



**INFLUENCE OF LIQUIDITY ON PERFORMANCE OF QUOTED COMPANIES IN THE NAIROBI SECURITIES EXCHANGE, KENYA**

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**ABSTRACT**

*The objective of this study was to determine the influence of liquidity on the performance of firms listed in the Nairobi Securities Exchange. The study was guided by Shiftability theory. The study adopted descriptive survey design. The study targeted 62 firms listed on Nairobi Securities Exchange as of 2017. The study utilized purposive sampling method therefore; the sample size was 48 listed firms. The study utilized secondary data that was collected from the NSE handbook between 2013 and 2017. The quantitative data collected was analyzed using descriptive and inferential statistics. Descriptive statistics comprised of maximum, minimum, standard deviation, mean and standard error while inferential statistics comprised of correlation and linear regression analysis. The data were subjected to diagnostic test such as linearity, normality, multi-collinearity, homoscedasticity and auto-correlation. There was a significant influence of liquidity on performance of quoted companies at the securities exchange in Nairobi, Kenya. The study recommended that there should be a continued monitoring of the cash balances and other liquid assets by financial managers and other regulatory agencies. This would ensure that proper levels of liquidity are maintained since the higher the liquidity the better the operations, as a result, there would be high performance. Listed firms in Kenya must strive to maintain proper levels of liquidity as lack of liquidity may bring about failure of meeting their cash obligation.*

**Key Words:** *Liquidity, Performance of Quoted Companies*

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## INTRODUCTION

In the recent years there has been an increasing interest in the firm attributes that affect firm performance. With increasing global competition, technological changes and changes in customer demands for products and services, firms cannot afford to retain all structures in order to make high returns and sufficiently meet customer demands (Brealey, Myers & Allen, 2013). The financial performance of firms can be affected by internal and external factors. The internal factors are individual firm characteristics which affect the financial performance. They can be further grouped into financial and non-financial factors. Non-financial factors include the customer base, size, age, operational efficiency, risk management, promotional strategies, extent of diversification of products and use of technology in the operations. On the other hand, firm's financial factors include liquidity, capitalization, leverage, asset quality and asset tangibility.

Antoun, Coskun and Georgiezski (2018) investigated the bank-specific, industry-specific, and macroeconomic determinants of the financial performance of banks in Central and Eastern European Countries. The results suggest that the asset quality and earnings of banks are negatively affected by size, and positively affected by business mix and inflation. Capital adequacy and liquidity were found to be negatively affected by size and positively affected by bank concentration and economic growth.

Swarnapali (2014) explored the effect of bank-explicit variables which incorporate the working costs, credit risk, liquidity chance, capital quality and the bank size of Sri Lankan Licensed Commercial Banks (LCBs) on their budgetary presentation, which is estimated by profit for resources (ROA) and profit for value (ROE). As per the discoveries, it was discovered that banks' presentation in Sri Lanka was affected by the working costs and the bank size.

Firm's financial or interior variables are the individual firm qualities which influence firm

performance. These elements are impacted by the inner choices of the executives and board. These components are likewise inside the extent of the firm to control them and they vary from firm to firm. Budgetary variables incorporate influence, liquidity, capital amplexness and speculation among others. As indicated by Brealey et al. (2000), liquidity is the capacity of a resource for be changed over into money rapidly and requiring little to no effort. Liquidity alludes to the company's capacity to meet its commitments, particularly that of investors. Satisfactory degrees of liquidity are straightforwardly corresponding to the association's presentation. To gauge liquidity, the executives should use as an intermediary variable to the proportion of fluid resources that is, money due from banks, accessible and available to purchase protections, and government protections to the absolute resources (Ongore & Kusa, 2013).

As per Pandey (2004), financial related performance includes evaluating polices of a firm and its tasks in monetary terms. Financial performance is considered the company's arrival on speculation, esteem expansion and profit for resources among others. Penman (2007) states that financial performance can be depicted as the presentation of a business over a specific timeframe that is communicated as far as benefits and misfortunes. Worth to note is that a firm comprises of different partners including investors, speculators, leasers and the official administration; every single gathering of these partners have their own enthusiasm for checking financial performance. Different instruments can be applied to gauge performance of a firm. It is significant to point out that no single proportion of financial performance ought to be applied without the consideration of the others (Petersen & Kumar, 2010).

The Nairobi Securities Exchange (NSE) was set up in the 1920's as the place that exchanging of stocks started on the foundation of honorable man's understanding. The Nairobi Securities Exchange (NSE) was enlisted under the Societies Act (1954) as a willful relationship of stockbrokers and given the

obligation of building up the protections market and managing exchanging exercises. Business was executed by phone and costs decided through exchange. Somewhere in the range of 1963 and 1970, the Government received another approach with the essential objective of giving an elective strategy for raising cash-flow to little, medium measured and youthful organizations that think that its troublesome in gathering the stringent posting prerequisites of the MIMS and the Fixed Income Securities Market Segment. FISMS is an autonomous market for fixed pay protections, for example, treasury securities, treasury charges, business papers, corporate securities, inclination offers and debentures. By December 2017 NSE had sixty two listed organizations.

### **Statement of the Problem**

The quoted firms on the NSE are pioneers in different sectors that are instrumental in economic growth and development. The capital markets offer a prepared type of financing for organizations, enabling them to embark on growth and expansion plans or to fund their working capital with greater ease. This implies that the performance of NSE-listed companies is a barometer of national economic performance (Kirui, Wawire & Onono, 2018).

However, performance of listed firms in NSE has attracted attention of both scholars and policy makers. NSE has delisted or suspended some of its Listed Companies due to poor performance. Six Nairobi Securities Exchange-listed companies have accumulated massive debts so as to enhance their capital base, implement strategic developments and finance business operations (Nairobi Securities Exchange, 2017). The huge debts, which have left some of the firms owing more than their net value, have left investors facing low prospective returns for years to come (NSE, 2017). On the other hands, two-thirds of firms that are active reported losses or reduced earnings in 2017. The analysis also finds that a third of the companies announced reduced revenues including eight firms that were profitable (CMA, 2019).

There are not many studies that have analyzed the connection between performance of listed firms and firm's financial attributes. Some studies have investigated influence of firm characteristic in general with some financial factors on performance. Most studies on the effect of firm's financial factors on firm performance have generated mixed results, ranging from those supporting a positive relationship to those opposing a relationship between firm's financial factors and firm performance. Kaguri (2015), Mugendi, Gachanja and Nganga (2015), Kisengo and Kombo (2012) and Mothibi (2015): are studies that concluded that firm's financial factors have a significant positive effect on the performance of a firm. Other studies however, Johl, Kaur and Cooper (2015) and Kiganane, Bwisa and Kihoro (2012) found out that firm financial factors have no significant effect on the performance of a firm. In view of these empirical inconsistencies, this study sought to evaluate whether liquidity has influence on financial performance of listed firms in Nairobi Securities Exchange.

### **Objective of the study**

The objective of the study was to determine the influence of liquidity on the performance of firms listed in the Nairobi Securities Exchange

The study sought to test the following null hypothesis;

- **H<sub>0</sub>:** There is no significant influence of liquidity on performance of quoted companies at securities exchange in Nairobi, Kenya

### **LITERATURE REVIEW**

The study was guided by Shiftability theory. Shiftability Theory was proposed by Dodds in 1982. The theory states that liquidity is kept up on the off chance that it holds resources that can be moved or offered to different financial specialists for money or banks for money. The contentions show that organizations liquidity can be improved on the off chance that it has resources for sell or stands prepared to buy the advantage offered for rebate. This recognizes and expresses that shiftability or

transferability of benefits is the reason for improving liquidity.

The assumption of the theory is that liquidity is always for sell and stands ready to purchase the asset offered. The theory further assumes that highly marketable securities held by a firm are an excellent source of liquidity.

The theory was adopted to explain influence of liquidity on financial performance of listed firms.



**Independent Variables**

**Figure 1: Conceptual Framework**

**Dependent Variable**

Liquidity is the capacity of an organization to meet the transient commitments, and convert its advantages into money (Owolabi & Obida, 2012). Momentary liquidity by and large implies commitments which develop within financial years. An organization that can't pay its loan on schedule and proceeds not to respect its commitments to the providers of credit, administrations, and merchandise can be pronounced bankrupt or insolvent. Absence of money or fluid resources close by may drive an organization to miss the motivators given by the providers of credit, administrations and merchandise. Loss of such motivations may bring about greater expense of products which thus influence the productivity of the business.

Shareholders are keen on understanding the liquidity because of its enormous effect on the productivity. Investors dislike high liquidity, as liquidity and productivity are conversely related. In any case, investors are additionally mindful that non-liquidity will keep the organization from getting impetuses from the providers, loan bosses, and financiers (Chandra, 2017).

Odalo and Achoki (2016) sought to find out the impact of liquidity on the money related execution

The shiftability approach allows firms to efficiently run with small amount of reserves or by making long term investments on assets. Firms can attempt to prevent liquidity crisis by always selling their securities at good prices as presumed by the shiftability theory. That is, firm hold assets that are marketable and their convertibility will not be at a discount. The theory ensures firms are liquid by assisting in the shiftability of assets (Koranteng, 2015).

of recorded farming organizations in Nairobi Security Exchange in Kenya. Liquidity was estimated utilizing liquidity proportions while money related execution was estimated by profit for resources, return on value and income per share. The outcomes demonstrated that connection among liquidity and ROA is sure and critical. The examination affirms that liquidity as estimated utilizing liquidity proportion influences the money related execution of rural organizations recorded in NSE emphatically and essentially in connection to ROA and ROE. Manyo and Ogakwu (2013) analyzed the effect of liquidity on Return on Assets on 46 cited firms recorded on the Nigerian Stock Exchange from 2000-2009.

From the theory test completed, the consequence of the investigation demonstrated that liquidity has a critical positive effect on Return on Assets (ROA), suggesting that a unit change in liquidity will result into a comparing increment in ROA.

Negating results have been uncovered by different examinations. Model, Abubakar, Sulaiman and Haruna (2018) inspected the Effect of Firms Characteristics and Financial Performance of Listed Insurance Companies in Nigeria. The aftereffects of the investigation uncovered that liquidity and Age

have noteworthy negative effect on money related execution of insurance agencies in Nigeria. Waswa, Mukras and Oima (2018) utilized a cross-sectional review research configuration was utilized for this investigation where the impact of liquidity was evaluated in connection to budgetary execution of sugar industry in Kenya. The results reveal that liquidity current liability coverage ratio is negatively correlated with firm performance, indicating that a higher value of liquidity current liability invariably influences a firm's financial position

Maditinos (2011) contended that financial performance of a firm can be estimated by development incomes that will likewise show the development of an association. ROE that estimates an association's productivity by uncovering how a lot of benefit an organization creates with the cash investors have contributed will likewise be utilized. Maditinos (2011) further noticed that money related execution can likewise be estimated by ROA which is a marker of how the organization is in connection to its absolute resources and it gives a thought concerning how proficient the administration utilizes advantages to create income. Ongore (2013) demonstrated that ROE, ROA are the suitable proportions of monetary execution. Olweny and Themba (2011) contended that money related execution is estimated by utilization of ROA as gainfulness proportion and that higher ROA demonstrates well. ROA mirrors the capacity of a bank's administration to create benefits from the bank's advantages and it is determined as benefit after assessment partitioned by complete resources while R.O.E demonstrates the level of benefits comparative with value (Pal and Soriya, 2012).

### **Empirical Literature**

Mafumbate, Ndlovu, Mafuka and Gavhure (2017) focused on the effect of firm explicit determinants on monetary execution in the power business. The firm explicit determinants utilized in this examination as free factors were capital structure, firm size and liquidity while ROA, ROI and

gainfulness were utilized as intermediaries of monetary execution. A relationship was set up between firm explicit determinants and performance. Firm size and budgetary execution were additionally adversely related. Notwithstanding, a critical positive relationship was set up among liquidity and budgetary execution. From the discoveries the study inferred that firm explicit components significantly affect money related execution.

Shimenga and Miroga (2019) utilized organized surveys to gather essential information; content legitimacy was utilized to check legitimacy while Cronbach alpha was utilized to check unwavering quality of research instruments. Information examination was processed by SPSS 24, where graphic measurements and inferential insights were created. The investigation discoveries uncovered that all indicator factors (money related influence and liquidity) essentially affected budgetary execution of assembling firms Listed on the NSE. The examination inferred that one; money related utilizing emphatically impacts monetary execution of assembling firms, in this way, producing firms with viable budgetary utilizing components can understand an expansion in their benefit and two; liquidity is a noteworthy indicator of monetary execution of assembling firms, accordingly, an assembling firm with effective income the executives can support gainfulness in ensuing years.

Kazeem (2015) examined the effect of firm explicit attributes on the money related execution of recorded protection firms in Nigeria. Money related execution is the needy variable while age if insurance agency, firm size, premium development, misfortune proportion, liquidity and influence are autonomous factors. The number of inhabitants in the investigation comprises of thirty (30) recorded protection firms as at 31st December 2013. Twelve of the recorded protection firms are chosen to shape the example of the investigation for the time of eight years (2006-2013). The examination utilized different relapses as instrument for investigation.

Optional information acquired from the budget reports of the organizations was dissected. The outcome demonstrates that firm size, misfortune proportion, liquidity, and influence are the most significant determinants of monetary execution. Subsequently, firm size, misfortune proportion and influence are adversely related. Interestingly, liquidity proportion is emphatically and fundamentally related with money related execution. Ultimately, period of insurance agency and premium development are not essentially related with budgetary execution of recorded protection firms in Nigeria. For insurance agencies to accomplish a more noteworthy benefit and intensity in the market, it is along these lines prescribed that the organizations should lead cautious assessment and think about firm explicit qualities (firm size, misfortune proportion, liquidity and influence) that impact the monetary presentation of the organization before settling on significant business choice as this will go far in improving their budgetary exhibition.

**METHODOLOGY**

This study adopted descriptive survey research design. A descriptive study is one that is undertaken with a view of offering the researcher a profile or to

describe relevant aspects of the phenomena of interest from an individual, organization, organizational, industry oriented, or other perspective (Sekaran, 2009). The investigation targeted 62 firms quoted and trading in Nairobi Securities Exchange starting at 2013. The study utilized purposive sampling technique based on the following criteria; the firm should have been trading in NSE between 2013 and 2017 and secondly, they have complete and published financial data for the last five years (between 2013 and 2017). The research utilized secondary data. Secondary data was collected from NSE handbook and different databases of the quoted firms between 2013 and 2017. The descriptive analysis techniques that were used in this study were: maximum, minimum, standard deviation, mean and standard error. The results from inferential statistics were used to test null hypotheses at significance level of 0.05 (95.0% confidence level) with aid of SPSS version 21.

**RESULTS AND DISCUSSIONS**

Descriptive statistics included an assessment of liquidity and financial performance. Descriptive measures included mean, standard deviation, minimum, maximum skewness and kurtosis.

**Table 1: Descriptive Statistics**

	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
ROA	-.919	1.975	.05441	.343244	3.364	22.181
ROE	-2.721	7.461	.15338	1.349096	3.072	18.945
DER	-31.169	18.886	1.04060	6.196785	-2.045	17.811
DAR	-.348	1.887	.76174	.591071	.578	-.756
CAR	.101	2.051	.76929	.381709	1.063	3.580
Liquidity Ratio	-1.314	7.918	2.48908	2.266472	.949	-.125
Total Assets	278456	284442410	31916137	63620201	2.690	6.740

Current ratio which was obtained by taking current assets dividing by current liability was used to measure liquidity. It had a mean of 2.48908 and standard deviation of 2.266472. The findings revealed that one of the firms had minimum liquidity of -1.314 implying that it was unable to meet its short term financial obligation. However,

the maximum liquidity was 7.918. The liquidity was positively skewed meaning that it skewed towards the right.

## Inferential Statistics

### Liquidity and Financial Performance

The objective of the study was to examine influence of liquidity on performance of quoted companies at securities exchange in Nairobi, Kenya. This objective sought to test first null hypothesis which posited  $H_0$ :

There is no significant influence of liquidity on performance of quoted companies at securities exchange in Nairobi, Kenya. This was achieved through linear regression analysis. The results were as presented in Table 2.

**Table 2: Regression for Liquidity and Financial Performance Results**

Model Summary <sup>b</sup>						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.165 <sup>a</sup>	.027	.006	1.345064		
a. Predictors: (Constant), Liquidity						
b. Dependent Variable: ROE						
ANOVA						
Model	Sum of Squares		df	Mean Square	F	Sig.
Regression	2.320		1	2.320	1.282	.263
Residual	83.223		46	1.809		
Total	85.543		47			
Coefficients <sup>a</sup>						
Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1	(Constant)	-.067	.129		-.515	.609
	Liquidity	-.148	.131	-.165	-1.132	.263
a. Dependent Variable: Zscore(ROE)						

From Table 2 above the value of R square was 0.027 this showed that liquidity explained 2.7% of variance in financial performance among listed firms at the NSE. From the ANOVA table significance of the model had a value  $F(1, 47) = 1.282$ ,  $p > 0.05$  this showed that it's not significant at 95% confidence level hence the model was not feasible. The regression equation for Liquidity became;

$$Y_{\text{Performance}} = -.067 - 0.148 \text{ Liquidity}$$

From the regression equation it meant that when liquidity increase by 1%, financial performance decreases by 0.148 thus the relationship is negative and insignificant. The results agreed with other studies such as Vaita (2017) who sought to examine the effect of liquidity on the financial performance of tier one listed commercial banks in Kenya. The findings of the study found that liquidity coverage ratio had no significant effect on ROE. Abubakar, Sulaiman and Haruna (2018) who examined the

Effect of Firms Characteristics and Financial Performance of Listed Insurance Companies in Nigeria. The results of the study revealed that liquidity has negative impact on financial performance of insurance companies in Nigeria. However, it disagreed with Khan and Ali (2016) who examined the impact of liquidity of profitability of commercial banks in Pakistan. Using correlation and regression analysis, the results of the study revealed that a positive and significant relationship between liquidity and profitability of commercial banks.

## CONCLUSIONS AND RECOMMENDATIONS

The objective of the study was to examine influence of liquidity on performance of quoted companies at securities exchange in Nairobi, Kenya. The study sought to test first null hypothesis that posits;  $H_0$ : There is no significant influence of liquidity on performance of quoted companies at securities



exchange in Nairobi, Kenya. Descriptive statistics revealed that liquidity ranged from -1.314 to 7.918 with a mean of 2.49. Simple linear regression revealed that 2.7% change in financial performance of quoted firms at NSE is insignificantly accounted for by liquidity. Multiple linear regression revealed that one the variable in the model were controlled, a unit change in liquidity would results to a significant change in performance of firms listed in NSE by 0.155, P=0.030 in the same direction.

From results obtained from multiple linear regression, the study concluded that there is significant influence of liquidity on performance of quoted companies at securities exchange in Nairobi, Kenya. This implied that as firm liquidity increases, the return on equity of the firm increases hence increase in performance.

The existence of a significant positive relationship of liquidity and performance of listed firms proved the fact that, liquidity has a positive effect on financial performance. This meant that there should be a continued monitoring of the cash balances and other liquid assets by financial managers and other

regulatory agencies. This monitoring will ensure that proper levels of liquidity are maintained since the higher the liquidity the better the operations, as a result, there will be high performance. Listed firms in Kenya must strive to maintain proper levels of liquidity as lack of liquidity may bring about failure of meeting their cash obligation.

### **Suggestions for Further Research**

Further studies should consider incorporating other firm characteristics such as size so as to find out if they have significant moderating effect on capital liquidity and financial performance of listed firms. A longitudinal/panel data study may also be carried out to determine the effect of firms' liquidity on financial performance. This may require the use of various statistical approaches such as time series among others. The current study captured the only available secondary data for the period 2013 to 2017 that were available in the NSE handbook and a further study is recommended to include longer period for the panel data. This would help in capturing the potential effects across the economic cycles.

### **REFERENCE**

- Abubakar, A., Sulaiman, I., & Haruna, U. (2018). Effect of firms characteristics on financial performance of listed insurance companies in Nigeria. *African Journal of History and Archaeology*, 3, 1-9.
- Almajali, A. Y., Alamro, S. A., & Al-Soub, Y. Z. (2012). Factors affecting the financial performance of Jordanian insurance companies listed at Amman Stock Exchange. *Journal of Management research*, 4(2), 266.
- Amahalu, N., Okoye, E. I., Nweze, C., Chinyere, O., & Christian, O. (2017, July). Effect of Capital Adequacy on Financial Performance of Quoted Deposit Money Banks in Nigeria. In *Chapter 57 in the proceedings of the 2017 International Conference on African Entrepreneurship and Innovation for Sustainable Development (AEISD)*.
- Bui, N. T. (2017). The impact of financial leverage on firm performance: A case study of listed oil and gas companies in England. *International journal of economics, commerce and management*, 5(6), 477-485.
- Charmler, R., Musah, A., Akomeah, E., & Gakpetor, E. D. (2018). The impact of liquidity on performance of commercial banks in Ghana. *Academic Journal of Economic Studies*, 4(4), 78-90.
- Ekinci, A. (2016). The effect of credit and market risk on bank performance: Evidence from Turkey. *International Journal of Economics and Financial Issues*, 6(2), 427-434.
- Goel, U., Chadha, S., & Sharma, A. K. (2015). Operating liquidity and financial leverage: Evidences from Indian machinery industry. *Procedia-Social and Behavioral Sciences*, 189, 344-350.

- Kassi, D. F., Rathnayake, D. N., Louembe, P. A., & Ding, N. (2019). Market Risk and Financial Performance of Non-Financial Companies Listed on the Moroccan Stock Exchange. *Risks*, 7(1), 20.
- Manyo, T. S., & Ogakwu, V. N. (2013). Impact of liquidity on return on assets of firms: Evidence from Nigeria. *International Journal of Management & Information Technology*, 6(3), 885-894.
- Mardiyati, U., Utami, S. G. N., & Ahmad, G. N. (2015). The Effect Of Profitability, Liquidity, Leverage And Firm Size Toward Bond Rating On Non Financial Institution Listed In Indonesia Stock Exchange Period 2010-2014. *JRMSI-Jurnal Riset Manajemen Sains Indonesia*, 6(2), 579-598.
- Muriithi, J. G. (2016). *Effect of financial risk on financial performance of commercial banks in Kenya* (Doctoral dissertation, COHRED, JKUAT).
- Muriithi, J. G., Muturi, W. M., & Waweru, K. M. (2016). The Effect of Market Risk on Financial Performance of Commercial Banks in Kenya. *Journal of Finance and Accounting*, 4(4), 225-233.
- Nyawira, M. E. (2017). The Relationship between Capital Requirement and Financial Performance of Commercial Banks in Kenya. *International Journal of Business and Social Science*, 8(3).
- Nzioki, S. J. (2011). The impact of capital adequacy on the Financial performance of commercial banks Quoted at the Nairobi Securities Exchange. *Published Research Project MBA university of Nairobi*.
- Odalo, S. K., & Achoki, G. (2016). Liquidity and Financial Performance in Agricultural Firms listed in the Nairobi Securities Exchange in Kenya. *International Journal of Business and Social Science*, 7(7), 57-65.
- Olalekan, A., & Adeyinka, S. (2013). Capital adequacy and banks' profitability: An empirical evidence from Nigeria. *American International Journal of Contemporary Research*, 3(10), 87-93.
- Omesa, J. (2015). Effect of liquidity on the financial Performance of financial institutions listed at the NSE. *Unpublished MBA project, University of Nairobi*.
- Samuel, O. T., & Abdulateef, Y. (2016). Liquidity management and profitability of listed food and beverages companies in Nigeria. *IOSR Journal of Business and Management*, 18(2), 167-176.
- Sanghani, D. A. (2014). The effect of liquidity on the financial performance of non-financial companies listed at the Nairobi Securities Exchange. *Unpublished MBA Project*, 2.
- Sporta, F. O. (2018). *Effect of Financial Performance Factors on Performance of Commercial Banks in Kenya* (Doctoral dissertation, JKUAT).
- Vaita, B. N. (2017). *Effect of Liquidity on Financial Performance of Tier One Listed Commercial Banks in Kenya* (Doctoral dissertation, United States International University-Africa).
- Wachiaya, J. (2011). *A survey of market risk management techniques by commercial banks in Kenya and their suitability in mitigating financial loss* (Doctoral dissertation, University of Nairobi, Kenya).
- Waswa, C. W., Mukras, M. S., & Oima, D. Effect of Liquidity on Financial Performance of the Sugar Industry in Kenya. *International Journal of Education and Research* Vol. 6 No. 6 June 2018
- Xu, M., & Banchuenvijit, W. (2014). Factors Affecting Financial Performance of Firms Listed on Shanghai Stock Exchange 50 (SSE 50). *International Journal of Business and Economics*, [online] [http://www.utccmbaonline.com/Journalsys/Upload\\_Arti/2015-02-02\\_14](http://www.utccmbaonline.com/Journalsys/Upload_Arti/2015-02-02_14), 57(09).

- Olweny, T., & Omondi, K. (2016). The effect of macro-economic factors on stock return volatility in the Nairobi Securities Exchange, Kenya. *Economics and Finance review*, 1(10), 34-48.
- Kirui, E., Wawire, N. H., & Onono, P. O. (2018). Macroeconomic variables, volatility and stock market returns: a case of Nairobi securities exchange, Kenya. *International Journal of Economics and Finance*, 6(8), 214-228.
- Chandra, P. (2017). *Investment analysis and portfolio management*. McGraw-hill education.