzed using Chi-Square. Findings from the study revealed that for organizations in Nigeria to remain competitive in business, it has to always carry out a thorough appraisal of any investment opportunity before putting money into it. In other words, organizations are advised to adopt best practices in their investment activities in order to keep abreast with the dynamics of global economic climate.

A study on fluctuations in uncertainty by Bloom (2014) showed that the provision of risk information has an impact on individual's confidence and their perception of risk, but the relationship between these and ultimate behavioral change is not overwhelmingly strong. The element of risks in any investment decision is the one that causes many potential investors to be uncertain of their decision, choice and returns. The study also found out that there seemed to be little evidence that provision of this information differently helps or hurts the less financially literate. The study concluded that risk information disclosure suggested an important trade-off. While summary risk-ratings are most appealing for consumers, they may also be the least straightforward to provide, requiring an explicit formula or an independent provider.

Mburu, Ngugi and Ogollah (2015) assessed the effect of risk identification management strategy on supply chain performance in manufacturing firms in Kenya. The study adopted a cross-section survey of descriptive nature targeting 153 manufacturing firms in Kenya. From the findings, firms can only ensure there is adequate cost reduction along supply chain function through use of activities-based contracts with clear cost management targets, setting annual savings target and reporting achieved saving monthly and competitive bidding, purchasing from suppliers and delivering to customers economic quantities and majority of the firms build alliances through supply chain systems.

Murumba (2012) in a study on how risk affected investment noted that in making investment decisions of investment managers of investment firms risk was one of the major factors that influences decision making. This therefore means that how risky or less risky securities are will determine the decision of investment managers. However, it does not translate to the riskier the investment, the higher or the more the returns it can generate

### **Investment Decisions**

According to Graham, Harvey and Puri (2015) individuals who were exposed to economics during their schooling may be more likely to have friends (perhaps their classmates) that invest in the stock market. Because of "peer effects" in investing, respondents exposed to these friends may themselves be more likely to invest in the stock market. Several studies have documented that "peer effects" can be pretty powerful determinants of portfolio choice (Sharma, et al., 2014).

Carr, Kolehmainen and Mitchell (2010) in strategic investment decision making practices; shares that the education level of peers does matter for stock ownership. Those who have friends that have a college degree

are more likely to own stocks. Thus, there may be information provision and learning via social interaction. Newspaper readership has a positive impact on awareness, and its coefficient is always highly significant. Increasing readership raises the probability of stock awareness, mutual funds, and corporate bonds (Car et al., 2010). Further show that financial mistakes are prevalent among the young and elderly, who are among those displaying the lowest amount of financial knowledge.

Kevin and Tom (2015) investigated the firms' investment decisions and interest rates in Australia. Firms typically evaluate investment opportunities by calculating expected rates of return and the payback period (the time taken to recoup the capital outlay). Liaison and survey evidence indicate that Australian firms tend to require expected returns on capital expenditure to exceed high 'hurdle rates' of return that are often well above the cost of capital and do not change very often. In addition, many firms require the investment outlay to be recouped within a few years, requiring even greater implied rates of return. As a consequence, the capital expenditure decisions of many Australian firms are not directly sensitive to changes in interest rates. Furthermore, although both the hurdle rate of return and the payback period offer an objective decision rule on which to base expenditure decisions, the overall decision process is often highly subjective, so that 'animal spirits' can play a significant role.

Merikas, Merikas, Vozikis and Prasad (2011) in the investigation on the economic factors and individual investor behavior: The case of the Greek stock exchange. The study adopted a modified questionnaire to analyze factors influencing Greek investor behavior on the Athens Stock Exchange. The results indicated that individuals base their stock purchase decisions on economic criteria combined with other diverse variables. The results also revealed that there is a certain degree of correlation between the factors that behavioral finance theory and previous empirical evidence identify as the influencing factors for the average equity investor, and the individual behavior of active investors in the Athens Stock Exchange (ASE) influencing by the overall trends prevailing at the time of the survey in the ASE.

Graham et al. (2015) noted that individuals who were exposed to economics during their schooling may be more likely to have friends (perhaps their classmates) that invest in the stock market. Because of "peer effects" in investing, respondents exposed to these friends may themselves be more likely to invest in the stock market. The expectation of the link between investment rate and cash flow is a positive sign; higher cash flow of firms will be associated with higher investment (Phan, 2013).

## **RESEARCH DESIGN AND METHODOLOGY**

The study adopted a descriptive design. Descriptive design was used because it focuses on complex analysis to bring out the correlation of variables; as one variable affects changes in another. The target population for this study was 64 firms listed at the NSE between 2010 and year 2014. The sampling frame of the survey of the firms listed was the management staff. The study adopted Kothari (2004) to establish the sample size. This resulted into a sample size of 284 respondents. The study used both primary and secondary data. Questionnaires were used to collect primary data while data collection sheets helped in collection of secondary data. To check the validity and reliability of the questionnaires in gathering the data required for purpose of the study, pilot study was carried out. A pilot study was conducted using 10 respondents. Descriptive statistics such as, mean and frequencies were used to perform data analysis. The mean scores were used to rate the factors in order of their importance. SPSS was used to produce frequencies, descriptive and inferential statistics which were used to derive conclusions and generalizations regarding the population. The analysis of variance (ANOVA) was checked to reveal the overall model significance. Before conducting regression analysis, the researcher conducted Multicollinearity, Normality Test, Heteroscedasticity and Autocorrelation.

## RESEARCH FINDINGS AND DISCUSSION

Out of 384 questionnaires issued out to respondents by the researcher, 288 of them were dully filled and returned to the researcher. This translated to a response rate of 75%. The response rate concurred with Mugenda (2008) who noted that a response rate of 50% is adequate for analysis and reporting, a rate of 60% is generally good while a response rate of above 70% is excellent. From the back-ground information, most of the respondents, 52% were male as compared to females. Majority of these respondents 62.9% were less than 55 years of age. Majority of the respondents 87.9% had attained degrees and below as their highest level of education. Moreover, most of these respondents 72.6% had over 5 years of experience in their respective positions and organizations.

### Business risk

To achieve this objective, questionnaires were structured on a Five-point Likert scale of 1-5 where 1 was strongly disagree 2 disagree 3 neutral 4 agree and 5 strongly agree. Respondents were then requested to indicate the extent of their agreement on each of these statements using the above identified scale.

<b>Business Risk</b>	<b>Mean</b>	<b>Std. Dev</b>
The firm has experienced growth risk for the 5 past years	3.38	1.026
The firm has experienced financial risk for the 5 past years	3.65	.714
The firm has experienced development risk for the 5 past years	3.69	.939
The firm had a strategic plan for the 5 past years	4.05	.987
The firm has an audit committee	3.75	.851
<b>Average of Means and standard deviation</b>	<b>3.70</b>	<b>0.903</b>

From the findings, respondents were not sure whether the firms had experienced growth risk for the 5 past years, the mean was 3.38 with standard deviation of 1.026. This could further indicate that studied listed firms had growth risks had moderately affected corporate investment decisions among these firms. Growth risk could be associated with increased size of these listed firms especially as they open up more branches. A greater focus on growth as an objective of the existence of a firms could result into conflict of interest as suggested in the Agency Theory. According to ISDA (2002), all firms are exposed to agency problems, and to some extent develop action plans to deal with them. ISDA (2002) identifies these action plans to include establishing such measures as: “controls on the actions of agents, monitoring the actions of agents, financial incentives to encourage agents to act in interest of the principals, and separation of risk taking functions from control functions” (ISDA, 2002).

The findings of the study indicated that the firms had experienced financial risk for the 5 past years; with a mean of 3.65 and standard deviation of 0.714. Financial risk could be due to use of debts in their capital structures. As earlier indicated, respondents agreed that the firms used debts in their capital structures. It is this debt in the capital structure that brings in business risk which is associated with inability of the firms to repay the interest amount and principal as and when they fall due. This could likely result into bankruptcy as indicated by the trade-off theory. According to Myers (1997), profits earned by firms are used in paying leverage and this lowers leverage. Myers further noted that profitable business organizations use low leverage if Trade off Theory is in force.

The firms had experienced development risk for the past 5 years with a mean of 3.69 and standard deviation of 0.939. Development risk is the risk associated with investments in projects of listed firms. When firms invest in a given project, it is said to have achieved the development plans and therefore are risks associated with such projects which lead to development risk. According to Doff (2008), investment decisions should be affected by changes in risk levels. The best definition of business risk is cited by Bierman and Smidt (2012) as investing in upgrading of infrastructure like IT network connectivity and advanced technology or in replenishing of new capital goods like machinery and equipment, could allow the firm certain actions in future like having the capacity expansion ability or introduce new products into the market.

The firms had a strategic plan for the past 5 years with mean of 4.05 and standard deviation of 0.987. A strategic plan helps in formulation of strategies and policies. This finding is in agreement with the earlier result that clear debt management policies were in place. It can therefore be inferred that the strategic plan contained by most of the studied firms outlined clear steps to effectively manage debt levels and therefore enhance corporate investment decisions of listed firms. This finding could further be explained by the Prospect theory which according to Kahneman and Tversky (1979), people underweight outcomes that are merely probable in comparison with outcomes that are obtained with certainty – value is assigned to gains and losses rather than to final assets, probabilities are replaced by decision weights.

On availability of an audit committee, the mean was 3.75 with standard deviation of 0.851. According to Neamtiu, et al. (2014) risk preference may be stable and that the effect of situational factors, such as stock market performance, may be caused by changes in perceptions of risk. The influences on investment choices simultaneously affected risk perceptions. It could be the case that attitude to perceived risk is constant, and that what changes is the perception of risk. The average means was 3.79 showing that respondents generally agreed that business risk affected corporate investment decisions. The standard deviation was relatively lower, an indication that respondents were in convergent in the way they gave opinions on statements under business risk and how it affected corporate investment decisions. Kiriro (2013) assessed relationship between risk and growth in corporate investment for firms listed in the Nairobi Securities Exchange and established a moderate correlation between risk and the growth in corporate investments.

### Investment Decisions of the firms

Below are statements on investment decision of the firm that respondents were requested to indicate the extent of their agreement on each using a Likert scale of 1-5 where 1 is strongly disagree 2 disagree 3 neutral 4 agree and 5 strongly agree.

Investment Decisions	Mean	Std. Dev
There has been an increase in EPS in the firm for the last 5 years	3.72	.885
There has been an increase in ROE in the firm for the last 5 years	3.79	.953
There has been an increase in ROA in the firm for the last 5 years	3.89	.729
There has been an increase in profits in the firm for the last 5 years	3.94	.924
There has been an increase in return in investments in the firm for the last 5 years	4.19	1.020
<b>Average</b>	<b>3.90</b>	<b>0.902</b>

From the findings, there has been an increase in EPS in the firms for the last 5 years, with a mean of 3.72 and standard deviation of 0.885. There has been an increase in ROE in the firms for the last 5 years; the

mean was 3.79 with standard deviation of 0.953. On whether there has been an increase in ROA in the firms for the last 5 years, with a mean of 3.89 and standard deviation of 0.729. There has been an increase in profits in the firms for the last 5 years; with a mean of 3.94 and standard deviation of 0.924. There has been an increase in return in investments in the firms for the last 5 years, with a mean of 4.19 and standard deviation of 1.020.

This implies that return on investments was strongly agreed by the respondents as the factor they most considered when making corporate investment decisions, the concurs with the findings by Kevin and Tom (2015) who revealed that firms make decisions by evaluating investment opportunities through calculating expected rates of return and the payback period. The Australian firms require expected returns on capital expenditure to exceed the rate of return that are often well above the cost of capital and do not change very often. In addition, many firms require the investment outlay to be recouped within a few years, requiring even greater implied rates of return. As a consequence, the capital expenditure decisions of many Australian firms are not directly sensitive to changes in interest rates.

The mean of the investment decisions for the firms was 3.90 and the standard deviation was 0.902. The respondents agreed that investment decisions affected their corporate investment decisions of the firms listed in the NSE. This finding is similar to the study by Merikas, et al, (2011) which stated that individual investors base their stock purchase decisions on economic criteria combined with other diverse variables such as return on assets or investments and overall prevailing stock exchange trends.

### Regression Results and Hypothesis Testing

The researcher used simple linear regression to test the study hypotheses. The study used F-Tests, Analysis of Variance (ANOVA) to test the level of significance of the variables on the dependent variable at 95% level of confidence ( $p=0.05$ ). According to Moriya (2008) F-Tests are the most commonly used to test confidence intervals and hypotheses, If the significance level is less than 0.05 ( $p<0.05$ ) then, the correlation is significant and the two variables are linearly related. If the significance level is more than 0.05 ( $p>0.05$ ) then, the correlation is not significant and the two variables are not linearly related when testing the null hypothesis and therefore a correlation model does not exist between independent variable and dependent variable

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.518	.361		4.205	.000
Cash flow	.049	.031	.968	1.581	.000
R=.499 <sup>a</sup>	R <sup>2</sup> =.249	Adj. R <sup>2</sup> =.246	F <sub>calculated</sub> =94.876	P=0.000	

The study revealed that business risk had p value  $p=0.000<0.05$ , an indication that business risk was a significant factor affecting investment decisions. Based on this finding, the study therefore rejects the null hypothesis and accepts an alternative hypothesis that business risk affects corporate investment decisions of firms listed at the NSE. Kiriro (2013) assessed relationship between risk and growth in corporate investment for firms listed in the Nairobi Securities Exchange and established a moderate correlation between risk and the growth in corporate investments.

The coefficient of determination R square was 0.249 showing that 24.9% change in corporate investment decisions could be explained by business risk. Angela et al, (2010) while investigating on risk disclosure and investment choices in the United States showed that the provision of risk information has an impact on individual's confidence and their perception of risk, but the relationship between these and ultimate behavioral change is not overwhelmingly strong

### Correlation Analysis

The researcher conducted Pearson correlation analysis to determine the direction, strength and nature of relationship between the variables of the study. Pearson's Product Moment Correlation (r) is a measure of the linear dependence (correlation) between two variables and can give a positive or negative value of their relationship (Huber, 2004).

### Correlation Analysis

Indicators		Investment Decisions	Business risk
Investment Decisions	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	288	
Business risk	Pearson Correlation	.617	1
	Sig. (2-tailed)	.048	
	N	288	288

From the findings, the value of Pearson correlation coefficient was 0.688 with p value  $p=0.000<0.05$ . Therefore, there is a strong significant positive correlation between portfolio income and corporate investment decisions among listed firms. In view of financial leverage, the value of Pearson correlation coefficient was 0.536 with p value  $p=0.000<0.05$ . Therefore, there is strong positive and statistically significant relationship between financial leverage and corporate investment decisions.

### Discussions

Business risk affect corporate investment decisions of firms listed at the NSE. In view of this finding and as was established by Mohd (2015) that industrial sectors firm's managers are risk averse, whereas sales growth and firm size are positively related to financial policy decision. Moreover, profitability is negatively related with financial policy of the firm. The findings of the study also indicated that the firms had a strategic plan for the 5 past years.

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## **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **Summary of the Findings**

The findings of the study indicated that the firms had a strategic plan for the 5 past years as indicated by a mean of 4.05 with standard deviation of 0.987. The study revealed that the firms had an audit committee for the mean was 3.75 with standard deviation of 0.851. The study established that the firms had experienced development risk for the past 5 years as the mean was 3.69 with standard deviation of 0.939. According to Doff (2008), business risks are the risks associated with a chosen business strategy including business cycles, investment decision industry cycles, and technological change. Therefore, investment decisions should be affected by changes in risk levels. The findings of regression analysis indicated that business risk significantly affected corporate investment decisions ( $p=0.001$ )  $<0.05$ .

### **Conclusions**

The study concludes that business risk affects corporate investment decisions of firms listed at the NSE. There was a strategic plan for the past 5years and there was an audit committee.

### **Recommendations**

The study also recommends that the board of management of the listed firms should ensure that proper risk management strategies are put in place to guide investment decisions. The Capital Market Authority (CMA) as a regulatory body of the listed firms at NSE should put in place effective regulatory frameworks that outline business risk management practices of the listed firms. Risk management should be made compulsory among all listed firms and they should set board committees to address risks of the businesses.

## REFERENCES

1. Afrifa, G. A., & Padachi, K. (2016). Working capital level influence on SME profitability. *Journal of Small Business and Enterprise Development*, 23(1), 44-63.
2. Akerlof, G. (1970). The market for "Lemons" quality uncertainty and the market mechanism. *The Quarterly Journal of Economic*, 84(3), 488-500.
3. Almumani, M. A. (2014). Determinants of equity share prices of the listed banks in Amman stock exchange: Quantitative approach. *International Journal of Business and Social Science*, 5(1).
4. Aroni, J., Namusonge, G., & Sakwa, M. (2014). Influence of dividend payout on investment in shares-A survey of retail investors in Kenya. *International Journal of Business and Social Science*, 5(5).
5. Awais, M., Laber, M. F., Rasheed, N., & Khurshed, A. (2016). Impact of Financial Literacy and Investment Experience on Risk Tolerance and Investment Decisions: Empirical Evidence from Pakistan. *International Journal of Economics and Financial Issues*, 6(1).
6. Bakke, T. E., & Whited, T. M. (2010). Which firms follow the market? An analysis of corporate investment decisions. *The Review of Financial Studies*, 23(5), 1941-1980.
7. Bierman Jr, H., & Smidt, S. (2012). *The capital budgeting decision: economic analysis of investment projects*. Routledge.
8. Block, J., Sandner, P., & Spiegel, F. (2015). How do risk attitudes differ within the group of entrepreneurs? The role of motivation and procedural utility; *Journal of Small Business Management*, 53(1), 183-206.
9. Bloom, N. (2014). Fluctuations in uncertainty. *Journal of Economic Perspectives*, 28(2), 153-76
10. Bodie, Z. (2013). *Investments*. McGraw-Hill.
11. Bryman, A., & Cramer, D. (2005). *Quantitative data analysis with SPSS12 and 13. A Guide for Social Scientists*. East Sussex Routledge
12. Capital Markets Authority (2013), Annual report and financial Capital Markets Authority 2013), Annual Report and Financial Statement. Nairobi: Capital Markets Authority
13. Carpenter, R., & Guariglia, A. (2008), Cash flow, investment, and investment opportunities: New Tests Using UK Panel Data', *Journal of Banking and Finance*, 32(1), 1894-1906.
14. Carr, C., Kolehmainen, K., & Mitchell, F. (2010). Strategic investment decision making practices: A contextual approach. *Management Accounting Research*, 21(3), 167-184.
15. Chandra, P. (2017). *Investment analysis and portfolio management* McGraw-Hill Education
16. Chepkoech, S. (2017). Factors Affecting Investment Decisions Of Pension Schemes In Kenya. *Strategic Journal of Business & Change Management*, 4(4).
17. Cooper, D., & Schindler, P. (2008). *Business research methods*. Boston: McGraw-Hill Irwin.
18. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 22(3), 297-334.
19. Dale, F. G., Robert, C., & Merton, Z. B. (2007). New Framework for measuring and managing
20. Damodaran, A. (2001), *Corporate Finance*, John Wiley & Sons, Hoboken, NJ.
21. Deaton, A. (1991). Saving and liquidity constraints, *Econometrica*, 59(5), 1221-48
22. Dirk, J. (2003). Market timing managerial portfolio decisions. *Working paper* No 4310-03
23. Elwell, C.K. (2014). *Inflation and real minimum wage: a fact sheet* Congressional Research Service 7-5700
24. Emmanuel, C., Harris, E., & Komakech, S. (2010). Towards a better understanding of capital investment decisions. *Journal of Accounting & Organizational Change*, 6(4), 477-504.

25. Fama, E.F., & French, K.R. (1993), Common risk factors in the returns of stocks and bonds, *journal of financial economics*, 33, 3-56.
26. Farayibi, A. O. (2015). The impact of risk on investment decision in Nigeria. *Research Journal of Finance and Accounting*, 6(23), 52-59.
27. Festinger, L., Rieken W. & Schachter, (1956). A theory of cognitive dissonance. Stanford CA Stanford university press.
28. Firth, M., Malatesta, P. H., Xin, Q., & Xu, L. (2012). Corporate investment, government control, and financing channels: Evidence from China's Listed Companies. *Journal of Corporate Finance*, 18(3), 433-450.
29. Fisher R. A. (1983). *Optical Phase Conjugation*, Academic Press.
30. Foucault, T., & Fresard, L. (2014). Learning from peers' stock prices and corporate investment. *Journal of Financial Economics*, 111(3), 554-577.
31. Frank, D. C. (2011). Impact of capital structure choice on investment decisions, Macrofinancial risk and financial stability, *working Paper No. 13607 Bachelor Thesis Finance, Capital Structure Decisions of Firms*, May 27, 2011
32. Franklin, J. S., & Muthusamy, K. (2011). Impact of leverage on firm's investment decision, *International Journal of Scientific & Engineering Research* Vol. 2(4), 1
33. Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction*. Boston: Pearson Education.
34. Geetha, S. N., & Vimala, K. (2014). Perception of household individual investors towards selected financial investment avenues (with reference to investors in Chennai city). *Procedia Economics and Finance*, 11, 360-374.
35. Gigerenzer, G. (2015). *Risk savvy: How to make good decisions*. Penguin.
36. Graham, J. R., Harvey, C. R., & Puri, M. (2015). Capital allocation and delegation of decision-making authority within firms. *Journal of Financial Economics*, 115(3), 449-470.
37. Guiso, L., Jappelli, T. (2005). Awareness and stock market participation, *Review of Finance*, 9, 537-567.
38. Gutiérrez, G., & Philippon, T. (2016). *Investment-less growth: An empirical investigation* (No. w22897). National Bureau of Economic Research.
39. Haliassos, M., & Michaelides, A. (2003). Portfolio choice and liquidity constraints. *International Economic Review*, 44, 143-178.
40. Hall, B., Mairesse, J., Branstetter, L., & Crepton, B., (1998), *Does cash flow cause investment and R&D: An exploration using panel data for French, Japanese and US scientific firms'*, Mimeo, Nuffield College, Oxford, UC Berkley, IFS and NBER.
41. Hana, S., Jiri, F., & Lenka, S. (2010). Investment decision making criteria in practice *International journal of economics and management: Vol. No. 15*, pp. 37- 49.
42. Hayashi, F. (1982), Tobin's Marginal q and Average q: A Neoclassical Interpretation, *Econometrics*, 50(1), 213-224.
43. Hossain, F., & Nasrin, S. (2012). Factors affecting selection of equity shares: *The case of retail investors in Bangladesh*, *European Journal of Business and Management*, 4(20).
44. Hull, J. C. (2014). *The evaluation of risk in business investment*, Elsevier
45. International Swaps and Derivatives Association (ISDA). (2002). *17th Annual General Meeting Berlin*, Its Effects on Performance: A case of selected banks in Kenya.

46. Jagongo, A., & Mutswenje, V. S. (2014). A survey of the factors influencing investment decisions: the case of individual investors at the NSE. *International Journal of Humanities and Social Science*, 4(4), 92-102.
47. Jankowicz, A.D. (2005). *Business Research Projects*. London: International Thomson Business Press 4th edition.
48. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure, *Journal of financial economics*, 3 (4), 305 - 360.
49. Joseph, N. N., & Ali, A. I. Determinants of Investment Decision Making Among Kenya Ferry Services Employees.
50. Kahneman, D., & Tversky, A. (1979). *Prospect theory: analysis of decision under risk*. *Econometrica*, 47 (2), 263-291.
51. Kahneman, D. & Tversky, A. (1991). Loss aversion in riskless choice: A reference dependent model. *Quarterly Journal of Economics* November Pp 204-217.
52. Kamau, L. W., & Kagiri, A. W. (2015). Influence of inventory management practices on organizational competitiveness: A case of Safaricom Kenya Ltd. *International Academic Journal of Procurement and Supply Chain Management*, 1(5), 72-98.
53. Katie, F., Mika, I., Magda, r., & Konstantinos, T. (2012). What can company data tell us about financing and investment decisions? *Global journal of management and business research*, Vol. XV, No. 1.
54. Kevin, L., & Tom, R. (2015). *Firms' investment decision and interest rates, Bulletin, June quarter 2015, Australia*
55. Kibet, B., Kibet, L., Tenai, J., & Mutwol, M. (2011). The determinants of leverage at the Nairobi Stock Exchange, Kenya. *In The Second Asian Business and Management Conference*
56. Kimuyu, P., & Omiti, J. (2010). *Institutional impediments to access to credit by micro and small scale enterprises in Kenya* (Vol. 26). Nairobi: Institute of Policy Analysis and Research
57. Kiriro, D. K. (2013). *The relationship between risk and growth in corporate investment for firms listed in the Nairobi Securities Exchange* (Doctoral dissertation, University of Nairobi).
58. Kombo, D.K., & Tromp, D.L.A. (2009). Proposal and thesis writing: *An introduction*. Nairobi. Paulines Publications Africa, Don Bosco Printing Press.
59. Koroti, M. (2014). *The Effect Of Investing And Financing Decisions On Financial Performance Of The Sugar Factories In Kenya* (Doctoral dissertation, School Of Business, University Of Nairobi)
60. Kothari C. R. (2004). *Research methodology: Methods and techniques*. (2nd revised Ed.) New Age International (P) Ltd, New Delhi.
61. Leblanc, R., & Gillies, J. (2005). *Inside the boardroom: How boards really work and the coming revolution in corporate governance*. Mississauga, Ont.: Wiley
62. Levinson, D., & Zhu, S. (2013). A portfolio theory of route choice. *Transportation Research Part C: Emerging Technologies*, 35, 232-243.
63. Lewellen, J., & Lewellen, K. (2016). Investment and cash flow: New evidence. *Journal of Financial and Quantitative Analysis*, 51(4), 1135-1164.
64. Li, i., Dey, A., & Jodi, F. (2010). *A stage-based model of personal informatics systems*, School of Design Carnegie Mellon University, Pittsburgh, PA 15213
65. Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *Review of Economics and Statistics*. 47:1, pp. 13-37.
66. Loh, T. C. (2016). *The influence of behavioral factors in investment decisions: study of millennial investors in Kuala Lumpur* (Doctoral dissertation, Universiti Utara Malaysia).

67. Maina, L., & Ishmail, M. (2014). Capital structure and financial performance in Kenya: Evidence from firms listed at the Nairobi Securities Exchange. *International Journal of Social Sciences and Entrepreneurship*, 1(11), 209-223.
68. Markowitz, H. (1952). Portfolio selection, *the Journal of Finance*, 7(1), 77-91.
69. Mehmet, I., Apan, M., & Ayval, A. (2015). Determination of Factors Affecting Individual Investor Behaviours: A Study on Bankers. *International Journal of Economics and Financial Issues*, 5(2).
70. Melander, O., Sandström, M., & von Schedvin, E. (2016). The effect of cash flow on investment: an empirical test of the balance sheet theory. *Empirical Economics*, 1-22.
71. Merikas, A. A., Merikas, A. G., Vozikis, G. S., & Prasad, D. (2011). Economic factors and individual investor behavior: The case of the Greek stock exchange. *Journal of Applied Business Research (JABR)*, 20(4)
72. Michalski, G. (2013). *Portfolio Management Approach in Trade Credit Decision Making* (No. 1301.3823).
73. Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage
74. Modigliani, F., & Miller, M.H. (1958), the cost of capital, corporation finance and the theory of investment, *American Economic Review*, 48(3), 261-297.
75. Modigliani, F., & Miller, M.H. (1963), Corporate Income Taxes and the Cost of Capital: A correction, *American Economic Review*, 53, 433-443.
76. Mohd, I. M. A. (2015). Business risk impact on capital structure: A case of Jordan industrial sector, *Global journal of management and business research: Finance*, 15 (1).
77. Mohun, P. O. (2008). Does Financial Leverage Influence Investment Decisions? *The Case of Mauritian Firms*, *Journal of Business Case Studies* 4 (94).
78. Mossin, J. (1966). Equilibrium in a Capital Asset Market, *Econometrica*, 34(4), 768-783
79. Mugenda O.M., & Mugenda, A. G. (2003). *Research Methods: Quantitative & Qualitative Approaches*. Nairobi, KE: Act Press.
80. Muhammad, S., Amir, M., & Hazoor, M. S. (2016). Does financial leverage influence investment decision? Empirical evidence from KSE-30 index of Pakistan, *Asian Journal of Economic Modeling*, 2016, 4(2): 82-89.
81. Muiruri, P. M. (2014). Effects of Estimating Systematic Risk in Equity Stocks in the Nairobi Securities Exchange (NSE) (An Empirical Review of Systematic Risks Estimation). *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(4), 228-248.
82. Mwangi, L. W., Makau, M. S., & Kosimbei, G. (2014). Effects of working capital management on performance of non-financial companies listed in NSE, Kenya. *European Journal of Business and Management*, 6(11), 195-205.
83. Myers, S. (1977). Determinants of corporate borrowing, *Journal of financial Economics*, 5, pp.147-175.
84. Myers, S. C., & Majluf N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics*, 13(2), pp. 187-221.
85. Nadia, B. (2016). Corporate investment and cash-flow sensitivity: evidence from a Jasmine revolution period in Tunisian market. *Asian Economic and Financial Review*, 6(11), 634.
86. Neamtii, M., Shroff, N., White, H. D., & Williams, C. D. (2014). The impact of ambiguity on managerial investment and cash holdings. *Journal of Business Finance & Accounting*, 41(7-8), 1071-1099.
87. Neumann, J. V., & Morgenstern, O. (1947). *The derivation of expected utility*, Princeton University Press.

88. Njuguna, P. K., Namusonge, G. S., & Kanali, C. (2016). Determinants of investment intentions: an individual retail investor's perspective from Nairobi Securities Exchange. *International Journal of Arts and Commerce*. 5, (6)
89. Nyale, Y. (2010). *The relationship between leverage and investment decisions for companies quoted at the Nairobi Stock Exchange* (Doctoral dissertation, University of Nairobi, Kenya).
90. Olaleye, M. O., Riro, G. K., & Memba, F. S. (2016). Effect of reduced company income tax incentives on foreign direct investment in listed Nigerian manufacturing companies, *European Journal of Business, Economics and Accountancy* 4(1), 2016.
91. Omisore, I., Yusuf, M., & Christopher, N. (2011). The modern portfolio theory as an investment decision tool. *Journal of Accounting and Taxation*, 4(2), 19-28.
92. Owidi, O. H., & Mugo-Waweru, F. (2016). Analysis of Asymmetric and Persistence in Stock Return Volatility in the Nairobi Securities Exchange Market Phases. *Journal of Finance and Economics*, 4(3), 63-73.
93. Phan, D. N. (2013). Determinants of corporate investment decisions: The case of Vietnam, *Journal of Economics and Development* 15(1), 32 – 48.
94. Rahnema Akhter., & Sultan, Ahmed. (2013). Behavioral aspects of individual investors for investment in Bangladesh Stock Market, *International Journal of Ethics in Social Sciences*, Vol. 1 No. 1.
95. Reichel, M., & Ramey, M. A. (Eds.). (1987). *Conceptual frameworks for bibliographic education: Theory to Practice*. Littleton Colorado: Libraries Unlimited Inc.
96. Reilly, F. K., & Brown, K.C. (2003). *Investment analysis and portfolio management, Bibliographic information*, 7 ill, Dryden Press series.
97. Rendon, S. (2010). Non-Tobin'sq in Tests for Financial Constraints to Investment. *In the Economics of Imperfect Markets* (pp. 33-49). Physica-Verlag HD.
98. Restrepo, D., Correia, R., & Población, J. (2012). Political risk and corporate investment decisions.
99. Robert, J. L. (1986). Evaluating the econometric evaluations of training programs with experimental data, *the American Economic Review*, 76(4), 604-620.
100. Robinson, D. T., & Sensoy, B. A. (2016). Cyclicity, performance measurement, and cash flow liquidity in private equity. *Journal of Financial Economics*, 122(3), 521-543.
101. Roy, L. M. (2015) Factors influencing investment decisions: *A study of retail investors in Hooghly district of West Bengal, India*, *International journal of research in IT and Management*, Vol. 5, 8.
102. Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. New York: Prentice Hall.
103. Sekaran, U. (2003). *Research methods for business* (4th Ed.). Hoboken, NJ: John Wiley & Sons.
104. Shaikh, A. R. H., & Kalkundrikar, A. B. (2011). Impact of demographic factors on retail investors' investment decisions- An Exploratory Study, *Indian Journal of Finance*, 5(9), pp35 – 44.
105. Sharma, R. K., & Saha, A. (2016). A Study on "Impact Cash Flow Reporting on The Individual Shareholders' investment Decision Making". *Management Insight*, 11(2).
106. Sharma, R., Mithas, S., & Kankanhalli, A. (2014). Transforming decision-making processes: a research agenda for understanding the impact of business analytics on organisations. *European Journal of Information Systems*, 23(4), 433-441.

107. Sharpe, W. F. (1964). Capital Asset Prices: A Theory of market equilibrium under conditions of risk. *Journal of Finance*. 19:3, pp. 425–42.
108. Shefrin, H., & Statman, M. (1985). The disposition to sell Winners too ea ride Losers too long: Theory and evaluation, the journal of finance, Vol. XL, No. 3, pp. 166-178.
109. Smyth, R. (2004): “Exploring the usefulness of a conceptual framework as a research tool: a researcher's reflections.” *Issues in Educational Research*, Volume 14.
110. Sritharan, V. (2014). Determinants of capital structure: *a study of listed banks finance & insurance companies in Colomo stock exchange in SRI LANKA*. *International Journal of Economics, Commerce and Management*, Vol. II, 10, pp 45- 61.
111. Thaler, R. (1985). *Mental accounting and consumer choice*, Jonson Graduate School of Management, Cornell University (Vol. 27, No. 1, pp. 15-25), New York 14853.
112. Titman, S., Keown, A. J., & Martin, J. D. (2017) *Financial management: Principles and applications*. Pearson.
113. Tobin, J. (1958). Estimation of relationships for limited dependent variables, *Econometrica*, Vol. 26, No.1, pp. 24 – 36.
114. Tobin, J. (1969), A general equilibrium approach to monetary theory, *Journal of Money, Credit, and Banking*, Vol. 1, pp. 15-29.
115. Tomat, G. M. (2014). Liquidity Constraints, Fundamentals and Investment: What Do We Learn From Panel Data? *Economic Notes*, 43(3), 249-281.
116. Tomola M. O. (2013). *Factors influencing investment decisions in capital market: a study of individual investors in Nigeria*”, ISSN 2029-4581, Organizations & Markets in Emerging Economies, Vol.4, No1 (7).
117. Velnampy, T., & Aloy, J. (2012). The relationship between capital structure & profitability, *Global Journal of Management and Business Research*, 12, 13.
118. Virlics, A. (2013). Investment decision making and risk. *Procedia Economics and Finance*, 6, 169-177.
119. Yuniningsih, Y., Widodo, S., & Wajdi, M. B. N. (2017). An analysis of Decision Making in the Stock Investment. *Economic: Journal of Economic and Islamic Law*, 8(2), 122-128.
120. Zikmund, G.W., Babin, B.J., Carr, C.J., & Griffin, M. (2010). *Business research methods* 8th ed. South-Western, Cengage Learning.
121. Zopounidis, C., Doumpos, M., & Fabozzi, F. J. (2014). Preface to the Special Issue: 60 years following Harry Markowitz’s contributions in portfolio theory and operations research. *European Journal of Operational Research*, 2(234), 343-345.